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"There are no ancient gentlemen but gardeners They hold up Adam's profession."

Hamlet, v. 1.

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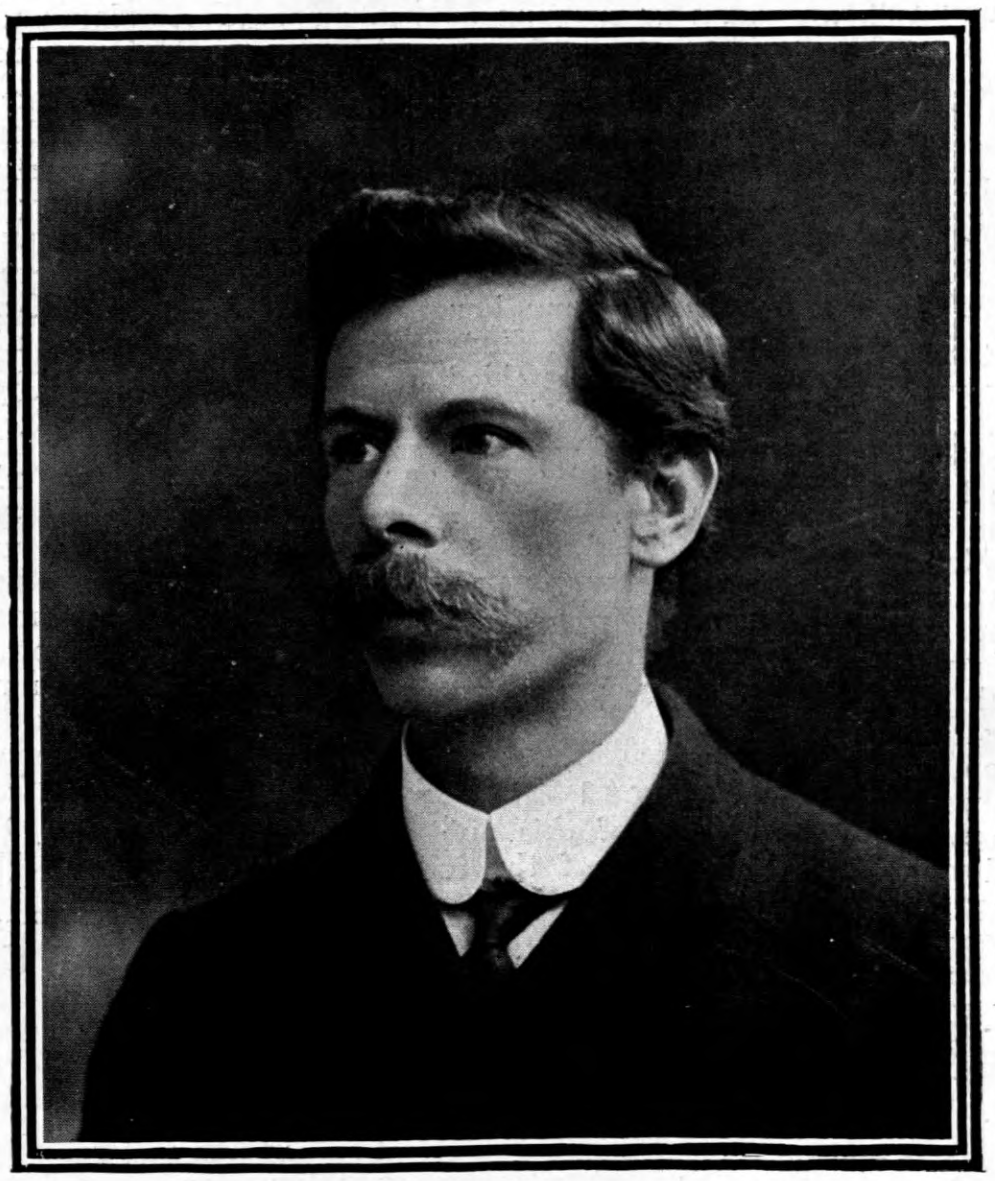
THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Progress and Prospects of Rose Growing.

So great an advance has been made by many of the more important classes of plants utilised in beautifying the flower garden that it would not be an easy task to determine with the proper degree of exactitude those groups in which the greatest progress has been made. Nor is it necessary to institute such comparisons as would enable us to determine the point. For our present purpose it will suffice to say that a host of occupants of the flower garden have been immensely improved, and their popularity greatly enhanced as the result of the well-devised efforts of those who give their attention to the interesting and highly-important work of plant improvement in relation to the ornamental aspects of the garden. At no period in the history of gardening in this country have the raisers of plants adapted for garden decoration been more active than during the past few years, and certainly at no time have they been so successful in the enrichment of gardens with plants that are at once quite hardy and well able to contribute liberally to the interest and attractions of the flower garden. Chief among the several groups in which marked advances have been made are the roses, and the changes and improvements in these have been such as to greatly enhance their popularity, and to well-nigh revolutionise the methods of procedure that find favour with cultivators. Within quite recent times quite new types, such as the wichuraianas, have been created, and some of those already in existence, notably the hybrid teas, have been so immensely improved as to have had their value for garden decoration increased by at least a hundredfold. The progress made in the development and the cultivation of the climbing and rambling roses has been so marked that the aspect of gardens in which the distinctive characteristics of these two sections are fully appreciated is completely changed during a considerable part of the summer season. Not so very many years ago the cultivation of climbing roses, away from walls, was usually limited to a few pillars formed with such strong growers as Gloire de Dijon and William Allen Richardson; the climbing forms of certain hybrid perpetuals and hybrid teas, and some of the ramblers, such as Aimee Vibert Scandens, and Dundee Rambler, that were introduced to cultivation in the first half of the last century. Now we have in the majority of gardens arches, pergolas, pillars, and trellises, over which the finest of



EDWARD J. RUSSELL, D.Sc.
Director of the Rothamsted Experiment Station.

the multifloras and wichuraianas that have been introduced within the past few years, run riot and produce the most delightful effects in the season of roses. The progress with rambling roses has been so great as to place those who love roses under a deep debt of gratitude to those by whom such splendid results have been obtained, but much yet remains to be accomplished among the climbers. There is for example a need for more roses of the type of Gloire de Dijon, and the raiser who succeeds in introducing tea-scented varieties possessing the vigour and freedom of flowering of this famous old rose, and affording a considerable range of colour, would render a good service to a considerable number of rosarians. Their introduction would certainly render it more easy to clothe the walls of dwelling houses with roses in a really satisfactory manner than is at present possible. Not less remarkable has been the progress among the dwarf-growing varieties, notably the hybrid teas and the dwarf polyanthas. Within a comparatively short period an immense number of hybrid teas have been added to the list of varieties available for cultivation; and from these it is possible to make a comprehensive selection of much merit for bedding and massing. The attributes of a good bedding rose are a rather dwarf and free-branching habit, profuse and continuous in flower production, and blooms pleasing in colour, borne on erect stems above the foliage. Roses possessing these attributes are numerous, and as their flowers afford a great diversity of colour there should be no great difficulty in making a selection adapted to the requirements of both large and small gardens. The progress that has been made in the development of new and effective shades of colour has not been less remarkable than the improvements that have been effected in the growth and flower production of the plants. The newer introductions have included a goodly number of crimson hybrid teas, a colour in which the section was for some time deficient, several taking high rank among the exhibition roses, and numerous varieties bearing blooms in which orange, yellow, and buff predominate. These latter mark a decided advance, and are of much value for their distinct and attractive hues, and for the aid they are so well able to render in any endeavour that may be made to carry out new and beautiful colour schemes in the rose garden. The colour of a few of these roses is greatly modified by strong sunlight, and those who contemplate the formation of an elaborate colour scheme and are particular as to the exact shades, should become acquainted with these roses as they may be seen growing in the open during the summer, previous to the season of planting, and make their selection accordingly. In turning from the past to the future, we find a prospect so full of promise as to justify a spirit of hopefulness in relation to roses. We may anticipate with the utmost confidence that the raisers will in

the near future place at the disposal of rosarians more rich crimson, brilliant red, and yellow roses; white roses in which neatness of growth, freedom, and continuity of flowering and finely-formed flowers are happily combined; and, in addition new and effective combinations of colour in the roses in which yellow or orange predominates. There is also justification for the hope that in course of time considerable improvements may be seen in the several classes of climbing and rambling roses, more especially in the direction of developing a perpetual habit of flower production. With the great wealth of material the roses afford at the present time for beautifying the garden, there is no justification for impatience in anticipating new forms and colours, and, judging from the enormous numbers of roses that are being planted this season, lovers of the flowers are taking full advantage of the varieties, new and old, that are at their command.

Dr. E. J. Russell, whose portrait we have the pleasure of giving herewith, occupied for some years the important position of the "Goldsmiths' Assistant for Soil Investigation" at the Rothamsted Experiment Station, and in the fulfilment of the duties associated therewith he gave unquestionable proofs of his commanding abilities, and rendered service of immense value to those engaged in agricultural and horticultural pursuits. Entering on the investigation of the soil, with special reference to the conditions that are favourable or otherwise to its fertility, fully equipped for the work, and possessing originality of thought in a marked degree, Dr. Russell did not adhere wholly to traditional methods. On the contrary, he proceeded along new lines of research, and thereby succeeded in contributing materially to the knowledge of the biological aspects of the soil, and assisting cultivators to deal more effectively with the problems that are constantly requiring solution. Having regard to the value of the investigations that were carried out, it is not surprising that when Mr. A. D. Hall retired a few months since from the position he occupied as the chief of the station, in order to devote his whole time to the work of the Development Commission, the trustees should at once have recognised the special fitness of Dr. Russell for filling the vacancy, and have appointed him Director. The investigations with which Dr. Russell is best known are those carried out with a view to ascertain the extent to which the micro-organisms in the soil can be controlled with advantage to the plants. It has long been known that soils undergo a change under intensive culture in glasshouses, and gradually become unfitted for the continued growth of a crop; and the deterioration of soil in cucumber houses devoted to the production of crops for markets proceeds in some instances so rapidly that it has to be annually renewed to ensure satisfactory results. The investigations showed that the deterioration was due in part to the decrease in the bacteriological activity in the soil, and in part to the increase in the organisms injurious to plant life. Also that, by partial sterilisation of the soil by heat, or treatment with carbon disulphide or toluene, the injurious organisms can be effectually kept under control. One has to be acquainted with the difficulties experienced by cultivators for market to fully appreciate the importance of the results obtained, but it will be readily seen that they will prove of great value. This is but a small part of the work that has been accomplished by Dr. Russell since he has been at Rothamsted, but it is quite sufficient to justify the anticipation that under his direction the traditions of this important centre of research will be fully maintained, if they are not, as we anticipate, greatly enhanced.

Our Almanack.—With this issue we have the pleasure of presenting our readers with an almanack for the current year which is remarkable as a splendid example of colour-printing, and will be found of much value for the information it contains relating to the exhibitions and meetings that will be held during the current year. The two roses—Mrs. Alfred Tate and Antoine Rivoire—of which portraits are given have taken a high position among varieties suitable for beds and massing in the flower garden, and fully merit the prominence thus given. No charge is made for the almanack, and subscribers should see that it is delivered by their newsagents with each copy.

Sir Frank Crisp, Bart.—We are pleased to record the fact that this distinguished horticulturist and eminent lawyer has had a baronetcy of the United Kingdom conferred upon him by the King. Sir Frank Crisp, whose surpassingly beautiful gardens, with their wonderful rockery, at Henley are well known, is the president of the Horticultural Club, has been treasurer and vice-president of the Linnean Society during the past quarter of a century, and hon. secretary of the Royal Microscopical Society for eleven years.

A Pleasant Social Function at Manchester. — A few evenings since Messrs. Dickson and Robinson, of Cathedral Street, Manchester, in accordance with their annual custom, entertained their employees at dinner, and the large company that assembled at the Victoria Hotel was of much interest, as evidence of the kindly feeling that exists between the firm and its large staff. This was further evidenced by the large proportion of the members of the latter who have been in the service of the firm twenty or more years, some having a record of service extending over forty years. Mr. Robinson presided, and the after-dinner proceedings included a few speeches, and an excellent musical programme.

"Botanical Magazine." — The current issue of this publication contains coloured plates of the following new or otherwise interesting plants: Senecio stenocephalus, an attractive species, native of Japan and of Northern China, and bearing long racemes of rich yellow flowers; the leaves are orbicular, and of large size. Rosa sertata, a beautiful Chinese species, somewhat closely allied to R. Willmottæ, with finely-divided leaves, and bearing single flowers about two inches in diameter, and of a rich pink hue. Clerodendron Bakeri, a distinct species, and a native of West Tropical Africa, where it has been collected, both in the region of the Lower Congo and in Sierra Leone; the flowers are white, and produced in axillary cymes, and present an attractive appearance. According to Mr. Scott Elliott, this species grows near rivers in Sierra Leone, and forms a handsome fragrant shrub about four feet high. Amorphophallus corrugatus, an interesting aroid, discovered by Dr. A. F. G. Kerr, in the evergreen forest on the Doi Sootep Mountain in the district of Chienmai, Siam; the spathe is greenish, suffused with rose at the margin, and marked with yellow-green spots on the outer side. The spathes are not wanting in attractiveness, but the species has but little value horticulturally. Aster Purdomi, a pretty little species, introduced from the Province of Shensi, North China, and resembling in habit the well-known A. alpinus, but is perfectly distinct from that species; it is quite hardy, has a tufted habit of growth, and bears with considerable freedom rose-coloured flowers about two inches in diameter, and enlivened by a golden disk. It should prove a useful addition to the rock garden.

Sir James Key Caird, who has had a baronetcy conferred upon him, is a jute manufacturer of Dundee, and for many years has taken a keen interest in the various movements that have had for their object the welfare of the inhabitants of the city, and has contributed freely of his wealth in the promotion of scientific work. He made a gift of £10,000 on the occasion of the visit of the British Association to Dundee in September last, and he has endowed a tuberculosis and cancer hospital for the city. The other day he gave £15,000 as a New Year's gift to provide a public park for Dundee, and a portion of the Linlathen estate, east of the city, has been purchased for the purpose.

Horticultural Club. — The first house dinner of the Horticultural Club for the current year will take place on Tuesday next, the 7th inst. Following the dinner a lecture, entitled "My Travels in Bulgaria," will be given by Mr. Herbert Cowley, and will be illustrated by lantern slides, prepared from original photographs.

The Perpetual-flowering Carnation Society has introduced an important change in the interests of gardeners. In the past 5s. per annum was the minimum subscription. It is now decided to enrol head gardeners who live upwards of 200 miles from London as associate members, at 2s. 6d. per annum, and this concession is extended to foremen and journeymen gardeners, irrespective of the 200 miles limit. Associate members will enjoy most of the privileges of full members. They may attend any of the society's meetings, but cannot vote, and are not eligible for office. They will be entitled to one non-transferable ticket for each show, and a copy of the "Carnation Year Book," which will be sent, post free, to all associates. The society has resolved upon the above concession in favour of gardeners because a desire had been expressed by some to become identified with the society, but they considered the 5s. subscription too much for those who could not attend all the shows. It is hoped that many will avail themselves of the opportunity now presented. Mr. L. J. Cook still retains the office of hon. treasurer, but all subscriptions should be paid to the hon. secretary, Mr. T. A. Weston, Floradale, Orpington.

Francis Darwin, Esq., D.Sc., F.R.H., the third son of Charles Darwin, whose assistant he became after studying medicine at St. George's Hospital, has had the honour of knighthood conferred upon him. He has attained high distinction as a botanist, and was president of the British Association in 1908.

Window Gardening at Preston.—With a view to render the streets of Preston less sombre than they usually are, the Preston and Fulwood Horticulture Society have decided to carry out the scheme prepared by Mr. W. N. Wood for encouraging householders to cultivate window plants, and to beautify their residences with window boxes. To ensure the success of the scheme, it has been decided to form a committee in each ward of not fewer than twelve members, each ward committee to elect its own chairman and secretary, three from each ward to be elected on the General Committee. The duties of the Ward Committee will be to arrange at least one free public lecture dealing with the

care of window boxes, etc., and to invite entries for window plants and window boxes, for which prizes will be offered. Window plant exhibits will be open to all from 13 to 18 years of age, and another class is to be arranged for those over 18 years of age. The competitions in the window box classes will include householders where the rent does not exceed 6s. a week, householders where it does not exceed 10s., an open exhibition with the exception of householders in Winckley Square, and another open to all householders in Winckley Square. Details were left to a strong committee, but the whole scheme will be "fathered" by the society, though it is hoped to induce the townspeople generally to ensure there shall be no financial loss. It is estimated that the cost of carrying out the scheme will not exceed £60, and there should be no difficulty in raising that amount in a town such as that of Preston.

Marram Grass for Paper-making.—Among other plants suggested as suitable for the paper-maker which have recently been examined in this connection, says the "Kew Bulletin," is the common Marram Grass of our coasts, Ammophila arenaria, Link. This grass, as is well known, is grown on the sand hills around our shores and acts as a very valuable sand-binder. It now appears that it possesses quite useful qualities as a source of material for paper-making. Messrs. Clayton Beadle and Stevens have kindly examined a consignment of Marram Grass sent through Kew from the Norfolk sand hills. They report that the grass was boiled under pressure, without passing through crushing rollers, and then bleached. The figures for the yield of unbleached and bleached fibres, expressed on the original green weight of stem as received and on the dry weight, are as follows: Unbleached green stem, 17.2 per cent.; unbleached dry stem, 31.4 per cent.; bleached green stem, 13.1 per cent.; bleached dry stem, 25.0 per cent. The average length of unbeaten fibres contained in the pulp taken on an average of ten measurements was found to be 0.65 mm. Marram Grass is found to produce a soft pulp with a short tear which more nearly resembles in general feel and external appearance the pulp produced from Esparto or chemical aspen wood pulp. The primary function of Marram Grass is, of course, as a sand-binder, but it is possible that should it be deemed of sufficient importance as a paper-making material its cultivation could be extended over considerable tracts of sandy country bordering the coast in various parts of the British Isles.

Presentation of Plants to the Glasgow Parks.—The already splendid collection of plants in the winter gardens of the leading public parks of the City of Glasgow, has received a considerable addition through a generous gift. This arose through the offer, by the trustees of the late Mr. James Coats, jun., of Ferguslie, Paisley, of the whole or any portion of the contents of the range of houses, seven in number, at Ferguslie. The convener of the Parks Committee and Mr. James Whitton, the superintendent of parks, visited Ferguslie, and the generous offer of the trustees was accepted, with the result that the parks receive a large acquisition of plants of varied kinds, including some good specimen palms and other subjects of decorative value. Mr. Coats had a fine collection, and it is seldom that a community have such an opportunity of acquiring so many useful plants.

We wish the movement every success, and hope the society will receive the support of the townsfolk in this new departure.

THE BEST TWELVE WINTER-FLOWERING ORCHIDS FOR GENERAL PURPOSES.

In selecting a dozen of the best winter flowering orchids one might be inclined to choose the newer introductions, but, as this is not within the scope of the editor's request, I have selected kinds which are procurable at a reasonable outlay, and in general cultivation.

The following kinds possess much beauty, and are suitable for cultivation under the conditions that usually obtain in gardens:

Where there is a stove or warm house available, Cattleya labiata makes a good display through the months of November and December. Since its reintroduction it has become readily obtainable. Importations are arriving annually, and it is desirable to procure the plants when newly imported, as there is always a greater interest

CATTLEYA FABIA.

A richly-coloured hybrid raised from a cross between C. Dowiana and C. labiata. The specimen illustrated formed part of the fine collection of cattleyas exhibited by Lieut.-Col. Sir George Holford (grower, Mr. H. G. Alexander) at the R.H.S. Orchid Show in November last.

attached to those which have not previously flowered. Moreover, the plants bloom more freely when first imported. Cattleya Fabia is a beautiful hybrid derived from the inter-crossing of C. labiata and C. aurea, and has now become freely distributed. It is exceedingly variable, and I consider it the best of the winter-flowering cattleyas. It is good in constitution and flowers freely.

These are best grown in pots, filled to two-thirds their depth with clean broken crocks, using a compost of fibrous peat, some broken oak or beech leaves, and chopped sphagnum moss, with sufficient sand, etc., to render the compost open and porous. The temperature should not be less than 65 deg. during winter.

Calanthes are of much value for the production of flowers in winter, and may be successfully cultivated under stove treatment. It is a difficult matter to choose

between C. Bryan, C. William Murray, and C. Veitchi. I am, of course, leaving unmentioned the newer kinds. My vote must go to C. Veitchi, as its rosy-pink flowers are most attractive on well-grown plants. This hybrid requires annual repotting, which is best done in the spring at the time when the new roots make their appearance at the base of the newly-developing growth. Flowering in December and January, the plants are exceedingly serviceable.

Dendrobium Phalænopsis is quite unsurpassed in usefulness where there are suitable conditions under which to cultivate the plants. Unfortunately they are affected by fog and impure atmosphere, and are unsuitable for the neighbourhood of large towns and smoky districts. It blooms from October to February, and the flowers last a long time in good condition when used for decorative purposes in a cut state. The plants are best grown in baskets, or well-drained pans, with a compost of peat or Osmunda fibre and chopped sphagnum moss.

With an intermediate division, in which it is possible to grow many attractive kinds —and noteworthy among them are the zygopetalums—a temperature of 55 to 60 deg. is maintained. Zygopetalum Mackayi, in large plants, are most effective, and, flowering in the depth of winter, they are exceedingly serviceable. Use well-drained pots, with a compost of two parts fibrous loam and one of peat and chopped sphagnum, intermixed with sufficient sand, etc., to render the compost porous. The plant is evergreen, and should not be subjected to rigorous resting conditions. Cœlogyne cristata, of which I should preferably select C. c. alba, flowers at the end of January and during February, and is exceedingly useful when flowers are usually scarce. Potting is best done immediately after flowering, using fibrous loam, peat, and chopped sphagnum moss in about equal proportions. Liberal root moisture is required throughout the growing season, and just sufficient water is necessary when dormant to keep the pseudo-bulbs in a normal plump state. Vanda cærulea is distinct and of great beauty, but requires a pure atmosphere, and unfavourable outside conditions render the plants useless, as with but little fog the buds drop, and dull surroundings cause the flowers to come white instead of the delightful shade of blue so characteristic of the species.

From the cypripediums I am compelled to select four to produce flowers in November, December, January, and February. Preferably I will take C. insigne (for choice C. i. Sanderiæ), C. Leeanum Clinkerberryanum, C. Hera Adrastes, and C. Calypso. These are best grown in well-drained pots in a compost of fibrous loam and peat, with chopped sphagnum and sufficient sand, etc., to render the compost porous. Potting is best done immediately the plants pass out of flower, making the compost moderately firm about the roots. Epidendrum vitellinum majus is of special value for the purpose in question. It commences to bloom late in the autumn, and its brilliant scarlet flowers last in perfection on the plant for three or four months, or for weeks after they are cut. Grown under the same conditions as those found suitable for the odontoglossums, it gives every satisfaction. The potting compost should be two parts peat to one of sphagnum moss and chopped oak leaves. This plant does not need repotting frequently; and, as long as there is ample pot room, and the compost is in good condition, the roots should not be disturbed. The plants require liberal root moisture at all seasons of the year.

H. J. Chapman.

PAMPAS GRASS.

The Pampas Grass (Gynerium argenteum) is one of the noblest and most effective of all grasses grown in our gardens. But it is a fact that in some gardens the plants are very much neglected, and those that are so neglected present a very untidy appearance.

In the counties south of the Midlands the pampas grass does not require much protection from frosts, but in the Midland and Northern counties it is well to afford them some in very frosty weather. Mats are the best for the purpose.

I have, however, seen old specimens choked, as it were, through the accumulation of portions of the scales of the thickest parts of the stems falling into the heart of the plant and being allowed to remain there for several years. These dried outer scales do not decay readily, and so, in about three years' time, there will be sufficient accumulation to cripple free growth. Having had in my charge some good specimens from time to time, I always made it a rule to clean out the dried grass twice every year—in summer and again in spring.

Small plants may be well grown in soil which has only been deeply dug, but the best specimens are those that have been planted in deeply-trenched ground.

The Most Suitable Soil and Position.

If the ordinary soil is rather poor and shallow some good turf, in which the grass has died, after being stacked about ten weeks, must be added for the benefit of each plant. A rich, deep loam is an ideal one for the plants, and in such the cultivator can keep them in a fine vigorous condition for many years.

A gently sloping plot of ground facing the south or south-west is a good one for the pampas grass. In the southern counties protection from north and east winds is not absolutely necessary where the grass is grown on such sloping ground, but in the north it is advisable to have a belt of trees and shrubs on the north and east sides, but not necessarily close to them.

One of the finest plantations of the pampas grass I ever saw was made at Hinton Admiral, the Hampshire seat of Sir George Meyrick, Bart., some years ago, on a south slope, covering a considerable space. The plants did remarkably well, and looked charming in contrast with the dark conifers and other trees which formed their background or framework. At Highcliff Castle, Hampshire, owned by General Stuart-Wortley, there is a charming group composed of pampas grass, Prunus Pissardi, and kniphofias. From August to October this bed looks extremely well. Here, again, there is a framework of large trees and luxuriant shrubs, with the grey walls of the castle in the background. Of course, the bed is a large one, and there is not any overcrowding. The yearly work essential to the keeping in order of such a large border is really not a big item. Plant the pampas grass in April.

Geo. Garner.

Single-flowered Chrysanthemums.—Great improvements have taken place in the single-flowered section of chrysanthemums within recent years, the tendency being to favour large or moderately large flowers. A notable feature of some at least of the newer kinds is the presence of an anemone-like centre, instead of the usual disc, indeed, the most pronounced in this respect suggest that only another turn of the wheel is required to bring us around again to the old section of large-flowered anemones. —W. T.

THE DIPLADENIAS.

Although there are no more beautiful stove climbers than several of the species of dipladenia, it is a rare occurrence to find them grown in private gardens. Twenty years ago the majority of nurserymen grew several species with varying degrees of success, but since that time the demand has been so slight that only a few growers who specialise in stove plants find it worth their while to stock them. Few of the visitors to the London exhibitions know what a dipladenia is, and it is only at the more important provincial flower shows, such as that held at Shrewsbury, that these beautiful plants are exhibited.

I do not know any plant which is more susceptible to injury from mealy bug, or any plant which the pest seems to be so fond of, and once a specimen becomes infested the foliage very quickly shows signs of distress. The leaves have so many hiding-places that the general methods of combating the mealy bug, by sponging with insecticide or by applying it in stronger doses with a small brush, are very ineffectual. The best method is that of spraying the plants with petroleum emulsion, and, as prevention is better than cure, it is a good plan to do this work at regular fortnightly intervals from the time growth commences until the first flowers have expanded. In this respect it is a curious fact that while periodic fumigation, as a means of prevention, is practised in many gardens, the spraying of plants which are easily affected by (one is tempted to write addicted to mealy bug, is not included in the routine of gardening. We usually wait until the pest has increased sufficiently to be easily apparent before we take steps to check it. Yet spraying or syringing plants with petroleum emulsion not only destroys most insects, but cleans and freshens the foliage as well. Dipladenias are splendid companion plants to the climbing species of allamanda, and are amenable to much the same treatment, except that the very firm potting, which is practised to ensure floriferousness, must not be followed with the dipladenias. From the time the plants are in full growth until the flowers open copious waterings are essential, and this requires ample drainage. The best compost is roughly-broken, fibrous peat, and turfy loam, with leaf-mould in equal quantities, with the addition of plenty of charcoal and coarse sand. Healthy plants produce numbers of flowers throughout the late summer and autumn, during which period the atmosphere of the glasshouse must be kept drier, or the flowers will be spotted. During the winter the water supply must be lessened, but not entirely withheld, for while dipladenias require a thorough season of rest, they suffer somewhat from excessive dryness of the soil.

There are two dozen or so of different dipladenias described in "Nicholson's Dictionary of Gardening," and twelve are starred as being especially worthy of cultivation, but only half a dozen of these may be found named in nurserymen's catalogues. These are D. amabilis, which bears clusters of large rosy-crimson flowers; D. amœna, with rose-flushed flowers, and rich dark green leaves; D. boliviensis, the flowers of which are white, with a golden throat, and are considerably smaller, but abundantly produced; D. Brearleyana, one of the most floriferous of the larger-flowered sorts, the flowers are the biggest of all, they open pink, and when mature are of a rich crimson colour; D. hybrida, very large crimson-red flowers and light green leaves; and D. insignis, a very strong-growing kind, which bears bold rosy-purple flowers.

A.

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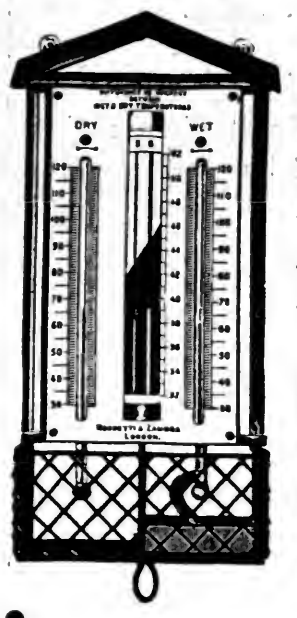

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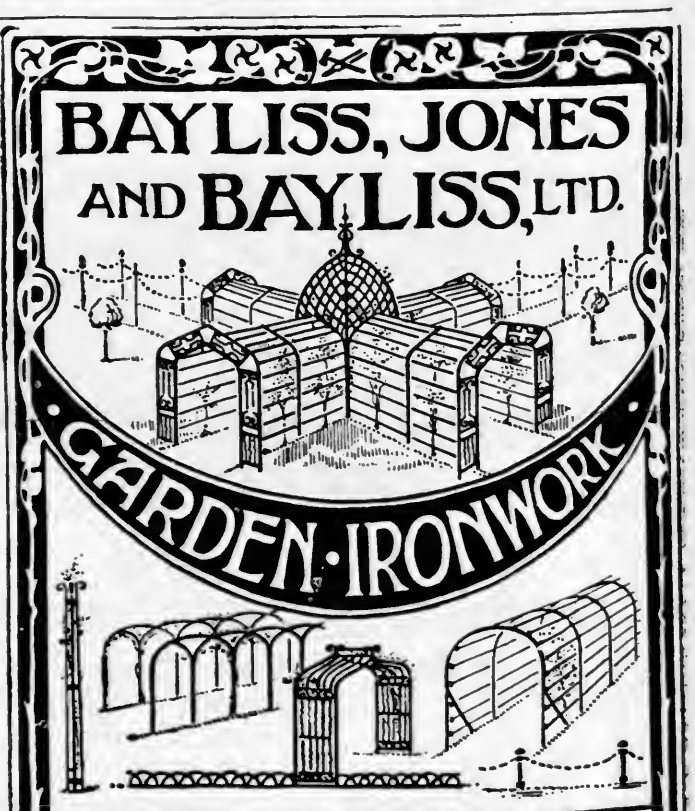

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NEW HARDY TREES AND SHRUBS OF 1912.

As in previous years, the new trees and shrubs from China loom largely among the novelties of the season, and, what is more, they are likely to hold a high position for some time.

As a variety of the Manuka of Australia and New Zealand (Leptospermum scoparium) was at the International Exhibition, held at Chelsea, awarded a cup as the finest novelty in the show, and was, in addition, given a first-class certificate by the Royal Horticultural Society, it certainly deserves premier mention. The Leptospermum referred to is L. scoparium Nicholli, in which the flowers, instead of being white, as in the type, are of a bright carmine-crimson, with a somewhat deeper centre. The tiny leaves, too, are tinged with purple. A second variety which received an award of merit is Boscaweni, a plant of looser habit than the type, while the flowers are in colour whitish, with a red centre. The unopened buds are bright red.

Exception may perhaps be taken to including these Leptospermums among hardy trees and shrubs, on the ground that they are tender in most parts of these islands, which is really the case; but in favoured districts, especially in the West, they succeed perfectly out of doors, and form delightful specimens.

Chinese shrubs claim one of the two other first-class certificates awarded by the R.H.S., as that honour was, on August 27, conferred upon Cotoneaster divaricata, a low, much-branched evergreen, with neat, dark green leaves, and deep scarlet berries.

The following shrubs have at different times of the season received awards of merit: Ribes laurifolium, a singular-looking species with drooping racemes of yellowish-green flowers (February 20); Corylopsis multiflora, which bears, while quite leafless, long pendulous racemes of yellowish flowers, very suggestive of the catkins of the hazel (March 5); Corylopsis Veitchiana, a good deal like the last, but more vigorous in growth (March 19); Camellia cuspidata, a dense-growing bush with comparatively narrow leaves, and single white flowers (April 2); Viburnum Davidi, a very distinct dwarf evergreen, with broadly ovate, much reticulated leaves, and dense corymbs of white flowers, which are succeeded by small blue berries (April 2); Deutzia longifolia, which bears a profusion of rather large blush, mauve-tinted blossoms (April 30); Deutzia Veitchi, whose bright rose flowers with a suffusion of purple are among the largest of all the Deutzias, and borne in great profusion (May 22); Hydrangea Sargenti is a very distinct species, with large, handsome, velvety-green leaves, the flowers borne in broad heads, being for the most part small and of a bluish tint, the large, sterile ones being limited to a scattered few around the outside of the cluster (May 22); Berberis Stapfiana, a dense-growing, deciduous species, with yellowish flowers, and a profusion of translucent red berries somewhat suggestive of red currants (October 8); Pyrus Veitchiana, a quick-growing tree, furnished with broadly ovate, finely-toothed leaves, and bearing a profusion of comparatively large, rather dull, crimson fruits (October 8); Cotoneaster bullata, of vigorous growth, probably a small tree, with curiously puckered leaves, and clusters of large, shining crimson berries (October 8); Cotoneaster salicifolia rugosa, a lax-growing bush, whose semi-pendulous shoots are furnished with bright red berries (October 8); and Cotoneaster Zabeli, a good-sized shrub with dull crimson-coloured fruits (October 8).

The New Zealand Plagianthus Lyalli also known as Gaya Lyalli, by no means a novelty, was the only other shrub to get a First Class Certificate in 1912, after an Award of Merit in 1911; while its near ally, Hoheria populnea, also a New Zealander, obtained this last-named award on November 5.

To the garden varieties of Philadelphus, raised by M. Lemoine, of Nancy, two awards were made, and though they do not represent the newest forms, they are both very meritorious flowering shrubs. The varieties are Bouquet Blanc and Voie Lactee. Other subjects that gained the same honour are Rhododendron Cornubia, a hybrid between R. Shilsoni and R. arboreum; Primus Pissardi Moseri flore plena, a double-flowered plum, of considerable value for forcing purposes; Abies Douglasi Fletcheriana, a dwarf form of the Douglas fir, and Clematis Lady Betty Balfour, a large flower of a deep violet-purple, with a crimson bar down the centre of each petal.

COTONEASTER BULLATA.

A Chinese species remarkable for its elegant habit and rich crimson fruits. Introduced by Messrs. J. Veitch and Sons.

Of the different subjects enumerated above, illustrations of the following have appeared in the GARDENERS' MAGAZINE, thus giving readers a far better idea of their general appearance than a long description: Corylopsis multiflorus, March 9; Rhododendron Cornubia March 16; Viburnum Davidi, April 6; Deutzia longifolia, May 4; Hydrangea Sargenti, June 1; Philadelphus Bouquet Blanc, June 29; Clematis Lady Betty Balfour, July 13; Philadelphus Voie Lactee, July 20; Plagianthus Lyalli, July 27, and Prunus Pissardi Moseri flore plena, October 26.

A notable feature in connection with the awards made by the Royal Horticultural Society is that in 1911 no fewer than nine rhododendrons were honoured, whereas in 1912 there was only one.

Various Chinese shrubs, apart from those previously mentioned, are being distributed by Messrs. J. Veitch and Sons, all introduced by their collector, Mr. E. H. Wilson, the most promising being Berberis brevipaniculata, a free-growing, deciduous species that forms a dense bush 6ft. or so in height. The flowers are pale yellow, and the berries of a bright rosy-red colour. The rich red bark of the young shoots forms a striking winter feature. Daphne retusa, a dwarf evergreen species, whose sweet-scented white flowers with a rosy suffusion are borne in May. Deutzia Wilsoni, a vigorous grower with large pure white flowers. I was very much struck with this grand flowering shrub last spring at Coombe Wood. Ilex Veitchi, a stronger-growing growing form of the now well-known Ilex Pernyi.

Osmanthus armatus, one of the most distinct of recent evergreens, and a shrub of slow growth. The leaves are in some instances as much as six inches in length, and about one and a-half inches wide, very markedly toothed, and of a particularly harsh texture. When mature they are of a deep green tint, but the young leaves are of a bronzy green. The small, creamy-white, fragrant flowers are, as in Osmanthus illicifolius, borne in autumn. Spiræa Veitchi, a species that produces long arching shoots crowded with clusters of white blossoms. It is particularly valuable from the fact that it blooms in July.

The yellow-flowered Tree Pæony (Pæonia lutea) has been employed by the hybridist, and M. Lemoine, of Nancy, has raised a very fine form between this species and a variety of Pæonia Moutan. The progeny, which bears the name of La Lorraine, has large, double, soft sulphur-yellow flowers. At the International Exhibition a very striking Golden Poplar was shown, under the name of Populus alba Richardi, and an Award of Merit was given it. This variety of the White Poplar was obtained and shown by Mr. A. G. M. Richard, Naarden-Bussum, Amsterdam. It is remarkable for the bright golden tint of the upper surface of the leaves, the under-sides, stems, and leaf-stalks having the pronounced white tomentum common to the typical White Poplar. As it is, like nearly all the poplars, of ready propagation and quick growth, this golden form will, no doubt, ere long be generally distributed, when it should form a striking feature in the landscape, especially as, unlike some golden-leaved subjects, the colour is retained throughout the season.

Lastly, attention may be directed to the fact that Cytisus Dallimorei, which has attracted a great deal of attention within the last few years, and was given an Award of Merit at the Temple Show of 1910, is this season being distributed to the public for the first time. W. T.

CONSERVATORIES: ANCIENT AND MODERN.

The horticultural historian with ample leisure and a well-filled library—and all good historians possess both of these necessaries—would be able to speculate most agreeably, and at length, as to the date and place of the first conservatory.

The etymology of the word conservatory is self-evident; it means a place in which to conserve, or keep, anything from injury; so, from the gardener's point of view, the conservatory is the place to preserve plants which, in their present condition, are unable to withstand our climate. Our historian would probably, in his study of the evolution of the conservatory, find its foundations in the gardens of King Solomon where, some 3,500 years ago, he enclosed a large quadrangular space with high walls to conserve the great variety of plants, shrubs, and trees he had collected. This was a great step forward from the more primitive method of protecting collections of plants by enclosing them with hedges.

The Romans appear to have made structures for the forcing of vegetables. These are recorded as being fitted with removable roofs, so that abundant air and light might be admitted during the day time. The Romans were great gardeners; many of their warrior emperors during their brief periods of peace, occupied themselves in the formation of paradises, as they euphoniously termed their gardens, and one famous Roman general at least is reputed to have taken his gardener on his campaigns, so that when encamped he might have a garden around his tent. We can easily conceive such men, as soon as they had obtained a footing in Britain, having sent over to them specimens of the plants they were so fond of, and, finding that our raw winters killed them, erected buildings to protect these exotics during the more inclement weather. It will be remembered that the Romans were very skilful in the designing of flues for heating purposes. They did not heat their houses with open fires, but used flues, which they also carried around their luxurious baths. So we can quite imagine a Roman pro-consul in Britain designing a conservatory and heating it by means of flues. This building would almost certainly be rectangular in shape, the flat roof of lead or copper would be supported by pillars, and, on one side at least, the spaces between the pillars would be fitted with removable wooden shutters.

Soon after this the power of the Romans had reached its zenith, their troops were recalled and took with them their great civilising influence, with the inevitable result that any exotic plants which they left behind soon died, and the "conservatories" erected for preserving them were dismantled.

The historian would probably have to bridge over a very long period before he discovered any further signs of a conservatory in this country. Daines Barrington (born 1727; died 1800), lawyer, naturalist, and antiquary, the writer of legal works and of "The Naturalists' Calendar" (1767), records that the first hot-house in this country was built during the reign of King Charles II., and mentions a painting depicting the royal gardener presenting on bended knee forced fruits to the king. But the orangery, which was a necessary adjunct of the houses of the great, was fairly common before this date. These structures were almost entirely the creations of the architect who loves masonry, and who did not consider the well-being of the plants it was intended to house, and the orangery may well be considered the first conservatories of modern times. As they frequently were built adjoining the house their design had to conform with the architecture of the mansion. They were roofed with opaque materials, the only concession to the necessities of the plants being the glazed sashes in the front. Whilst these structures were only utilised for the wintering of specimen oranges, sweet bays, myrtles, pomegranates, etc., which were placed along the terrace walks during the remainder of the year, they served their purpose fairly well. But as the Italian style of gardening in this country waned, a more decorative form of gardening became the vogue, and the gardener was expected to keep the orangery bright and gay throughout the year. The difficulty of doing this with these heavy, sombre structures, which, as Nicol wrote, "often look more like tombs or places of worship than compartments for the reception of plants, and we may add the modern sort looks like a combination of shop-fronts," even when their roofs were glazed, was well-nigh insuperable.

The present-day conservatory, instead of being an ugly death-trap for plants, is at once a very ornamental structure and a home for its occupants. The great increase in popularity of outdoor gardening, of herbaceous borders, water gardens, etc., suggested the neglect of the conservatory. But no matter how well the hardy flower borders are managed, these, beautiful as they may be made during the season, are not all-sufficing. The season of the very best herbaceous border is limited, and although, as at Hampton Court, showy tender exotics may be planted to enhance the beauty of the hardier flowers this display cannot take the place of the conservatory. The garden owners of this country are too conservative in their tastes to be satisfied with outdoor pleasure gardening, and a suitable glasshouse where the pot plants can be displayed remains a necessity.

With the repeal of the window-tax in 1851, which had restricted the size of the glass used in glazing greenhouses, a great impetus was given to the designing of glass-houses of all kinds. The old-fashioned houses which necessarily contained a large amount of woodwork, and were consequently heavy and shady, soon gave place to the more modern style which is light and graceful in design, and admits plenty of light, so that plants removed from the growing houses do not suffer nearly so much as was formerly the case. There is naturally a great diversity in the sizes and styles of the many conservatories to be seen throughout the country. In the larger establishments, the conservatories built thirty years or so ago were often very large—at times unduly so—and much of their utility was sacrificed to outside appearance. As with the orangery the conservatory attached to the residence must be designed in conformity with the architecture of the building, but in other instances the welfare of the plants has happily been largely considered.

In those gardens where an enclosed flower garden, of more or less formal nature, has been laid out away from the mansion it sometimes includes a moderate-sized conservatory—a happy combination which may well be more frequently adopted. Not only has the style of the conservatory changed for the better, but the method of decoration has also greatly improved, and in future issues it is proposed to deal with the various methods of conservatory decoration, and give special prominence to those which have been introduced within recent times. CECIL AUBREY.

NUNEHAM PARK AND GARDENS.

Oxfordshire boasts many attractions, and not the least of these are the many beautiful and interesting gardens within its boundaries. These gardens are of diverse character, because the shire has an extreme length, from north to south, of over fifty miles, and is particularly well watered. The rivers Cherwell, Windrush, Thame, and Evenlode, with their numerous tributaries, serve it well, while the Thames forms its curiously tortuous southern boundary.

From Oxford the River Thames runs almost due south, past Iffley, and just where it turns westward on its way to Abingdon, there, on well-wooded and rising ground, stands the residence of the Rt. Hon. Lewis Harcourt, P.C., M.P. The extensive park and the whole estate of Nuneham Courtenay contain many fine trees, and noble specimens of oak, elm, Scots pine, Wellingtonia, and Abies Nordmanniana are to be seen from the long drive that leads from Culham Station up to the mansion. The latter is a large and solid building, with its more important frontage towards the river.

Immediately before the front entrance is a large and notable piece of topiary work. A hedge of box surrounds the whole, and immediately within this is a scroll-like design worked in berberis, which, in turn, forms a setting for the family crest—a peacock standing on a crown. The peacock is worked in green box and the crown in golden box.

Climbing Plants.

Few mansions are so beautifully adorned with climbing plants as is Nuneham, and still fewer are clothed with such a wonderful variety of subjects. An enumeration of half the kinds would seem so much like a mixed catalogue of hardy and greenhouse climbers that only a few of the more interesting can be mentioned. Lapagerias do fairly well, and flower regularly on a northern aspect. Azara microphylla grows freely, and in due season its flowers emit their vanilla-like fragrance. Lonicera gigantea superba covers a great space, and L. Henryi does well. Acacia dealbata is making headway on a southern exposure, while forsythias, escallonias, choisyas, and buddleias are used freely in all aspects and flower profusely; indeed, choisyas are a great feature in the borders next the house and on the north terrace. An immense wistaria faces westward, and a big Magnolia grandiflora thrives in a rather more southerly position, but each is a rare old specimen.

Akebia quinata, the yellow-flowered Piptanthus nepalensis, Edwardsia microphylla, Bridgesia spicata, and Physianthus albens all do well in the warmer places, and the lovely Solanum jasminoides rises to a great height on the west front with Passiflora Constance Elliott keeping it company and rising to the highest windows. Banksian and other roses, the white and fragrant Rhyncospermum jasminoides, and the charming Ipomæa Leari, flower every year, these latter receiving some protection at the base each winter.

Not only is the mansion itself thus finely clothed with choice and beautiful climbers, but the various terrace walls also offer congenial homes to those subjects that possess a more or less scandent habit. At Kew, at Cambridge, at Glasnevin, and at Edinburgh, full advantage has been taken of the many sheltered positions a garden offers for the cultivation of those rarer plants which generally find a place in our greenhouses if space allows. At Nuneham this idea has been put into practice extensively and with great success. The mansion itself offers unusual scope in this direction, and no pains have been spared to cultivate new and rare plants upon its walls, though at the same time the more beautiful of the older and well-known climbers find a happy home there. Further, a series of broad terraces on the westward side of the mansion give further opportunities for this

NUNEHAM PARK—THE MANSION, AS SEEN FROM THE UPPER TERRACE.

interesting phase of gardening, as the walls face either west, south, or north. Then, too, these terrace walls shelter large numbers of beds and borders, and here again choice plants are to be found in abundance.

The Terrace Gardens.

The upper terrace is rough-flagged, and between the stones all sorts of tiny plants, notably saxifragas, thymes, and sedums find a home. Climbing plants twine round the ornamental tops of the retaining walls, and roses abound on every hand. At the southern end of the terrace and in close proximity to the mansion is a series of ten large rose beds, each edged with Saxifraga oppositifolia, and surfaced with viola Maggie Mott. Each bed is filled with one variety of rose, and the kinds planted are Hugh Dickson, Corallina, Kaiserin Augusta Victoria, Grand Duc de Luxembourg, General Schablikine, Caroline Testout, Frau Karl Druschki, Mdme. Abel Chatenay, Francois Dubreuil, and Countess of Gosford. The advantages of thorough soil preparation are very evident in these beds of roses, for the bushes grow and blossom with the utmost freedom.

A "blue" border has been planted just outside this end of the terrace, and the chief occupants are anchusas, violas, lupins, asters, and anemones, with clematis on the walls.

Descending, the west terrace garden is found to be largely devoted to roses, eight large beds being here grouped. Viola Maggie Mott is again pressed into service as a carpeting plant beneath the vigorous bushes of Killarney, Pres. Carnot, Hugh Dickson, Francois Dubreuil, Beaute Inconstant, L'Ideale, Antoine Rivoire, and Caroline Testout roses, while each bed has a broad encircling band of Mrs. Sinkins pink that is attractive at all seasons of the year. Clematis Nellie Moser adorns the walls near at hand.

Lower still, a very sheltered, walled-in garden has water lilies for its central feature. This is the Nymphæa Terrace, and an illustration of it accompanies these notes. In the centre is a square pool of water, in which such nymphæas as Jas. Brydon, gloriosa, and chromatella are quite at home. At either corner is a bed of moisture-loving shrubs, the principal occupants being Rhododendron præcox, Andromeda floribunda, Kalmia latifolia, and Menziesia polifolia, with standards of the fine Hydrangea paniculata grandiflora rising well above them. The inner margins of these beds are planted with various irises, but principally the variety Victorine. Boxes of salvia Glory of Zurich adorn the steps of this terrace throughout the summer.

If the summary of the climbing plants on the mansion creates some surprise, then the list of plants growing against the walls and in the sheltered borders of the Nymphæa Garden, will prove still more surprising. Cestrum Newelli, a popular greenhouse climber, and Leonotus Leonurus, an orange-spiked warm house flowering plant, are here, though the latter has, so far, only stood out one winter. Plagianthus Lyalli does well against the wall, and so do Abutilon vitifolium and Medicago arborea, and the prett y Helichysum rosmarinifolium—the "Snow in Summer" of Tasmania. Hoheria populnea, Fabiana imbricata, Sophora tetraptera, Decumaria barbara, from the Southern United States, and also known as Forsythia scandens; Osteomeles anthyllidifolia, from the Pacific Islands; the Papaw (Asimina triloba); and the beautiful yellow-flowered Jasminum primulinum, are a few other plants not commonly found in gardens, and more rarely seen out of doors.

Around the Terraces.

Although the walls of the house and the several terrace gardens contain so much of horticultural interest, it must not be imagined that all the good things are grouped here, and that the rest of the gardens and grounds possess few attractions. The lower terraces are of recent date, and have been built and planted during the last six years; they, in themselves are ample evidence of the keen interest Mr. Lewis Harcourt and his family take in their gardens, but there is plenty of further evidence elsewhere.

A wide semi-circular slope below the lowest terrace has been made beautiful by planting it thickly with Rosa Wichuraiana, the true species; this rose is especially suitable for clothing slopes and banks, and here it is seen at its best. Just outside the Nymphæa Garden a long border is largely filled with the pretty Leptospermum scoparium, an Antipodean Myrtaceous shrub which flourishes here so well that self-sown seedlings are quite numerous. Near by a splendid specimen of the lovely Rosa sinica Anemone clothes the wall, and farther round groups of Soleil d'Or and Captain Hayward roses adorn the borders. Continuing northwards the use of rosemary, kept closely trimmed, and trained to the pillars and buttresses of the lower wall, is

VIEW ACROSS THE TERRACE ROSE GARDEN, NUNEHAM PARK.

The Carfax Monument is seen in the distance to the right. The rose in the border on the left is Madame Abel Chatenay, and that in the first bed on the right is Souv. de President Carnot.

very noticeable. A herbaceous border, well filled with good things, leads to the northern outskirts of the terrace, where one comes upon fine large masses of the golden-leaved Weigela and of rose Blanche Double de Coubert, bold plantings of Buddleia variabilis, and of splendid French lilacs in variety, of forsythias, pyrus, and prunus.

Stately yews, some of great size and age, lead towards the evergreen Sundial, which, with its hours and Latin motto, is worked in box, and set within a handsome hedge of Cistus ladaniferus.

Close by is the old parish church of Nuneham, a small and beautifully-kept structure, with fine hammered-iron doorways, and memorial tablets and medallions that keep in mind the Harcourts of bygone days. In the little churchyard, a verit-

THE NYMPHÆA GARDEN AT NUNEHAM PARK.

able rose garden, lie the remains of the Rt. Hon. Sir William Harcourt, a famous statesman and parliamentarian, who passed away in 1904. In the little church the following words are carved in his memory:

"At least, not rotting like a weed,
But having sown some generous seed,
Fruitful of further thought and deed,
In some good cause, not in mine own
I perish, wept for, honoured, known,
And, like a warrior, overthrown."

Around this spot the little village of Nuneham once stood, quite near the mansion, but the first Lord Harcourt had the village moved a mile or so away, to the side of the London Road, about the year 1710.

The Dell and Water Garden.

One of the fairest scenes at Nuneham Park is to be obtained from a point just outside the little church, looking north-west and north. Some idea of its beauty may be gained from one of the accompanying illustrations. Splendid beech, elm, and oak trees abound and form a fine setting for the rhododendrons, groups of new Chinese trees and shrubs, the pool and bog garden, and the little lake below, while away beyond the trees the Thames winds away northward to where the spires of Oxford rise in the distance.

Rhododendrons are fine, in the natural soil, and the foreground of the picture is occupied by a large group or bed of R. Pink Pearl. Near by is a large group of the handsome Buddleia variabilis Veitchi and a plantation of almonds.

Among the choicer shrubs along the slopes of The Dell are Olearia macrodonta, Fremontia californica, Nandina domestica, Viburnum macrocephala, Eucalyptus Whittinghamei from Mr. A. J. Balfour's home in the South of Scotland; the handsome E. coccifera, Colletia cruciata, and several specimens of our hardiest palm—Trachycarpus excelsa. Here, too, are examples of many of Mr. E. H. Wilson's plants, collected in China.

In the pool are water lilies, and all around in marshy ground are large groups of Primula japonica, P. unique, spiræas, and astilbes in variety, and Kæmpfer's Iris, with Lilium Henryi and L. rubellum thriving a little further from the water, with hardy cypripediums as near neighbours. Great masses of Hart's-tongue ferns are grouped around the base of an old elm tree on the slopes, and above these a breadth of the Red Orache is annually sown, and it provides a splendid bit of colouring during the summer and autumn.

Rough-flagged pathways lead down to the lower water garden, and narrower walks of flat stones lead amid the moist and boggy surroundings of this lower pool. Though only two years have passed since this part of the garden was designed and planted, the sheltered position has favoured the plants, and they have made good progress. Iris Kæmpferi has a quite large piece of bog to itself, but other moisture-loving irises are planted freely. Bamboos, phormiums, Mimulus Lewisi, trolliuses, hellebores, Primula japonica, hemerocallis, Fuchsia Riccartoni, Senecio Clivorum, and Ruscus racemosus, all do uncommonly well, and indicate the great variety of plants used in beautifying a piece of ground that was previously something of an eyesore.

A gently rising walk leads from this water garden round towards the northern end of the mansion. This was cut out of the sloping ground, consequently a retaining wall was necessary on the higher side. Mr. Munday, the head gardener, conceived the idea of making a rockery wall in this position, and carried it out by using wedge-shaped pieces of stone obtained from Abingdon. Above this wall, and under the trees, bulbous irises, narcissi, breadths of hardy cyclamen, snowdrops, and the exquisite Muscari conicum Heavenly Blue fill the ground, and in their several seasons provide charming floral pictures. On the lower side of the path roses are freely planted, with flowering shrubs and groups of Pampas grass.

The wall itself extends for about ten chains, and was built about six years ago. Popular subjects, such as aubrietias, free-growing saxifragas and sedums, Heuchera

sanguinea, Alyssum saxatile, and low-growing phloxes have been pressed into service for the adornment of this rockery wall, but time would fail to tell of the less common plants that thrive here. Succulent plants, grouped where the wall curves and provides a southern exposure, are a success, and the only added shelter they receive is afforded by a few branches of yew or box placed over them in severe wintry weather. Opuntia fragilis, O. arkansana, O. Rafinesqui, and Echinocereus (Cereus) viridiflorus are a few that are particularly happy among many species grown. Convolvulus althæoides is a fine feature, drooping from the top of the wall, and studded with pink flowers; Lithospermum prostratum does well, and there are fine groups of alpine auriculas, Campanula muralis, Stellaria Biebersteini, and Acaena Buchanani, a pretty New Zealand plant, in this interesting piece of wall gardening. The pieces of stone used are from two to four inches thick, rarely more, and many thousands of them have gone to the building of the wall.

Mason's Garden and Brown's Walk.

The original outlay of the gardens and grounds at Nuneham is ascribed to Capability Brown, and one long walk to the south of the mansion, cut through woodland, winding, and rising and falling, is known as Brown's Walk after this old master of landscape gardening. Where this path borders on the park, the Carfax can be seen; this is the fine conduit built by Otho Nicholson in 1610. It stood opposite the Carfax church at Oxford until 1787, when it was removed to Nuneham Park.

Mason's Garden is a sheltered spot, surrounded by hollies and yews, and it serves as a reminder of Mason the poet, who is also credited with some of the beautiful features of the place. A little tea-house here looks out upon a bank of Pink Pearl rhododendrons, some fine old magnolias, and, in summer time, upon oranges in tubs.

The formal rose garden, close by, is too much shut in by tall trees and big evergreen shrubs, and constant renovation is necessary to keep the roses in good order, either in the beds or borders. Unquestionably, the most beautiful feature of the rose garden is more or less accidental. A mass of green box faces northward, and it is literally smothered ten or twelve feet high with the lovely but coy Tropæolum speciosum. About four years ago tubers were obtained from Scotland and planted nine inches deep; for a while there was little sign of success, but now the plant thrives splendidly, and forms each year a beautiful screen of dainty greenery, studded with thousands of rich scarlet flowers.

Kitchen and Fruit Gardens.

The large wire-enclosed fruit cage that protects cherries and small fruits from the ravages of birds has been illustrated in these pages, and referred to on several occasions. It is interesting to notice that it also shelters a gull or two and a number of quails; these evidently do no harm to the fruits. This fruit cage and the brick-pillared pergola, with its very fine collection of ornamental vines, are two outstanding features of the kitchen and fruit gardens, but the long walk with choice rambler roses, supported on gas-barrel arches, is another feature that will improve, as the roses are newly planted. The iron piping, it should be added, is well painted.

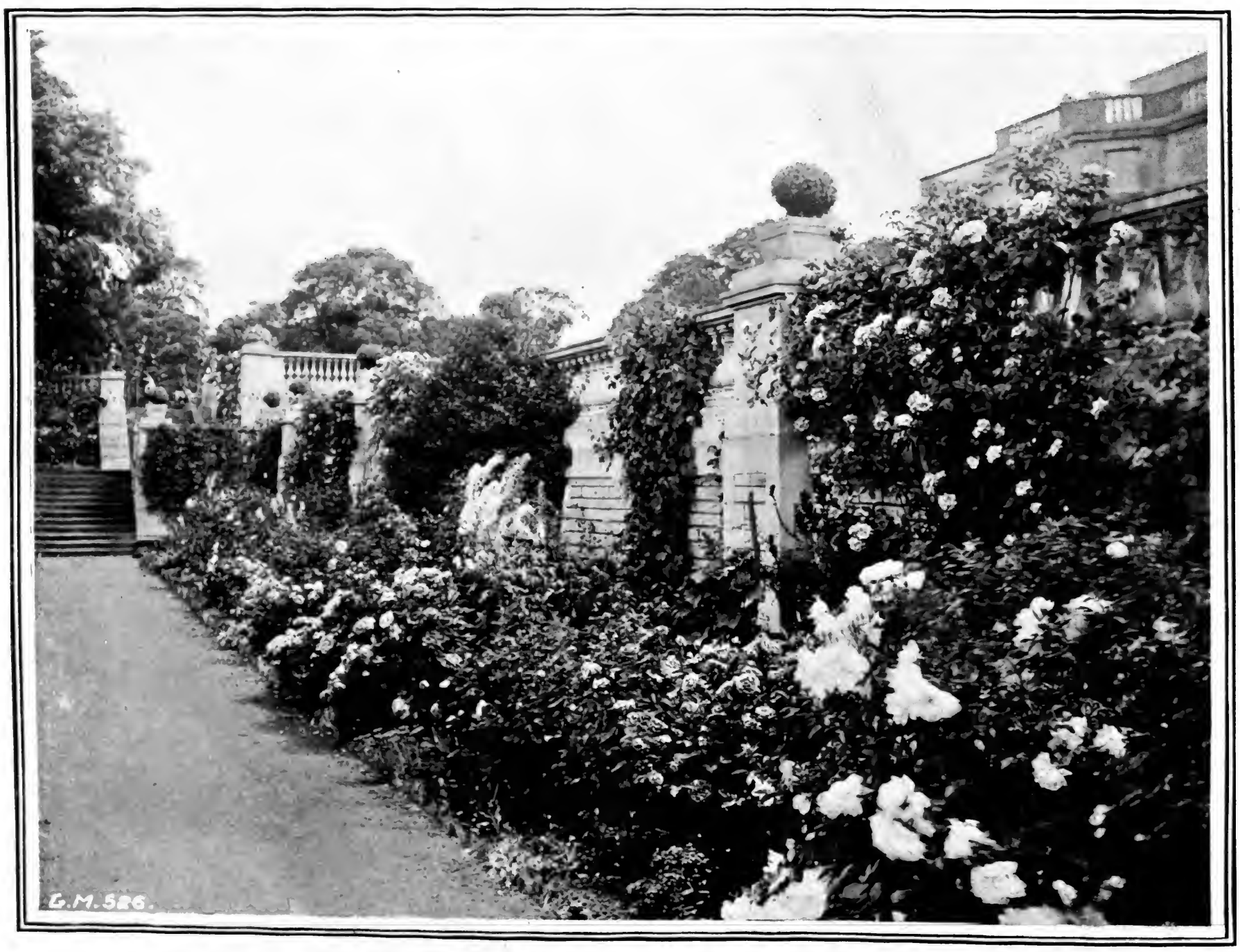
The many walls provide abundant space for peaches, nectarines, pears, and plums, while bush fruit trees are planted around the larger vegetable plots. Some of the glass houses are quite old-fashioned, but some are modern. Peaches, vines, and figs are grown well, and greenhouse plants useful for house decoration or the provision of flowers for cutting have to be grown largely. Needless to say, carnations are not omitted. Malmaison carnations are well managed, and the ever-popular perpetual varieties fill one large house.

C. H. CURTIS.

BROMELIACEOUS PLANTS.

Probably owing to the exceedingly symmetrical character of the foliage, which gives to a plant a somewhat stiff and artificial look, the different bromeliads cannot be said to be at all popular in gardens. In many of them the strap-shaped leaves are arranged in a regular vasiform manner, and are, for the most part, of a somewhat harsh texture. Some of the species, however, are very showy when in flower, among those that bloom at this season being Tillandsia Lindeni, whose blossoms are of a rich tyrian-purple colour, when represented by its best form.

Another winter-blooming kind is that which may be known as Vriesia brachystachys, but whose name is now, I believe, regarded as Tillandsia carinata. This is only about a foot in height, and has pale green leaves, overtopped by the flower spike, which, on the upper half, is furnished with two opposite rows of bright-coloured bracts, and from these the yellow flowers protrude. It remains fresh and bright for a considerable time. A bromeliad now in bloom of much merit is Æchmea fulgens, whose flowers are borne in an upright panicle. They are round, and in colour red with a blue tip. One of the most graceful of its class, and also a winter flowerer is Billbergia nutans, the flowers of which in shape resemble those of a fuchsia. The sepals are reddish and the petals yellowish-green, each with a blue margin, while they are attended by large, rose-coloured bracts.—K.



A BEAUTIFUL BORDER OF ROSES IN NUNEHAM PARK GARDENS.

EARLY VEGETABLES FROM SEEDS.—I.

In gardens where early vegetables are appreciated and others where produce is grown for sale, with the commencement of the New Year and for some time onward, a good deal of forethought, preparation, and care will be necessary to produce them.

Preparatory Work.

In many gardens the initial preparation will have already been made. Nothing is more helpful in the culture of early vegetables than a good supply of beech and oak leaves, and these before this date will have been collected and stored in the yard or leaf-pen in readiness.

The addition of a little fresh stable manure will quicken the fermentation of the leaves, which is generally sluggish if they are used alone in the open at this season of the year.

For the earliest crops of carrots and lettuce it is an advantage if, in addition to the warmth obtained by fermentation, a little fire-heat can be utilised, so long as it is well under control. It will reduce the labour and the amount of material necessary for making the beds, as well as the necessary covering in severe weather.

Where the whole source of warmth, other than that obtained by solar radiation, comes from fermenting material, in the case of beds made in the open in January, these should be at least three feet in thickness, and the sides should project nearly as much. The bed should be made with the sides levelled up to the top of the frame placed in it, and a dry site chosen. Heavy rains soaking in at the base will soon saturate and chill the material. I do not say that such quantity of fermenting material is absolutely necessary, but if the mean night temperature can be kept between 50 and 55 degrees, progress will be much faster than where lower temperatures prevail. Brick pits, with internal sunken beds, are to be preferred for the earliest crops.

In some gardens there are opportunities for growing the earliest supplies of beans and peas in larger structures with a greater amount of head-room, and in such cases excellent crops can be obtained. I would hardly recommend frames or pits for the earliest sowings of French beans.

In deciding as to the number of kinds of vegetables to be grown, the controlling factor must be, of course, the extent of the equipment. A common mistake is to attempt too many. A great deal can be done with surplus sashes and rough boards, particularly when the year is more advanced. The chief point is to make provision for the kinds which are most acceptable, or those which the circumstances permit to be well grown. Some employers are given to adopting the unreasonable attitude of demanding a good deal in the way of choice produce, but only with difficulty can they be persuaded to provide the necessary conveniences for producing them, or, if these exist, they perhaps sternly object to their being used for growing vegetables. It is singular how those who say they care nothing about vegetables invariably have more than their share of the choice ones.

French Beans.

The first sowing of these may well be in seven or eight-inch pots in a house on a shelf near the glass, where a night temperature of 55 to 60 degrees can be maintained in severe weather. The soil should be rich and light, and six or seven seeds can be sown in each pot. The syringe must be used freely, except when the plants are in flower. With later sowings there is no necessity to discontinue or at least reduce the syringing when the beans are setting, but with these earliest batches I have noticed that heavy syringing reduces the crop. The same happens with peach blossom. It is no doubt due to the better circulation of air later on in the season. In the case of beans their position in the house may also affect the setting.

I hardly think the top-dressing of beans as generally practised pays in the case of these early sowings made in January. Frequent feeding with soluble nitrogenous food gives the better result. Later on, when root action is more extensive, and the

THE DELL IN NUNEHAM PARK GARDENS.

In the foreground is a group of Pink Pearl rhododendron; beyond are the bog and water gardens; and in the distance is the River Thames.

crops are heavier, something may be said for a rich surface dressing.

If a phosphatic manure is mixed with the soil, use a high-grade superphosphate, or dissolved bone in preference to bone-meal. Where ample head-room is available the climbing French bean is a good cropping variety. The growths should be allowed to attach themselves to strings running up to the glass. Trained vertically, the plants grow better than when trained on an ordinary wire trellis.

Successional sowings can, towards the end of February or beginning of March, be made in heated pits over a little manure and leaves, or larger beds can be made, and frames placed over them. Six to nine inches of light soil should be placed on the beds. Plants from these sowings grow more strongly, and should be given more room—one foot between the rows and nine inches to one foot between the plants. A catch crop of a small-growing radish, as Carmine Olive, may be sown between, taking care to sow thinly—at least one and a-half inches between the seeds.

Most crops of radishes are spoilt by thick sowing. Later sowings of beans can be made in frames cleared or about to be cleared of lettuce.

If the soil was well prepared for the lettuce it will only be necessary to dibble the seeds in singly a foot or thereabouts each way, or they may be sown in small pots singly in readiness for frames just cleared. Among French beans there are few kinds better than a good selection of Osborne's Prolific for early use, though Ne Plus Ultra, Progress, and Bountiful are all good.

Cauliflowers.

At Reading we rely for our earliest crop in the open on a sowing made in the first half of September in a cold frame. Several thousands are potted up into large 60-sized pots when the plants are making their first true leaf. Others are pricked out into pits and frames and given a little protection during the winter.

The chief advantage arising from potting cauliflowers is that planting may be slightly delayed should the weather prove ungenial in March, as, assuming that the plants have plenty of room, an occasional feeding with a nitrogenous manure will keep them moving gently and prevent loss of leaves until better weather prevails and planting out is safe. In the case of plants pricked out in frames for the winter, it is in my experience safer to plant while of moderate size, although weather conditions may not be ideal, than wait so long that the plants become leafy, and lift with few roots. It is better to have a few cut up by cold than that the whole crop should button-in. A firm root run does something toward preventing the plants becoming gross before planting time. In some seasons no difference can be noticed between potted and pricked-out plants if the latter are carefully lifted. Those who have warm borders can, of course, plant earlier than is advisable here, where we have no friendly wall to break cold winds. We have usually reached the last few days of March before we can safely plant here. Covering up at night with pots is hardly practicable.

Cauliflowers when pulled before peas are plentiful are a very profitable crop, and well worth a little extra care. Some of the plants from the autumn sowing may be planted out in early February in frames over a shallow bed of manure and leaves covered with nine inches of soil trodden firmly. They may be placed fifteen inches apart each way, and can be intercropped with lettuce and radishes. The lettuce must be good, sturdy plants of a small, quick-growing cabbage type, and the radishes sown thinly as before. If the cauliflowers are planted on the square one lettuce can be planted in the centre of each square formed by four cauliflower plants. The pit or frame should, of course, be sufficiently deep to accommodate the cauliflowers when fully grown.

Generally speaking, for frame culture the small forcing type of cauliflower, sown in January, is the most suitable. The heads are small, it is true, perhaps too small for market, but they need less room, and are acceptable on a private table. With these it is absolutely necessary to avoid a check at any stage, or they are certain to button prematurely. On mild hotbeds, and with careful treatment in the early stages, they answer admirably. I believe some gardeners plant outside on warm borders in early April, after having hardened the plants, but with myself they have seldom done any good in the open, raised either in September or January. The best varieties for autumn sowing are Magnum Bonum, Purity, and Pearl, and there are a few good stocks of Erfurt and Early London worth growing. These, treated as advised, generally finish in the open before the middle of June, as pulling commences the last week of May. The early-forcing kinds sown in January and grown in frames turn in just before.

The soil here is a warm, light loam, and growth is particularly rapid when once really genial conditions prevail, and the plants are occasionally assisted with light doses of nitrate of soda. We have regularly realised 2s. to 3s. per dozen, and occasionally 3s. 6d., for the early outdoor crop, but unless cleared before outdoor peas come in, the latter spoil their sale.

Cucumbers.

There is no gain in earliness by sowing these before the New Year, and where the conditions are such that it is difficult to keep up the requisite temperature it would be well to defer sowing until the end of January.

It is true that stunted cucumbers recover more readily than plants of melons, but even then time is wasted when the plants are merely existing.

Much may be done in houses insufficiently heated by augmenting the warmth obtained from the piping by well-prepared beds of fermenting material, but for the earliest supplies, at the end of March or beginning of April, a well-arranged house with ample pipe heat is greatly to be preferred. In some cases it may be necessary to increase the bottom heat, where piping in this respect is limited, by the addition of a little fresh stable manure.

A somewhat holding, calcareous loam, to which, perhaps, a little lightening material in the shape of decayed manure has been added, has given the best results in my own case. Diluted blood and blood manure have proved valuable stimulants. Frequent waterings with nitrate of soda has a bad effect on the surface soil, and the feeding roots seem to perish where it is frequently used.

I prefer the cordon system of training. The point of the leading shoot is rubbed out when it is three or four feet up the trellis, the laterals are stopped at the third leaf, the sublaterals at the first. The plants are set out three to four feet apart about a month after sowing. If growth is to be rapid the night temperature should not fall below 65 degrees.

Frequent but light top-dressings give better results than heavy ones, and the older leaves must be systematically removed in order to allow the light to reach those developing on the bearing shoots.

For general use a good stock of the Telegraph variety is as good as any.

F. DREW.

HOW ALTITUDE AFFECTS PLANTS.

Though one of the most important factors that influence plants is soil, as every gardener knows, there are others that are equally potent in causing plants to flourish or the opposite. Amongst these are climate, rainfall, and temperature. But in a small country such as this these factors vary less, perhaps, within a limited area than another factor which has a very great influence on plants, and that is altitude. As everyone who has visited Western England knows, altitude in that part of the country varies immensely within comparatively short distances.

Many experiments have been made upon the effect of altitude upon wild and cultivated species, and the result has been to show that it is of extreme importance in influencing variation. There are, moreover, two objects in view in cultivation—preservation of some acquired characters in a plant found to be of use to man, as in the case of cereals and vegetables, and variation, which is a feature encouraged by the plant-breeder in the case of flowers.

It is, therefore, of the highest importance to know at what altitudes the different types of plants flourish best—i.e., retain their hereditary characteristics. The grower of oats knows, for instance, that he can grow them best at high altitudes, whilst corn grows best up to 1,000 feet, but not so well higher, where oats will flourish. An indication of this is afforded by the usual habitat of wild forms allied to the oat, which flourish best at high altitudes.

To the gardener in the ordinary sense altitude is of little significance, for he cannot in the limited area within which flowers, etc., are grown, vary the altitudes of the plots devoted to his plants. But he can at at the outset inquire what plants will best grow at the particular more or less uniform height at which his garden is situated, so that this information is of equal value to him, though it necessitates his growing plants confined to one range of altitude—more or less.

With the landscape gardener, or those who can practise the growing of plants at considerably different altitudes that may be represented upon the property under their care, the case is different, and it is to this last group that the general observations here made will have special interest.

In general there are two main zones of altitudes determined by the degree of temprature (which is correlated with altitude to some considerable extent) of each zone, the Arctic and the Agrarian, which last is defined by the altitude at which cereals will grow. The first is divided into three zones, which support the plants growing on our higher mountains, plants which are of northern origin; whilst the latter, also divided into three zones by Watson, are made up of chiefly southern plants.

In the Infer Arctic zone (1,800—2,700ft.) trees are more or less absent, and the plants are dwarf, the vegetation being characterised by such subjects as ling, heather, whortleberry, cowberry, cotton grass, etc. Here saxifrages flourish, as does the juniper. Between 500 and 1,000 feet the baneberry, rosebay, birch, cherry, rowan, London pride, Cicely, and hawkweeds grow, as on the Pennines, which includes in part the mid-agrarian zone, or that of the greater part of Central England and the east and south counties, down to the sea-level.

There are, of course, several groups of altitudes that we may recognise which are characterised by special types of vegetation, such as the coast-line, the alluvial plains rising above the river levels, plains ascending from the last, the slopes of hills,

hills up to 1,000 feet, others from 2,000—3,000 feet, 3,000—4,000 feet, and so on.

The emphasis which these facts deserve will be best brought home to those who desire to work on right lines in establishing parks, plantations, shrubberies, alpine gardens, and especially landscape gardens, by a few examples of wild plants and their habitats in this country, according to altitude. For acclimatised plants grown in this country will follow more or less closely the requirements of allied indigenous species in course of time, and the best results will accrue in such cases by a study of the altitudes at which British species are found to flourish best under normal and proper conditions.

Commencing with the lowest levels we have the plants that grow along the sea coast, or on alluvium of rivers flowing into the sea. Of these a few are yellow-horned poppy, scurvy grass, sea-kale, sea holly, samphire, absynth, sea lavender, thrift, sea milkwort, sea purslane, saltwort, golden dock, asparagus, tyme grass, growing up to a height of 25 feet above sea-level, and on alluvium at the same level crocus and small-reed. Many of these wild plants are quite worthy of a place in garden, shrubbery, or plantation, and with the object of furthering this principle we have selected those wild species which are especially suited for this purpose.

At altitudes ranging up to 50 feet grow wallflower, sea campion, stork's bill, rest harrow, water violet, yellow wort, henbane, arrowhead, flowering rush, marram grass, chiefly maritime or alluvial plants. It is needless to say that water plants are equally affected by altitude as land plants. The white and yellow water-lilies, white campion, corn cockle, mare's tail, cornflower, chicory, toadflax, Star of Bethlehem, and the reed grow at heights varying from sea-level to 100 feet. All of these are fit for cultivation. Creeping loosestrife, frogbit, sweet flag, all choice flowers, range higher up to 150 feet; and hellebore grows between 100 and 150 feet. The soapwort, needle furze, chamomile, yellow loosestrife (often seen in the garden), belladonna, vervain, and reed-mace may be grown up to 200 feet, and the bird's nest orchid grows between 100 and 200 feet.

Melilot (with its scent of new-mown hay when dried), elecampane (a handsome yellow composite), yellow Archangel (a woodland plant), grow up to 250 feet, though the last may range higher.

The barberry ranges up to 300 feet, as do the sweet violet, touch-me-not, dropwort (often cultivated), livelong (a saxifrage), sawwort, comfrey, the common elm, and the bulrush. Elms are often planted higher, but do best at low levels, a point worth knowing. Green hellebore and spurge laurel, often planted, may be grown between 50 feet and 300 feet.

A. R. HORWOOD.

Leicester Museum.

(To be continued.)

Caladiums.—Where an early batch of these beautiful foliage plants is required, a number may be selected from the earliest ripened tubers, shaken from the old soil, and placed an inch or two apart in pans containing a mixture of leaf-mould and sand in equal parts. Place in a light position at the warm end of the stove, and spray occasionally when the weather is fine. In a short time they will emit new roots and stout growths. They may then be potted according to the size of tuber, using a compost of loam, leaf-mould, and peat, with sufficient sand to keep it open. Avoid overwatering, but at the same time care must be taken that they do not remain dry, or failure is bound to ensue.—H. PRIME, Hatfield House Gardens.

SINGLE CHRYSANTHEMUMS: THEIR USE AND ABUSE.

During the past few years, probably eight or ten, single chrysanthemums have been rapidly making their way to the forefront for decorative purposes during the autumn and winter months. That they have many admirers (myself included) is very evident, if only from the fact of the many new varieties that are introduced each season.

SINGLE CHRYSANTHEMUM MRS. LOO THOMPSON.

A beautiful yellow sport from Mensa, introduced by Mr. Norman Davis.

Characteristics.

There are individuals who would have us believe that every other class of chrysanthemum is doomed, and that at no very distant date; but I am of the opinion that the single chrysanthemum is now at the zenith of its popularity. We have varieties that it seems almost impossible to supersede either in size, colour, or form, and when you have a variety, in any particular colour, well-nigh perfect in form, there is not much more that can be expected. Directly a single chrysanthemum loses its straightness of petal its beauty is entirely lost, even if only two or three petals are displaced it looks more or less ragged in appearance. If the petals happen to be naturally a little out of the horizontal and slope or grow upwards ever so little, one cannot by any stretch of imagination call them beautiful. I might perhaps modify this remark a little in favour of that old favourite Purity, which incurves just a little at the point of each petal, and has a very pleasing and distinctive appearance. On the other hand, if the petals recurve or hang down a little, unless one knows the variety, they are apt to convey the impression that the blooms are flagging.

Some take an exception to the single varieties that have a large striking disk. Certainly, in a few instances where the disk of the flower is very large and comes distorted it may be objectionable, but,

generally speaking, I do not agree with this point of view, providing, of course, the disk is not out of proportion to the length of the petals and the colour contrast is not aggressive. In many instances the disk is quite the making of the flower.

Disbudding.

As mentioned above we have varieties of single chrysanthemums that are excellent in every way, but to have them at their best they must be given the same consideration as you would give a Japanese variety, and not be grown in the haphazard manner of stopping, say, twice in the young state, to induce a bushy habit, and then allowing them to grow and flower at will. This method of cultivation might well be termed one of the abuses of the single chrysanthemum, and, although such might please a certain class of people who want plenty of flowers for filling vases, it does not satisfy the person with an artistic sense or love of flowers. It is the one thing before all others that will undermine the popularity of the flower, for under such cultivation the stems are not stiff enough to hold the flower fairly erect, the foliage is not of sufficient substance to either show the flower off to advantage or to withstand the slightest variation in temperature without it shrivelling up or being covered with mildew. Moreover, the flowers will not keep half as long as will those borne by plants that have been disbudded and well grown.

There are, however, many varieties that are not so good on the disbudded system, such as Mary Richardson, Dorothy Dann, Ideality, Jack, Miss Mary Anderson, and Nellie Riding. These varieties should not be stopped more than once (and this is not necessary), the wood has then time to mature somewhat, and the sprays of bloom are held more erect. The blooms are better in quality, and certainly will last longer in water without losing colour.

Good Culture Essential.

Good, well-grown, disbudded flowers have certainly much to recommend them. On the plant they are most effective and compare much better than do the floppy sprays with some of the good types of decorative Japanese. Moreover, when cut they may be used with advantage in all kinds of decorative schemes, either by themselves or in conjunction with their more imposing neighbours, the medium to large-flowered Japanese varieties. It is, indeed, in association with the latter that they are seen to the best advantage, the rotundity of the Japanese varieties often filling in a gap in a decorative scheme where a single flower would not be so effective. With regard to this point, it must be acknowledged that the profile of a single bloom is not nearly so beautiful as a fairly well-developed Japanese or incurved flower, however small. But as suggested when referring to disbudding varieties must be grown well to obtain the greatest value from them, either as cut flowers or as pot plants. I am not supposed in this article to deal with the cultural details, but I cannot help repeating what I have often written respecting the single and decorative chrysanthemums, that they should be grown quite naturally from the cutting until they show flowers, when they may either be allowed to flower naturally undisbudded or be restricted to one bloom to each shoot. Under such treatment they will perfect more flowers than under any other system of cultivation.

For very dwarf plants I do not recommend this method of procedure, as a system of stopping to keep them dwarf must be adopted, and if suitable varieties are chosen they are very effective. Certainly, one of the best uses to which single chrysanthemums can be put is their cultivation in small pots. I do not suggest the starving of plants that have been raised from cuttings struck in the early spring, in 32's or small 24's, but plants raised from cuttings rooted during May and June, and shifting on into 48's only. Allowed to grow naturally, with good treatment, they may attain a height of two feet, and are just what one would term a huge spray in a small pot. If fairly stiff and free-blooming varieties are chosen, such as the Pagram family, Mensa, Brightness, Mrs. Tristram Gilbey, Merstham Jewel, Jack, Sylvia Slade, Miss May Thorne, or Hilda Lawrence, they will be found most useful.

New Varieties.

Probably the greatest abuse in connection with the single chrysanthemum has been, and still is, the indiscriminate introduction of new varieties, for since they became popular, it seems to have been the aim of everyone to cross-fertilise varieties regardless of their merits, and send the whole of the progeny out instead of making a rigid selection from them. This has, to my knowledge, made many lovers of the flower very chary of buying novelties, and harm has thus been done to the trade generally. The National Chrysanthemum Society have no doubt set a very high standard in making awards to single chrysanthemums (which, by the way, are so very easily raised), and if buyers were to take these awards as their guide when purchasing new varieties, they would not fail to obtain more satisfaction from the single chrysanthemums. I cannot help feeling that we should be much better off if we could start afresh with, say, thirty or forty of the very best of the present-day varieties.

Select Singles.

During the past season the awards to single varieties have been fairly numerous, but in most instances I am sure the varieties are of special merit, and certainly that delightful yellow sport from Mensa—Mrs. Loo Thomson, of which an illustration is given herewith—is a great acquisition. It has all the good attributes of its parent, and is pleasing and effective in colour. A few other varieties that have been made note of during the season are Sussex Yellow, Ideality, grand for sprays; Rosemary, White Beauty, Sydney Lawrence, Mrs. Gertrude Ladds, Miss Margaret Walker, Portia, Snow Queen (anemone single), Mrs. Roger Gregory, and Joey Saunders. Add to this list the Pagram family, Mensa, Merstham Jewel, Ceddie Mason, Sylvia Slade, Charles Kingsley, Snowflake, Hubert Williams, Mrs. W. G. Patchling, Mrs. Higgs, Marjorie Lloyd, Brightness, Miss Mary Pope, and Mrs. Tristram Gilbey, and we have a collection that might almost be termed perfection in every way, especially under such cultivation as Mr. Norman Davis, Mr. Ladds, and Mr. Cragg give them. They are as useful as they can possibly be, but even under such conditions they are not quite up to the same standard as well-grown decorative Japanese varieties. They do not pack so well, neither do they last so long when cut, and certainly on the plant they lose colour rather more quickly, and this is the reason I am apt to think that they will not become more popular than they are at the present time. I must, however, add they have given a fillip to the trade at a time when it has been suggested that our large exhibition Japanese are going out of favour, but I hope the time will not come when either of the two classes is not equally as popular as now.

T. STEVENSON.

BEDDING PLANTS FROM EARLY-SOWN SEEDS.

An increased amount of attention has been directed within the past few years to the charming effects produced by plants that are annually grown from seed, in contradistinction to the older types of bedding plants. Not that these can be dispensed with altogether, yet, at the same time, it is questionable if any plants give more pleasure than do those now so popular that can be raised from seed sown early in the year.

Various notes on this subject have from time to time appeared in the GARDENERS' MAGAZINE, and it is doubtless largely due to the appearance of such articles that the public taste has turned in this direction of flower garden decoration. Of late years many of the older and formerly accepted axioms regarding plants to be used in beautifying the flower garden have been entirely reversed, as have been amply exemplified by the examples in many of the public parks and gardens.

Raising Seedlings.

Plants formerly considered unsuitable, or unable to be raised from seed, have, under proper treatment, proved to be most suitable and highly attractive, and are increasing in numbers year by year. Most of the kinds that will be named in these brief notes may be raised in gentle heat from about the end of January onwards; with the soil kept uniformly moist germination, with the assistance of a temperature between 60 degrees and 65 degrees, will soon follow. The mixture used in filling the pots may be composed of loam and leaf-mould in about equal proportions, with a liberal addition of gritty silver sand. The whole should be passed through a half-inch mesh sieve, reserving the coarser portions for placing over the drainage in the pots or pans. That used for covering the seeds should be still finer, where any covering is necessary.

When the seedlings have produced their first pair of rough leaves they should be placed on a shelf or in a heated frame not far from the glass. Thus treated they will be short-jointed and strong. No attempt should be made to hurry them by subjecting them to much artificial heat. An increase of ten degrees by sun heat will do no harm while in their young stage of growth. When the seedlings are large enough they may be carefully transplanted singly into small pots, or into pans or boxes; in the latter case they should be put about two inches apart each way, using a similar compost as formerly, but a trifle coarser in texture.

Preparing the Plants.

Under these conditions the plants may be allowed to grow until they are placed in their final-sized pots, and when established in these they should be gradually inured to a temperature somewhat lower, and finally hardened off prior to being planted out. Dwarf, yet strong growth must at all times be aimed at, which may be accomplished by a free, yet judicious admission of air to the plants upon all favourable occasions.

At no stage in their growth must the plants be allowed to suffer from an insufficiency of moisture at the roots, or a serious check will be given them, for, as a rule, if young and tender plants are brought to a standstill by careless treatment, they cannot be induced to start again into growth for a long time. During bright sunny weather, whenever the plants show signs of distress, a gentle spraying with clear

water overhead, and the addition of a little shade for an hour or two, will prove of great assistance to them.

Should green-fly or other insect pests attack the plants—which is rare if they have been kept steadily growing—they should be lightly fumigated, or sprayed with an approved insecticide, otherwise they will soon become disfigured.

Kinds of Special Value for Bedding.

Antirrhinums are now frequently employed for bedding, and are thoroughly reliable and effective for that purpose. The Tom Thumb, Intermediate, and Grandiflora types may now be obtained in distinct colours, and are most effective when massed together, and their heights graded according to the position they occupy. All these should receive cool treatment, after being transferred into their final pots or boxes.

Begonias of the fibrous-rooted type are in many places superseding those of the tuberous section. These are so reliable as showy bedders and last the season through without a break in flowering, that few would venture to do without them. Magnifica, flowers bright carmine, and golden-yellow stamens; Crimson Bedder, flowers crimson, with beautiful crimson-bronze foliage; Fairy Queen, flowers silvery-pink, with bronzy-green foliage; Semperflorens, flowers white, shaded pink, with light green foliage, are all desirable varieties, forming dwarf compact plants.

Begonia seed, after being sown, should not be covered with soil, but care should be taken to thoroughly moisten the soil before the seed is sown, after which the pans may be covered with a sheet of glass, with a layer of damp moss on the top of the glass. Watering of the soil should not be necessary until after the seedlings appear, then water sparingly for a time, otherwise the tender seedlings will damp off.

Dahlias of all the well-known types are easily raised from seed, germination taking place very quickly. All these will bloom the same season in which they are raised, and form good-sized tubers for the following year. The double varieties are generally somewhat later in flowering than are plants that have been raised from cuttings, but much depends upon the treatment they receive, and the position the plants subsequently occupy.

The single and star varieties usually flower most profusely at an early stage of growth, and continue doing so until cut down by frost. Very beautiful and striking varieties may be raised, equal in every respect to many of those that have been selected for distribution under names.

Verbenas are general favourites, and may be raised from seed fairly true to colour. Care should be taken to procure new seed, or many of the seeds will fail to germinate. It is the rule with some growers to sow the seed during the autumn as soon as it is ripe, or is obtainable from the seedsman, wintering the seedlings in a greenhouse or slightly heated frame. Others sow the seed as soon as possible in the New Year, growing the plants steadily on until required for bedding out, a practice we ourselves follow. At all times the soil in which the plants are growing should be kept uniformly moist, otherwise the foliage will quickly become a prey to red spider or mildew. A genial temperature, with an abundance of air, is the proper conditions under which these plants should be grown.

Unless the position or locality be very cold or exposed verbenas may be planted out fairly early in the season with safety, the plants quickly become established in their new quarters, and make good progress before the very hot weather is experienced, after which they simply luxuriate in the sun and heat, flowering most freely. The giant auricula-eyed is a very showy type, giving a wide range of colours, each flower having a large white eye, or centre; a bed of these always makes a very attractive display. Scarlet, white, blue, pink, and purple shades may also be grown fairly true from seed. For cutting purposes all of these are useful.

Salvias as bedding plants are most showy and useful, blooming very freely. The old Salvia patens should find a place in every garden, however small; planted in conjunction with dwarf African marigolds, yellow calceolarias, Fairy Queen begonias, or Madame Crousse ivy-leaf pelargoniums, a very telling effect is produced, a combination of colour not soon forgotten. The newer types of bedding salvias such as Glory of Zurich and Fireball for an early display, followed by Queen of the Scarlets, are alike invaluable where a bold, bright display of colour is desired. Care, however, must be taken to keep the plants well supplied with moisture, both at the roots and overhead, during spells of hot scorching weather, or the foliage will become permanently disfigured by red spider, a pest very difficult to eradicate when once it makes its appearance on these plants.

W. HEDLEY WARREN.

Aston Clinton Gardens.

THE BORDER LINE IN APPLES.

An article upon dessert apples would not, in my opinion, be sufficiently comprehensive without some reference to the several splendid varieties, which, under the generally-accepted rules provided for the guidance of both exhibitors and adjudicators, are included in the culinary classes. That some such distinction is necessary all must admit, and its adoption has very largely done away with the quibbling and adverse criticism formerly so prevalent at large fruit exhibitions.

In the dining-room, however, these rules may be generally disregarded, as all are free to exercise their own taste and opinion upon the contents of the different dishes, and some persons prefer a firm, rather sharp flavoured fruit to the very best of the dessert kinds.

In some respects, this is fortunate rather than otherwise, as it enables large handsome fruits to be displayed, though not of the highest quality, without any serious thoughts being entertained as to their fitness for the purpose, and not unfrequently such elicit higher commendation than do their more delicately-textured compeers. Apples of this class are, as a rule, more vigorous in growth, and consequently somewhat hardier than the true dessert varieties, and thrive in the open as bush or standard trees, and mature crops almost as well as under more favoured conditions as to warmth and shelter.

Twelve Good Apples for Either Dessert or Kitchen Use.

White Transparent.—Early in the season, generally about the middle of August, this variety gives evidence, by its gradually assumed sulphur colouring and delicious aroma, that its qualities are developing. It is best consumed a few days after gathering, as it loses both colour and flavour rather quickly; but, taken at its best, it furnishes a pretty dish among the predominant red-tinted ones then ripe or ripening.

Cox's Pomona.—A showy, crimson-coloured fruit that keeps well, and has a very agreeable flavour.

The Queen.—A large and very handsome variety, which thrives well as a bush-trained tree, and is not subject to canker or other diseases. This apple is fit for use as a dessert fruit from the middle of October onwards, and is much favoured as such.

Golden Spire. — A peculiarly shaped fruit, that assumes a beautiful golden-yellow colour while yet upon the tree, and its piquant flavour is much appreciated by some persons.

Emperor Alexander.—This well-known apple requires but little describing further than that in former times it more frequently than any other formed the chief point of contention as to the class to which it belonged. The soft white flesh of this makes it passable for dessert.

Peasgood's Nonsuch. — Probably, the finest apple in cultivation, if form, size, and colour are all considered, and its qualities are very good.

Charles Ross.—A smaller counterpart of the foregoing, and a particularly handsome fruit.

Blenheim Pippin.—This famous Southern apple does not commend itself very highly to Northern growers, as it is long in reaching the bearing stage, and a rather shy fruiter afterwards. Grown against a wall, upon the paradise stock, these defects are largely eliminated.

Gascoyne's Scarlet Seedling.—A beautiful crimson-coloured fruit, more especially so when pains are taken to ensure full exposure to the sun. In Northern parts it deserves the shelter afforded by a wall, when in appearance and quality it is scarcely surpassed by any other kind either for cooking or dessert.

Graham's Royal Jubilee.—The value of varieties that assume a rich yellow tint when ripe can scarcely be over-estimated, and this is one of the best of such. It also possesses size, shape, and high quality, and remains good for a long season.

Lady Henniker.—A fruit of rather angular outline, large, and generally richly-coloured. The tree is a strong grower, and a fairly constant cropper if means are taken to reduce the superabundant number of fruits in very favourable seasons.

Galloway Pippin.—This is a very old variety, having been cultivated in the province of Galloway for centuries under the name of Croft-an-Reigh. Here we rely upon it for late supplies almost entirely. This preference may be partly accounted for owing to the fact that more trees of it are cultivated than of any other variety. Apart from this, none others keep so sound and prove so reliable for the dessert during the months of April and May. The fruits are shapely, of medium size, and become a beautiful yellow colour as spring advances, while for juiciness and spriteliness of flavour it has but few equals in its season.

JAMES DAY.

Galloway House Gardens, Wigtownshire.

Clivia Gardeni.—By far the best-known of the clivias is C. miniata, which forms such a striking feature in our greenhouses during the spring months. When not in bloom C. Gardeni greatly resembles C. miniata, but from a flowering standpoint it is far less showy. It is, however, valuable from the fact that it blooms towards the end of the year, when flowering plants are much less plentiful than they are during the blooming period of Clivia miniata. The flowers of C. Gardeni are borne in large umbels, are pendulous, and about a couple of inches long. They are tubular, and in colour red and yellow.—W.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

THE GENERAL WORK in the orchid houses will now begin to increase, and many of the subjects in the different departments will require repotting. It is not advisable to disturb plants more than is necessary until there is some prospect of reducing the use of artificial heat. It is desirable therefore that everything should be done now that will facilitate work at a later period. Any inside cleaning should be attended to, and in districts where fog, smoke, and other impurities of the atmosphere leave a deposit on the outside glass, considerably excluding the light, it is advisable to wash the outsides of the roof at reasonable intervals. Peat may be pulled and put ready for use, and the sphagnum moss picked and washed. Where leaves are used in the potting compost, the present affords an opportunity of securing them. Beech and oak leaves will have collected together in large quantities after the recent high winds, and they may be obtained dry and free from pieces of wood. Where it can be conveniently done, it is advisable to sterilise the leaves by passing steam through them, or even baking them, to kill insect pests, etc.

PESTS.—Speaking of insect pests reminds me of the desirability of laying traps for cockroaches and woodlice. If some hollowed-out potatoes are placed about the stages many pests may be caught and destroyed at night with the air of a lamp.

DAMPING THE HOUSES.—Maintaining the required moisture in the atmosphere is undoubtedly one of the principal considerations in successful orchid culture. The excessive use of artificial heat is generally found to be detrimental, and care is required to minimise its evil effects as far as possible. No hard and fast rule can be laid down, because the conditions and positions under which orchids are cultivated are so varied. I have always found that where a low temperature prevails for any lengthened period outside, that we may safely resort to a temperature below the normal in the houses, providing there is a corresponding reduction of the amount of moisture in the atmosphere. It is immediately after these periods that the ill-effects become apparent, and to prevent shrivelling as far as possible a close watch is necessary, so that as soon as the normal temperature is reached the needful moisture may be at once supplied to the atmosphere by damping. In milder weather there is also a tendency to an excess of moisture unless the atmosphere can be kept moving, and this is best managed by a careful use of the ventilators, using those on the sheltered side of the house first, and, if the temperature permits, those on the opposite side may be opened slightly later on, but care must be taken to guard against draughts.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

TEMPERATURE AND ATMOSPHERE.—The temperature of the stove should at this season range from 60 to 65 degrees at night, and from 65 to 70 degrees by day, allowing a rise of five degrees or so when the weather is mild. At such times a little ventilation from a short time before noon until a little after may with advantage be given. Damping down floors and stages will be necessary only once, or at the most twice, during the day, and for the present the plants will be better if the use of the syringe is withheld or reserved for those occasions when the weather is bright and mild.

THE STOVE FLOWERING-HOUSE.—In the warm flowering-house, where we have at present Euphorbia jacquinæflora, poinsettias, winter-flowering begonias, gesneras, Coleus thrysoideus, saintpaulias, isolomas, etc., a temperature of 55 to 60 degrees, rising on mild days to 65 degrees, will be sufficient. Here the atmosphere should be somewhat drier than in the stove, and a little ventilation may be afforded whenever 60 degrees is exceeded.

CLEANLINESS.—That cleanliness is essential to the well-being and good cultivation of plants goes without saying. At this season, when the demands of Christmas decorations, have left some of the pits and plant houses somewhat relieved of many of their occupants, a good opportunity is afforded for removing some of the inmates of the stove for the purpose of thoroughly washing and cleansing the house. Permanent climbers should be carefully pruned and temporarily removed from trellising or rafters. Allamandas may be pruned hard, while Clerodendron Thomsonæ, stephanotis, Hoya carnosa, Cissus discolor, etc., should be relieved of superfluous old or weakly growths, leaving sufficient strong, nicely ripened growths for re-covering. The whole of the woodwork and glass should be well cleansed by the use of soft soap and water, while, to ensure as far as possible the destruction of insect pests, a little paraffin may be added to the water. Carefully wash, through a fine sieve, the granite, or fine gravel, with which the stages are covered. Thoroughly clean beneath the staging, and let the walls be limewashed. After cleaning them the climbers may be replaced; necessary sponging of pot plants, and pot washing, should follow, and the whole house be rearranged. The propagating frame should also be cleansed, and old plunging material replaced by new.

B. GLOIRE DE LORRAINE and its varieties, as they pass their best, should have their flower spikes removed, retaining about two-thirds of the foliage. These may also be given a short rest by keeping them rather drier at the root with a view to starting them into growth for the production of cuttings in March and April.—H. PRIME, Hatfield House Gardens.

FRUITS UNDER GLASS.

MELONS.—Where efficiently heated pits will soon be ready for these plants, a few seeds of good early varieties may be sown this month. Melon seeds may be sown singly or in pairs in small pots or on squares of turf, where they can have a bottom heat of 75 degrees, with full exposure to light, removing the weakest plant when the seed leaves have developed. Where fermenting materials are used, a good supply should be prepared so that everything is in readiness when wanted. A good start, with everything fresh, sweet, and clean, is more than half the battle; the pits should be thoroughly cleansed—glass, woodwork, and walls. If the plants are grown in 12-inch pots, which I prefer, the pots may be plunged where they are to remain; or, better still, set them on inverted pots to prevent sinking, and possible strangling of the plants later, putting the fermenting material round them. Crock well, and place the roughest of the compost at the bottom of the pots; use a fairly heavy loam and lime rubble, with a little bonemeal, and make it fairly firm. If planting out is preferred, a similar compost placed upon turves, grass side downwards, in the form of a ridge, will answer equally well, but unless the hot-water pipes are equal to maintaining a bottom heat of 75 to 80 degrees, the pot plants will be ready first. A night temperature of 65 to 68 degrees, 75 to to 85 degrees by day, with sun heat; and a moist atmosphere secured by frequent sprinklings, will be found suitable.

STRAWBERRIES.—Some growers start their first batch of plants in December; the majority start with the New Year. Fire heat has not been necessary with few exceptions, to keep up the moderate temperature of 40 to 45 degrees required, with a few degrees higher by day. Where brick pits are available, a sweet, moist heat from fermenting leaves is best for starting strawberries, as this gently stimulates the roots and prevents early attacks of red spider. As the plants come into flower they should be placed thinly in the lightest part of the strawberry house, where fresh, warm air can circulate freely among them. A number of the small, weak, side blooms may be picked off with advantage before the flowers open.

VINE EYES.—If planting new vineries or the renewal of old ones is contemplated, a sufficient number of eyes should be collected during pruning, labelled, and laid in until required. Where a suitable pit or house is available, the required number of eyes may be put in this month into small pots, or preferably on turves, as the roots do not then get cramped. It is best to defer the start till next month, or even later where no proper house is available, as when the days increase in length rapid growth will justify the delay, and good young vines will then be ready for planting out in June.—F. JORDAN, Warter Priory Gardens.

THE FLOWER GARDEN.

THE PAST AUTUMN, with its normal rainfall and mild weather, was tolerably favourable for ground work generally, and as a result this is in many instances well advanced; but from various reasons, much often remains to be done in the New Year. Every advantage should be taken of open weather to proceed with these operations, for with the lengthening days comes much work requiring attention. Where it has not been possible to finish any alterations in connection with herbaceous borders, no opportunity should be lost in completing the same, as no other part of the flower garden repays better for timely attention with respect to planting than this one. A top-dressing of decayed manure or leaf-soil will greatly assist any trees or shrubs moved recently; the latter will be most suitable for those of American origin, and as planting proceeds at this season it is important to follow up closely with a top dressing to prevent severe frosts from penetrating to the roots. Evergreens are the most susceptible to injury, and should for this reason be left wherever possible until the severest weather is past before being moved. Precaution must be taken to ward off severe frosts from any tender subjects; pieces of heather or bracken placed thinly amongst the growths will provide sufficient protection for hybrid tea roses, myrtles, carpentarias, etc.; but for others, such as aloysia, swainsonias, Romneya Coulteri, etc., mats will be found more efficient and convenient, but they must be removed on all mild days, as a dense covering remaining on for several weeks does more harm than good.

SWEET PEAS.—Where the practice of autumn sowing has not been adhered to, a sowing should be attended to at once, as undoubtedly the best results are obtained from early sowings. Sow the seeds thinly in pots or boxes, and place them in a cool house or pit. When the seedlings are large enough to handle, pot them off singly into small pots, and grow them on in a cold frame where they can be given plenty of air when the weather permits; on fine days remove the lights altogether. Under these conditions they will make stout growth, and will receive but little check when transferred to the open ground.

EARLY-FLOWERING CHRYSANTHEMUMS.—A collection of these popular plants is very desirable, and should be added to annually. Propagation should now receive attention; rooted cuttings are to be preferred to plants obtained by splitting up old stools, as they grow more freely. Stools which were lifted at the end of the flowering season and laid in closely together in a cold frame are now producing plenty of cuttings, and these, if taken off and rooted now, will make good plants for putting out in May.—T. B. FIELD, Wych Cross Place Gardens.

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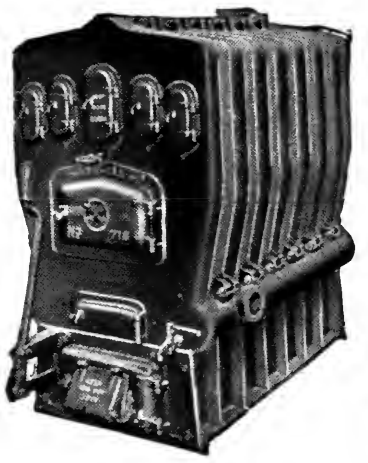

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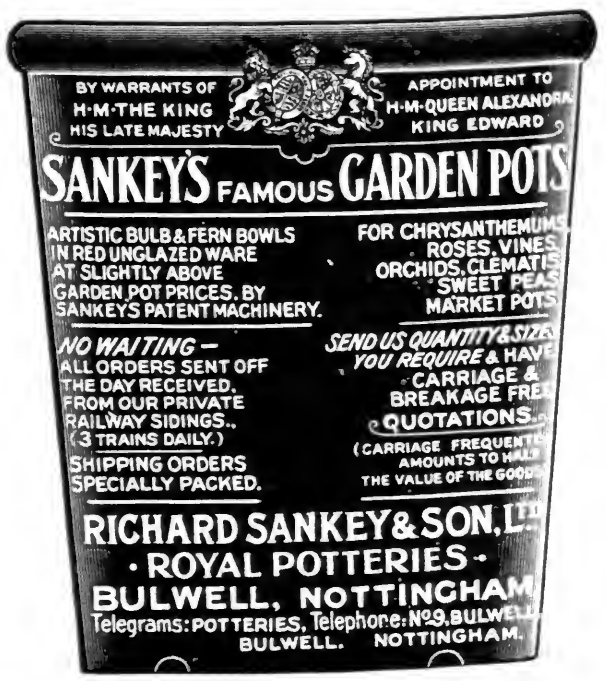
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MORAINE GARDENING.

There seem to be at present two schools of thought and practice in the domain of moraine gardening. The one urges the necessity of a steady supply of water for the moraine, even at the cost of a concrete base; while the other teaches that this is not essential, and that the plants can be grown equally well without the expense involved in concreting the moraine.

It is quite probable, however, that the question cannot be dismissed by saying that this or that method is the one to adopt in the construction of a moraine. Much will depend not only on the rainfall of the district, but also on what we may call the sub-soil, upon which the moraine is constructed. It is quite reasonable to suppose that a cement base may be desirable, where the district has a small average rainfall, or where the subsoil is so sandy and gravelly that the water supplied, either from the clouds, or by some artificial means, will drain away too rapidly after passing through the porous composition of the moraine itself. On the other hand, the cement may be quite useless, and may even be injurious where the rainfall is heavy; where the atmosphere is often laden with moisture; or where the subsoil is of such a nature that the water will not percolate readily through it, but either remains for a while, or runs along a decline until it finds egress. In such a case the cement is undoubtedly a waste of money and labour, and can quite easily be dispensed with.

It is many years since the writer, then living close to a shingly beach, was much impressed by the manner in which plants would thrive when growing in the gravel of the shore. It is amazing indeed to observe how strongly some of them will grow, even when there seems but little nourishment and less moisture for the roots in the free shingle and gravel, which forms their sole field of nourishment, save from the clouds above. In some cases these plants had running water flowing off the land, near their roots, but in many instances you might go several feet down before you reached moisture, save the dampness absorbed and retained by the gravel, which was often visible a few inches down. This set me thinking, and next experimenting with plants in the garden, and the general conclusion reached was that in a climate with a fair amount of rain and mist many alpines could be grown well in such a medium as this. I had also been experimenting with alpines planted in the soil, but thickly mulched with fine gravel from the beach, say, from one to three inches thick. This, also, proved very successful, and I was by this means enabled to cultivate plants which in the ordinary way would not flourish even on rockwork without the aid of the gravel. This was long before moraine gardening came to the front, and the latter has naturally been also the subject of consideration and trial.

The moraine which is an exact copy of the moraines of the mountains is not an easy thing to reproduce successfully in the garden, and it is, moreover, not the contrivance which will suit all alpines which can be cultivated on the garden moraine. Those best acquainted with alpines will realise the truth of this, and will agree that some modification of the natural moraine is needed in our climate, especially in the parts of the country with a heavy rainfall. I have made a special point of studying the numerous examples of moraine culture of alpines of various kinds, and, while not doubting that good results can be obtained by providing underground water by the use of cement and concrete, I am disposed to urge that in most gardens this is unnecessary, and in some instances even injurious. Take, for example, the silvery saxifrages, recommended for moraine treatment, and thriving amazingly under it. Some of the best examples of these favourite flowers the writer has ever seen were growing in what could be called a large "pocket," drained with stones beneath, raised above the surface, and filled with gravel, broken limestone, and a little sand. Beyond an occasional watering in continued drought these flowers received no water supply, save the rain, and they were examples of great beauty. Even some of the oppositifolia saxifrages throve and flowered admirably when thus cultivated. So, also, with campanulas, considered difficult to do—e.g., of the type of C. Allioni, C. excisa, and C. cenisia. This is only one instance out of many where the "dry moraine" became a success of the highest kind.

In my garden I have a moraine made of a thick—six-inch—layer of broken stones, about the size of large broken metal for macadamised roads, covered with about three inches of soil, and overlaid with varying thicknesses of whinstone chips, and without any special water supply. Here a number of plants have established themselves in the happiest way, and are as fine as any with the underground water treatment. Not only this, but there are plants in the garden with a "mulch" of chips, varying from one to three inches deep, and evidently enjoying their conditions. A more striking case in point is afforded by the methods adopted in a garden where many choice alpines are grown in the most effective way, though, perhaps, in a manner too artificial-looking for many of us. Box-like structures of dry built stones, just like a dry-stone wall, and about three feet high, are drained beneath with a layer of stones. On this is placed open soil, composed of loam, sand, leaf-soil, and a little old cow manure. On this again are laid about six inches of small chips, in which the alpines are planted. There is no underground water supply; there is the freest drainage, and the plants are in perfection.

The truth is that a moraine need not be made after any special fashion, provided that it is well drained, and that the upper part of the bed is free and open, so as to prevent the lodgment of moisture about the neck or crown of the plants. If those who are deterred from the provision of a moraine because of the expense or labour, will only try a few plants in large pockets, well drained, and filled with suitable material, or will even mulch some of their flowers with a few inches of chips, they will find that in many cases they need not trouble with a moraine at all. Not that one would depreciate a moraine altogether, as that forms a most pleasing and useful feature of the rock garden, one far more so, indeed, than many suppose, the chips or gravel harmonising well with the plants, and making a feature of more than passing interest where alpine flowers are cultivated and prized.

There is really no call for a battle royal between the different methods. Moraine gardening is like other methods of horticultural practice—it can be followed by pursuing different lines, yet each may give all that is required in the way of flourishing, long-lived, and beautiful flowers.

S. ARNOTT.

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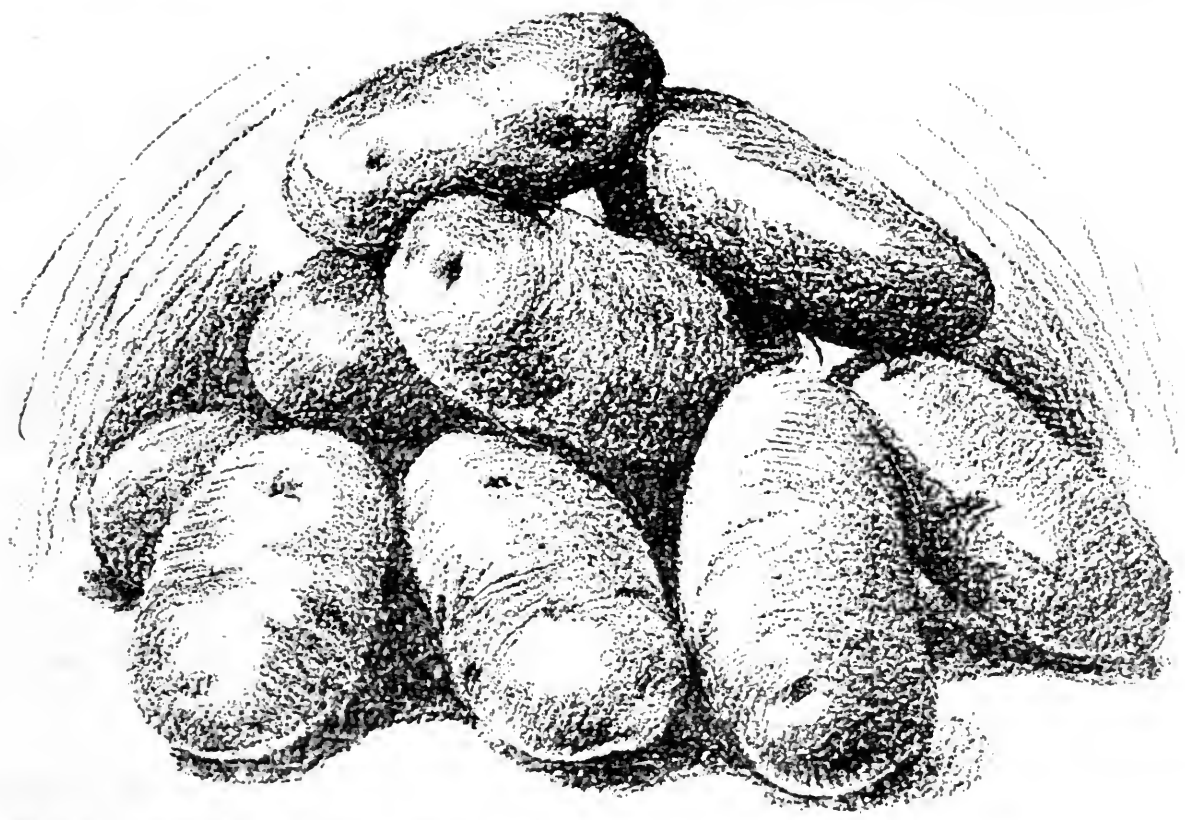

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EVERGREEN BEDS AND BORDERS.

Gardeners are devoting more attention now to the foliage qualities of the perennial plants used in the ornamental garden, for the idea is becoming current that deciduous subjects, other than the rose, should be relegated to positions in which beauty is not the first essential, and a speciality be made of such species as possess evergreen leaves. The term perpetual-leaved is, however, more suitable, since all permanent foliage is not green. Under this category, for working purposes, may be ranged also the many shrubs, etc., which do actually shed leaves, but do so gradually, new shoots being produced to take the place of the old covering.

It would be an interesting study to discover how far successful, if at all, our skilled florists have ever been in persuading deciduous subjects to attain a perpetual foliage character, and if anything is scientifically known of the reasons why certain plants of a family exhibit this valuable quality in distinction from the others; also whether the habitation, customs, or climatic influences lead to, or hinder, this development? Meanwhile, the employment of "evergreen" perennials should be the closer study of all who have ornamental grounds to plant and embellish.

Cut-down herbaceous plants, if well accompanied by permanent-leaved ones, do not disfigure beds or borders during winter, but what can be said for them during the preliminary dying-off stages? Only those persons who possess spaces filled with the superior plants know the gain to neatness and charm, and become convinced that deciduous flower-yielders, however valuable, ought to be cultivated in reserve garden stretches. Perhaps the chrysanthemum may be fairly classed among evergreens: it can be cut to the soil directly the blossom is faded, and, in all fairly genial localities, will make new basal growth and keep healthy-looking all winter.

Immediate attractiveness results from filling beds with mossy saxifrages, campanulas, including Canterbury bells, carnations, pinks, heucheras, and Iceland poppies, with arabises, double daisies, winter stocks, auriculas, and many other favourites. It should be realised that many flower beauties are not strictly evergreen, yet answer the purpose fully; also that very few of the species that give an always attractive effect can be left to their own unaided devices. German and other irises, and hart's-tongue ferns, for example, must have decayed or spoilt foliage removed in order that the new growth may be vigorous and the pleasing appearance maintained.

Beds of silver or gray-leaved plants are grateful to the eye; set in verdant green lawns they are especially suitable, since the bed shapes are then clearly defined, which is not the case when plants as green as grass are used. Iceland poppies, pinks, carnations, cerastiums, auriculas, dwarf veronicas, Stachys lanata, Santolina chamæcyparissus, and Antennaria tomentosa are among plants that generally keep their silver leaves.

Wallflowers in sheltered gardens are sightly all winter, but where cold winds sweep they cannot be relied upon to sufficiently flourish to be cultivated as foliage subjects; their appearance becomes abject after a shrivelling easterly gale. Primroses, indeed most members of the outdoor primula family, are delightful leafy subjects until scorching summer destroys the old foliage. However, when using them for portions of perennial beds, they can be rendered harmless even in droughty seasons by picking them over, and partly covering the stools with leaf-mould. Ordinary garden pinks require to have their shoots thinned out to maintain them in perfection as foliage edgings or carpets; this is often a better practice than root division. Violets are not sufficiently employed as ground coverings. Among tall evergreen plants, or small ornamental shrubs, they find the semi-shade they need, and provide a refreshing green carpet that is brilliant after a shower.

M. H.

BUILDING IN REGENT'S PARK.

The building operations that have been in progress for some time past in the inner circle of Regent's Park, have been watched with much interest by the residents in the north-west of London, and now that the buildings are rising among the trees, public interest has been greatly quickened in what is being done ,and a strong protest has been made by St. Marylebone Borough Council. The buildings have been erected in the enclosure known as South Villa, in which was located a handsome and unobtrusive residence with a garden of considerable size, and remarkable for the skill with which it was managed, as evidenced by the excellent fruit and other products that were exhibited from time to time at the meetings of the Royal Horticultural Society. As in the case of other of the central London parks, Regent's Park was originally Crown property, and a Royal mansion, with its grounds, existed on the site in Tudor times. Later the grounds were deparked, and in 1790 the mansion was taken down.

After numerous changes in ownership, Marylebone Park Farm, as the property was for a time called, reverted to the Crown in the time of the Regency. Nash then conceived a scheme for the utilisation of a certain area of land south of the farm, and this scheme was to culminate in a park of some 500 acres. Within the park was to be a Royal residence, and a number of villas adapted to the requirements of families of distinction. The residence for the Prince Regent, which was to have been built on the land now occupied by the gardens of the Royal Botanic Society, was abandoned, and some 400 acres of the area were gradually dedicated to public use. The scheme for the erection of private residences was proceeded with, but only some half-dozen were erected. These were provided with rather extensive grounds, and when the park was extended on the western side the lessees were given the exclusive use of broad belts of grass-land outside the grounds included in the lease. These belts were intended to prevent the public interfering with the enjoyment of the lessees of the grounds surrounding their residences, but they were granted on yearly tenancies only.

Some years since an area of about twelve acres of the land thus reserved was, after considerable controversy, thrown open to the public, and in consideration thereof 40 and 50 acres was secured to the tenants for the remainder of their leases. To the unobtrusive houses that have hitherto existed, from an æsthetic point of view exception could not well be taken; but to the obtrusive buildings that have been erected on the grounds of South Villa, and the land that has been reserved around them, there is the strongest possible objection. In any case, any reduction in the area of a park situated in such a densely-populated part of the metropolis as Regent's Park should not be permitted.

ANSWERS TO CORRESPONDENTS.

NATIONAL DAHLIA SOCIETY.—F. W., Oxford: I gather from a recent note in the GARDENERS' MAGAZINE that the National Dahlia Society has a new hon. secretary. I should be glad to learn his name and address. —The new hon. secretary of the National Dahlia Society is Mr. J. B. Riding, and his address is Forest Side, Chingford. We believe Mr. Riding takes over his new duties at once.

ROSES FOR THE ROCK GARDEN.—N. T. J., Saffron Walden: My rock garden is of modest dimensions, but I should like a few small-growing roses in it, and therefore ask you to kindly say which are the best kinds to plant.—Good and interesting roses for the rock garden are the pink and white moss variety, named De Meaux; Seraphine, a hybrid; the Scotch rose, R. pimpinellifolia; two gallica varieties, i.e., pumila and Burgandica; R. alpina pyrenaica, and R. nitida. Some of the dwarf polyantha roses would not be out of place in a rock garden.

PENTSTEMON HARTWEGI.—F. G. S., Skipton: Is Pentstemon gentianoides likely to prove hardy here? I have seen it growing well farther south, and believe it is quite perennial in warm districts. Kindly tell me whether it is best propagated from seeds or cuttings.—Pentstemon Hartwegi (or gentianoides) is one of the parents of the garden race of pentstemons. It is a fine garden plant, and is perennial in warm, well-drained situations. In the north, however, it is not likely to succeed as a perennial, and should be raised from autumn cuttings each year. The type grows rather above 2ft. high, and has long, tubular, deep red flowers. It is about seventy-five years since P. Hartwegi first flowered in English gardens. Propagation can be effected by sowing seeds in February in gentle heat. The seedlings must be gradually hardened off until by the end of May they are strong, and ready to be planted where they are to flower. Seedlings of P. Hartwegi show considerable variation.

GARDEN CROPS OF THE COMPOSITE ORDER.—C. E. F., Abingdon: Can you give me a list of the vegetable crops to be obtained from plants belonging to the order Compositeæ?—The chief vegetable crops obtained from this large and widespread natural order are artichokes, both Globe and Jerusalem, cardoon, lettuce, endive, chicory, salsafy, and scorzonera.

PROPAGATION OF YUCCA GLORIOSA. —S. T. A., Bath: Will you please tell me how the hardy yuccas, like Y. gloriosa, are propagated?—Where yuccas produce basal tufts these may be separated from the parent in spring or autumn. Some yuccas produce eyes or buds on the root-stocks. These fleshy buds should be detached during late spring or early summer, with a small portion of the root attached, and potted in small pots of rich soil. Placed in a closed cold frame, and carefully watered, growth and roots are soon developed, and the small plants are then duly hardened off ready for planting out. In other cases propagation can be effected by means of root cuttings placed in sandy soil and plunged in bottom heat. The latent eyes or buds soon develop under the influence of heat and moisture, and the individual plantlets can be dealt with as in the previous method.

MYRRH.—H. E. B., Worthing: Some discussion took place this recent Christmas time concerning Myrrh. Some of us believed it to be a fragrant Eastern plant, but we had no means of verifying our belief. Perhaps you will be kind enough to help us.—According to Smith's "History of Bible Plants," there are two distinct kinds of plants known as Myrrh, or rather, the word Myrrh is a wrong translation in some parts of the Bible. Where the translation is supposed to be wrong, the plant referred to is considered to be Cistus ladaniferus, popularly known as Gum Cistus, and yielding the fragrant gum called Ladanum. Where

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,, The Lyon ... ...
Marigold, French, Striped ... ...
,, African, Lemon ... ...
,, ,, Orange ... ...
Stocks, East Lothian ... ...
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,, ,, ,, Purple ... ...
,, ,, ,, Rose ... ...
,, ,, ,, White ... ...
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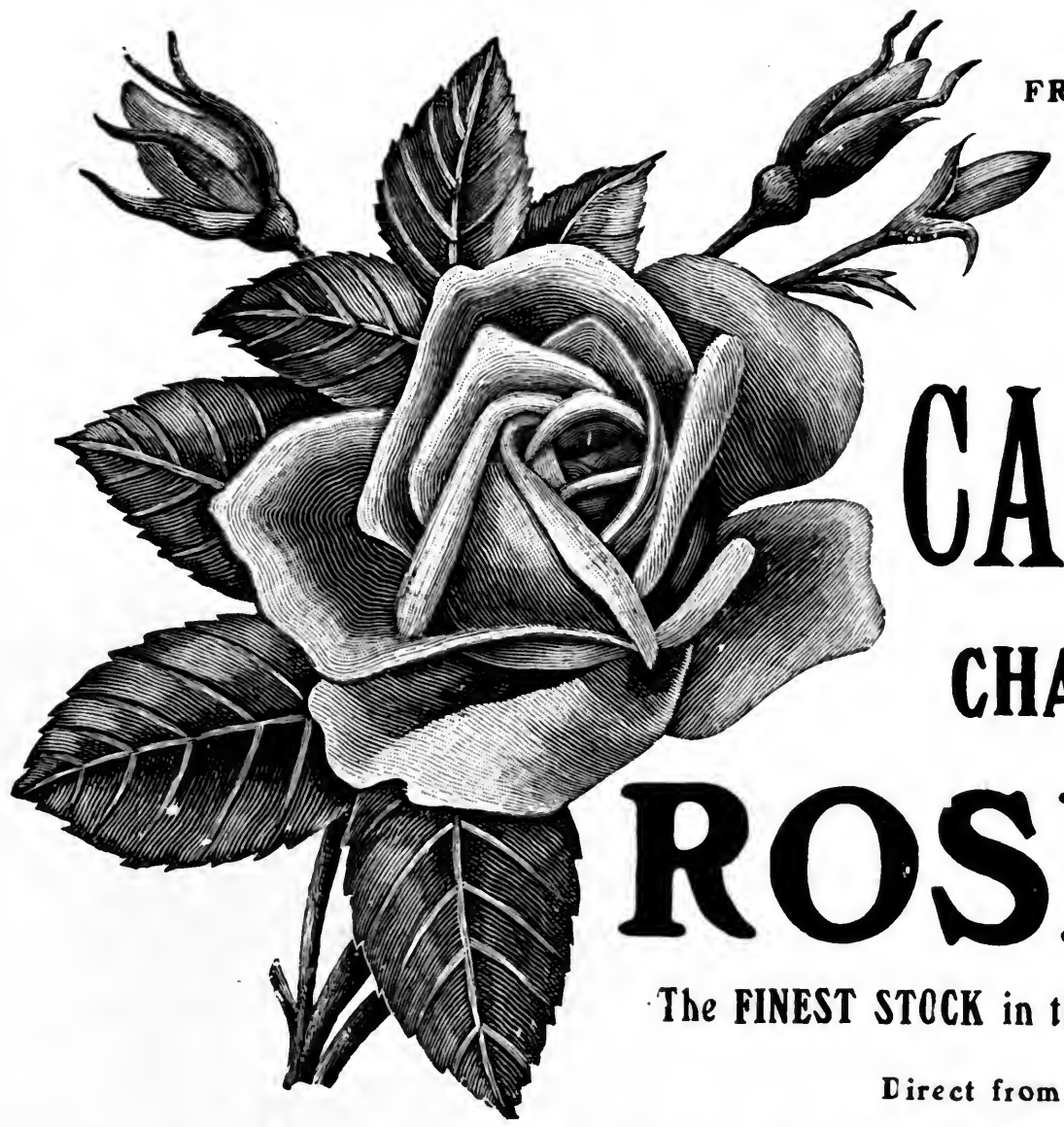

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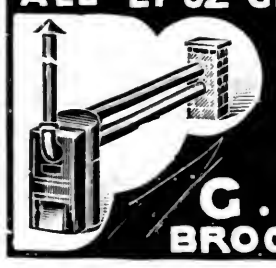

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the word "Myrrh" is a good translation, it has reference to some species of balsamodendron, one of which is named B. myrrha. A balsam exudes from the stems, or from cuts made in the branches, and this, when collected, forms the myrrh so frequently spoken of in the Scriptures as an article of commerce. Garden myrrh is a sweetly-smelling herb, named Myrrhis odorata.

ORNAMENTAL BEET.—S. E., Chislehurst: Please tell me which are the best kinds of beet to grow for ornamental purposes.—A good strain of Dell's, or any other dark-leaved variety, serves very well for ornamental purposes. Beta Cicla variegata is very handsome, and if raised in heat in February or March it will produce its shining, scarlet-ribbed leaves 3ft. long in good soil and a good summer. Dracæna-leaved beet has rather narrow purple leaves, and the Victoria beet has very showy metallic red leaves; both are useful in the flower garden.

NAMES OF PLANTS.

R. R., Everton.—1, Luculia gratissima; 2, Libonia floribunda; 3, Tillandsia usneoides.

C. H. R., Leamington.—1, Garrya elliptica; 2, Rhododendron racemosus; 3, Viburnum Tinus.

J. C. C., Essendine.—1, Abies concolor; 2, Primula floribunda; 3, Leonotus Leonurus; 4, Saintpaulia ionantha; 5, Oncidium cheirophorum.

T. D., Grantham.—1, Thuia occidentalis; 2, Cupressus macrocarpa lutea; 3, a form of Cupressus Lawsoniana; 4, Cupressus obtusa; 5, Cryptomeria japonica; 6, Ruscus racemosus.

OBITUARY.

MRS. THOMAS HUMPHREYS.

We very much regret to learn of the death of Mrs. Thos. Humphreys, wife of the Curator of the Birmingham Botanic Gardens. Mrs. Humphreys had recently to undergo an operation, and before recovering pneumonia supervened, and she passed away somewhat suddenly a few days before Christmas. Mrs. Humphreys was well known to those who regularly attended the daffodil and other exhibitions held in the Botanic Gardens, Edgbaston, because she was ever ready to extend those little hospitable kindnesses that mean so much to those who have travelled long distances and then have a number of exhibits to stage. We feel sure that all old Kewites, and all exhibitors at Edgbaston, as well as a large circle of friends, will join with us in sympathy to Mr. Humphreys in his great bereavement.

LONDON POTATO MARKETS.

Supplies are liberal with a slow sale.

		s.	d.		s.	d.
Bedfords	per ton	85	0	to	95	0
Kents	per ton.	90	0		100	0
Lincoln	per ton	80	0		95	0
Blacklands	per ton	70	0		80	0
Scotch	per ton	80	0		95	0
Dunbars	per ton	100	0		120	0
German	per ton	75	0		95	0
Belgian	per ton	60	0		70	0
Dutch	per ton	55	0		70	0

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

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MARKETS.

COVENT GARDEN.

Flowers.

Business has been fairly brisk with ample supplies.

		s.	d.		s.	d.
Arums	per doz.	3	0	to	5	0
Adiantum cuneatum	per doz. bun.	4	0		6	0
Asparagus plumosus	per doz. bun.	8	0		16	0
,, Sprengeri	per doz. bun.	8	0		12	0
Azalea	per doz. bun.	4	0		5	0
Bouvardia	per doz. bun.	6	0		7	0
Camellias	per doz.	1	6		3	6
Carnations	per doz.	2	0		3	0
,,	per doz. bun.	10	0		18	0
,, Malmaison	per doz.	10	0		15	0
Cattleyas	per doz.	9	0		15	0
Chrysanthemums	per doz. bun.	9	0		16	0
,,	per doz. blooms	1	6		4	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz.	2	0		3	0
Daffodils	per doz.	1	0		1	6
Eucharis	per doz.	2	0		3	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	3	0		6	0
Lapageria	per doz.	2	0		2	6
Lily of the Valley	per doz. bun.	10	0		18	0

Fruits.

Supplies are plentiful and the demand is good.

		s.	d.		s.	d.
Apples, English	per bush.	3	0	to	6	0
,, Cox's	per ½-sieve	5	0		9	0
,, American	per bar.	11	0		25	0
,, Californian	per box	4	6		10	0
,, Nova Scotian	per bar.	10	6		20	0
Bananas, Canary	per bar.	7	0		12	6
,, Jamaica	per bun.	3	0		5	6
Cobnuts	per doz. lbs.	3	6		4	0
Cocoanuts	per 100	18	0		23	0
Cranberries	per case	9	0		14	0
Dates	per doz. boxes	2	9		3	6
Figs	per box	0	9		1	6
Grapes, English	per lb.	0	8		8	0
,, Almeria	per barrel	12	0		20	0
,, Lisbon	per case	7	0		8	0

Vegetables.

The demand for choice kinds is brisk without any material change in prices.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	0	to	3	0
,, Ground	per bush.	3	0		4	6
Asparagus, Paris	per bun.	3	6		4	6
Beet	per bush.	1	6		3	0
Brussels Sprouts	per ½-bush.	1	0		2	0
Cabbage	per tally	2	6		4	0
Carrots	per doz. bun.	2	0		2	6
Cauliflowers	per tally	6	0		10	0
,, Cornish	per crate	3	0		4	0
Celery	per doz. bun.	9	0		15	0
Celeriac	per doz.	2	0		3	0
Cucumbers	per flat	7	0		9	0
Endive	per doz.	0	6		2	0
Horseradish	per doz. bun.	10	0		12	0
Leeks	per doz.	2	0		2	6
Lettuce	per doz.	1	0		2	0
,, French	per crate	3	0		3	6

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1912. DECEMBER 22 TO DECEMBER 28.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Dec. 22—Sunday	0 42	46	45	51	43
,, 23—Monday	1 54	49	48	52	46
,, 24—Tuesday	—	46	45	52	44
,, 25—Wednesday	—	47	46	53	44
,, 26—Thursday	—	47	46	49	40
,, 27—Friday	—	41	40	56	39
,, 28—Saturday	—	53	51	54	41
	(total)				
Means	2 36	47	45	52	42

DATE. 1912. DECEMBER 22 TO DECEMBER 28.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Dec. 22—Sunday	0·04	44	44	46	36
,, 23—Monday	0·12	45	44	46	44
,, 24—Tuesday	0·17	45	45	46	37
,, 25—Wednesday	0·56	45	45	47	39
,, 26—Thursday	0·29	44	45	47	34
,, 27—Friday	0·15	44	44	46	32
,, 28—Saturday	0·11	47	45	46	39
	(total)				
Means	1·44	45	45	46	37

FORTHCOMING ENGAGEMENTS.

MONDAY, January 6.—Royal Horticultural Society, Examination of Employees in Public Parks and Gardens.

TUESDAY, January 7.—Royal Horticultural Society, meeting of Fruit, Floral, and Orchid Committees at noon; Scientific Committee at 4 p.m.

Horticultural Club, Monthly Dinner at the Hotel Windsor at 6 p.m., followed by a lecture, entitled "My Holiday in Bulgaria," by Mr. H. Cowley.

MONDAY, January 13.—United Horticultural Benefit and Provident Society; meeting of committees at Royal Horticultural Hall.

TUESDAY, January 14.—Scottish Horticultural Association; Annual Meeting.

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NEWS FROM HEADQUARTERS.

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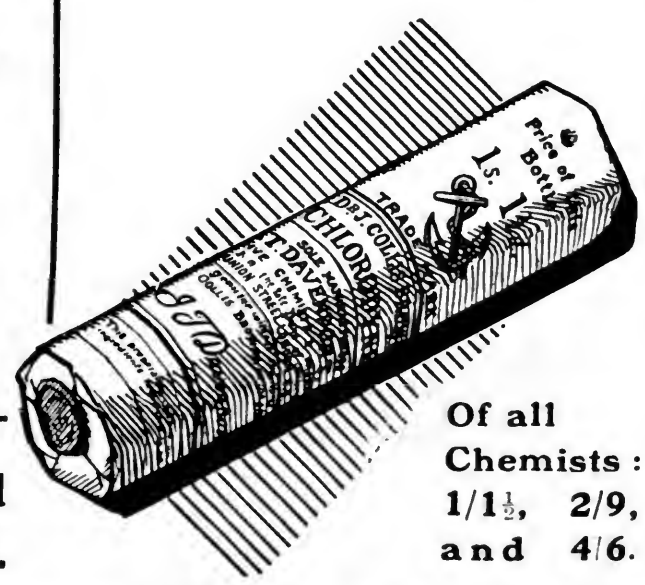

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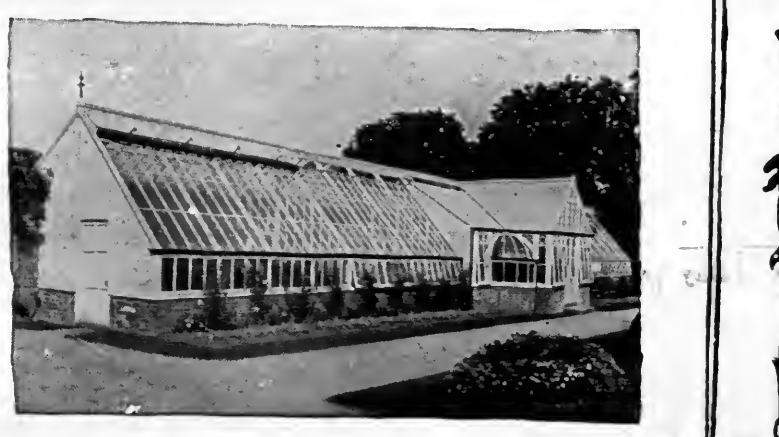

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The following letter was recently received by us on the completion of a contract for a well-known Member of Parliament.

February, 1911.

"I should not be doing my duty to your workmen if I did not at once tell you, on the completion of your work, how pleased I have been with each and all of them.

"They have been most obliging throughout the whole job, and have endeavoured to do everything in an efficient and thoroughly workmanlike manner, and I must congratulate you upon having such capable employees."

HARDY AZALEAS.

Borders on both sides of carriage drives and entrance paths, also beds and shrubberies in the flower garden, may be greatly improved by the addition of a judicious selection of hardy azaleas. As it takes many years for these plants to grow to a large size, that is, 4ft. or 5ft. through, the cultivator should not have much difficulty in disposing the specimens for general effect at the time of planting.

When they are to be associated with other kinds of shrubs, care should be taken to avoid having the azaleas hidden by the more rapid growth of the others. In broad shrubberies it will be necessary to plant the majority in the front part, but if a few standards are put in near the back portion the masses of colour which these plants produce will be more evenly disposed.

There are many lovers of hardy azaleas who do not make the attempt to grow them in the open borders unless the soil is of a peaty nature. But it is a mistake to refrain from growing them on this account as they will thrive well in a good deep loam, and also in one mixed with gravel and sand.

In the New Forest, in Hampshire, there is a large garden in which azaleas do remarkably well, but the plants are not growing in a peaty soil. A small quantity of peat is used, but only to assist in establishing the plants; the original soil is a mixture of sand, gravel, and clayey loam.

Some of the specimens in the borders on both sides of the long carriage drive are now splendid ones, and flower very freely indeed. They retain their leaves well, and keep very free from red spider and thrip. Many cultivators of these plants would be very proud to have them as fine in pots as they are in some outside borders.

Standards look best when grown singly and at least 12ft. apart, but the dwarf plants should be grown in groups either mixed or of one colour in each group, with single specimens between at intervals of 60ft. or so, where long borders are concerned.

The soil must be pressed down rather firmly around the roots, and left cup-shaped on the surface immediately around the stems (especially where the border has a sloping surface) to retain rain and other water, as every precaution should be taken against the possibility of the soil getting dust-dry at any time. G. B.

Saintpaulia ionantha.—Noteworthy features of this little gesnerad are its extreme floriferousness, the rich purple-blue of its blossoms, and the fact that they are produced at practically all seasons, but especially in the early months of the year. Last season an undergrowth of this saintpaulia, overtopped by fine examples of Euphorbia fulgens from the gardens at Hatfield, was greatly admired at one of the meetings of the Royal Horticultural Society.—K.

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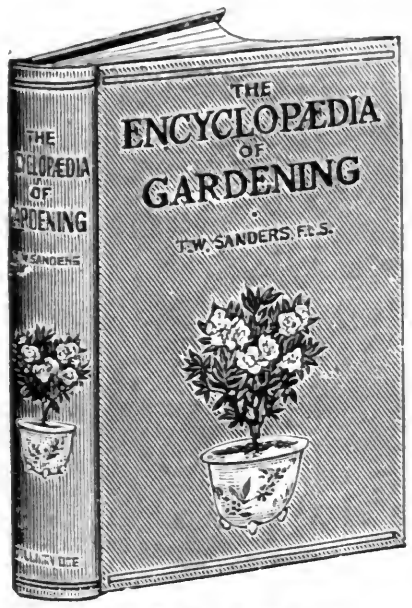

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Carbonic Acid Gas.

Amongst the three gases which compose the air we breathe and the universal envelope of the earth's surface, viz., oxygen, nitrogen, and carbonic acid, the last-named stands alone as a compound, the other two being quite simple elements, gases pure and simple. Carbonic acid, on the other hand, though equally tenuous and invisible, consists of a mixture of that very solid substance, carbon, and one of the other two gases, viz., oxygen, so that really as gases proper there are, after all, only two, and not three, in the atmosphere, save very minute quantities of others which may be regarded as accidentally present. If we obtain a volume of carbonic acid in a closed vessel, as we can do by mixing a Seidlitz powder in a large glass, we shall see nothing above the liquid, but the presence of the gas is unmistakably indicated if we plunge a lighted match into the glass, since it will be as immediately and thoroughly extinguished as if we plunged it into the watery solution lower down; the presence of the gas excluding the free oxygen which is essential to combustion, while its greater weight prevents it from immediately escaping. Carbonic acid gas in this form is quite inert, and hence, though in taking the powder in question, we inhale some, and swallow some as well, it will do us no harm, its suffocating character being solely due to the exclusion of oxygen from the lungs when it is inspired in large quantities. The actively toxic form of carbonic acid gas is of a different composition, with which it is not our object to deal. The proportion of carbonic acid proper in our atmosphere is very small—about one part in three thousand—and yet, as we shall presently see, it is of equal vital importance to our existence, as is the free oxygen which forms so much larger a proportion of the air we breathe, and without which we should all expire as suddenly as the match flame in the glass we have cited. We arrive at a comprehension of this fact when we consider, firstly, that all plant life is dependent upon this carbonic acid gas in the air for its existence, and, secondly, that all animal life is dependent upon plant life, directly or indirectly, for its nourishment and support. Eliminate that comparatively minute proportion from the air, all plants would perish, and it would be only a question of a very brief time devoted to the consumption of any accumulated stores of plant food, before all animal life would perish by starvation. All plants, too, in the process of growth, absorb the carbonic acid through their leaf pores, and by decomposing it and utilising the solid carbon for their innumerable products, nutritive and other, set the oxygen free, and thus, to a certain extent, replace that which is consumed by the animal world, one of whose functions it is to recombine such oxygen with the carbon carried by the blood to the lungs, and exhaled with every expired breath. From this we see that the plant world and the animal world play, to a certain extent, reciprocal rôles in maintaining the natural balance of the aerial gases. When, however, we take a comprehensive purview of the life of both kinds existent on the earth's surface, and bear in mind that, as our geological research proves, enormous quantities of the solid carbon derived from the air by plant life has been practically locked up, and, presumably, is still being locked up, in the shape of coal, peat, and analogous deposits, and when, furthermore, we take into account the millions on millions of square miles of land densely covered with practically permanent forests, we find ourselves confronted with a great puzzle. In the first place, compared with all this continuous growth and formation of timber over such vast areas, the animal world presents absolutely no equivalent as a carbonic acid restoring agency, and in the second, every ancient or so-called primeval forest stands upon an immense accumulation of locked-up carbon, and, year after year, age on age, and probably æon on æon, it is adding to this store, and yet the aerial supply seems inexhaustible, and no data exists indicating a diminution. The volume of the atmosphere is enormous, but calculations show that, given the area of a forest, the carbonic acid over such area would be exhausted in a few years to form the solid wood below, and hence the ultimate exhaustion of the supply would appear to be determinable by a simple calculation of areas generally which could not result in a period of very long duration; certainly not such stupendous periods as geology deals with. It may be argued that in these days of coal mines, we are restoring in the air some of the locked-up carbon of those days, but no thinking man would argue that this forms an appreciable contribution to present vegetative activity, nor, comparing the ubiquitous character of vegetable life, as compared with the sporadic character of animal life, is it easy to conceive that the contribution of the latter to the existence of the former by carbonic acid emission is anything but trifling. The problem is indeed a difficult one to solve.

MR. J. BETHEL.

Mr. James Bethel, whose portrait we give in this issue, is the popular president of the Broughty Ferry Horticultural Association, and is head gardener at The Grange, Monifieth. He fills both positions with such ability that there would be some difficulty in determining in which he excels. He has certainly proved to demonstration that he is fully conversant with all that relates to the garden and its management, for in The Grange gardens evidence is forthcoming on all sides of cultural skill of the highest class, and of a full appreciation of neatness and order. Further evidence of his cultural abilities is found

in the numerous prizes that have been gained for plants, flowers, fruits, and vegetables. Since taking charge of The Grange gardens Mr. Bethel has given a considerable share of attention to the work of remodelling them, and has effected many improvements in the several departments. No name is more familiar among the horticulturists in the north-east of Scotland than that of Mr. Bethel, yet many are not aware that he is a native of Ireland, where he had his early training. Coming to Scotland about twenty-five years ago, Mr. Bethel made Dundee the centre of his activities, and except for one year, when he returned to his native country for a short stay, he has been located not more than twenty miles from the city of his adoption. His geniality and high sense of justice have made him popular as a judge, and his readiness to give advice on the practical work of the garden has obtained for him the esteem of large numbers of amateurs. If Mr. Bethel has hobbies they are hardy fruits, herbaceous plants, and British ferns, for, judging by results, he would appear to be especially interested in all three. While taking an active part in the work of the association of which he is president, he is frequently to be met with at the meetings of kindred bodies, and invariably has the warmest of welcomes.

The Temperature of December.—In a letter contributed to "The Times" of the 3rd inst., Dr. H. R. Mill gives some interesting particulars of the abnormally high temperature experienced during last month. In the table that accompanies his letter he shows the average temperature of each month for the fifty years 1860-1909, and the mean temperature of each month in 1912, together with the difference from the average. It is seen that December, 1912, with a mean temperature of 45.8 deg. was no less than 6.1 deg. warmer than the long average; and Dr. Mill states that there is only one previous December on record, that of 1868, which had a higher temperature, and that was only 46.0 deg., one-fifth of a degree higher than in 1912. The temperature of the very warm December, 1911, was 44.7 deg., or 1.1 deg. lower than last month. The mean of the highest temperature of each day in December, 1912, is shown to have been 50.8 deg., which is higher than has ever been recorded before. The nearest approach was in 1868, with 50.7 deg., and in 1900, with 50.1 deg. These are the only instances in which the mean maximum shade temperature has exceeded 50 deg. for December. Dr. Mill points out that the extremely cold months of August, September, and October put a stop to a run of fifteen consecutive months all above the average, and reduced the mean temperature for the year 1912 to 50.9 deg., which is only 0.9 deg. above the average.

St. Petersburg International Exhibition.—A short time since a conference on International exhibitions was held at the Palace of the Reichstag, Berlin, with M. Chapstal as president. As the result it was resolved that the regulations relating to the participation of the various Governments in such exhibitions should be as follows: (1) Not more than one International exhibition shall be officially organised in the same country in any ten years; (2) that in the several countries in whch an adherence is given to the regulations there shall be only one exhibition in three years, and that the duration of the exhibitions shall not in any case exceed six months. A resolution was also passed in favour of guaranteeing the exhibitors against the various risks to which their exhibits are exposed. In consequence of the regulations made by the conference the International exhibition at St. Petersburg, which was arranged to be held in April next, about the same time as that at Ghent, has been postponed until 1914.

The Gardeners' Magazine Index.—The index to the volume of the GARDENERS' MAGAZINE for 1912 will be published next week, and may be obtained, post free, price 2½d., from the Publishers, 148 and 149, Aldersgate Street, London, E.C. Handsome cloth covers for binding a year's numbers are also obtainable, price 2s. 6d., post free.

Bright Sunshine in 1912.—The following is the mean duration per day of bright sunshine in the past twelve months at Kew, with the difference from the average: January, 0.7 hours, —0.7 hours; February, 1.3,—0.5; April, 7.8,+2.9; May, 5.5, —1.0; June, 6.4, —0.2; July, 4.9, —1.9; August, 3.5, —2.6; September, 3.7, —1.0; October, 3.7, + 0.6; November, 1.0, —0.7; December, 0.9, —0.3. The mean duration per day for the whole year was 3.5, —0.5. It will be understood that the figures relate to hours throughout.

Prizes for Books on Gardening.—The National Horticultural Society of France does not limit its activities to the encouragement of the exhibitors at its shows, but makes awards to those who distinguish themselves as writers on gardening matters, and also to those who afford evidence of merit by long service. Consequently, at the distribution of prizes at the society's last meeting for 1912 a number of medals were awarded to authors. These awards included a gold medal to M. O. Opoix for the third edition of his "Culture of Pears"; silver-gilt medals to M. Lemee for "The Enemies of Plants," and M. André Véra for "The New Garden"; a diploma for large silver medal to M. L. Lesourd for "Culture of Osiers"; silver medal to M. R. de Notre for "The Osier and its Culture"; and to M. A. Van den Heede for "Early Fruits and Vegetables"; and a diploma for silver medal to M. Th. Durand for "The Manual of Practical Fruit Culture." A gold medal was awarded to M. A. Trifforiot, head gardener at the Chateau of Chaumont-sur-Loire, for long and good service.

Influence of Light on Vegetation.—In his recent lecture on "Light," at the Royal Institution, Sir James Dewar dwelt somewhat fully on the influence of sunlight on vegetation. In his opening remarks he stated that Priestley, in the course of his investigations, discovered that contaminated air placed over a vessel of water in which a green plant, the algæ, was growing, became purified; and he traced the purification to the green plant, which absorbed the carbonic acid, and, in turn, yielded oxygen. Thus was established the relationship of mutual helpfulness between plants and animals. The amount of this leaf-green—or the ordinary colouring matter of vegetables, which was so essential to man's existence—on the earth's surface was incalculable. To count the number of leaves on a plant or to measure them would be tedious, but if it were done the immense area of the leaves, as compared with the small space occupied in the ground by the plant, would cause some surprise. By a brief immersion of a leaf in spirits of wine it was shown that it was deprived of its green colouring matter, and how a transmitted light brought to bear on the solution turned it into a deep green. By such experiments it was discovered that light entered the plant through this green colouring matter, and was utilised by the plant in building up its woody structure. Ingenhouss was the first investigator who, in the eighteenth century, showed that the absorption of carbonic acid by the plant was dependent on the influence of the light of the sun, and not of its heat. A century later Boussingault proved that leaves decomposed carbonic acid immediately on exposure to sunlight, and ceased their action instantly in darkness, and he also found that nine square feet of leaf surface, acting during twelve hours of the day, decomposed 306 cubic inches of carbonic acid, yielding nearly the same volume of oxygen.

Market Gardeners and Compensation.—The text has been issued of a Bill introduced into the House of Commons by Mr. W. Runciman, President of the Board of Agriculture, to remove doubts as to the effect of Sub-section (2) of Section 42 of the Agricultural Holdings Act, 1908, and the enactments re-enacted in that sub-section. It is now declared that a tenancy from year to year under a contract of tenancy current on January 1, 1896, shall not be deemed to have been determined thereafter by any provision in Section 61 of the Agricultural Holdings (England) Act, 1883, and part of the sub-section is to be repealed. That Act shall apply to any claims for compensation which has not before the passing of the present measure been determined by any judgment or order of a court of competent jurisdiction or award or agreement, whether the improvement to which the claim relates was made or begun before or after the commencement of the Agricultural Holdings Act, 1908.

Popular Sweet Peas.—The audit of varieties shown at the exhibition of the National Sweet Pea Society forms, as usual, an interesting feature of the "Sweet Pea Annual." From this we learn that there were the same number of exhibits in 1912 as in 1911, but there were 351 more bunches staged, the total being 2,257, and 80 more varieties! The number of bunches has only been exceeded twice, i.e., in 1907 and 1909, while the number of names is far and away the largest found at any show the society has held. The percentage of bunches per variety is the lowest ever recorded; it was 7.62, as compared with 8.99 in 1911; 7.755 in 1910; 13.33 in 1909; 9.60 in 1908; 11.65 in 1907; 12.82 in 1906; 15.34 in 1905; 14.58 in 1904; and 11.01 in 1903. Sixty-two varieties were shown 10 or more times; 5 varieties 9 times; 4 varieties 8 times; 7 varieties 7 times; 4 varieties 6 times; 12 varieties 5 times; 11 varieties 4 times; 14 varieties 3 times; and 29 varieties twice each; while 144 varieties were represented once only. Clara Curtis reached the premier position, after being second in 1911, fourth in 1910, and eighth in 1909. Thomas Stevenson has come with a rush, as it is second, and was only thirty-second on the list in 1911. Elsie Herbert keeps third position, and Etta Dyke goes down to fourth place. Mrs. C. W. Breadmore, fifth in 1911, was equal fifth with Maud Holmes in 1912, the latter variety being fifteenth in the former year. John Ingman occupies about the same relative position as in 1911. Mrs. Hugh Dickson has dropped back a good bit, while 45 bunches of Mrs. W. J. Unwin were staged in 1912, as against 17 in 1911. Sunproof Crimson is one place better with an increase of three bunches over 1911. Nubian, Edrom Beauty, Hercules, Elfrida Pearson, Doris Usher, Barbara, R. F. Felton, and Melba have come well to the front, but Mrs. Hardcastle Sykes, Tennant Spencer, Helen Lewis, Constance Oliver, and Flora Norton Spencer have all been represented by fewer bunches than in 1911, while

Countess Spencer has fallen from 53 to 19 bunches. Both Etta Dyke and Clara Curtis were shown 80 and 78 times in 1911, whereas Clara Curtis, at the top, was shown 73 times in 1912.

New Prize for Roses.—With a view to complete the International classes for new roses from Bagatelle at the exhibition of the National Horticultural Society, to be held at Paris in May next, M. Gravereaux has presented to the society a silver cup of the value of £20. The cup will be offered for the most beautiful rose exhibited at the society's exhibition in May, either in pots or as cut blooms. Varieties distributed in the year previous will not be eligible for competing for the cup.

The Grounds of La Muette.—The fears of the lovers of Paris for the fate of the Park of La Muette, a portion of which has been sold by Comte de Franqueville, have, according to the Paris correspondent of "The Times," been set at rest by the announcement that the character of the beautiful alley of lime trees in the grounds will not be affected. Nearly half the land sold has already been bought from the purchaser, M. Bloch Levalois, by M. Henri de Rothschild, who intends to build a gallery in a secluded portion of the park to house his art collections. The remaining piece of land will fall into the hands of the builders, but with the obligation upon them to respect the trees and to erect only the best class of large private residence. The chateau and grounds of La Muette are situated in Passy, and are within the fortifications and the barrier of the Paris Octroi. The part of the Bois de Boulogne which adjoins these grounds is the region most frequented by children and nursemaids, and may be described as the Kensington Gardens of Paris. There is, of course, no statue of Peter Pan, but there is a well-known statue of La Fontaine with representations of various animals, the crow, the fox, and the mouse, from his fables.

Germination of Dodder Seeds.—Some trials that were made for the purpose of testing the germinating capacity of the seeds of several species of dodder have given interesting results. Seeds of Cuscuta suaveolens were found to have a higher germinating capacity than those of C. trifoli, which is generally known as the Common Dodder. At the end of twenty-eight months 67.6 per cent. of the first-named germinated, as compared with 47 per cent. of the latter. The seeds of both species are slow in germinating, but the largest percentage germinates in the month following that in which the sowing is made. The germination then proceeds during the following months in diminishing numbers. It was found that 6 per cent. of the seeds of C. trifoli which had not germinated after twenty-seven months, and that 12 per cent. of the seeds of C. suaveolens which had not germinated after twenty-eight months, were alive. Thus dodder seeds once sown with a crop are a constant source of danger.

Report on the Paris Conference on Genetics.—We are informed that the full report of the Congress on Genetics, which was held at Paris last autumn, is on the point of being published. It forms a substantial volume, and is freely illustrated in black and white, and contains also several coloured plates. It will contain, in addition to the text of the papers that were read, a resume in French of the English papers, and a resume of the English papers in French. The price of the report will be 25 francs (= £1).

EARLY-FLOWERING ADONIS.

Among the most effective of spring-flowering subjects that are alike suitable for the bolder type of rock garden, or the foreground of borders or shrubberies, the species and varieties of adonis merit attention. Not only are they reliable and easy to grow, but they are brilliant in the extreme, and once suitably planted they call for little or no after attention. The condition under which they most generally succeed is in a rich moist loam, and in positions fully open to the sun, or with moderate shade. The best known kind is Adonis vernalis, a European species, whose golden-yellow flowers appear in March, surmounting the mounds of delicately-cut leafage, the latter presenting an effective foil to the burnished gold of the flowers.

Adonis amurensis is an Asiatic species, also early flowering. It attains a height of twelve inches, having the typical fennel-like foliage of the last-named, and large golden-yellow flowers some two inches across. Of this species there is a double-flowered form that is quaintly beautiful, and equally desirable as a garden plant.

Adonis pyrenaica closely resembles vernalis, but with broader petals, and it blooms some six to eight weeks later. The flowers are deep yellow, carried on branching stems some fifteen to eighteen inches in height.

All the species of perennial adonis are propagated by division or seed. The latter should be sown as soon as ripe, in protected positions, out of doors, or in boxes of sandy soil placed in hand frames. Propagation by division can only be carried out at rare intervals, as the plants resent frequent disturbance at the root.

THOMAS SMITH.

Coombe Court Gardens.

ODONTONIA FIRMINI.

Flowers white with yellow crest and pink flushed lip. A.M., R.H.S., January 7. M. Firmin Lambeau, Brussels. (See page 34.)

HOW ALTITUDE AFFECTS PLANTS.

(Continued from page 13.)

The lovely columbine, Dyer's weed (fond of chalky soils), musk mallow (a sand lover), meadow crane's bill (an alluvium plant), alder buckthorn, scabious, corn marigold (ranging higher sometimes), great bindweed, gipsywort, birch, black and white willow, and the osier grow up to an altitude of 400 feet. Here also grow yellow flag, snowdrop, black briony (a pretty creeper), and water plantain (a graceful aquatic). Some gentians and fly orchid grow anywhere between 100 and 400 feet.

Rock rose (common on the chalk downs), spindle tree, dewberry, agrimony, London pride, sanicle, flea bane, have their limit generally at 500 feet; and tansy, privet, centaury, mullein (a favourite in old gardens), musk, and hop, green-winged orchid, frog orchid, and melic grass are found up to this altitude. Watercress (largely cultivated in tanks), Jack-by-the-hedge (another salad), St. John's Wort, trailing rose, guelder rose (both suited to the shrubbery); felwort, a gentian; Creeping toadflax, an ornament for walls and rock beds; Skull-cap, hemp nettle, the beech, a handsome tree, fond of the chalk; fragrant orchid, and the common pondweed may be grown up to 600 feet.

It is possible to cultivate a hundred feet higher dog violet, valerian, ragwort, sheep's bit, scabious, bog myrtle (a fragrant undershrub), and creeping willow. The sycamore, wild cherry, carline thistle, hound's tongue, bittersweet, eye-bright, yew, and millet grass will flourish up to 800 feet. Ragged robin (forming handsome pink patches), gorse, broom, bird's-foot trefoil, great burnet, crab, stonecrop, Cicely (fond of limestone), elder, ox-eye daisy, hare-bell, red rattle, wood sage, aspen, and lily of the valley may grow on hills rising to 900 feet.

The 1,000 feet contour marks generally the upper limit of enchanter's nightshade, field scabious, sneezewort, bogbean, and the oak. At 50 feet higher may grow wild anemone, bird cherry, angelica, hogweed, woodruff (with scent of new-mown hay), the ash, alder, smooth-leaved elm, and herb Paris.

At 1,100 feet it is possible to grow kingcup, sloe, raspberry, hawthorn, honeysuckle, dog's mercury, silver birch, hazel, goat willow, and other coppice trees, as well as spotted orchid and others.

When we reach an altitude of 1,200 feet, or considerably higher than any hills in the plains of Central or Southern England, we find such plants flourish at this altitude as goldielocks, dog roses, rosebay (a handsome plant of which there is a garden form), ivy, willows, ramsoms, and the bluebell cuckoo pint, a plant which is very chary of growing on certain soils.

At an altitude of 1,400 feet, the great stitchwort (a lovely pearly-white flower), herb Robert (which scents the roadside), holly (which forms great thickets, used for pheasant coverts), meadow sweet, wild strawberry (with its luscious fruits), scabious, coltsfoot, and the foxglove (stately and tall, a favourite in the garden) are all at home. Here, too, in bogs, grow butterwort (now rare), the juniper, and the Scotch pine (which lends such picturesqueness to the landscape, grown in clumps on rocky knolls).

At still a hundred feet higher milkwort, mountain ash, sundew (the interesting bog plant with insectivorous habits), golden rod, cow-wheat, and willows, will grow with luxuriance. Wood rush grows at 1,600 feet in some places

Whortleberry, cross-leaved heath, bog asphodel, and field spike-rush will flourish at 1,800 feet.

Lesser spearwort, bog violet, milfoil, sorrel, cowberry, and many others may be found at an altitude of 2,000 feet. At 50 feet above this grow wood sorrel, daisy, whortleberry, ling, thyme, the nettle (which prepares the ground for other plants), cotton grass, and mat grass, the last forming associations by themselves, whilst ling also grows with whortleberry in the same gregarious manner.

It is needless to point out that such altitudes as we have given are only averages or limits at which the plants mentioned may grow. At different places the usual altitude varies, according to some other factor which may influence the normal orography of the district, such as absence of woodland from artificial causes, lack of water, perpetual snow, or a multitude of other inter-related factors.

The absence of such facts in the ordinary handbooks on gardening or horticulture is due to the fact that ecology, of which they form a part, is as yet a new science. But it is beginning to be more apparent every day that the gardener can no longer afford to be behindhand in his knowledge of the essential laws that govern plant life, and of which ecology is an important part, otherwise he will find someone else is before him, and with better results, which in these days of competition and progress will be to his disadvantage. The few hints here given will serve as a beginning.

A. R. HORWOOD.

Leicester Museum.

PREPARATION OF LAND FOR FRUITS.

When a site has been decided upon for an orchard or fruit plantation the first thing to do is to prepare it to receive the trees, since scarcely any land, except that which has been cultivated intensively, is fit for planting without some preparation.

The first thing to do is to make sure that the drainage is good, and, if not, to remedy any defect in this matter. It is quite useless to expect really good results from fruit trees planted in water-logged soil.

If the planter has been cultivating the land for some time previously he will know exactly whether any draining needs to be done, but if he has but recently come into occupation of the holding, it may be necessary for him to sink a few trial holes a couple of spits deep on the site to see if they fill with water from the subsoil, and also if any rain water that may accumulate fails to get away rapidly, and if either should happen to be the case, draining must be taken in hand.

In carrying out a system of drainage it should be borne in mind that the work must be thoroughly done. As a general rule no partial measures or "patching" is of much use.

Where there are old drains running in one direction it will be as well to take the new drains across them somewhat so as to intersect them, and thus draw any water that may collect in them. There is no more fruitful cause of water-logged soil than old drains which are blocked at the outlets, as they collect the water without being able to convey it away. It is wise to arrange all the drains, if possible, with one leader, so as to have only one outlet into the open ditch or stream. This outlet is not likely to be overlooked and forgotten, as one of a number may be; further, it has a very much greater "head" of water behind it to carry away any obstruction, leaves, etc., from the mouth, which might be liable to block it.

When the draining has been finished the land, if of sufficient area, should be ploughed, but if not large enough for ploughing it should be dug.

The ploughing should be as deep as possible, using either three or four horses, but not so deeply as to bring up the subsoil to the top, but the latter should be thoroughly broken up by a subsoil plough following in the furrow. Land which is to be dug should be bastard trenched, the subsoil being thorough broken up during the course of the operation.

Whether the land be ploughed or dug, it is not advisable to apply stable manure at the time. If the land is in need of a dressing of manure to supply the necessary organic matter, it is much better to defer the planting for a season, and give a heavy dressing of manure, and take a crop of potatoes or roots. These crops will serve to break down the soil, and afford an excellent opportunity for finally cleaning the land. Moreover, the manure will be thoroughly decomposed, and what is not taken up by the crop will be in a form available for the trees.

While it is not possible to get rid of every weed, fruit trees should not be planted until such perennials as couch grass, bindweeds, docks, thistles, and coltsfoot are exterminated. The two first-named are the most troublesome, and when once they find they way to the tree roots it is almost impossible to dislodge them without first uprooting the tree.

After the land is ploughed or dug it should need nothing further in the way of cultivation prior to planting, but the planter must be careful not to attempt to start until the surface soil is dry enough to admit of the planting being done without spoiling the mechanical condition. It is far better to lay the trees in by their "heels" and wait till the drying winds of February or early March have passed over the land than to puddle the surface soil in an attempt to carry out the planting now. When trees are to be planted in grass that is not to be disturbed very little can be done in the way of preparation, but there are one or two points which must be attended to. In the first place, it is absolutely necessary the subsoil should be well drained to the depth of about thirty inches. In planting on grass the soil is, of course, only broken up at the stations where the trees will stand, and if the subsoil be of at all a retentive nature these holes become basins, to which the water collects, and makes the soil sour. The remedy lies in either running the land drains up the lines on which the trees will stand, or mole-draining up the same lines; or planting on a mound of soil brought on to the land for the purpose, so as to avoid disturbing the subsoil at all.

Whatever method be adopted, the soil for at least a foot beyond the spread of the roots, all the way round, must be kept free of grass, and this cultivated circle must be annually extended as the roots travel away from the stem of the tree.

F. W. HAMMOND.

Pinguicula caudata.—In an intermediate orchid house this Mexican Butterwort is almost continuous flowering, but at no time are its pretty carmine-pink blossoms more appreciated than they are in the depth of winter. There is a comparatively new species—P. Rosei, whose flowers are, except in their violet colour, a counterpart of the above. Between these two hybrids have been raised at Kew which are in the colour of their blossoms about midway between their parents.—S. W.

BEAUTIFUL ROSE HEDGES.

It is very pleasant, on returning to England, after a long dusty journey through the flat, hedgeless country which lies between Paris and Calais, to find oneself once more looking on the green of English meadows and hedgerows. If this return should be in the "leafy month of June" the grass will be its greenest, and the hedges will be sweet with the blossoms of the wild rose, for Rosa canina, the typical English wild rose, never seems so happy as when throwing up its great arching sprays from the midst of a hedgerow.

This being so, is it not curious that it our English gardens we do not make more use of roses for hedges, or that we more often find pergolas than hedges of roses?

Now, England is the home of hedges, whereas Italy is the home of the pergola. The word itself is Italian, and means a trellis for vines, and it would seem to be a construction well suited to a sunny climate, where vines may grow and ripen their fruit in the open air, to the eminent satisfaction of the passenger under the pergola, who may enjoy the shade of the big vine leaves, and, possibly, also test the flavour of the grapes, as he takes his walks in his formal garden. There are, of course, many gardens in England where a well-made pergola is not out of place, but even then it may be questioned whether it is best planted with roses only. The ornamental vines and the clematis, and plants which climb and cling more naturally than any roses do, are in some ways more suitable for clothing a pergola.

But it is not my wish to bring an indictment against rose pergolas, which can be very charming if well built and rightly placed. I would only suggest that in our English climate we far more often want shelter from wind than from sun, and that a green roof may too often be a dripping one, while a screen to break the north or east wind is almost always grateful, both to ourselves and to any plants we may wish to shield.

It is, however, not only in gardens that rose hedges are somewhat neglected, but also in rose books. I have looked through a great many, and find that though most will give instructions for "Roses for Pergolas and Pillars"—how to train and prune them, etc.—very few say much on the subject of rose hedges. If hedges in connection with a rose garden are mentioned, it is generally suggested that a yew hedge is the most suitable. No doubt a yew hedge makes a splendid background for the flowers, and if the rose garden is on formal lines, and is quite shut off from the main garden, nothing looks better or gives a better shelter. Yew and box are much used for hedges in Italian gardens, where their dark shades of green are very pleasant.

But there are many gardens in which the formality of a yew hedge is quite out of keeping; or where the owners of the garden wish to obtain as much floral effect as possible, and do not care for the evergreen or "idly green" yew. In such gardens it may be the roses are not grown apart from all else, but have nevertheless so taken possession of the place that their beauty appears in every direction. Here rose hedges and screens will be very welcome. In his book, "The Rose Garden," Mr. William Paul suggests that if a screen between two parts of the rosarium is required, nothing is more fitting for the purpose than the sweet briar, "which," he writes, "should abound in every rosarium, for the delicious fragrance of its young leaves in spring, the delicacy of its blossoms in summer, and the gay appearance of the scarlet heps in autumn must recommend it to every observer." Since this was written Lord Penzance's hybrid sweet briars have been introduced, and I know, from the effect in our own garden, what a delightful hedge they make.

ROSE QUEEN OF THE MUSKS.

A charming variety with blush-coloured flowers, raised by Messrs. Paul and Son, Cheshunt, and awarded the silver medal of the National Rose Society, September 12, 1912. (See page 26.)

We have them planted at the back of an herbaceous border. They were originally trained up some four-feet iron railings, but as the hedge grew taller some strands of galvanized wire were stretched through iron uprights inserted between the railings. The plants are now about twelve feet high, and they make an efficient and most sweet screen. We planted several varieties, but find that Meg Merrilees, Amy Robsart, Anne of Gierstein, and Jeanie Deans have proved the strongest. They throw up immense rods from the bottom every summer. These must be carefully laid in, and some of the old wood cut out as soon after flowering as possible. No other pruning is required. If this is attended to every year the screen will be covered with blossoms, and the plants will not become thin and leggy.

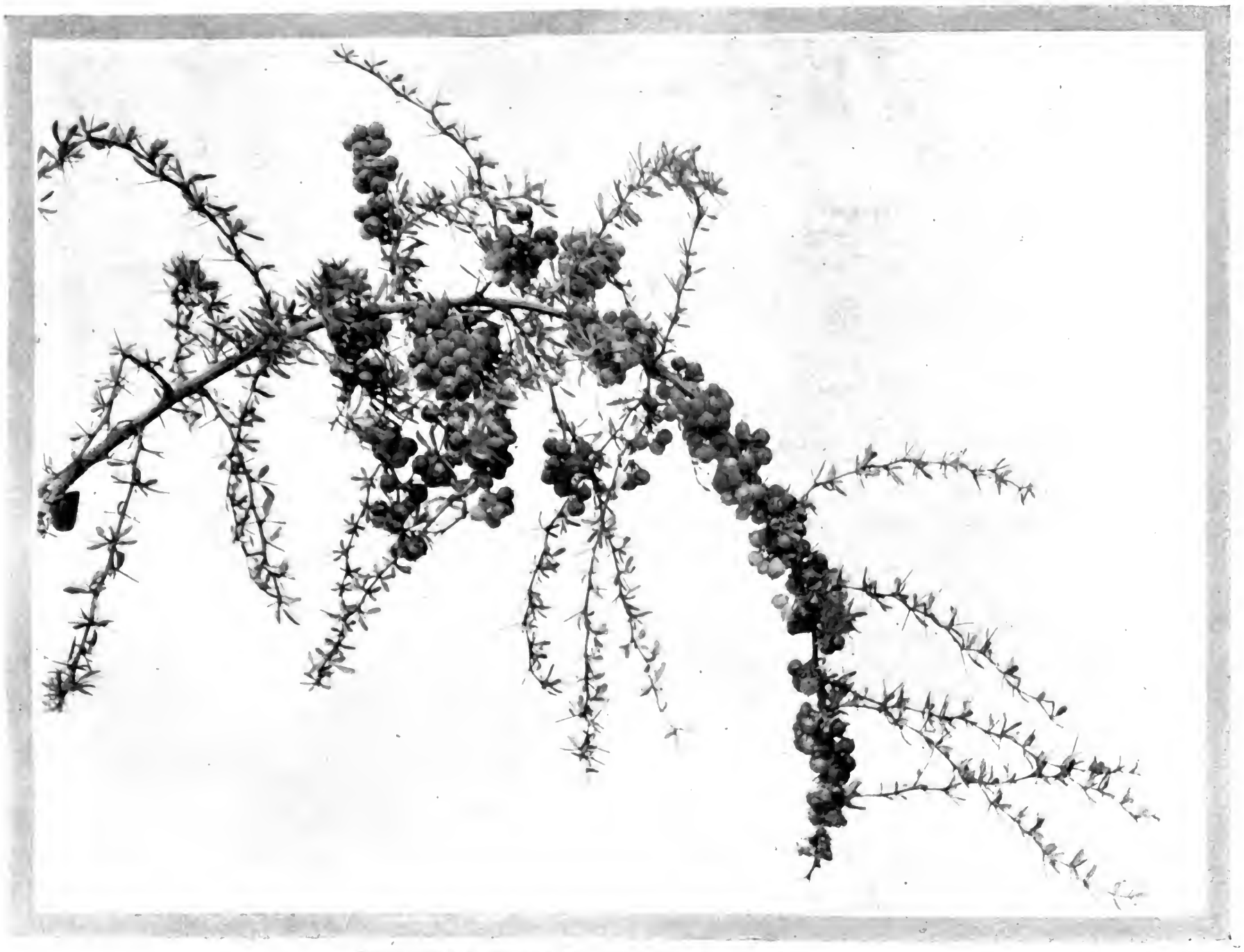
your "armour" when you are preparing to tackle the hybrid sweet briars. I must plead guilty to leaving these to the gardener's tender mercies, and he usually bears some honourable scars on face and hands for some days after his annual work among them.

Zephyrine Drouhin bears its deep rose-pink flowers freely from early summer till late autumn. No rose has a sweeter scent. And roses for hedges should be fragrant, or a great part of their charm is lacking.

For this reason, among many others, the Rugosa roses make ideal hedges. These roses are very hardy, and are not so particular as to soil or situation as are most roses; they will do well when pruned hard or when merely thinned, and their young shoots trained down, as was recommended for the Penzance briars; they require no

quite first class. I have even noticed our old retriever, who has a partiality for wall plums and ripe pears, sampling the Rugosa berries by way of variety.

The little double Scotch roses make a capital dwarf hedge, thick and brown and bushy through the winter, covering themselves with their tiny leaves in spring, and in May breaking forth into innumerable buds of pink and white, which have a most delicate fragrance, suggestive to me of fresh rose-water, a very "gentle" smell, as a friend of mine describes it. Unfortunately the blossoms are easily spoilt by wet weather, but in a fine May, such as that of 1912, there is no prettier garden sight than the little Scotch briars in blossom. They are particularly useful for a dry situation. There is a double yellow, which seems rarer, and is certainly not so easy to



FRUITING BRANCH OF BERBERIS WILSONÆ.

A handsome Chinese shrub, elegant in growth, and bearing coral-red fruits. Introduced by Messrs. J. Veitch and Sons.
(See page 28.)

I am inclined to think they do better grown in this way than as bushes, though here I am at issue with Mr. Herbert Molyneux, who, some two years since, advised us to plant a hedge of the hybrid Bourbon, Zephyrine Drouhin. These are arranged in a double row, and have made already a thick hedge. At present it is about three feet high, but we hope it will soon reach the height of six feet, which it has done in Mr. Molyneux's garden. Everyone who comes into the garden notices it—the foliage is so dense and beautiful. In the springtime the leaves show innumerable shades of glaucous blue, bronze, and cherry-pink, and they are retained very long into the winter. The stems are thornless, which, to those who prune their own roses, is a great joy. You may leave your gloves behind when you go to prune or train Zephyrine Drouhin, but must put on all

stakes, as their growths are sufficiently upright and stout to withstand all winds and weather without support; their foliage is dark green, thick and abundant in summer, and changes to the loveliest of soft yellows and russet browns in autumn. The flowers, which come very early, and in many of the varieties are produced throughout the summer, are delightfully fragrant. They are not "fast of their smell," as Bacon says the crimson roses are, but scent the air around them, so that it is very pleasant to have a Rugosa hedge running up to a frequented pathway, and when the flowers have faded they are followed by large and brilliant red heps, which light up the garden in autumn, as long as the birds can resist their attractions; but from the early attention the thrushes and blackbirds pay to them I fancy their flavour, from a bird's point of view, must be

grow. The variety Stanwell Perpetual well deserves its name. It begins to bloom in May, and at the end of December some of its sweet-scented pale blush flowers were still to be found. It is not so compact a grower as the summer-flowering varieties.

In writing on rose hedges Mr. Molyneux has given an alluring picture of a hedge of Rosa altaica (R. spinossima grandiflora). The loveliness of its tender green, and its arching sprays of large single creamy flowers, has a charm which cannot be conveyed in words, but which makes a lasting impression, albeit its actual beauty in the garden is short-lived. Rosa altaica requires very little pruning, and can be propagated from suckers. It bears a few flowers in late summer, but the leaves, after turning a dull russet-brown, fall rather early, and the shrivelled brown-black berries hanging alone on the leafless stems

have to me a somewhat melancholy appearance in the autumn, so that, beautiful as it is, I would plant my hedge of Rosa altaica in that part of the garden which is planned for spring and summer effect. The same conditions will apply to many of the rose species if used as hedges, such as Rosa sericea and R. serisea pteracantha. These would make almost impenetrable hedges, guarding the place with their huge translucent thorns from any outside intruder; but their pretty four-petalled white flowers are short-lived, and though followed by bright orange or scarlet berries in July, these, too, are quickly shed, and the true form and beauty of the slender spreading branches would be spoilt by the pruning necessary to keep a hedge in good trim.

The hardier of the China roses, especially the old pink China, make a good and perpetual-flowering dwarf hedge, and do not object to being pruned and trimmed to suit this purpose. And, no doubt, some of the stronger Polyantha varieties, such as Marie Pavie, with its pretty delicate China pink flowers and ruddy shoots, could be used in the same way. I have never seen satisfactory hedges of any of the H.T. roses, though we have experimented with Gruss an Teplitz, Gustave Regis, and others; they seem to have an innate tendency to get leggy and bare, and the foliage is scarcely close enough for the purpose.

Where varieties for tall hedges of dense foliage are wanted they must be selected from among the Ayrshires, the Multifloras, and the Wichuraianas. The foliage of many of these is almost evergreen, and for one period in the summer they clothe themselves with countless blossoms. They also have the merit of growing very rapidly, and are specially suitable for a position on the north of the rose garden. But their large rods require some wooden or iron structure to train them to, and, consequently, strictly speaking, they are more adapted for screens than for hedges. If planted in thoroughly good soil, and attended to in the matter of watering, they may be trained to grow over hedges of laurels and other evergreens.

Before planting a hedge of any sort of rose the ground should be trenched three feet deep, and plenty of top spit and manure incorporated with the lower part of the soil. The plants should be got in, if possible, in November, and the following March or April should be cut down pretty close to the ground, so as to ensure a dense growth at the base of the hedge. The distance apart they should be planted depends upon the variety, from one foot apart for the Chinas and Polyanthas, to, possible, three feet for the Ayrshires and Wichuraianas.

The subsequent treatment consists chiefly in cutting out the old wood and tying down and "laying in" the new, so that any tendency the variety may have to get leggy may be counteracted; for the beauty and use of a rose, as of any other hedge, depends largely on its being well furnished at the base.

Much more might be written on this subject. A description of the different varieties of the Rugosa most suited for making rose hedges would of itself fill many columns. But my object has been, not so much to recommend special varieties, as to suggest to the rose grower, when planning shelter for his garden, to look for himself among the many classes of roses where he may find shrubs as well suited to his purpose as can be found in any other family of plants.

WHITE LADY.

CROSSANDRA UNDULÆFOLIA.

This attractive acanthaceous plant, which was given an Award of Merit at the meeting of the Royal Horticultural Society on July 16, last, is, though not much grown, by no means a novelty, having been distributed by the late Mr. William Bull, of Chelsea, in 1881. It was by him received from Southern India, where it is said to be much grown, especially in the neighbourhood of the temples.

CROSSANDRA UNDULÆFOLIA.
An attractive plant, thriving in the plant stove or intermediate house, and bearing brilliant orange-scarlet flowers.

Like many Acanthads, it is a plant of an upright, sparely-branching habit of growth, and will flower freely when about eighteen inches in height. The erect stem, which is of a half woody character, is clothed with ovate acuminate leaves, about six inches long, of a deep shining green, with wavy edges. From this latter feature the present specific name is derived, though it was at first known as Crossandra infundibuliformis. The flowers, which are, as in many of its relatives, borne both in terminal and axillary spikes, are about one and a-half inches across, and of a rich orange-scarlet. Individually the blooms do not last long, but a succession is kept up from one spike for a considerable time. Unlike some other Acanthads the bracts are in no ways showy. Though the award was made during the summer, the flowering period of this crossandra is not limited to that particular period of the year, as blossoms are produced at different seasons, though more freely in summer than at any other time.

If the strongest shoots are struck they may, as neat unbranched plants, not more than a foot high, be flowered in pots four and a half inches in diameter. S. W.

EARLY VEGETABLES FROM SEEDS.—II.

Carrots.

No forced vegetable, in my experience, needs more care in the matter of soil than the carrot if clean, shapely roots, with fine skins are to be obtained. Less difficulty is experienced with fine-textured soils composed largely of sand; but even then the condition of the soil at the time of making the beds materially affects the crop, and in the case of soils naturally less suitable for growing carrots, the results are even more deeply marked. Newly sifted soil will not, in many cases, alone give good results.

In all early forcing of vegetables it is well to have a good stock of waste soil under cover, but with carrots particularly so, if the best results are to be obtained. I would even go so far as to recommend those who find difficulty in procuring roots with fine skins to secure their soil in September. Choose a dry day, and skim the garden of an inch or so of the surface soil, in places where it is good and a fine tilth has been obtained. Place under cover. On wet autumn days this soil may be sifted through a quarter-inch-mesh sieve, and placed in readiness for use at the end of the year.

No amount of sifting will bring the soil to such a fine state of division as occurs under good cultivation together with the aid of the weather, and this surface soil, when it embodies a good percentage of finely divided humus, and the stones and gravel have been removed, forms an ideal compost in which to grow these roots.

Sifted potting soil will sometimes prove satisfactory, but there are differences in old potting soils, and often strong side fibres, with a root of ribbed outline, are the result. Not that this detracts from their value on the table, but it certainly reduces their value in the market.

The first sowing of carrots may be made the last week of the year or in the first few days of January. The necessary amount of leaves and manure having been made up into a good bed, six to nine inches of soil is placed on it, made level, and pressed moderately firm. If obtainable, some fine burnt ballast and wood ashes may be mixed in the soil, as it will assist the carrots to attain a good colour—a point where produce is marketed. The drills are drawn half an inch deep and six inches apart, and the seed sown thinly. Before covering in, other drills may be drawn between these, and sown thinly with a small, quick-growing radish. If the intention is to prick out a crop of lettuce in the frame as well, the carrot drills must be drawn nine or ten inches apart, but I am doubtful of the economy of the practice.

With good soil, and, even presuming that only a small-growing lettuce is grown, unless the plants are strong and start away at once, there is a danger of the carrots being overgrown, and the roots being anything but uniform in size. Occasional spraying in fine weather is beneficial, and the carrots should be thinned early, spacing them two to three inches apart. Weed and prick over the soil if necessary, stirring lightly is beneficial; ruthlessly remove any radishes likely to overgrow the carrots, and clear the radishes the moment they are ready.

If the frame is a large one a few rows of the globular French forcing carrot may be sown to furnish the earliest roots; these latter need less space than the Champion Horn, which I consider to be the best for frame culture. The latter variety, under the treatment recommended, and assuming the night temperature would be from 50 to 55 degrees, would be ready in the first or second week of May. Occasional watering with sulphate of ammonia, ½oz. to the gallon, is beneficial.

Those who are satisfied with carrots of lesser quality may try their hand at the French system, in which carrot and radish seed are sown broadcast, then lettuce plants are pricked out on the top.

I have tried the method on several occasions, and have never yet brought off the three crops to my own satisfaction, and I have yet to see produce grown in that way which satisfied me, though I have understood that as many as five crops may be profitably intermingled. It looks like an instance to which the old saw of not being able to "keep your cake and eat it too," may be applied.

Lettuce.

I have already said something about this crop in treating of others. At one time I relied on a September sowing for the earliest crop, but find that in the Thames Valley the whole batch is liable to die off with collar rot, if disturbed between September and January.

Our most important sowing is made in the last half, or in the last few days, of November, in boxes, on a shelf in a greenhouse with a mean night temperature of 50 degrees. In about a month from sowing they are pricked out about an inch apart in boxes in a house a few degrees warmer. In January these are again pricked out over slight hotbeds in heated pits and frames, the plants being placed ten inches each way and intercropped with radishes previously sown very thinly. The variety of lettuce is the cabbage kind, Golden Ball. Between every four plants of the cabbage lettuce one plant of a cos variety is afterwards pricked out, a little seed of these having been sown about the same time. The variety of cos lettuce we find most saleable is the Dark Green or White Heart. Other sowings are made in the New Year, and plants from these are afterwards pricked out on a little manure covered with a few inches of rich soil, over which a frame has been placed.

The end of January is soon enough for a sowing to raise plants for pricking out on a warm border. If another kind of cabbage lettuce is grown ,two good varieties are Heartwell and Perfect Gem. These are not as quick as Golden Ball, but form better hearts, although I have had good hearts of Gem in a favourable season and on a warm border in the first week of May.

I may say I prefer shallow pits or frames to cloches for growing lettuce. Under the cloche the plants are slightly earlier, but if a good heart is required one plant requires the whole cloche to itself, and should be eaten the moment it is taken from under it; certainly, when grown by the cloche system they are anything but tempting if they are not eaten until the following day.

For growing under cloches the Early Paris Market is perhaps the most suitable. It is similar in appearance to Golden Ball, but smaller.

F. DREW.

ROSE QUEEN OF THE MUSKS.

Although the musk roses form a comparatively small group, and are less showy than the varieties belonging to the majority of the other sections, they possess much interest, and are decidedly beautiful. Their beauty is of a quiet kind, and appealed to but few in the days when the value of roses was estimated by the aid the individual blooms were able to give the exhibitor in a keen competition for the premier position. But now that a greater breadth of view is taken in the rose garden, and roses that are useful for decorative purposes duly appreciated, greater interest is being taken in the musk roses, and, as the result, they are being planted in much larger numbers annually than probably at any previous period in their history. This increased interest is doubtless, in a large measure, due to the successful efforts of the raisers in the creation of the new forms, prominent among them being the Rev. J. H. Pemberton, and Messrs. Paul and Son, of Cheshunt. Among the varieties raised by the Messrs. Paul, and now in general cultivation, is Snowstorm, a pure white, remarkable for the freedom with which it blooms in the autumn. Their most recent success among the musk roses is the beautiful Queen of Musks, which we have now the pleasure of illustrating. This variety is also remarkable for the profusion with which it produces flowers during the autumn months, and a proof of this was given by the large basket that was staged on the occasion of the National Rose Society's show at Westminster in September last. The flowers, which are produced in great profusion, are about an inch in diameter, and semi-double, and they possess the refreshing fragrance characteristic of the musk roses. The colour is blush, with yellowish centre. At the exhibition of the National Rose Society referred to above the variety was regarded with much favour, and the award of a silver medal was made in its favour.

IRIS ALATA.

The scorpion iris, as this species is named, is the earliest of all the bulbous irises to flower, generally expanding its flowers before the close of the year, and in some seasons the plants bloom well in October. It was first introduced from Algiers about one hundred years ago. In the type the flowers are lilac-blue in colour, and are each about four inches in diameter, with falls from one inch to one and a-half inches in breadth, marked with a yellow central crest that is reticulated with white on either side. As with many of the bulbous irises, the species is very variable, and there are many named varieties. One of the chief faults of this iris is its often persistent refusal to flower in English gardens after the first season, though remaining in apparent health, and throwing up its strong foliage vigorously year after year. A Cornish friend says that the only way to assure annual blooming is to purchase fresh bulbs every year, and to throw them away after they have flowered, but this is a practice that few would care to adopt. It is no uncommon thing to see a clump in seemingly perfect condition that is said not to have flowered for six or eight years. The best chance of blooming it continuously is to plant it in a raised border in front of a wall facing south in a compost of sandy loam, leaf-mould, and peat.

WYNDHAM FITZHERBERT.

THE WEEPING DOUGLAS FIR.

Although nearly a century has passed since the famous traveller and collector, David Douglas, introduced the handsome and useful fir that bears his name to this country, no contribution to the genus to which it belongs can well be regarded as its superior. Vigorous in growth and noble in aspect, Abies Douglasi is well able to contribute appreciably to the charm of park scenery, provided the conditions of soil and climate are favourable to the trees attaining their full development. In some parts of the United Kingdom, more especially Scotland and Ireland, it is regarded with much favour as a timber tree, with the result that large areas have been planted, and the woods and plantations formed with it constitute a distinct and pleasing feature of the scenery. The Douglas fir is less useful in England than in the other two parts of the kingdom as a timber tree, because of the liability of the leaders to injury when they are fully exposed to the cold winds that are usually experienced early in the year. It may be that the trees, in common with other conifers, fail to make so vigorous a growth as could be desired in inland districts owing to the atmospheric moisture being insufficient during the season of growth. On the cooler soils of the north and west of England it grows in the most satisfactory manner, and many are the fine specimens that might be mentioned. There are some good trees in the Thames Valley, and the specimen at Dropmore has a height of over 120 feet, and is the tallest in the kingdom.

In the North of Scotland the Douglas fir has proved so satisfactory that large numbers of trees have been planted for beautifying parks and pleasure grounds, and many woods and plantations have been formed for economic purposes.

During the long period that has elapsed since the Douglas fir was introduced to this country a few well-marked varieties have made their appearance, and have been given a place in those gardens in which some attention has been devoted to conifers. One of the most remarkable of these is the weeping form known as Abies Douglasi pendula, of which there is a magnificent specimen in the gardens of Bury Hill, Dorking, the charming residence of Robert Barclay, Esq. This, as will be seen from the accompanying illustration, has a somewhat slender and perfectly erect trunk, with gracefully drooping branches, which are more dense than are those of the specific form and distinctly glaucous. There appears to be no record of the introduction of this variety, but it must have made its appearance within a comparatively short time of the distribution of the species. The latter, as already intimated, was not introduced until 1828, and before the middle of the last century the coniferous trees which form so important and interesting a feature of the Bury Hill gardens and grounds were planted by the grandfather of the present owner, who was greatly interested in conifers. This tree, as evident by the height to which it has attained, was probably planted about 1840. The variety glauca is smaller in growth than the type, and the leaves are more glaucous than the other forms. Standishi has silvery leaves, taxifolia has leaves of greater length and deeper in colour than those of the type, and Stairi has pale yellow foliage. The best of the varietal forms for general planting is the one herewith illustrated.

ARBUTUS UNEDO.

To those who fully appreciate uncommon beauty and interest in the garden, a striking instance is much in evidence at present in the familiar Strawberry Tree (Arbutus Unedo). The fruits, which are its greatest ornament, hang in pendulous clusters, and are of a large size, being nearly circular, granular on the exterior, and, in the ripe fruits, coloured a vivid red; the transition stage from the normal green is marked by lemon and orange, and it is these shades of colour, in combination with the advanced stage, that proclaims this fine evergreen as one of the most handsome among all arborescent vegetation. Its period of greatest beauty is during October, November, and early December, as at this season, not only are the fruits at maturity, but the flowers are also in evidence, a double event that is by no means common among plants at any time. It is a native of the West of Ireland and Southern Europe, and flourishes in coastal districts. S.

ABIES DOUGLASI PENDULA.

A splendidly-developed specimen of this elegant tree in the gardens of Bury Hill, Dorking.

CHRYSANTHEMUM JULIET.

At the second of the two meetings held by the Royal Horticultural Society in October last Messrs. Cragg, Harrison, and Cragg, the well-known market growers, of Heston, exhibited a small, but extremely interesting, collection of cut flowers of chrysanthemums that bloom during the autumn months. The collection was of interest because of the outstanding merit of the varieties included therein, the high development of the blooms, and the effective manner in which they were staged. The chief interest was in the varieties which have blooms equal in size, form, and colour to those of the best of the decorative varieties that bloom in November, and are, therefore, of much value for the production of colour effects in the garden after the usual summer flowers have run their course, and for the supply of cut flowers for indoor decoration. Especially noteworthy in the collection were Cranfordia, a yellow variety, with large reflexing blooms; Cranford Pink, of the colour indicated by its name; Dolores, bright terra-cotta; Hullicot White, an excellent pure white flower; Mrs. Beech, red-bronze; and Juliet. The last-named is an exquisitely beautiful variety, the blooms four or more inches in diameter, and the colour bright rose-red.

CHRYSANTHEMUM JULIET.

A distinct early-flowering variety, with comparatively large elegant blooms of a pleasing rose-red hue.

BERBERIS WILSONÆ.

This is one of several new barberries which have been introduced from China during the present century. Seeds were first sent home by Mr. E. H. Wilson during his first Chinese journey, when collecting for Messrs. J. Veitch and Sons, and the plant was named in honour of the collector's wife. Perfectly hardy, and of a free habit of growth, it forms a many-branched shrub a few feet high, clothed with small, obovate, deciduous leaves, and rather long sharp spines. Its golden flowers appear with considerable freedom about May, and they are succeeded by large numbers of coral-red berries, which ripen in August or early in September, and hang in good condition for several weeks, usually until taken by birds. A glance at the accompanying illustration will be a sufficient guide to the free-fruiting qualities of the shrub, although, unfortunately, the bright colour of the berries cannot be shown. Like other barberries, it grows well in any good garden soil, and after planting gives little further trouble, for pruning is rarely necessary, and any that may be required is in the form of thinning. The shrub may be used for a variety of purposes, for it is equally suitable for shrubbery planting, beds, and isolated specimens, whilst if space is available on slightly sloping ground, it might be planted to form a large group. Seeds are ripened freely, and they form a ready means of increase. W. D.

NEW PLANTS.

CATTLEYA TITYUS.

By crossing Cattleya Enid with C. Octave Doin this handsome form has been produced. The flower shown was of largest size, with broad mauve-purple sepals and petals and a wide, fully expanded lip, with a rich purple apex and yellow throat. A.M., R.H.S., December 17. H. S. Goodson, Esq. (gardener, Mr. Day), Fairlawn, Putney.

CARNATION BENORA.

A distinct and beautiful perpetual-flowering variety that has obtained so much attention since it has made its appearance at the exhibitions as to suggest that it will become highly popular. The plant has a good constitution, and is free and continuous in flowering, and the blooms are of large size and borne on long stiff stems. The latter are also of good form and have a fine petal, which is freely marked with carmine-red on a pure white ground. A.M., R.H.S., December 17, 1912. Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

PINUS FLEXILIS.

An extremely rare pine in British collections, the finest examples being two specimens at Terling Place, the seat of Lord Rayleigh, and a group of four trees in the Kew pinetum. This species was first discovered by Dr. Parry in Colorado near the base of Pike's Peak in 1820, and introduced to cultivation 41 years later. The tree attains a height ranging from 40 to 50ft., the finest of the Kew specimens being 33ft. high, and is distinct in character. The branches are upturned at the ends and present a candelabra-like appearance. It thrives in the indifferent soil and atmosphere of Kew, and is therefore well deserving of the attention of planters in districts not particularly favourable to tree life. "Bot. Mag.," t. 8,467.

PRIMULA JULIÆ.

A pretty Transcaucasian primrose, which was sent to Kew by Professor Kusnezow, director of the Botanic Gardens at Dorpat. It has orbicular leaves and purplish-rose flowers, with red blotches round the eye. It flowered for the first time at Kew in the spring of last year, and the flowers were produced in April. This species is closely allied to Primula acaulis, from which it differs chiefly in the shape of its leaves. Although pleasing in appearance, it is not equal, for the production of displays of colour in the garden, to the many fine single primroses now available. "Bot. Mag.," t. 8,468.

AKANIA HILLI.

A distinct and handsome plant thriving in the greenhouse and of considerable interest. The Kew plant was received from Mr. Linden in 1872, under the name of Lomatia Bidwilli, and was planted in a border in the Mexican House. Here it has grown freely, and during the forty years has developed into a graceful tree 20ft. or so in height. Not until February, 1912, did it show any signs of flowering, and when its inflorescences were developed from the hard woody stem, it was seen that the plant was not a lomatia but Akania Hilli. The leaves are unequally pinnate, and range from 12 to 24in. in length. The flowers are borne in panicles, are about an inch in diameter, and pure white, with prominent stamens. "Bot. Mag.," t. 8,469.

LISSOCHILUS ANDERSONI.

An interesting and rather attractive species, with medium-sized flowers, having greenish-white sepals and petals and a white labellum marked with rose-coloured lines. A native of the Gold Coast, where it grows in open, sunny positions that are converted into swamps during the rainy season; it was sent to Kew by Mr. J. Anderson in 1908. The species of Lissochilus have but little horticultural value because of the difficulties with which their cultivation is beset. "Bot. Mag.," t. 8,470.

ROSA OMEIENSIS.

A distinct rose that is regarded as the Eastern representative of the Himalayan Rosa sericea; but it differs from that species by its more numerous, relatively narrower leaflets, its usually smaller flowers, and the thickened yellow fruiting pedicels. The stems are thickly set with spines, the leaves are finely divided and elegant, the single flowers white, and the small oval fruits brilliant red, with green calyx, lobes and yellow pedicels. This rose was first discovered twenty-five years ago by the Rev. E. Faber on Mount Omei, Szechan, at an altitude of about 8,000ft. Subsequently it was met with in the neighbourhood and also on Fang Mountains, Hepeh, by Mr. A. Henry, who describes it as a large spreading bush, ranging from six to eight feet high, and forming thickets on the mountains. To Messrs. J. Veitch and Sons belong the credit of introducing this rose through their collector, Mr. E. H. Wilson. "Bot. Mag.," t. 8,471.

CARNATION BENORA.
White with carmine-red markings. A.M., R.H.S., December 17, 1912. Messrs. Stuart Low and Co.

Dwarf Polyantha Roses in Pots.—These roses are charming when grown in pots, and, what is more, under such conditions their flowering season extends late in the season. On December 3 a group of them formed a bright and pleasing feature at the Horticultural Hall, the variety Jessie being, as was the case out of doors earlier in the season, the most conspicuous of all. —W.

CORYLOPSIS SPICATA.

One of the daintiest shrubs that adorn our gardens in spring is Corylopsis spicata, a member of the witch hazel family, and sharing their characteristic in regard to the flowers, which appear on the naked branches in advance of the leaves towards the end of February or early in March. It forms an exceedingly neat and attractive bush, attaining a height of some three to four feet, and produces its sulphur-tinted flowers on the last season's wood. These are in the form of drooping catkins, and, with the accompanying sheaths, which are also coloured like the flowers, are borne in such profusion as to hide the greater part of the plant when in flower.

Corylopsis pauciflora is another species worthy of inclusion among choice shrubs. It grows rather taller than spicata, but in other respects bears close resemblance to it, the catkins being similarly coloured with from two to four flowers to each, and, like the first-named species, these are borne exceedingly free upon the last year's wood. Both shrubs are quite hardy, but owing to the early season at which they bloom a sheltered position should be selected.

THOMAS SMITH.

DEEP CULTIVATION OF SOILS.

Deep-rooting plants are not grown in ordinary garden soils without a large number of difficulties cropping up to handicap the cultivator, and, as a remedy for all these attendant evils, the practice of trenching is most commonly advocated. Amateurs particularly often imagine they have solved the secret of growing exhibition produce of the highest quality by stirring up the soil as deeply as possible and placing manure at the bottom at a good depth below the surface. Haphazard tillage of this kind, however, often does more harm than good, and I could enumerate a great many cases where a considerable amount of damage has been done by injudicious trenching.

Some of the best and richest loams have underneath them a heavy, retentive clay or an adhesive gravelly subsoil, while, on the other hand, there are many of the lighter loams which overlie a poor sandy subsoil. Obviously, therefore, any kind of cultural work that is going to bring any of these undesirable subsoils to the surface cannot be reckoned to improve the conditions, but rather the reverse, since the seedlings are bound to suffer if they are brought into contact with this undesirable medium. What seedlings want in their youngest stages of growth is plenty of nourishment, and if the soil in which they are growing is not suitable to hold and retain artificial plant food, then the seedling must inevitably flag and sicken.

A very good illustration of this may be observed in the case of celery, especially in such cases where amateurs and others of more or less limited experience dig a trench, and place the young celery plants in the newly-turned subsoil at the bottom. Of course, the uncongenial nature of the latter medium prevents the seedlings making any headway, and they naturally remain stunted, much to the surprise of the grower; while when the autumn at last arrives there is to be considered the labour entailed in earthing up. Instances of such injudicious treatment of soils are not generally noticed amongst experienced growers, of course, but there yet remains a host of gardeners to whom all soils are alike, and all demand similar treatment. Here it is that the cause of their many failures arise.

Some years ago I had the fact impressed on me very thoroughly that better results follow the digging of heavy retentive soils in the spring, after the heavy deluge of rain during the winter, than the second digging of heavy soils that had been winter trenched. It was clearly noticeable in the former case that the ground dug drier, and was much more easily worked than the soil in the latter case; also it was more mellow in character, and altogether superior as a medium for the rapid and healthy growth of young seedling plants. Anyone with an observing eye can easily understand that the heavy soils which were dug in the winter retained a larger amount of moisture, and, therefore, would be less amenable to spring tillage than the same kind of soil that was left until the early part of the year.

The condition of the heavy, retentive soils that have been dug in the winter is quite the reverse of desirable; they are generally soggy and wet, and need a lot of forking over in the spring in order that the moisture may dry out to some extent. Even then, it is often impossible to secure a really satisfactory seed bed. Indeed, there is no doubt at all as to which is the best mode of treating heavy soils. I myself put the matter to a practical test for a good many seasons, and in all cases I have been bound to admit that the best produce has been grown on soil that has merely been cleared of weeds in the autumn and left undisturbed until the following spring, afterwards being dug over thoroughly in readiness for planting during March and April.

All practical growers are familiar with the evil results that follow the excessive treading or kneading of seed beds when the ground is wet, especially where the soil is at all inclined to be heavy and retentive. If, therefore, the work of digging and trenching cannot be taken in hand before such time as the ground has become saturated with moisture, then it is certainly advisable to postpone it altogether until the ground works more freely. Particularly is this so in the case of ground that is covered with snow.

The proper object and purpose of trenching a piece of ground should be to effect a gradual improvement in the subsoil by incorporating with it a liberal dressing of well-decomposed manure as the work proceeds. The condition of the fertilising material that is used for this purpose will, of course, have something to do with the success or failure attending this method of improvement. Thus, cold, damp manures like cow or pig manure should be used on light, open, and unretentive soils, while a lighter-textured material, like horse manure, will prove of greater advantage on a cold heavy and retentive soil.

There are other advantages, of course, claimed for the work of trenching. The difficulty in performing the work, however, is not merely encountered in regard to affording the plant roots an easier medium in which to strike and penetrate downwards in search of moisture and plant food ingredients, but is concerned also with the improvement of existing soil conditions such as will enable the moisture from below to rise with ease to the surface of the ground. Evidently, therefore, the ground should be moved periodically so as to assist capillarity. J. C. N.

When to repot Nerines.—There seems to be a decided conflict of opinion as to the season of the year in which it is best to repot nerines; and, anxious to learn the opinions of others, I put the question to a very successful cultivator of these beautiful South African bulbs, and his answer was that the best time to repot nerines was not to do it at all. This may appear somewhat contradictory, but he wished to convey the idea that nerines should be repotted as seldom as possible, providing the roots are in a good state. When repotting was absolutely necessary he preferred to carry out the operation directly the flowers have lost their beauty; and that, after a series of experiments, is when I prefer to do it. As one may desire to allow the bulbs to remain undisturbed for years, it is most essential the soil be of a lasting nature, such as a good yellow loam, lightened by a liberal admixture of rough silver sand.—S. W.

CUT FLOWERS IN WINTER.

When the chrysanthemums are over there is usually a scarcity of flowers having long stems that are suitable for cutting, and unless special preparations have been made for their production a dearth will be felt. Liliums, such as candidum, longiflorum, and speciosum, may be had in bloom, provided retarded bulbs were procured and potted up sufficiently early to allow time for their flowers to develop. Tuberoses may also be had in flower, while the calla, if well grown, will be furnishing us with ample white spathes. All the foregoing, however, are heavy in appearance, and only suitable for large vases. Some object to L. candidum on account of its powerful fragrance, while tuberoses are objected to because of their heavy appearance.

Where there is ample glass there should be no difficulty in keeping up a supply of perpetual-flowering carnations. The flowers of these are usually borne on long stems, and if disbudding was taken in hand early the individual blooms should be of fair size, borne on stout stems, and will present a light, graceful appearance if arranged loosely in tall vases. Carnations of this type have come very much to the front of late years, and when well grown give a wealth of bloom, but to have them in perfection during the short days houses should be set apart specially for their production. Roses are also great favourites, but these, like the carnations, need a light airy structure to grow them well. Flowers of a flimsy nature on short stalks are of little use for decorative purposes. The stems should be of adequate length to allow of the flowers being arranged with effect. It is not necessary to grow a number of varieties; better by far have enough of one of exceptional merit to give sufficient blooms to furnish a vase nicely, rather than have a mixture.

There is a great art in arranging flowers. One person will furnish a vase nicely with half a dozen or a dozen blooms, while another will not make the same so effective with double the quantity of flowers. Freesias are very useful for cutting, and though the flowers are not showy, their sweet scent is always appreciated. It is not difficult to have these in bloom at Christmas, provided the bulbs are potted up sufficiently early. When potted they should be stood in a cold frame, and have the lights put over them. It is not advisable to pot too deeply. Forcing should be done gently, otherwise the plants will have but little substance in them. Narcissi of various kinds may be had in bloom sufficiently early to take the place of chrysanthemums, provided bulbs of good quality are grown. These should be potted up in August so as to allow time for them to grow strong. Those of the tazetta clas sare very useful, especially if they have long stiff stems. To have these bloom very early, that is, at the commencement of the New Year, the bulbs, when rooted, should be placed in a cold frame, and allowed to remain there so long as the weather is mild. If it is found necessary to introduce them into heat, no more should be applied than is requisite to keep the growth moving. Treated in this manner the stems will be stout, and the flowers of far more substance. Bulbs, too, of the early trumpet kinds may be had in bloom in January, provided they are potted in August, and brought forward in cold frames. Flowers to stand well when cut should not be subjected to a high temperature when growing, as that makes them too delicate to withstand the sudden change to which they are usually subjected.

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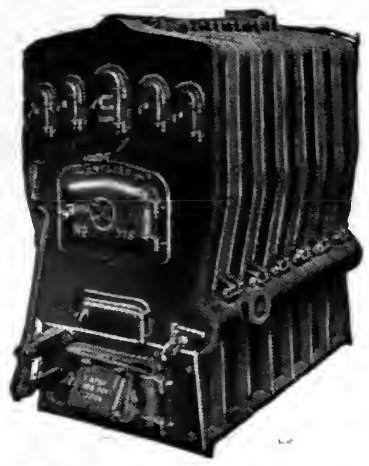

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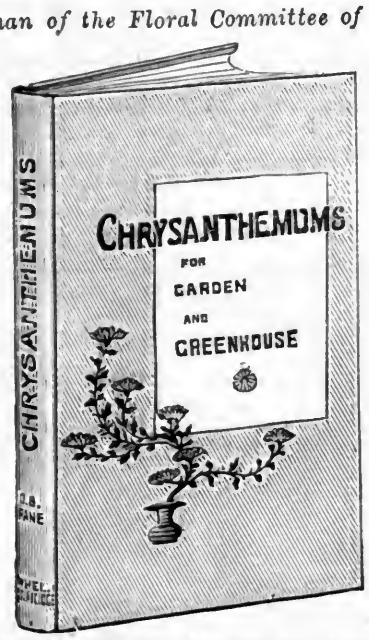

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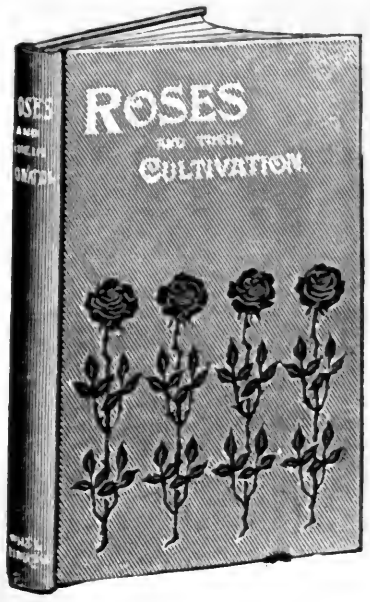

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Roman hyacinths play an important part in the cut flower business early in the year, thousands of bulbs being grown specially for forcing, as it is termed, but there is no need for forcing, provided the bulbs are planted early, and afterwards placed in a cold frame. Treated in this way we could always have them in bloom early in January, or by Christmas, if need be. If not in flower at the time required a few days in a gentle heat will induce the buds to expand. Lily of the valley is always in demand, and since retarding the crowns from one season to another has been adopted there is no difficulty in having flowers at any season of the year. I well remember when I was a boy the trouble we had to induce the crowns to bloom. Now, not only are the roots kept in a dormant state from one season to another, but special cases are make for growing or forcing them into bloom. Lily of the valley, as sold in the market, is grown in the dark, therefore the foliage is blanched. That sold with the flowers is usually from other plants.

Tulip culture now forms an important industry, but none excepting those varieties with long stems find favour with the florists for cutting. These are grown in the dark to cause the flower stalks to become drawn, but are exposed to the light gradually just before the buds expand, so as to put colour into the blooms. There are several varieties that respond wonderfully to this treatment. As the days lengthen and the sun has more power, there are a host of plants that will bloom in a cold frame. Anemones are among them; the wonderful colouring in some of these flowers is astonishing. A. coronaria and A. St. Brigid are very useful for growing in cold frames, where they will bloom through the dull winter months. They may be readily raised from seed sown in the spring and pricked out into the frame as soon as they are large enough to handle. The stems of these are usually from nine inches to a foot in length, therefore are quite useful for arranging in vases.

Those who have the command of heated houses would do well to grow a good batch of calanthes of different kinds. When well grown, having spikes from five to six feet in length, there is nothing more useful for arranging in large vases. The spikes have a light graceful appearance, and as the flowers last such a long time in perfection there is no need to be rearranging the vases every two or three days. We have often had spikes in the rooms for six weeks before it has been necessary to remove them. The colour of the flowers, too, is very pleasing, especially those of Bella. The white varieties are very fine, and look well arranged with light sprays of Ruscus racemosus, which helps to keep them in position. Where space will admit a house of these should always be grown for supplying cut bloom.

No doubt there are many other kinds of plants that are useful for supplying cut flowers early in the season, but we will only mention one other, and that is the stock. The delicate perfume of the stock is always appreciated, and as the plants are of such easy culture, it is a pity they are not more largely grown for winter flowering. The seed of such varieties as Beauty of Nice should be sown in July, or early in August, according to the time the plants are wanted in bloom. The plants, after potting, should be grown in a cold frame so long as the weather continues mild, but must have a gentle heat during severe weather to induce the flowers to expand freely.

H. C. P.

VARIETIES OF VARIATION.

The seed of a plant and the egg of an animal are practically identical in their nature, and equally marvellous. Each consists roughly of three items, a fertilised germ, a store of nourishment, and a protective envelope. Each is the result of a conjunction of potencies derived from two different sources, and each contains the two sets so combined that, given congenial conditions, a new individual will be developed resembling, as a general rule, the parental form. We say as a general rule because there are exceptions, and these exceptions are of two diverse kinds.

In the first case, the parents may be of dissimilar type to each other, i.e., either different varieties of the same species, or different species entirely. In this case, the result of the combination may be an intermediate form of individual showing more or less the peculiarities of both parents, but resembling neither exactly; or it may yield one of the parental forms apparently unmodified, but which will nevertheless show by its offspring that it contained latent characters as well as patent ones, the other parental form asserting itself again. The other kind of exception is far more puzzling, since it is that which embraces sudden "sports," in which quite new characters not only appear, but are so fixed in the plant's system that its offspring may reproduce the new type without any reversion to the old one. With hybrids, or crosses, of the former category the cultivator can usually form some idea of what the result may be, and he can work to more or less definite ends, but with the latter category he can exercise no control at all.

He may make a pure, i.e., unmixed, sowing of a hitherto perfectly constant plant, and among the resulting brood there may be a quite distinct form, indubitably of that particular species, but departing from its special characters in very marked ways. It may be a solitary specimen, and is so, as a rule, but cases are recorded in which several have appeared, and all identical; or more than one new type may present itself, each being distinct of its kind, and by no means gradations leading up to the more marked. This absence of gradational forms is, indeed, one of the most striking features of "sports"; they form, really, cases of sudden, or jump, variations, which until quite recently were merely regarded as monstrosities incapable of playing any rôle in the origination of species proper. Investigation, however, has shown that, to all intents and purposes, each such "sport" is an initial species in itself. It possesses all the faculties of a true species, viz., adherence to type, distinctness of character, and permanent constancy of reproduction. All that it needs to become an established species is the capacity of holding its own in the struggle with its congeners ,and other environmental factors; and considering the great number of such "sports" which are known to occur under wild conditions, and the fact that they vary in all directions, it would be a very strange thing indeed if, in the course of evolutional æons, some of these had not possessed the capacity indicated, and thus contributed to the number of distinct species extant.

The old proverb, "Natura non fecit per saltum" is thus seen, like most rules, to have its exceptions, at any rate optically, though we are so absolutely ignorant of the origin of these sports, since they are only recognisable when it is too late to investigate such origin, that it would be unwise to assert that no gradational influence in the mother plant has led up to their birth. Of this, however, there is absolutely no evidence, and our own opinion is that none will be found.

Taking a fern sport as an example, we find, amid a mass of normal ones, a single individual of very different structure. We separate it from the mass, and find it to be an unattached plant. Nevertheless, we cannot assert for this reason that it arose from a spore, since bud or offset sports exist, and the connecting link between the normal parent and the "sport" offset may have long since rotted away, or its evidence destroyed in the process of separation. Experience with spore sowing indicates the probability that "sports" usually arise from spores or seeds, since numerous remarkable forms have thus originated under culture. On the other hand, a case came under our own notice where a single frond base of a hartstongue produced two buds, which subsequently developed into two extremely dissimilar forms; while, conversely, a sowing from a wild "sport" of the same species of a merely sagittate nullified type, gave nine plants of a triple-headed corymbose form, constituting the extreme development of the parental type; the two merely sagittate basal lobes with divided tips, and the nullified heads developing such dense heavy crests as to absorb and obliterate the normal strap-like portion. Had such a form arisen in the vicinity of the parent, a gradation would have existed, but would hardly have been suspected owing to the great difference.

As much may be said of all improved or extended types which have been obtained under culture by seminal selection, but the fact remains that the most careful search in the vicinity of marked sports has always resulted negatively as regards intermediate forms indicating gradation. I have so far treated of constant variations, i.e., sports which retain their form under cultivation, and reproduce themselves truly for generations; but inconstant sports are frequently found, in which the variation is partial, thus in the Kalothrix variety of athyrium there is always a tendency to revert partially.

When, too, the spores are sown there is always a percentage of the assumed parental form, which, however, never, so far as we know, shows the Kalothrix type. The finely-cut Polypodium vulgare, known as elegantissimum, or cornubiense, has the same trick in a more marked way, since it really produces three kinds of fronds, viz., very finely cut, coarser tripinnate ones, and the normal, and these may appear indiscriminately all on the frond, or even in one sub-division. Several other "sports" act in the same eccentric fashion. These, however, are all constant in so far as they never entirely revert, and their spores reproduce the type plus its vagaries.

Chas. T. Druery, V.M.H., F.L.S.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

DECIDUOUS CALANTHES.—The various species and hybrids of the deciduous section of calanthes as they pass out of flower, should be placed under resting conditions in a position where they will obtain the full benefits of the available light. A shelf in the stove or warm intermediate house, near the roof glass, is a suitable position in which to place them. Withhold water entirely from their roots for some weeks, indeed, until the new growths make their appearance, and even then root moisture need only be sparingly given. In many gardens, owing to space being limited, difficulties are often found in storing calanthes. Under such circumstances the plants may be turned out of their pots, have all the potting compost removed, and, after shortening the roots, be laid in seed boxes or pans on a bed of dry sphagnum moss, finely chopped and freely intermixed with silver sand. Keep the plants carefully labelled, and separating boards may be placed across the box to divide the different kinds. Place the boxes in a light position, but give no water until after the new growth has fairly commenced. After a dull summer and practically sunless autumn the pseudo-bulbs of calanthes are much softer, and less matured than is usual. Every precaution should, therefore, be taken to induce the plants to ripen before they resume vitality; the result of this will be more satisfactory growth in the coming season. The later-flowering kinds, such as C. Regneri, C. Sanderiana, C. Williamsi, and others, must have sufficient root moisture to assist them in developing their flower spikes, and in the expansion of their flowers.

THE MEXICAN LÆLIAS, such as L. albida, L. autumnalis, L. anceps, L. Gouldeana, and others, that have passed out of flower should be placed in a position where they may have the full benefit of the available light. All moisture should be withheld—it is surprising the prolonged season of rest these plants require—and until such time as growth recommences they will do entirely without water. Keep the temperature cool, and admit air freely whenever the outside conditions permit. Keep a sharp look out for woodlice and other insect pests which attack the young roots. Some hollowed-out potatoes placed about the compost will attract these pests, and by the aid of a light they may be caught and destroyed at night or early morning.

PLEIONIAS.—These pretty winter-flowering plants, which have recently been in bloom, are advancing their growth to the stage when the new roots make their appearance. P. lagenaria and P. maculata are the most useful, and thrive well in a cool intermediate house throughout the year. It is not advisable to annually repot, but after the long resting season the surface moss usually dies, and this should be removed, and any top-dressing necessary should be attended to. Where repotting is required select clean, well-drained pans or pots, and use a compost of good fibrous loam, peat and sphagnum moss in about equal portions, with sufficient sand and broken crocks added to render the compost porous. Press the compost moderately firm, and suspend the plants near the roof glass.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY DECORATIONS.—There should be no difficulty in keeping the conservatory gay with flowering plants during the remainder of the winter, provided batches of the earlier bulbs and other forced subjects have been brought along in suitable temperatures. The management of this structure in regard to watering and ventilating will require careful attention during the next two months. Every favourable opportunity must be taken to open the ventilators more or less, according to the conditions prevailing out of doors. Watering should be done as early in the day as possible, and unless the plants are standing in close proximity to the hot-water pipes it will only be necessary to examine them once a day for water. This work should be done by an experienced hand, as the more efficiently it is carried out the longer will the flowers remain in good condition, and, in consequence, the difficulties which exist in keeping the conservatory gay during the winter will be greatly lessened. Batches of some of the later tulips and narcissi may be introduced into the forcing house now with safety, provided they were potted early in the autumn. These, as well as all kinds of forcing plants, must be started early enough to admit of their being placed in a cool structure for a few days prior to their removal to the conservatory or dwelling.

LILY OF THE VALLEY.—To maintain a supply of these flowers it is necessary to grow retarded crowns till about the end of the present month, and batches should be introduced into heat about every three weeks. These should also be placed in a cool house for a few days before using them for decorative purposes. Ordinary crowns which have been potted up and plunged in ashes out of doors may be placed in the forcing house at the end of the month. These are not so easy to manage as the retarded crowns, and the least cultural error may cause failure. They should be plunged in a box of cocoanut fibre, and placed in a moist warm house. The box must be covered till the flower spikes are three or four inches high, when they can be gradually inured to the light. To obtain plenty of flowers for cutting clumps may also be dug up from the open ground, and placed on a hotbed in a heated pit, keeping them dark till the spikes are well above the ground.

CALLAS.—Although these may be forced into flower quite early in the year, they will give better returns if brought along close to the glass in a cool structure. They are most desirable for Easter decorations, and for this purpose they will not require more than an ordinary greenhouse temperature. They are gross in feeding, and besides having a rich compost, they require plenty of stimulants when they have made sufficient roots. Diluted farmyard drainings and soot-water will be sufficient to satisfy their needs in this respect. Greenfly is a persistent enemy of these plants, but may be kept in check by lightly fumigating occasionally with a nicotine compound.—E. HARRISS, Lockinge Gardens, Wantage.

HARDY FRUITS.

PYRAMIDAL AND BUSH FRUITS.—Where these are not making useful fruiting wood much may be done to improve matters by going well down to the roots and removing much of the old worn-out soil for fully four feet from the stems and replacing it with a good sweet suitable compost. Mellow loam with which a little manure, crushed bones, and wood ashes have been incorporated, will answer the purpose well. In some cases it might be well to take out a trench half-way round the tree at a short distance away from the stem, and remove the soil to a depth of two feet or more. Having reached a point below the roots trim the ends and relay them in various depths in good soil, doing the other half, early in autumn, which is really the most suitable time to deal with the roots of all fruit trees.

YOUNG FRUIT TREES may be planted at any time when the land is in a suitable state till the beginning of March with good results. Plant only good well-known varieties of both pears and apples, and these should be selected to keep up a lengthy supply of fruit, as without plenty of late varieties the supply is cut short. We seldom have good fruits of late pears unless the autumn proves very fine and warm, although in some parts of the country late pears ripen up well. I am this season planting more trees of President Barabe, Nouvelle Fulvie, Marie Benoist, Madame Lye Baltet, and Le Lectier, and these varieties are being given good positions on walls, and trained as cordons. Other varieties that have not proved good here will be grafted with more suitable kinds when the proper time arrives.

ORCHARD TREES.—A little timely pruning annually will do much to improve the crops and fruits. The heads are best kept well thinned, removing all cross and interlacing branches not required, so that light and air may reach the interior of the trees. If the trees have been greatly neglected let the thinning be extended over two seasons or more in preference to one very severe pruning After this work has been completed dress the heads with lime when the wood is damp, so that it may adhere, or syringe well with a solution of caustic soda according to directions given on the tins. Healthy trees of inferior varieties should be headed back in readiness for grafting when the proper time arrives. Graft plenty of useful late varieties in preference to having an excess of early soft-fleshed kinds that will not keep, and when apples are not in such demand as they are late in the season. Liberally manure trees that are growing on grass land, and keep the grass grazed very close with sheep or cattle, nothing being more harmful to the welfare of the trees than allowing the grass to attain full development and cut it for hay. Attend to the staking and restaking of young trees, and keep a sharp look out for rabbits, which will bark the stems should severe weather set in; see that the labels are made secure to avoid confusion later on. Young trees, newly-planted, will require some temporary support till the soil settles before finally staking them.

FRUIT ROOM.—The atmosphere of the fruit room should be kept sweet and the temperature not too low. Remove all decayed fruits at intervals, but do not shift more than is really necessary the sound fruits of late-keeping varieties. With us Lane's Prince Albert, Bramley's Seedling, Winter Nonsuch, and Chelmsford Wonder keep quite sound till late in the season.—H. MARKHAM, Wrotham Park, Barnet.

THE KITCHEN GARDEN.

THE SEED ORDER.—The selection and ordering of the seeds of the various kinds of vegetables is a matter of considerable importance, for a stock of reliable seeds is essential to success in the production of good crops in the kitchen garden. The question of suitable varieties should have careful consideration, as nowadays there is a bewildering array of good things from which to select. There are many who prefer ordering collections of seeds which are offered by most seedsmen; these are excellent in their way, and, no doubt, are of service to those who are not fully acquainted with the various kinds and varieties. There should be no delay in despatching the order to avoid the consequent waiting for the seeds owing to pressure of orders. The seed drawers should be carefully cleaned out in readiness for the new stock.

CARROTS.—In forcing carrots a mild, lasting bottom heat is essential. Brick pits are the most suitable for the purpose, but ordinary frames will also answer well if the hotbed is properly made up. The fermenting materials, composed of stable dung and a liberal addition of leaves to steady and

retain the heat, should be prepared, and turned over once or twice to allow the rank heat to escape. After this the beds may be formed from three to four feet deep, according to circumstances, and made firm. A layer of light sandy soil to the depth of seven inches should be put on the top of the manure. When the heat has steadied down sow seeds of some early varieties, not too thickly, in shallow drills or broadcast. Let the frame be kept close till the plants appear, then admit air by tilting the lights, more or less, according to the state of the weather, covering the glass at nights with mats, using, in hard weather, litter as well. The top heat should range from 55 degrees to 60 degrees with a rise of ten degrees in the daytime during bright weather.

CAULIFLOWERS.—A sowing at once should be made to secure early plants, using pans or boxes filled with light sandy soil. The seed should be sown thinly, as the young plants are subject to damping off, and become spindly in growth is crowded. As soon as the plants are large enough to handle prick out in boxes or small pots. Covering the seed pans or boxes with a sheet of brown paper assists germination; this should be removed when the young seedlings appear. A position in an early vinery or peach house is suitable until the young plants are established; afterwards a cool pit, where they should be placed near to the glass. At first air must be cautiously admitted or the plants may receive a severe check; as the plants make progress gradually increase the amount of air.

FRENCH BEANS.—Sowings should be made for succession according to requirements. Eight-inch pots will be found large enough for the early sowings; good turfy loam, with some spent mushroom bed manure, may be used. It is advisable when sowing to add two or three extra seeds; these can be removed if complete germination takes place. Start them in a temperature of 55 to 60 degrees, and give a higher temperature when they have germinated. A light position near the glass is very essention to success. When the roots are running freely in the soil it will be necessary to in a position where they will obtain the assist them with stimulants, which should be given weak and often.—W. MESSENGER, Woolverstone Park Gardens, Ipswich.

THE CITY OF LONDON ROSE SOCIETY.

Although the season of roses still seems afar off, the rosarian has to be up and doing at all times, especially if his ambitions tend towards showing his blooms.

The idea of forming a City Rose Society was suggested by Mr. A. E. Protheroe through these columns at the end of last season, and the idea met with such an enthusiastic response that the society now seems in a fair way to become one of the foremost in the country. Considerable progress has already been made, and the membership is increasing rapidly.

The committee have decided to hold the first Annual Exhibition at the Cannon Street Hotel, and have allotted the very satisfactory sum of £70 to be competed for in prizes. In addition, several cups are already promised, amongst them being one from the "City Press."

A schedule has been drafted, which should prove exceedingly popular, affording as it does encouragement for all classes of the community, from the amateur, growing his roses by the thousand, down to the smaller, but not less enthusiastic cultivator, whose time, means, or accommodation limit him to the possession of less than 100 plants.

Another very attractive feature, and one that should provide keen competition, is the Metropolitan section, in which only those growing their roses within certain specified distances of the Royal Exchange will be allowed to compete.

City men desiring to join this society should communicate with the hon. secretary, Mr. A. E. Protheroe, 67 and 68, Cheapside.

BUILDING IN REGENT'S PARK.

With reference to the building operations in Regent's Park, which we dealt with in our issue of the 4th inst., Lord Eversley writes: It seems to me that a very great mistake was made by the Office of Woods and Forests when, three years ago, they renewed the lease of South Villa, including in it almost the whole of the eight acres of land which under the agreement of 1883 was conceded to the use of the then lessee for the remainder of his lease, and when they allowed the erection of the six or seven enormous buildings by the new lessees, the Bedford College. I cannot believe the transaction was approved by the Office of Works, who are charged with the maintenance of Regent's Park and its amenities. If, again, the public had been informed, as was promised by the late Mr. Hanbury, I am confident that the lease would not have been concluded.

It is not, however, possible now to rectify the error. The lease cannot be set aside. The buildings are nearly completed. What we have to do is to take precautions against similar transactions in the future as regards the land temporarily attached to the eight other villas in Regent's Park, under the arrangement of 1883, together with the seven acres of land reserved for the exclusive use of the lessees of Hanover Terrace, which must be thrown into the Park at the end of the existing leases.

I admit that no decision was arrived at to this effect in 1883; but the general terms of the arrangement pointed in that direction. It was my contention at the time that this should be done at once. Mr. Gladstone, to whom the case was ultimately referred, would, I am confident, have agreed to this, had he not thought that some consideration was due to the lessees, who had enjoyed the use of the land for so many years. This led him to propose the compromise by which the lessees were to retain a part of the land for the residue only of their leases, while the remainder was thrown open to the public at once.

It seems to me that, as the leases are now within a very few years of their end, a decision ought at once to become to as to the ultimate disposal of the land in question in the direction of throwing it into the Park. If the decision is deferred fresh claims may grow up on the part of the lessees, and the Office of Woods and Forests may again come to arrangements with them, without the public having the opportunity of objecting, and these very necessary enlargements of the Park will be for ever prevented.

Begonia Beauty of Cincinnati.—The bold, showy character of this begonia, which belongs to the Gloire de Lorraine section, was freely commented upon at the first of the two December meetings of the Royal Horticultural Society, when an extensive group of it was shown. It is in every way a very desirable variety, in which, among other distinguishing features, the leaves have more of the peltate character of B. socotrana than have the other forms of Gloire de Lorraine.—K.

Physianthus albens.—This climbing asclepiad, a native of Buenos Ayres, is a decidedly free-flowering plant for the greenhouse, while in the favoured parts of the West of England it will grow out of doors. It is of quick growth, and a ligneous nature, the slender stems being clothed with light green leaves of a firm texture, and more or less cordate in shape. The flowers are freely borne in the axils of the leaves, and creamy-white. Fruits are occasionally produced, and, when present, they at once attract attention by reason of their unusual appearance. They are oval in shape, nearly as large as one's fist, and contain a quantity of seeds, with the silky appendages common to the order to which this physianthus belongs. Besides the name at the head of this note, it is also known as Arauja albens and Arauja sericifera.—W.

CLASSIFICATION OF SWEET PEAS.

The Floral Committee of the National Sweet Pea Society presents, in the "Sweet Pea Annual," the following as an up-to-date selection of varieties, placed in alphabetical order. * Indicates a grandiflora variety, all others are waved:

Bicolor—
Arthur Unwin
Colleen (A.M., R.H.S., 1909)
Mrs. Andrew Ireland (F.C.C., 1908)
Mrs. Cuthbertson (A.M., R.H.S., 1912)
Blue—
Flora Norton Spencer
*Lord Nelson (A.M., 1907)
Mrs. G. Charles
Blush—
Mrs. Hardcastle Sykes (A.M., 1905)
Princess Victoria (A.M., R.H.S., 1907)
Carmine—
John Ingman (F.C.C., 1904)
Cerise—
Cherry Ripe (A.M., 1910)
Decorator (A.M., 1912).
Cream, Buff, and Ivory—
Clara Curtis (F.C.C., 1909)
Isobel Malcolm
Paradise Ivory (A.M., 1908)
Cream-Pink (Pale)—
Gladys Burt
Lady Miller (A.M.,1912)
Mrs. H. Dickson (A.M., 1910)
Mrs. Routzahn
Cream-Pink (Deep)—
Constance Oliver (A.M., 1908)
Doris Usher (A.M., R.H.S., 1909)
Mrs. R. Hallam
Crimson—
King Edward Spencer
Maud Holmes
Sunproof Crimson (A.M., 1909)
Fancy—
Afterglow
Charles Foster (A.M., 1909)
Prince George
Lavender—
Florence Nightingale
Lavender George Herbert (Dobbie's)
Masterpiece (A.M.,1910)
R. F. Felton (A.M., 1912)
True Lavender
Lilac—
Agricola (A.M., 1912)
Magenta—
Menie Christie
Marbled and Watered—
*Helen Pierce (F.C.C., 1907)
May Campbell (A.M., 1911)
Maroon—
Black Knight Spencer
Nubian
Tom Bolton (A.M., 1906)
Maroon Purple—
Arthur Green (A.M., 1910)
Mrs. J. M. Gerhold
Maroon Red—
Brunette (A.M., R.H.S., 1912)
Red Chief
Mauve (Dark)—
Helio-Paradise
Queen of Norway (A.M. 1906)
Tennant Spencer
Wenvoe Castle
Mauve (Pale)—
Improved Bertrand Deal (A.M., 1912)
Mauve Queen (A.M.,1911)
Mrs. R. H. Carrad
Winsome
Orange-Pink—
Edrom Beauty (A.M., 1909)
Helen Grosvenor
Helen Lewis (F.C.C. and S.M., 1905)
Orange-Scarlet—
Dazzler (A.M., 1909)
Edna Unwin (A.M., R.H.S., 1909)
Thomas Stevenson (F.C.C., 1911)
Picotee Edged (Cream Ground)—
Evelyn Hemus (A.M., R.H.S., 1907)
Mrs. C. W. Breadmore
Picotee Edged (White Ground)—
Elsie Herbert (A.M.,1906)
Marchioness of Tweeddale
Mrs. Townsend
Pink (Deep)—
Countess Spencer (F.C.C., 1901)
Hercules
Pink (Pale)—
Elfrida Pearson (A.M., R.H.S., 1910)
Rose—
Marie Corelli
Marjorie Willis
Rosabelle
Salmon Shades—
Barbara (F.C.C., 1911)
Earl Spencer (A.M., R.H.S., 1910)
Melba (A.M., R.H.S., 1912)
Stirling Stent (F.C.C. and S.M., 1910)
Scarlet—
George Stark (F.C.C. and S.M., 1908)
Red Star (A.M., 1911)
Scarlet Emperor
Striped and Flaked (Purple and Blue)—
Loyalty
Suffragette
Striped and Flaked (Chocolate on Grey Ground)—
Senator Spencer
W. R. Beaver
Striped and Flaked (Red and Rose)—
America Spencer
Aurora Spencer
Mrs. W. J. Unwin (A.M., 1909)
White—
*Dorothy Eckford (F.C.C., 1902)
Etta Dyke (A.M., 1906)
Nora Unwin (A.M., 1907)

CHRYSANTHEMUM MAUD JEFFERIES.

I was much interested in the illustration of a model pot-grown chrysanthemum, Maud Jefferies (or Mrs. Swinburne?) in the GARDENERS' MAGAZINE of December 14.

I have grown these varieties several years, and still continue to do so, as Maud Jefferies and Mrs. Swinburne are two of the best white chrysanthemums we have. I have always found Maud Jefferies a good dwarf pot plant, either for large blooms or grown in the bush form. Mrs. Swinburne is a much taller variety, and does not break so freely as Maud Jefferies, and is not at all suitable for the form of plant shown. Mrs. Swinburne is so easily distinguished by its foliage. I should say by the appearance of the plant illustrated that it is Maud Jefferies.

W. DANIELS.

The Gardens, The Warren, Cromer.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

The first meeting of the New Year was fairly well attended, but there was nothing like a crowd of people present at the Royal Horticultural Hall on January 7. Orchids were very much in evidence, and among these the cypripediums and lælias were abundantly represented. Greenhouse-flowering plants, a few alpines, and fine exhibits of fruits and vegetables completed the chief attractions of the day. Mr. Raffil's fine collection of large photographs, representing plants and scenes at Kew, formed a very distinct and pleasing feature of the meeting, and he was, deservedly, awarded a silver-gilt Flora Medal; there were several hundred photographs, representing a wide range of subjects, but orchids and flowering trees and shrubs were most largely shown.

FLORAL COMMITTEE.

Cyclamens were grandly shown by Messrs. Sutton and Sons, Reading, this firm putting up large semi-circular blocks of their fine varieties, Vulcan, Giant Rose Pink, Giant Salmon Pink, Giant White, and Salmon Scarlet, the latter an excellent variety that lights up finely under artificial light. Needless to say, every plant was perfectly grown and smothered with graceful blooms. Messrs. Wm. Cutbush and Sons, Highgate, presented a bright exhibit, composed of carnations—Mrs. L. Mackinnon was shown grandly—forced flowering shrubs in great variety, Iris histrioides major, I. Danfordiæ, I. Tauri, and other delightful early flowers.

Messrs. Jas. Veitch and Sons, Chelsea, filled a long table with bright greenhouse-flowering plants, and their display included Primula malacoides, Indian azaleas, Senecio grandifolius, winter-flowering begonias, the blue Coleus thyrsoideus, fragrant freesias, the White Eupatorium vernale, and the lavender-hued Erlangea tomentosa. Lindenbergia grandiflora, with yellow flowers, was a somewhat uncommon plant in this group. A bright exhibit of cut pelargoniums, from Messrs. H. Cannell and Sons, Swanley, showed how, out in the country, these handsome flowers can be of great service during the winter. Such varieties as Duke of Bedford, George Coats, New York, King Victor, Cymric, Prince of Orange, Kingswood, and Blenheim were particularly effective.

Ferns and selaginellas, from Messrs. H. B. May and Sons, Edmonton, provided an interesting exhibit. Gymnogramma Cordreyi, Asplenium marginatum, Polypodium Mayi cristatum, and Adiantum Farleyense gloriosum were a few of the leading kinds. Agave filifera Leopoldi, with narrow green leaves and whitish marginal threads, was well shown by Mr. Thurgood, gardener to H. T. Pitt, Esq., Stamford Hill. This is an interesting and elegant greenhouse plant. Messrs. Allwood Brothers, Haywards Heath, had a small exhibit of perpetual-flowering carnations, and chief among their varieties were the new Mary Allwood—which we have illustrated—Rosette, Fairmount, and a few of the older sorts.

Single varieties of camellias, as shown by Messrs. Wm. Paul and Sons, were very attractive, the flowers being lighter and less formal than the double ones. Minerva, Snowflake, Waltham Glory, Vesta, Adelina Patti, and Tricolor were the varieties on view, and every one is well worthy of cultivation by those who have accommodation for camellias. Isoloma hirsuta, with its pendant orange-red flowers and abundant foliage, was shown in good form by Mr. L. R. Russell Richmond, who also contributed Indian azaleas.

Messrs. R. Gill and Sons, Falmouth, showed how kind is the climate of South Cornwall by setting up handsome trusses of Rhododendron arboreum, R. barbatum, and R. argenteum, with fruiting branches of Benthami fragifera, and a little colony of the new Primula Winteri, with its lilac-coloured flowers. Hellebores, saxifrages, Potentilla Miss Willmott, primulas in variety, violas, etc., were all well grown by Messrs. T. S. Ware, Lim., Feltham.

A large exhibit from Messrs. Whitelegge and Page, Chislehurst, showed that this firm has a fine strain of the popular Primula obconica, the flowers being large and the colours varied, some being of a quite blue shade. Messrs. Pipers, Bayswater, put up a good strain of Primula obconica, with a backing of evergreen shrubs, chiefly dwarf conifers. Mr. G. Reuthe, Keston, also showed trees, berberis, saxifrages, charming little irises, snowdrops, hardy cyclamens, hellebores, etc.

Hardy heaths, early primulas, pigmy shrubs, daphnes, and irises were grouped among rockwork by Messrs. J. Cheal and Sons, Crawley. This firm also contributed models of garden furniture, bridges, gates, etc., and a model to scale of Messrs. Cheal's pergola and formal garden as exhibited by them at the recent Royal International Horticultural Exhibition at Chelsea. Mr. Clarence Elliott, Six Hills, Stevenage, displayed alpines and pigmy shrubs suitable for the rock garden, and a little group of Saxifraga Burseriana major was very pretty. Messrs. J. Peed and Sons, Norwood, were other exhibitors of alpines.

Perpetual carnations of excellent size and fine colour, contributed by Mr. H. Burnett, Guernsey, made up a very bright display. The yellow-ground varieties, Sunstar and Mandarin, were conspicuous, with Scarlet Glow, Mrs. C. F. Raphael, St. Nicholas, Marmion, and numerous beautiful pink and white varieties. Carnations were well displayed by Messrs. Stuart Low and Co., Enfield, and, besides the popular sorts, this firm submitted Exquisite, a new rose-flaked variety; Cinnabar, a cinnabar-red variety, sweetly scented; Satin Robe, rose-pink; Benora, red-flaked; and Fairmount, deep bluish-heliotrope. Messrs. W. Wells and Co., Merstham, were exhibitors of carnations, and showed bright clear flowers of Bonfire, Gloriosa, R. F. Felton, Mrs. H. Burnett, Dorothy Gordon, and the new American variety named Northport, a rich cerise, free-flowering variety. Mr. C. Engelmann had a small but very bright exhibit of carnations, and his bunches of Elektra, Rosette, Sunstar, and Harlequin were especially bright.

ORCHID COMMITTEE.

The members of this committee turned up in strong force, and had a very large amount of work to do, about thirty novelties and numerous groups coming under their consideration.

Mr. Page, gardener to G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, exhibited a grand gold-medal lot of cypripediums, splendid plants, carrying a famous lot of fine blooms. Varieties of C. insigne and C. Leeanum were plentiful, and indeed formed the bulk of the collection, but there were C. Thompsoni, C. Hera Euryades, C. Argo-Fairrieanum, C. veronicus, C. Niobe superbum, C. Maudæ, C. Bridgei magnificum, C. Wm. Lloyd magnificum, C. Venus, C. Prospero, C. triumphans, and many other good things. In the group of orchids from Messrs. James Veitch and Sons, Chelsea, were a number of excellent cypripediums, notably C. Milo superbum, C. Golden Glory, C. Hera Euryades, C. Idina var. Portia, very fine; C. Actaeus Langleyense, and C. Little Gem.

From Baron Bruno Schroder's collection at The Dell, Egham, Mr. Shill brought up a very beautiful lot of well-grown plants of varieties of Lælia anceps. The spikes and blooms were of excellent size, and the group was greatly admired. Of course, all the best varieties were on view, and we made special note of L. a. Ballentinianum, L. a. Schroderæ, L. a. Crawshayanum, L. a. alba, L. a. Amesiæ, L. a. Sanderiana, etc. A fine form of Odontoglossum Pescatorei, with pale shading and markings instead of the usual bright purple spots, was exhibited with the lælias, and concerning it a curious point arose; the plant was awarded a F.C.C. some years ago, but as a flower was not available for the artist to paint for the R.H.S. collection of certified orchids, the award lapsed. On this occasion the Committee confirmed the old award for the old date, on condition that flowers were provided for a painting.

Messrs. Charlesworth and Co., Haywards Heath, presented a graceful contribution of orchids; their spikes of Odontoglossum Phœbe, O. P. magnificum, O. Gladys, O. Phædra, and O. ardentissimum were very beautiful. Under those we noted such good things as Lælio-cattleya Bella alba, carrying a spike of six grand flowers; L.-c. Golden Oriole, L.-c. Ariel, and L.-c. Sunray, all orange and yellow-tinted varieties; Odontoglossum Ceres, Odontioda Bohnhofiæ, and the curious Adioda St. Fuscien, Heaton variety, a cross between Cochlioda Noezliana and Ada aurantiana. Mr. O. Hayles, gardener to Sir Charles Haddon, Rossway, Berkhampstead, set up seven specimens of Cypripedium insigne crowded with flowers.

Miltonia Blenana gloriosa was very fine in the collection from Messrs. Sander and Sons, St. Albans, and Lælio-cattleya William Gott in the same group carried five beautiful salmon and purple flowers. Other notable plants were Brasso-cattleya Vesta, Cycnoches Cooperi, a very curious flower; and Lælio-cattleya Pauline. In the exhibit from Messrs. Stuart Low and Co., Enfield, the outstanding features were Phalænopsis amabile, P. Schilleriana, Angræcum eburneum, Lælia anceps, Oncidium tigrinum, Dendrobium Wardianum, Ansellia africana, and Brasso-cattleya Maronæ.

Mr. H. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, had a goodly group of orchids, and staged Cymbidium Traeyanum, a great variety of odontoglossums, including O. Hebe, one of the Rossi crosses, a few odontiodas, with cypripediums and miltonias, all pleasingly arranged with ferns and green moss. Cypripediums were submitted by Mr. Thurgood, gardener to H. T. Pitt, Esq., Stamford Hill, together with Odontoglossum Loochristiense, Lælia anceps Sanderiana, and the interesting Eulophia virescens with a long spike of green flowers. The deep rose-coloured Calanthe Vulcan, with one or two well-grown odontoglossums, were exhibited by Mr. A. Metcalfe, gardener to Lady Wernher, Luton Hoo, Luton.

From Cheltenham, Messrs. J. Cypher and Sons brought up various calanthes, several of the finer white-flowered forms of Lælia anceps, the rare and beautiful little Ancistrochilus Rothschildiana, and fine examples of Cypripedium Bridgei, C. Euryades Sander's var., C. Actæus Sybil, C. aureum Surprise, and the free-flowering C. Charlesworthianum Cypher's var. Messrs. A. and J. McBean, Cooksbridge, exhibited a large number of very beautiful odontoglossum spikes, and a few good cypripediums, odontiodas, and miltonias. Mr. E. H. Davidson, Orchid Dene, Twyford, showed large spikes of Oncidium crispum, a few good cypripediums, and first-rate odontoglossums.

Several exhibitors brought new orchids. Lieut.-Colonel Sir George Holford had a very pretty cypripedium named Corsair, obtained by crossing C. niobe and C. nitens. Mr. F. M. Ogilvie gained an A.M. for his large and bold Cypripedium Amazon. Interesting and pretty was Odontonia Firmini, shown by M. Firmin Lambeau, of Brussels; this is the result of crossing Odontoglossum crispum with Miltonia vexillaria. The flowers are flattish, and, with the growth, betray the influence of the Miltonia parent; but the white flower, yellow crest, pink-flushed lip, and modified form of the bloom indicate the odontoglossum parent. Mr. de Barri Crawshay showed Odontoglossum Vulcan in fine form, and Mr. Roebling sent, all the way from Trenton, New Jersey, U.S.A., a flowering plant of Lælia anceps Roeblingiana, with curiously-striped petals, and gained an A.M. for it. Cypripedium Iona, from the Duke

of Marlborough's collection, a very neat purple and white flower. also secured an A.M.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. Jas. Veitch and Sons, Chelsea, showed apples in great style, and filled the side of one long table with splendid fruits, set up on dishes or baskets. About a hundred and five varieties of apples were represented, and not a faulty or even a second-rate fruit could be found among the thousands exhibited. A few varieties of especial merit or attractiveness were Bismarck, Bramley's Seedling, Emperor Alexander, Blenheim Pippin, Alfriston, Newton Wonder, Adams' Pearmain (extra good), Sandringham, Lemon Pippin, Golden Noble, Lord Derby, Hector Macdonald, Northern Greening, Reinette du Canada, Blue Pearmain (a very attractive apple), Ribston Pippin, Washington, Baldwin, Cox's Orange Pippin, and Mabbott's Pearmain.

Apples in splendid condition and great variety were staged by Messrs. W. Seabrook and Sons, Chelmsford. A few of the finer examples were Lord Derby, Blenheim Orange, Claygate Pearmain, Cox's Orange Pippin, The Queen, Lane's Prince Albert, Bismarck, King of the Pippins, and Newton Wonder. Mr. A. G. Gentle, gardener to Mrs. Denison, Little Gaddesden, Berkhamsted, is a famous vegetable grower, and on this occasion gave further evidence of his skill by showing a large collection of finely-grown carrots, all the roots, long or short, being clean and perfect, and fine alike in form and colour.

The early spring vegetables, so finely displayed by Messrs. Sutton and Sons, Reading, included New Year savoys, kohl rabi, Early Sprouting broccoli, Batavian endive, chicory, Sutton's Hearting Couve Tronchouda, Superb Early White broccoli, kale, celeriac, mushrooms, seakale, and carrots. Mr. W. E. Sands, Hillsborough, Ireland, submitted about five dozen dishes and baskets of potatoes. Most of the popular varieties were well represented, and of special interest were the baskets of Colleen, Vitality, International Gem, Shamrock, and the clean pebble-shaped Irish Gem that gained an A.M. last year.

AWARDS.

Award of Merit.—To Messrs. Jas. Veitch and Sons, Chelsea, for Lindenbergia grandiflora; to Lælia anceps Roeblingiana, from Mr. E. G. Roebling, Trenton, New Jersey, U.S.A.; to Odontonia Firmini, from M. Firmin Lambeau, Brussels; to Cypripedium Amazon, from F. Menteith Ogilvie, Esq., The Shrubbery, Oxford; to Cypripedium Iona, from the Duke of Marlborough, Blenheim; to Cypripedium Alcimeda, from Messrs. Charlesworth and Co., Hayward's Heath; and to Odontoglossum George Day, from H. S. Goodson, Esq. (gardener, Mr. G. Day), Putney.

MEDALS.

Gold.—To Messrs. Jas. Veitch and Sons, Chelsea, for apples; to G. F. Moore, Esq. (gardener, Mr. Page), for cypripediums.

Silver-gilt Flora.—To Messrs. Sutton and Sons, Reading, for cyclamen; to Baron Bruno Schroder (gardener, Mr. Shill), Egham, for group of Lælia anceps.

Silver-gilt Banksian.—To H. S. Goodson Esq., Putney, for orchids.

Silver Flora.—To Mr. H. Burnett, Guernsey, for carnations; to Messrs. H. B. May and Sons, Edmonton, for ferns; to Mr. C. P. Raffil, Kew, for photographs of plants; to Messrs. Jas. Veitch and Sons, Chelsea, for greenhouse plants.

Silver Knightian.—To Messrs. W. Seabrook and Sons Chelmsford, for apples; to Mr. W. Sands, Hilsborough, for potatoes; to Messrs. Sutton and Sons, Reading, for early spring vegetables.

Silver Banksian.—To Messrs. J. Veitch and Sons, Chelsea, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Jas. Cypher and Sons, Cheltenham, for orchids; to Mr. E. H. Davidson, Twyford, for orchids; to Messrs. J. and A. McBean, Cooksbridge, for orchids; to Messrs. W. Cutbush and Sons, Highgate, for carnations, etc.; to Mr. C. Engelmann, Saffron Walden, for carnations; to Messrs. R. Gill and Sons, Falmouth, for rhododendrons, etc.; to Messrs. S. Low and Co., Enfield, for carnations; to Messrs. Wm. Paul and Son, Waltham Cross, for camellias; to Messrs. Whitelegge and Page, Chislehurst, for Primula obconica; to Messrs. Pipers, Bayswater, for primulas and shrubs; to Mr. G. Reuthe, Keston, for hardy plants; to Mr. Gentle, gardener to Mrs. Denison, Little Gaddesden, for a collection of carrots; to Mr. Thurgood, gardener to H. T. Pitt, Esq., Stamford Hill, for orchids.

Dumfries Gardeners' Reunion.

On the evening of December 20 the Dumfries gardeners held their third annual reunion, this taking the form of a dinner in the Queensbury Hotel. Mr. J. Hutchison, Terregles Gardens, occupied the chair, and the croupiers were Mr. M'Donald, Cargen Gardens, and Mr. Pritchard, The Grove Gardens. There were upwards of sixty gardeners present, with members of the nursery trade from Dumfries and larger Scottish towns. Mr. Taylor, The Gardens, Brocklehurst, again fulfilled the secretarial duties in a most satisfactory manner, and the function was a brilliant success. A number of songs and toasts maintained the interest of the evening after dinner. After the usual loyal and patriotic toasts, that of "The Town and Trade" was given by Mr. Brown, Portrack Gardens, and responded to by Mr. David Barr, of Messrs. Barr and Hunter (Jas. Service and Sons). The leading toast, that of "The Gardeners," was ably proposed by Mr. Chalmers, and suitably replied to by Mr. Pritchard. That of "The Seed and Nursery Trade" was placed in the hands of Mr. Riddick, Ellangowan Gardens, and responded to by Mr. Hunter, of Messrs. Barr and Hunter. The services of the chairman and secretary were also recognised in a similar way. As a result of this and former reunions, it is intended to form a local gardeners' association.

Acacia ovata.—After the two or three Australian acacias (of which A. platyptera is the best) that flower during the autumn and early winter months, one of the first to bloom in the New Year is Acacia ovata, or obliqua as it is sometimes called. This is of a neat, twiggy habit of growth, the shoots being plentifully furnished with small ovate leaves of a deep green tint. The flowers, borne in little balls, are of a rich golden hue. This species is admirably adapted for growing as small plants.—T.

Impatiens Herzogi.—Within the last decade or so we have had a great number of tender members of the balsam family introduced into this country, one of the most recent being Impatiens Herzogi. It forms a compact-growing plant with succulent stems, somewhat after the manner of the older Impatiens Hawkeri, but the flat flowers, which are larger than in most of the others, are of a salmon-orange hue. During the dull weather we often experience in the autumn it is very bright and pleasing.—S. W.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the PUBLISHING MANAGER, 148-9, Aldersgate Street, London, E.C., who will give the matter immediate attention.

ABSORPTION OF COPPER FUNGICIDES BY POTATOES.

In connection with experiments on wart disease of potatoes conducted in Lancashire in 1910, different plots were, according to the "Journal" of the Board of Agriculture, treated with Strawsonite and copper sulphate, each at the rate of 75lb. per acre. The materials, in the form of a powder, were applied to the plots at the time the potatoes were planted, and as it seemed possible that some of the copper might be absorbed by the crop, samples of the tubers from each plot, and also from an adjoining piece of ground left untreated, were analysed at the Government Laboratory. The tubers selected for examination were thoroughly washed and scrubbed to remove all earthy matter, and were then peeled as for culinary purposes, all eyes and bruises being removed and included in the peel. The peel and the potato substance were examined separately for copper.

The amounts of copper found in the peel and in the substance of the tubers respectively are shown in the following table:—

	Peel. Grains.	Substance. Grains.
Strawsonite Plot.		
Grains of copper per lb. of undried material	0.217	0.021
Grains of copper per lb. of dried material	1.44	0.10
Copper Sulphate Plot.		
Grains of copper per lb. of undried material	0.028	0.014
Grains of copper per lb. of dried material	0.16	0.08
Untreated Plot.		
Grains of copper per lb. of undried material	0.021	0.014
Grains of copper per lb. of dried material	0.12	0.07

The figures show that the quantity of copper was somewhat greater in the peel than in the potato substance There was practically no difference between the quantity in the tubers on the copper sulphate plot and that in the tubers on the untreated plot. The most noteworthy feature was the quantity of copper in the peel of the tubers from the plot treated with Strawsonite.

In order to check this somewhat striking result, small plots treated similarly to those previously described were planted at Kew in 1912, and samples of the crop of tubers from the different plots were examined at the Government Laboratory.

The results are shown in the following table:—

	Peel. Grains.	Substance. Grains.
Strawsonite Plot.		
Grains of copper per lb. of undried material	0.0144	0.0085
Grains of copper per lb. of dried material	0.088	0.045
Copper Sulphate Plot.		
Grains of copper per lb. of undried material	0.0168	0.0098
Grains of copper per lb. of dried material	0.094	0.051

In this case the tubers from the Strawsonite plot contained similar amounts of copper to those from the copper sulphate plot; and the results obtained two years ago are therefore not confirmed. A comparison of the results obtained in the two years shows that the samples examined in 1912 did not contain more copper than was found to be present in 1910 in tubers which had been grown in soil untreated with copper fungicides.

Early-flowered Indian Azaleas.—Where these azaleas are required to be had in flower early a note should be made of those varieties which naturally flower much earlier than the others. Very early are the well-known white Deutsche Perle, the rose-pink Madame Petrick, and J. B. Varonne, whose deep salmon-rose flowers are margined with white. A moderate increase in temperature is sufficient to accelerate the development of the flowers.—K.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

NATIONAL ROSE SOCIETY'S SPRING SHOW.—Rosarian: In the report of the annual meeting of the National Rose Society, which you published about a month since, it was stated that the society would hold a spring exhibition at the Royal Horticultural Hall on May Day. I have recently heard on what appears to be very good authority, that there is a probability of the date of the exhibition being altered. I shall be obliged by your informing me whether any change has been made, and, if so, by your giving me the date.—A suggestion that a slight change in the date should be made was, we understand, brought before the Council at its meeting on Tuesday, when it was thought advisable to allow the original date to stand.

SOIL INOCULATION.—M. H. K., Hants: A few years since much was written about the possibility of increasing the fertility of soils by inoculation with bacteria adapted to the requirements of the several leguminous plants, and I believe various preparations were on sale. It has occurred to me that I might make a few experiments in soil inoculation during the year, and I should like to know whether the results have justified expectations, and, if so, whether the preparations of inoculation are still obtainable.—The results of the experiments that have been made in the inoculation of soil with bacteria during the past few years have not realised anticipations, and bacterial preparations are not, so far as we are aware, now obtainable. With reference to this matter, Dr. E. J. Russell, one of the highest authorities on cultivated soils, writes in his book on "Soil Conditions and Plant Growth": "Where a new leguminous crop is being grown for the first time it may be necessary to introduce the appropriate organism, as has been successfully done in Canada by Harrison and Barlow, and on the North German moors by Hiltner. But, in general, these inoculations have not proved useful, and they have never come into farming practice; the high hopes sometimes entertained that the whole problem of nitrogenous manuring — the most costly item in the farmer's fertiliser bill— might reduce itself to bacterial inoculation have never been realised. The problem is extraordinarily fascinating, and never fails to arouse popular interest, but it is elusive and treacherous, and has raised more false hopes, and led to more disappointments than any other in our subject."

DEFINITION OF AMATEUR. — R. W., Devon: I am the chairman of the committee of one of the many horticultural societies in the West of England, and, as difficulties are constantly arising with regard to the status of an amateur, I shall be greatly obliged by your giving such advice as will enable the society to surmount such difficulties. As you will readily understand, constant quibblings about amateurs at flower shows is not only unpleasant, but it has a hurtful effect upon societies.—We willingly comply with your request for information on the status of amateurs as competitors at flower shows, for no one is more familiar with the discussions that are constantly taking place than ourselves. It is not, however, so difficult to avoid unpleasantness in connection with this matter as is assumed to be the case. In the first place, it is necessary to accept the definition as given in a really good dictionary, but this few of those who are associated with the management of horticultural societies are willing to do. Taking down the first dictionary that comes to hand, we find an amateur defined as "One who follows any science, art, or occupation, not from pecuniary motives, but from a love for it, and who, as a rule, is not so proficient in it as if he had to depend upon it for a livelihood." If you adopt such definition, and then for competitive purposes classify the members, other than those engaged in business connected with gardening, into groups according to the facilities they have all difficulties will disappear. You might have four sections, namely, amateurs with an unlimited gardening staff, amateurs who have one gardener, amateurs who have occasional help, and those who do the whole of the work of the garden themselves. The Royal Horticultural Society have adopted an arrangement based on these lines, and recommend it in their "Code of Judging," which we advise you to obtain.

ROCK PLANTS.—W. K. F., Norfolk: I intend forming in my garden a rockery, not over-elaborate, but sufficient to enable me to successfully cultivate a representative collection of alpine plants, and I am anxious to obtain a book that is moderate in price, and will give me the information necessary to enable me to build and plant a rockery of the character indicated.—"Rock Gardens and Alpine Plants," by E. H. Jenkins, and published by Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C. (price 2s. 9d., post free), contains all the information you require, and is so clearly and pleasantly written that you will have no difficulty in following the author's directions.

OLD RAMBLING ROSES. — Amateur: Being interested in roses of rambling and scandent habit, I have been looking up the history of some of the climbing roses we have still in gardens at the present time which were raised early in the nineteenth century. I have not been able to ascertain the names of the raisers or the years of introduction of Bennett's Seedling, Félicité Perpetué, Princess Marie, and William's Evergreen. Probably you can assist me in the matter.—Bennett's Seedling was raised by Bennett, and introduced to cultivation in 1840, Félicité Perpétue was raised by Jacques and introduced in 1828, Princess Marie was raised by Jacques and introduced in 1829, and William's Evergreen was raised by Williams and introduced in 1850.

ORCHIDS.—F. B., Sussex: During the past few years I have been much interested in the many beautiful orchids that have been contributed to the meetings of the Royal Horticultural Society, and have had under consideration the question of commencing their cultivation. I have a rather large garden, which is managed by a gardener, who has two men under him. As I have ample leisure, my idea is to build two or three houses, and superintend the orchids myself with the help of a young man who has had some experience in the cultivation of these plants. I am prepared to devote the necessary time to the collection, and to carefully study the requirements of the several kinds. Do you think I should be likely to succeed?—There is no good reason why you should not succeed with a representative collection, and derive much pleasure from it. The culture of orchids is not difficult once a few of the more important details have been mastered, that is, supposing the collection is of kinds that possess a fairly robust constitution. You will at first meet with failures, but in time will know the peculiarities of the several kinds in growth and requirements. It must be remembered that diversity of treatment is necessary simply because the orchid family is widely distributed, some kinds growing on mountain tops, others in the hot humid valleys of the tropics. If the tropical kinds are to be included there must be a warm or East Indian house, and a house in which a cooler temperature is maintained for the masdevallias, odontoglossums, etc. We should advise you to have three houses, or one long house or range divided into three compartments: the first for the tropical kinds, the second for those that will thrive in the intermediate temperature, and the third for the cool kinds, of which the odontoglossums may be cited as examples.

PULVERISED SHEEP'S MANURE.—J. B., Derby: We are not acquainted with a manure sold under this name, and are therefore unable to say where it can be obtained.

RHODODENDRON NOBLEANUM.—S. S., Dorset: In visiting an old garden the other day in the south-west of England, I saw a large specimen rhododendron in full bloom and bearing rich rose-red flowers. My friend's gardener was away at the time, and consequently I was unable to ascertain the name. The rhododendron was new to me, but, judging from the size of the specimen, it must have been long in cultivation. I should like to add a few plants to my garden, and probably you will be able to tell me the name.—The rhododendron is probably Nobleanum, a hybrid raised many years ago from a cross effected between R. arboreum and R. caucasicum, and possesses much beauty. This year the flowers have escaped injury from frost, and well-developed specimens have been highly attractive, but it very often happens that the flowers are seriously injured by a frost, a fact you will do well to bear in mind. If you have a large garden there will be no objection to adding Nobleanum to your collection of shrubs, but otherwise devote the space to one of the late-flowering varieties of which there are now so many that are of great excellence.

NAMES OF PLANTS.

W. S. F., Lancashire.—Your plant is the variety of Epiphyllum truncatum known as violaceum.

F. T., Torquay.—The fern of which you send us a splendidly-developed frond is Woodwardia radicans.

R. H., Herts.—1, Tillandsia hieroglyphica; 2, T. Lindeni tricolor; 3, Bilbergia vittata; 4, Tillandsia tesselata.

W. B., Surrey.—1, Panicum variegatum; 2, Leea amabilis splendens; 3, Odontoglossum crispum; 4, Zygopetalum crinitum.

W. T., Yorkshire.—1, Begonia Winter Cheer; 2, Julius; 3, Ideala. The flowers had suffered much in transmission through the post, owing to their having been loosely packed.

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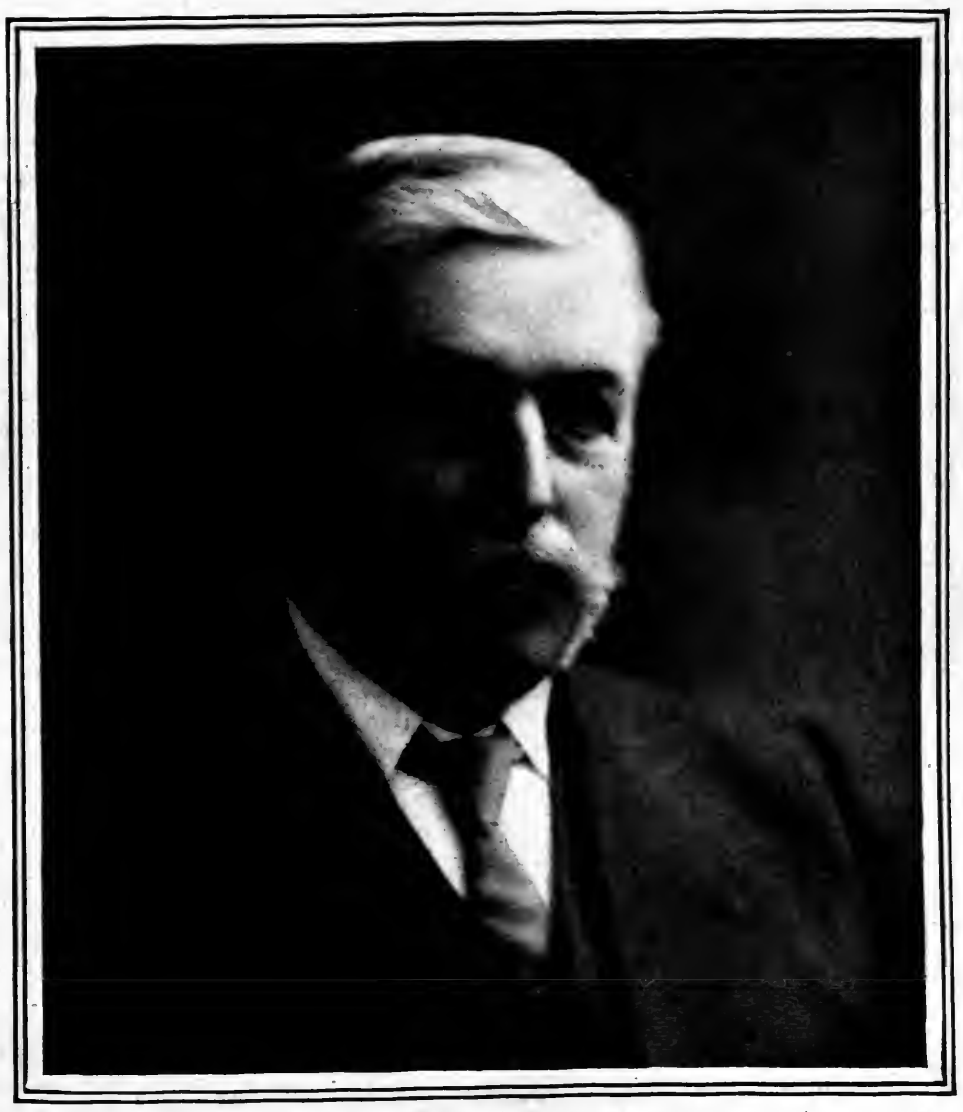
THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Vegetable Crops.

As a consequence of the moist conditions that obtained during the greater part of the summer of the past year, and the comparatively high temperature experienced during the autumn and the early part of the winter through which we are now passing, vegetables of most kinds are abundant and cheap. We should, indeed, have to go back several years to find the kitchen garden so well stocked, and the markets so liberally supplied as they are at the present time. It is not at all probable that this abundance will divert the attention of either the gardener or the market grower, with some years' experience, from the necessity of making active preparations for successional crops, or of overlooking the possibility of weather of sufficient severity to do considerable damage to the green crops that now present so luxuriant an appearance in the majority of gardens. But the young gardener and the amateur who has only recently undertaken the responsibilities involved in the maintenance of a regular supply of the products of the kitchen garden may not fully appreciate the importance this season of being especially alert in all that relates to this department and its management. Hence the necessity for a reference to some of the points that should be constantly kept in mind at this season. The robust appearance of the green crops on which the table will have to depend more or less for its supplies for some time will give rise to considerable apprehension in the mind of experienced cultivators. They will know that this exceptional development is due to the large amount of moisture in the soil, and the high temperature which was experienced until quite the end of last year. Instead of the plants passing into a resting state with the close of the autumn they continued in an active state of growth until within a very recent period, with the result that the stems, leaf-stalks, and leaves are so succulent that weather of even moderate severity would in many gardens, where the soil is cold and retentive of moisture, seriously injure them. Broccolis, which possess so much value for the supply of the table at the present time, are the first to suffer from severe frosts, following closely upon periods of wet and abnormally warm weather, and fortunate are those who have acted upon the advice given in these pages, and heeled over the plants with their heads to the north. This practice is very old, but the results of its adoption fully justify its inclusion in the routine of kitchen gardens that are managed in accordance with the more advanced modern methods. When the plants are so



MR. GEORGE HAIGH.

manipulated that they are laid down more or less horizontally with the roots still in the ground, the central leaves remain close together, and thereby protect the heart instead of opening out, as when the plants are standing erect, and fully exposing it to the frost. In addition, the large leaves of one plant assist in protecting its neighbour on the north side, and, if desired, protecting materials can be more readily applied. Whatever may be the position of broccolis, and especially the earlier kinds, they should, as far as practicable, have some protection as soon as severe weather is anticipated, and in some parts of the country the weather has been sufficiently severe to justify the immediate resort to protective materials. Not only should broccolis receive protection, but, as far as practicable, all crops that are likely under existing conditions to be injured by severe frosts. It may be that the frosts will not be of sufficient severity to do much damage, but it is not probable, and the wise cultivator will do all that is within his power to avert a "break" in the supplies towards the end of the winter, by utilising the pits or frames that may be available in the acceleration of vegetable crops. Some may, of course, be used in the production of such crops as will come along so rapidly as to be available for the table in a comparatively short time, and others be devoted to the raising of plants for transferring to warm borders immediately it can be done with safety. The value of pits and frames cannot well be over-estimated, more especially the portable kinds with span roofs, and this value is brought into strong relief in a season such as this. The methods by which these frames can be utilised in the production of early crops of vegetables are admirably described in the series of articles on this subject from the pen of Mr. F. Drew, which were commenced in our issue for the 4th inst., and to these we would direct the special attention of those who are in need of information on this important part of the gardening art. In many gardens where the soil is naturally unfavourable to the germination of seeds, it may this year be advantageous to raise some of the kinds intended for the earliest crops under glass, instead of sowing them in the open, in accordance with the usual practice, and plant them out later on. This procedure will involve additional labour, but it will be well repaid, for not only will the crops be somewhat accelerated, but the growth will be more satisfactory from the first, and in all probability the quality will be higher. To ensure a full measure of success in the case of such crops, the germination of the seeds or the growth of the young plants must not be assisted with artificial heat. There would be no harm in keeping the frames closed until the seedlings begin to make their appearance above the surface of the soil; but anything beyond this would be distinctly harmful, except a mat laid over the glass on a frosty night. The object of sowing under glass is not to obtain a growth stimulated by artificial conditions, but to provide the plants with a favourable root run

in their earliest stage, and shelter them from frosts and keen winds, which are so trying to tender plant life when growth is slow. It should also be remembered that the seed harvest of 1912 was unfavourable to the ripening of the seeds of some of the kinds, and that, as the stocks are rather short in consequence, orders for seeds should be given as early as possible to avoid disappointment. In all seasons it is advisable to purchase seeds early, that there may be no delay when the proper time arrives for sowing them. The importance of sowing seeds at the time when the soil and weather are alike favourable has so frequently been referred to in these pages that we need not do more now than merely mention it as a matter of special importance in the present season.

Mr. George Haigh, who for upwards of a quarter of a century has had the charge of the gardens of Highfield Wootton, the residence of Sir William H. Tate, has long been regarded as one of the leading gardeners in the great district of which Liverpool is the centre, and has fully justified the reputation he enjoys. Before coming to Highfield, Mr. Haigh had a thorough and varied training, and to this, combined with great natural ability, may be attributed the success he has achieved. Mr. Haigh commenced his gardening career at Escrick Park, near York, where he remained four years under Mr. Mitchell, who fully appreciated the importance of an intimate acquaintance with the cultivation of fruits and vegetables. From Escrick Park Mr. Haigh went to Aske Hall, Richmond, Yorkshire, to fill the position of foreman of the kitchen garden, and subsequently he occupied responsible positions in the gardens of Sudbourne Hall, Wickham Market, Suffolk; and Waddesdon Manor, Aylesbury, and remained in each of these gardens some years. On leaving Waddesdon Manor in 1887, Mr. Haigh was appointed head gardener to Sir W. H. Tate, Bart., whom he regards as the best and kindest of employers. During the past twenty years or so chrysanthemums have formed one of the special features of the Highfield Gardens, and during that period several challenge cups have been won for these fine autumn flowers. The two cups that are the most highly appreciated were won at Liverpool. One of these—the Liverpool Horticultural Association's Challenge Cup for forty-eight blooms, distinct—was won in four consecutive years, a feat of which even so successful a cultivator as Mr. Haigh might well feel proud. The varied and finely-grown collection of orchids constitutes another special feature with reference to which much might be written, but it must suffice to say that Lælia purpurata and Oncidium macranthum are grown with a degree of success that is quite exceptional.

Calanthe Flowers from Dybdale.—Mr. D. Burridge sends us from the Dybdale Gardens, Wellingborough, some spikes of Calanthe Veitchi in so high a state of development as to suggest cultural skill of the highest class. The spikes were about five feet in length, and the upper half of each was thickly set with large, richly-coloured flowers. In the letter accompanying the flowers Mr. Burridge writes, "I am pleased to be able to send you the enclosed spikes of calanthes, which are the result of carefully following the advice given in the pages of the GARDENERS' MAGAZINE from time to time. I first commenced the culture of calanthes in the spring of 1910, and should like to know what you think of them. They are a fair sample of the spikes we have. The plants are growing in five and six-inch pots, and most of the old pseudo-bulbs produced two new ones, and the largest of these are nine inches in circumference and nearly nine inches in height. I heartily wish you the compliments of the season, and am looking forward with interest to the many good things that I know you will provide for your readers."

"The Orchid Review," a monthly journal devoted to orchidology, enters, with its January issue, upon its twenty-first year. From the beginning it has been admirably edited by Mr. R. A. Rolfe, A.L.S., and who, entering Kew as a young gardener many years ago, now occupies a prominent position in the Herbarium, and is the recognised botanical expert on all orchid matters. The first issue of the twenty-first volume is larger than usual, and it contains a portrait of the Editor, numerous illustrations, and a brisk discussion on the ever-present question of orchid nomenclature. We tender our congratulations to Mr. Rolfe and those who assist him, and, as "The Orchid Review" is essentially a work of reference, we learn with pleasure that the formation of an index to the first twenty volumes is likely to appear before long.

Acacias at Cannes.—One of the most attractive features of Cannes early in the year is formed by the great breadths of acacia or mimosa trees, the flowers of which glow in the sun, and fill the air with their pleasant perfume. The first of the acacias were introduced from Australia to Cannes about the same time as the eucalyptus, and were planted in the gardens of Villa Victoria, where they flourished, making a vigorous growth, and blooming profusely. As the plants assumed the proportions of trees, and became early in the year laden with their golden ball-like flowers, they created an immense amount of interest, and parties were organised along the coast specially to see the new and attractive introductions. Mimosas have in more recent years been freely planted at other places on the Mediterranean coast, but the district around Cannes still retains the premier position for the culture of these beautiful trees. Several kinds are grown, and hese flowering successionally maintain a supply of flowers from January till nearly the end of April, the flowering season being at its height about the middle of February. The two earliest kinds are Acacia dealbata and A. Baileyi, the last-named being of quite exceptional beauty, and as yet but little known in this country. It was not planted until some years after A. dealbata, and its flowers did not make their appearance in the London markets until within a comparatively recent period. The supplies of the species have greatly increased during the past few years, and the quality generally has been much higher. The export of mimosa for the London and Paris markets has assumed immense proportions, and the greater proportion of the flowers are grown in the Cannes district.

Assessment of Market Gardens.—An interesting point in connection with the assessment of market gardens was, we learn from the "Glasgow Herald," raised at the Assessments Appeal Court for the Eastern District of the county of Stirling in Falkirk on the 7th inst., when Peter Mair, market gardener, appealed against the assessments on the property which he tenanted at Avondale, Polmont. The total rental of the subjects is £80, and the appellant maintained that he was entitled to have this property treated as agricultural subjects and to be assessed upon three-eighths of the annual value only. Mr. Hugh P. Black, solicitor, Falkirk, who appeared for the appellant, said that under the statute upon which the appeal was based his client was entitled to an abatement of his assessment. The subjects occupied were held under lease and were entirely devoted to the purposes of the appellant's business. The land was six acres in extent, and there were three greenhouses, which were used for the cultivation of tomatoes and plants. Then the two dwelling-houses occupied by Mr. Mair were built on the land. So far as the land was concerned, there was no doubt that it fell to be treated in the manner contended for. The only point of difference between the assessor and the appellant appared to be as to the greenhouses, but he (Mr. Black) contended that the fact that certain plants and fruit required a covering in view of the climate did not render the ground any the less a market garden. After consideration the Court agreed that the rental of the land and greenhouses should be assessed at £70 and that of the dwelling-houses at £10, the rating on the agricultural subjects being on three-eighths of the annual value.

The Gardeners' Royal Benevolent Institution will hold its annual meeting on Thursday next, the 23rd inst., at "Simpson's," 101, Strand, London, when the chair will be taken at 2.45 p.m., by Sir Harry J. Veitch, V.M.H., F.L.S. In addition to such business as receiving the report of the committee and the accounts of the Institution, and the election of officers for the ensuing year, twenty annuitants will be elected. We could have wished that it had been possible to elect a much larger number, for there are sixty-seven candidates, and all well deserving of the benefits of this excellent charity. The poll will be open at 3 p.m., and will close at 4 p.m.

New Carnations.—Mr. T. Weston, secretary of the Perpetual Flowering Carnation Society, informs us that on the 6th inst. the Floral Committee of this society awarded a First-Class Certificate to the new variety Mary Allwood. Mr. Webster points out that a First-Class Certificate can only be awarded to a perpetual-flowering carnation that has previously received an Award of Merit and made at least five additional points. Further, no First-Class Certificate is awarded unless the raiser invites the Committee, at his own expense, to see the variety growing. We are also informed that the variety which appears in the list of registered perpetual-flowering carnations under the name of Gaiety has been renamed Matador, as there is already a Gaiety in the American list.

New Park for Kinross.—The burgh of Kinross is to be presented with a new public park by Sir Basil Montgomery, Kinross House, the lord of the manor, who made the pleasing intimation at a ceremony in connection with the marriage of his son, Mr. William Montgomery. The park is to be gifted in commemoration of the happy event. The land lies by the side of Lochleven, and is admirably adapted for the purposes of a public park, the beautiful lake adding immensely to its attractions. Much gratification is felt in Kinross at this magnificent gift.

Liability for Accidents in Public Playgrounds.—Through an accident caused by the breaking of a maypole in one of the City of Glasgow playgrounds, in August last, a child was killed, and another injured. An action was brought against the Corporation by the father of the latter, and the sum of £500 was claimed. It was alleged that the pole was upwards of fourteen years old, and that it had become decayed, and should have been inspected. On behalf of the defence it was stated that the maypole had been regularly examined, and that there

was no evidence of decay. The case came before the Court of Session on December 31, when it was intimated that an offer of £75, and expenses, had been accepted.

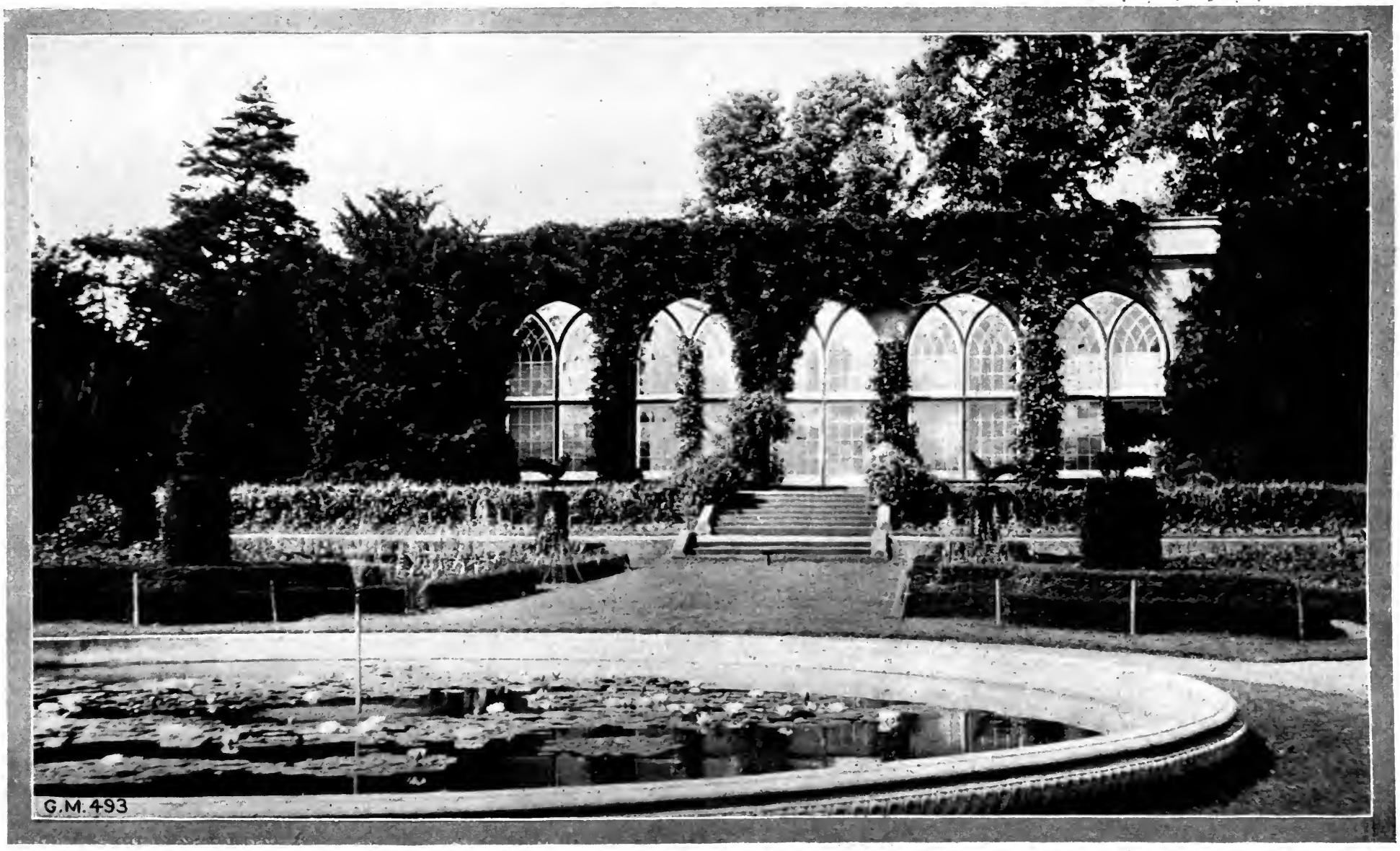
Flora of the Australian Northern Territory.—The Commonwealth Government has, we learn from "Nature," entrusted Professor A. J. Ewart, professor of botany in the University of Melbourne, with the investigation of the plants collected during the recent Northern Territory exploring expedition, and has appointed Dr. A. Morrison, formerly Government Botanist of West Australia, to assist in the work. Dr. Morrison will reach Melbourne shortly, and it is hoped that the material available will be sufficient for the preparation of a flora of the Northern Territory.

Mr. T. W. Birkenshaw has resigned the position of head gardener at Hatley Park, Sandy, Beds., and the other day his employer, Sir Charles Hamilton, Bart., presented him with a silver tea service as a mark of appreciation. Mr. Birkenshaw has had charge of the Hatley Park Gardens nine years, and during this period many alterations and additions have been made under his supervision.

Nottingham Garden Holders' Association continues in a flourishing condition, and has been able to show a substantial balance on last year s operations. According to the annual report, the receipts during the year (including £30 brought forward) amounted to £64. The expenses were £26 18s. 3d. The association has now £151 in the general fund, £11 in the benevolent fund, and, with cash in hand, a total of £203 6s. 4d.

Rainfall at Leonardslee in 1912.—Mr. W. A. Cook kindly sends us the following record of rainfall, taken 360ft. above sea level in the gardens at Leonardslee, Horsham. January, 2.97 inches; February, 2.47; March, 4.56; April, 0.8; May, 2.16; June, 3.11; July, 1.41; August, 7.91; September, 3.44; October, 4.12; November, 2.28; December, 3.32; total, 37.83. The number of days during the year when a rainfall of 0.01 inch or more was recorded was as follows, January, 20; February, 20; March, 22; April, 3; May, 13; June, 21; July, 10; August, 27; September, 6; October, 15; November, 12; December, 22; total, 192 days.

Lily Pools that are to be met with in gardens evince a great diversity of design and differ much in size, but they all agree in being remarkable for their beauty and interest when the nymphæas have been selected with care, properly planted, and given the attention necessary to keep them in good order. A pool of simple design, and of a size so small that no more than three or four plants can be successfully cultivated, will be a constant source of pleasure, while a lake large enough to accommodate a representative collection will form a feature that will be immensely attractive throughout the summer, and abound in interest. We might mention many lily pools formed on widely divergent lines that contribute liberally to the charms of the gardens in which they have a place, but in this short note it must suffice to briefly refer to the accompanying illustration of the pool devoted to nymphæas in the gardens of Warwick Castle. The design is almost severe in its simplicity, yet it possesses much elegance, and the deep green leaves of the lilies and the various-coloured flowers as they float on the surface of the water present a pleasing contrast to the grey masonry. Additional charm is given to the scene by the closely-cut hedges and the examples of the topiary art which have as a background a conservatory which was built in accordance with a design that found favour with a past generation. It would appear that the Earl and Countess of Warwick take considerable interest in water lilies, for not only are they successfully grown at their ancient seat in Warwickshire, but at Easton Lodge, their Essex seat, there is an exceptionally good collection, and numerous fine varieties have been raised by Mr. H. Lister, who has long had charge of the Easton Lodge gardens.



[Photo: Mrs. H. M. Gutman.

LILY POOL AND CONSERVATORY, WARWICK CASTLE.

WEEPING STANDARD ROSES FOR INDOOR DECORATIONS.

Of late years the culture of weeping roses in standard form has taken a prominent place, and a well-grown specimen has few equals in decorations. As the present is the most suitable time to commence operations where one means to try a few, I am induced to pen a few notes from my own experience, so that my readers may have the benefit of what I have found somewhat expensive to acquire.

A maiden standard is the best to start with. First of all you have a better chance in potting, and can avoid many of the coarser roots a two or three-year-old plant must necessarily make in order to sustain itself, more particularly against wind, which affects such heavily-laden stems. To do this the plant naturally throws out strong and widely-spread roots, and these are by no means easily arranged in pots.

A second, and equally important reason is that you would, in any and every case, have to cut away the rose growth, so it is obvious that any excess of either roots or wood would be useless. In selecting the plant, pay attention to the stem, as this is of far greater importance than the size of the top. Unless the stem is healthy, and not what we growers style "hide-bound," it cannot do justice to the top under pot culture, where the roots have so small a run that all advantages should be afforded them of readily transferring food to the heavy head of growth and blossom they will have to support.

It matters little about having the stem of the standard in the centre of the pot, for, in the majority of cases, the pots are hidden by other small subjects, and so this does not matter so much as the fact of arranging the roots in the pots without undue cramping. They will thrive in a very small pot, compared to the amount of growth to be supported, and I would put them into as small a size as the roots will allow. Do not attempt those with large knobby roots as a base. I have not

found these do so well, and they either produce a number of suckers from the knob, or the latter gradually decays, and it is a pity to lose a good standard from this. By starting with the smallest pot you can shift on a little later, and so greatly help the plant, for I may say at once you will not be so successful in any root or soil reduction as in the case of dwarf pot roses. This is mainly because obviously the growth cannot be cut down to the base and so make a fresh start.

I prefer them to be outside, or, at any rate, as cool and moist as possible, for some time after potting, and as it is necessary they should not sway about and wrench off the young roots as they form, I have generally stood them in rows, passed a stout string or small cord between a couple of supports, and then tied each standard stem to this cord. When well set, and under glass, this support will not be so much needed against wind, of course, but we must contrive somehow to obviate the risk of their tumbling over from top-heaviness.

I have already hinted that it is advisable to prune back the wood hard at first. It is of little use leaving any of the growth for flowering during the first spring from potting. The result would be unsatisfactory, and the cultivator would lose in the matter of a good base for the future specimen. Forego this little and indifferent crop, and obtain a good base and some really fine growths in the ensuing season.

Do not hurry the growth in any way by heat. If they are in a sheltered position I would leave them out all winter, or only bring them under cover for a time should very severe weather set in. As a rule, the varieties most suited for this method of culture are rather more precocious in growth than others, and as it is the first and strongest buds that we want to encourage into long, rod-like growths as soon as possible, I would endeavour to protect them in some way as soon as they break, for one never knows when a nipping spring frost will come along. We had a good example of that during last spring.

There is no need to occupy the greenhouse with them during the first summer's growth. Have the pots upon a firm bottom, give plenty of room for the shoots to develop, and pay great attention to keeping the growth clean. It is a good plan to three-parts plunge the pots in a small bed of short manure and heavy soil. It helps to steady them, keeps them more uniformly moist, and feeds the roots to a certain extent. There is no need to have the plunging material over the whole of the ground, for as they grow the plants will be some little distance apart, and the plunging material might be put to better use.

If too many growths start, reduce them to the number your plant is best able to support. For example, five or six shoots should be ample for an ordinary-sized stem, and more especially in the first season.

Suppose we have reached this desirable stage, and are in our second year's work. Very early the following year they can be introduced to a cool house, and if they are not hurried at first the cultivator will have those lovely cascades of blossom so much admired whether at home or the early exhibitions. Remember from the first that it is what some would look upon as useless wood, because it does not flower the first season, that is of the most value in this class of rose. Provided this is fairly well matured, and not started hastily, it will carry trusses of flowers from almost every bud throughout its length.

The shoots can be arranged in many forms, but keep them as horizontal or else as pendent as the design will admit. If trained upright there are apt to be many "blind," or flowerless, growths. With the exception of guarding against wind-waving the young rods should grow as naturally as possible the first year in the open.

From the very first keep the foliage clean by a frequent use of the syringe. A very weak insecticide will do, and then you can use it freely enough to help the growth or flower buds to break easily. It is not a quantity that is wanted, but a little sprinkled over the foliage more often than many practise. It is this constant washing, when done gently, that keeps insects at bay and all healthy, much more than now and again taking such drastic measures that oftentimes as much harm as good results.

As the plants show their flower buds they must be watered freely with liquid manure. And here, also, a larger quantity of a weaker strength will be found the better plan. In fact, my own plants are watered with a weak solution whenever the watering-can is used at this stage. Much of what I call "foliage feeding" can be done by keeping the soil or concrete between the plants moist, and more especially if you can afford to give them a little stable drainings occasionally in these ground sprinklings. Of course, this is not always feasible in the conservatory, but it is largely practised by trade growers who have houses for roses alone. Keep the plants cool directly the flower truss is well formed, and before any flowers expand, thus ensuring a prolonged show of beauty that cannot fail to please.

A few varieties that we have found best suited to the standard form, but there are many others of much merit, are Pink and White Dorothy Perkins, Rène André, saffron and orange; Minnehaha, dark rose; Lady Godiva, creamy blush; Hiawatha, scarlet; Francois Foucard, lemon yellow; Excelsa, a bright scarlet form of D. Perkins; Dorothy Dennison and Christian Curle, shell pinks; and Robert Craig, with Aviator Bleriot as golden yellows. The above are all hybrid Wichuraianas, and have particularly long, slender growths that droop over even without the weight of blossoms.

In mentioning that these could be trained in many forms I omitted to hint of their extreme beauty when trained over one of the numerous contrivances now on the market, that are designed much after the shape of an opened umbrella. A. P.

Calceolaria deflexa.—Placed under favourable conditions in the greenhouse this calceolaria will bloom throughout the winter months, its bright yellow flowers being much appreciated at this season. It is an old species, being formerly known as Calceolaria fuchsiæfolia. It is reputed to be one of the parents of the popular Calceolaria Burbidgei, but different opinions have been expressed on that point.—W. T.

Early Figs.—It is not absolutely necessary that pot fig trees should be plunged in fermenting materials; but as they are subject to early attacks from red spider, fermenting materials play a prominent part in their cultivation, not only in keeping up the heat, but also in maintaining suitable atmospheric conditions. A steady bottom heat of about 75 degrees, with a night temperature of 60 to 65 degrees on mild nights, and 70 to 80 degrees by day, with a little fresh air admitted on all favourable occasions, will be found suitable for trees started in November. Second houses containing trained trees may now be closed, while late houses must be kept cool by liberal ventilation except in severe weather.—F. JORDAN.

ISOLOMA HIRSUTA.

Quite a bank of this pretty free-flowering Gesnerad was shown at the Horticultural Hall on January 7. It possesses many desirable features, yet at the same time is not often met with. In the first place, it can be readily propagated by means of cuttings, division, or by seeds; next, it will grow readily in a warm, light greenhouse, providing there is a liberal amount of leaf-mould in the soil; and, lastly, its bright-coloured blossoms are borne over a considerable portion of the year. They are of inflated tubular shape, about a couple of inches long, and, in common with the stems and leaf-stalks, are thickly clothed with brownish hairs. The leaves, too, are also hairy.

This Isoloma is nearly related to the garden varieties of Tydæa; indeed, these last are by some authorities included in the genus Isoloma. In I. hirsuta, however, the lobes of the flower are not spreading at the mouth, as in most of the Tydæas. The specimens shown were from three to four feet in height, but they will flower freely when considerably shorter than that. Though exceedingly pretty when grouped together in the greenhouse, Isoloma hirsuta does not travel at all well, and had the plants exhibited not lost a good many of their flowers in this way, they would have made a much brighter display. W. T.

SINGLE-FLOWERED CAMELLIAS.

For some years now camellias have not occupied the prominent position in our gardens that they at one time did, but signs of a return to favour are in their case becoming more or less evident The public taste has, however, quite veered round from the very double flowers, with a hard and formal outline, to those which are either semi-double or single. A feature of the single camellias, and a very beautiful one, is the large brush-like tuft of conspicuous yellow stamens in the centre of the flower.

At the meeting of the Royal Horticultural Society on January 7, cut sprays of several delightful single-flowered forms were shown from the nurseries of Messrs. William Paul and Son, at Waltham Cross, where camellias have long occupied a prominent position. Noteworthy among these varieties were Adelina Patti, pink, edged with white; Juno, white, flaked pink; Jupiter, rosy-red, a fine large flower; Minerva, deep rose; Lady M'Kinnon, crimson, marbled white; Tricolor, pale pink, flaked crimson; Snowflake, pure white; Vesta, bright red; and Waltham Glory, rich deep scarlet, particularly telling.

Besides the foregoing single camellias, there are also Camellia Sasanqua, with small rose-coloured flowers. Of this, which blooms earlier than the forms of Camellia japonica, there is a variety with white blossoms, and another with variegated leaves. I have found that Camellia Sasanqua can be readily struck from cuttings.

Another single-flowered variety is the Chinese cuspidata, which was given an Award of Merit last spring. It has small white flowers, and has proved to be quite hardy on the slopes of Coombe Wood Nursery. The Tea-plant is now regarded as a camellia under the name of C. Thea, and while its flowers are single, they are less conspicuous than those of the others.

A grand camellia with semi-double flowers of quite an informal nature is C. reticulata, which is seen to the best advantage when planted out in a conservatory, or similar situation. W. T.

NEW PLANTS, ETC.

LINDENBERGIA GRANDIFLORA.

Although listed in the Kew Hand Book of Herbaceous Plants, and, consequently, a more or less hardy plant, Lindenbergia grandiflora, is undoubtedly a very fine greenhouse plant for flowering during winter. As shown it was about 2½ft. high, the stems bare for a few inches at the base, but clothed above with soft, small leaves that were almost hidden by a profusion of yellow flowers. This same plant had been continuously in bloom for two months. It is a native of the Himalaya, belongs to the Order Scrophulariaceæ, and is by no means new, though not common. For winter-flowering it is well worth cultivation. A.M., R.H.S., January 7. Messrs. Jas. Veitch and Sons, Chelsea.

LÆLIA ANCEPS ROEBLINGIANA.

A distinct variety of L. anceps, but as the plant was sent from the United States, in spike, the blooms were not seen at their best. The purple and pale, almost white, colouring of the petals appear in streaks and flushes, and not in the usual solid or delicately-shaded fashion. A.M., R.H.S., January 7. C. G. Roebling, Esq., Trenton, New Jersey, U.S.A.

ODONTONIA FIRMINI.

This bigeneric hybrid is derived from a cross between Odontoglossum crispum and Miltonia vexillaria, and it most resembles the latter parent. The flowers are flattish, but the lip is not so abnormally large as in a Miltonia. The colour is white, with pink flushing and a yellow disk. A.M., R.H.S., January 7. M. Firmin Lambeau, Brussels.

CYPRIPEDIUM AMAZON.

A very large form that has evidently descended from C. insigne Harefield Hall. It has a very broad and rounded dorsal sepal that is very largely coloured green, but has a white apex. The wide petals are green and brown, and the lip is of similar hue. A very bold cypripedium, but not exactly a pretty one, though its style and form is very popular just now among fanciers. A.M., R.H.S., January 7. F. Mentieth Ogilvie, Esq. (gardener, Mr. Balmforth), The Shrubbery, Oxford.

CYPRIPEDIUM IONA.

A pretty cypripedium of medium size, with fairly broad segments, and slightly drooping petals. The ground colour is creamy-white, and this is freely dotted and shaded with rich rosy-purple. A.M., R.H.S., January 7. Duke of Marlborough, Blenheim Palace, Woodstock.

ODONTOGLOSSUM GEORGE DAY.

Though not so fine as O. Smithi, this hybrid between O. crispum and O. Rossi rubescens is very attractive by reason of its purple spotting, and chocolate-brown shading on a white ground. As is usual, O. Rossi has impressed itself strongly on its progeny. A.M., R.H.S., January 7. H. S. Goodson, Esq. (gardener, Mr. G. Day), Fairlawn, Putney.

ADIODA ST. FUSCIEN HEATONENSE.

In this little orchid Cochlioda Noezliana and Ada aurantiaca have been combined. The latter parent has exerted the greater influence, but the spike is looser and the flowers rather more expanded than is Ada aurantiaca, but the segments are pointed, and the blooms are of a deep crimson-red colour. Certificate of Appreciation, January 7. Messrs. Charlesworth and Co., Hayward's Heath.

CYMBIDIUM ALCINEDA.

A fine variety obtained by crossing C. Alcibiades with C. insigne Harefield Hall. The broad white dorsal sepal has a bright green basal area, and some lines of purple spots. Lip and petals are broad, green, shaded with brown. A.M., R.H.S., January 7. Messrs. Charlesworth and Co., Hayward's Heath.

CALIFORNIAN BOX ELDER.

This is a variety of the well-known Box Elder (Acer negundo), which is distinguished by the varietal name of californicum. Under cultivation in this country it appears to be of more vigorous growth than the type, although it cannot be expected to grow into a very large tree, for, at its best in California, it is rarely met with of a greater height than fifty feet. Jepson, in his "Silva of California," p. 269, says that its general height is between twenty and fifty feet. It grows in the vicinity of streams about the coastal ranges of the country, but is nowhere found in large quantities, small groups and isolated specimens being more common than large colonies. The leaves are composed of three principal lobes, which are deeply cut about the margins. It is best known in this country by its golden-leaved form, which is variously known as A. n. californicum aureum, and A. n. odessanum. This is of vigorous growth, with showy, golden foliage, which possesses the advantage of keeping its colour well from the time the leaves appear in spring until they fall in autumn, whereas the colour of some golden-leaved subjects suffers from sunburn before the middle of summer. It is an excellent subject to include in beds or groups of trees and shrubs arranged for the colour effect produced by their leaves. W. D.

LINDENBERGIA GRANDIFLORA.
Flowers yellow. A.M., R.H.S., January 7. Messrs. J. Veitch and Sons, Chelsea.

BASKET-MAKING WILLOWS.

During the later years of the last century the cultivation of basket-making willows declined to a considerable extent in the British Isles, due partly to increased importations of foreign-grown rods, which could be purchased at a cheaper rate than those grown in this country, partly to boxes and barrels superseding baskets and hampers for various kinds of agricultural and horticultural produce, and, to some extent, by the curtailment of manufactured articles in willow exported to foreign markets. The last few years have, however, witnessed a revival of interest in willow culture, for the trade in basket work has expanded to a considerable extent in certain directions, and cultivators find that they can obtain satisfactory returns from their willow-beds if the best kinds are grown.

The use of wicker-work chairs and other kinds of furniture appears to have brought about this change, whilst other things which have contributed to the present brisk trade in basket-work are the motor-cycle and increase of large laundries. In the former case there has been a large demand for basket-work side-cars, and in the latter for linen baskets.

Preparation of Willow Beds.

It is not, however, with the manufacture so much as with the cultivation of willows that we have to deal, for, although some manufacturers grow their own rods there are many people who grow the rods and dispose of them to the manufacturers, and other persons who have the necessary ground might add to their income by the same means.

When commencing the culture of basket-making willows, the first point to grasp is that the best results can only be obtained by proper cultivation, and the reason why so many beds have turned out unsatisfactory can often be traced to neglect. The popular idea that willows can be grown upon any wet ground is quite wrong, and marshy ground should not be planted until steps have been taken to drain superfluous moisture away. This may sometimes be done by opening ditches or drains every 12 or 20ft. through the ground, especially if a fall can be obtained to a pond or river, but in any case it is no use planting in ground which is in a constant state of saturation. An occasional flooding of the beds does no serious harm, providing the water drains away again quickly; in fact, in dry weather, irrigation is attended by good results. Another point for consideration is the proper cleaning and working of the ground, for it is little or no use planting in dirty or badly-prepared ground. In every case, land which is to be occupied with willows should be ploughed deeply or trenched, if possible, a few months before it is planted, so that it may be well harrowed a time or two between ploughing and planting.

Planting Willows.

Cuttings about twelve inches in length are generally used to form a plantation. They are usually made with a sloping cut at the lower end, so that they may be pushed into the ground with the minimum amount of bark injury. The best time for planting is considered to be February and early in March, for, if planted in autumn, a frosty period in winter tends to loosen the cuttings. They are planted in straight lines, varying from 2 to 3ft. apart, according to the strength of the variety used, less space being left between the plants in the rows, and planting consists of pushing the cuttings into the ground to a depth of nine inches, afterwards treading the soil firmly about them. The majority take root, but any vacancies which may occur are made up the following spring. During summer the ground is kept clean, either by hand hoes or by a horsed cultivator, care being taken not to injure the young shoots. The rods produced the first year hardly pay for the cost of cutting; they are sometimes cut, however, but if very weak they are usually left for a second year. The second year a fair crop may be expected, but a bed will not attain its maximum yield until the fourth or fifth year, after which time it will go on yielding indefinitely, providing careful cultural methods are followed out. Every year the beds must be thoroughly cleaned up as soon as the crop is cut, and should weeds appear, they must be cleaned again before the young shoots are far advanced. At least every other year a surface dressing of manure must be given. This may be well-rotted farmyard manure, sewage, or an artificial fertiliser.

Cutting the Crop.

The cutting of the crop is an important operation, for a bed may be easily ruined by improper cutting. The object in view is to keep the crowns of the plants as compact and near the ground as possible; therefore, the rods must be cut to the base each year, not left an inch or two long. By leaving an inch or two at the base of each shoot every year, the stocks soon assume a wide, sprawling habit, which has a serious effect upon the yield, and makes it very difficult to clean the beds and remove the crop.

Some kinds are cut in mid-winter and others in the early part of spring. The former embraces those which are to be used with the bark on, and those which are to be prepared as buff rods. Buff rods are usually used for fine kinds of work and the colour is obtained by steeping them in hot water previous to peeling. White rods are obtained by spring peeling. The shoots are cut when the sap is beginning to run; they are then tied in bundles, and stood in water to keep them in the proper condition until the peelers can deal with them.

Kinds to Plant.

Although a great many varieties of willows are grown they belong to comparatively few species, and each district appears to possess two or three sorts which are considered superior to others. Strange to say, if the best sorts from one district are removed to another they rarely maintain their reputation. That certain varieties or forms have in the first place originated from single specimens is evident, for it is invariably found that a local variety is made up entirely of male or female plants.

Salix triandra is, perhaps, the most prolific in varieties, for nearly forty different forms are grown. These have each their little peculiarities to the expert willow-worker or grower, but to the ordinary individual many of them look absolutely alike. In some cases, however, it may be noticed that the rods are more liable to branch than in others. S. triandra is one of the most important willows for the better classes of work, and usually commands a

S. purpurea is another species which produces a number of varieties suitable for fine kinds of work. Some considerable difference is noticeable in the strength of the rods of different forms, and it is, perhaps, easier to distinguish the varieties of this than those of other kinds.

S. viminalis is one of the best strong-growing sorts. To the basket-maker any variety of this is known as an osier, other species all being willows. The term "Long Skein" or "Long Skin" is often used in connection with the best samples of this species, and each district appears to possess a long skein, which is superior to any other long skein in the country. The species is well-known as one of our commonest British willows, and is one of the most widely grown of basket-making kinds.

S. daphnoides, the Violet Willow of Europe, is favoured in some localities on account of its long, strong rods, but other growers consider it too coarse for the better kinds of work. It is easily recognised by its purplish stems which are covered by a glaucous bloom.

S. fragilis is not grown very largely in this country, but it is one of the kinds imported. It is said to be grown extensively in Madeira.

S. alba vitellina, the golden-stemmed willow, occupies a place amongst basket-making willows, but it is grown most largely for the provision of rods for tying purposes.

S. rubra and S. hippophaifolia are strong-growing kinds, which are sometimes used by basket-makers, while S. pentandra, S. cordata, S. lucida, and S. alba are other kinds which sometimes enter into the basket-work trade. W. D.

Bouvardias.—These beautiful greenhouse flowering plants seem much less grown than was formerly the case, one reason apparently being that their flowers are not big enough for present-day tastes. Perhaps if they bore flowers as large as Malmaison carnations they would once again become popular. Certainly these last-named have now quite taken the place of the bouvardia as a button-hole flower. In any selection of bouvardias, the deliciously-fragrant B. Humboldti corymbiflora, with its pure white, long-tubed flowers, must on no account be omitted, while other desirable white-flowered varieties are Jasminiflora paniculata and Pride of Brooklyn. Of scarlets I should name President Cleveland and King of Scarlets, and of pinks Mrs. Robert Green and Priory Beauty. The best doubles are Alfred Neuner, Bridesmaid, President Garfield, and Hogarthi flore plena.—T.

Asperula hexaphylla.—As valuable as Gypsophila paniculata for associating with other cut flowers, Asperula hexaphylla has the merit of blooming almost two months before the favourite Chalk Plant, and of thus coming in usefully for a season when such subjects are often in demand. It grows about a foot high only. The flowers are small, pure white, and most graceful: while the neat, narrow foliage is in keeping with the character of the flowers. This plant is one of the Woodruffs. It can be grown in any good border, and is accommodating enough to flourish in the shade, though to keep the flowers pure it ought not to be under the drip of trees. Seeds can be sown in spring under glass, in the same way as those of other hardy perennials, and it is also increased by division in spring.—S. A.

GARDEN COLOUR SCHEMES.

Each year the ornamental garden should be newly considered before a decision is arrived at as to plants of bedding character that are to be used for it. If this is done early enough seed-ordering is simplified, and a heterogenous colour mixture will be avoided. Almost without exception the poor effects in our pleasure grounds, large or small, are caused by false colour harmonies, the lack of brilliance, or the predominance of the garish. However fine may be individual plants, however well grown the flowers, dissatisfaction is bound to result unless care and art have gone to the selection and mingling of hues.

It is sometimes objected that the gardener should not be called upon to be this kind of artist, as well as a skilled floriculturist. We can all agree that a man may be colour blind and yet be an excellent gardener, but, happily, a very little study will enable the average man to appreciate beauty in colour, and the uglinesses that occur when colours clash; to realise how to make the best use, too, of his existing field of action, for adaptation to the permanent environment is one of the important secrets.

In earliest spring a survey should be made of the grounds in order to note what is already there in the way of colour. To begin with the buildings must be taken into consideration. A cold grey or stone-white house will never become a pleasing part of the garden landscape, as it should, unless it is embowered in evergreen, gold, or copper foliage, and has a sufficiency of bright flower hues about it. A vivid red-brick house will need toning down by some evergreen foliage, but the best softener will be afforded by the Virginian creeper tints, or such mulberry shades as are afforded by the too seldom employed purple ivy, the copper beech, and Prunus Pissardi; maroon flowers, such as are to be found in plenty among dahlias, hollyhocks, stocks, hyacinths, chrysanthemums, violas, asters, and geraniums, are of immense service; a banked-up border of darkest crimson Snapdragons, for instance, varied by auricula-eyed Sweet Williams, would be a pleasing feature of the front garden.

It must be observed that a red-brick house is not always garish, for age and atmospheric influences will tone the bricks, and even tiles, to a chastened coppery terra-cotta hue that is always pleasing. Sober old walls, whether of the dwelling, or forming boundaries, are the fairest backgrounds for blues, golds, salmon, scarlet, orange, lemon, mauve, white, or violet. Again, a so-called white house is not always cold-looking; the limewashed walls of ancient cottages, for instance, seem to reflect or repeat the faintest rays of sunshine, blush-rosy with sunrise, flame deepening to coral with the sunset, and are generally of that cream shade that wielders of the brush apply, by yellow ochre washes, to drawing papers before adding the blues or greens that constitute a landscape. There are no flowers that are not exquisitely suited by such humble walls, and modern builders are beginning to add some constituent to stucco that gives it something of this lightsome effect; probably the most charming of all results are gained by massing rose-pinks and carmines in these cases.

New gravel, or paths in a gravelly locality which will often be redressed, are a danger to the garden colourist, for genuine rose colour is antagonistic to the orange hue, so much so, indeed, that roseries in gravel should consist of salmon and scarlet varieties, with white, yellow, maroon, and apricot, and the carmines and pinks be avoided; the gay pinks of asters, stocks, and geraniums, sweet peas, too, should be kept for lawn beds far removed from any walks. Gravel, on the other hand, intensifies by contrast the richness of blues and violets. Where lawns are joined by evergreen, or green deciduous shrubberies, the introduction of gold and silver, or cream variegated foliage, will pleasingly break the monotony, and the gardener should make a point of raising bedding plants of suitable leaf-colouring.

Where walks are grey-paved and old rockeries abound, a decided lack of verdant green may be the fault. Then dahlias and cosmeas are admirable tall plants to grow, and violas, calceolarias, ivy-leaved geraniums, scabiouses, delphiniums, and hybrid pyrethrums will improve the summer show, while mossy saxifrages and primroses, polyanthuses, campanulas, and pansies offer relief even during winter.

Many an old garden, among grey walls or fences, suffers year after year from a deficiency of brilliance. The cure for this is simple. Let the gardener concentrate his energy on the raising of gorgeous cannas, gaillardias, coreopsises, mimuluses, calceolarias, zinnias, striped antirrhinums, which are gay in the extreme, African and French marigolds, calendulas, and gazanias, and obtain orange and scarlet dahlias and chrysanthemums, day lilies, too, in plenty. Some royal blue delphiniums and anchusas, blue violas and asters, among these, with a sprinkling of maroon flowers or foliage, will create splendour indeed.

The habit of sowing seeds in mixture is one of the worst errors from the colourist's point of view; with some plants the results are fairly harmonious, stocks and asters are an example; with others, such as verbenas, zinnias, and Snapdragons, the consequences are scarcely ever artistic, as scarlet flowers appear next to magenta, or vivid salmons near dull pinks, to say nothing of the delicate peach-mauves of the first-named being killed by juxtaposition with bright blues. When no mishaps of this sort occur the mixed beds of flowers are but half as effective as beds of self colours, or well-arranged colour schemes would be, and are incapable of yielding any real note in the garden landscape. A small villa garden requires to possess but two or three chief colours each season, while the most striking displays are gained by choosing but one principal flower hue for the summer beauty.

M. H.

CYPRIPEDIUM IONA.

Flowers cream-white, with rose-purple markings. A.M., R.H.S., January 7. Duke of Marlborough, Blenheim Palace, Woodstock.

THE POSSIBILITIES OF A SCHOOL GARDEN.

VI.—The Teacher.

After enlarging, as I have done in the preceding articles, on the possibilities of a school garden, and the value of gardening as part of the curriculum in a rural or a town school, either for the matter of that, it is necessary, in summing up, to pause and say, *but*, with emphasis on the latter word, everything depends on the teacher. Perhaps not everything, but certainly a very great deal, and the responsibility rests with this individual whether the garden is made to serve its full purpose or not. The elementary school teacher of to-day has claim to wide sympathy and consideration, for while no one can say that he is overpaid, so much is expected of him. Subjects have been introduced into schools, chiefly of a manual character, that were unheard of when many present-day teachers were in training, and it must be said, to the credit of scores in the profession, that they have advanced with the times by qualifying themselves to teach them.

I am almost tempted to say that really successful teachers of school gardening are not made; they are in a manner born, by which I mean to say, Nature has endowed them with a love for gardening, which helps them to an almost unlimited extent, and I cannot conceive how a man can teach gardening successfully unless he is fond of it. The teacher who likes gardening for its own sake has a knack of getting his pupils to like it also; he sees its possibilities, and, being thoroughly interested, he and his class are able to demonstrate those beautiful words of Ruskin's that "flowers only flourish rightly in the gardens of those who love them."

Strange though it may seem, I know a number of teachers who never discovered their fondness for gardening until they began to teach it, and now they may be described as really enthusiastic horticulturists. These men probably never knew that they liked gardening because they had never been brought into touch with it, and somehow school gardening differs from other gardening, inasmuch as it is not routine work, with so much produce as its end and object, but a field of discovery, as it were, in which the difficulties and failures may be made use of in teaching, just the same as the successes and the triumphs.

When the teacher is in the garden he finds himself moved to a different sphere than the ordinary routine of school work. He may be a good gardener and fully qualified, but he is no longer master of the situation as he is when teaching arithmetic or geography. While he is a teacher he is also a learner with the book of Nature stretched before him, and if he is of the type who can develop a spirit of inquisitiveness amongst his boys, he knows that, at any moment, one of the lads may come up and put a question that he cannot answer offhand. I stood in a school garden one day when a boy made a discovery, and at once asked the master to explain it. The master, a splendid teacher, and a man past middle age, answered the boy in these words: "I don't know, my lad; but we'll go and try to find out." There you have it in a nutshell, and this is the spirit of the school garden, or what it should be, learning together, as it were, teacher and scholar going hand in hand to unravel the secrets of Nature as they present themselves. Was this not far better than giving an evasive answer, or maybe, wrong information on a point about which the the teacher was not clear? "We'll go together, and try to find out." If you made an inspection of schools that are the most successful in the matter of gardening and allied work, I think you would find out that the whole secret of it is that mutual understanding on the part of the teacher and the boys to find out. I have seen boys discover an insect in the garden, and at once go with it to a certain book in the teacher's cupboard, but without any instructions to do so, and pore over it with that same object—to find out. They had done it before—with the teacher; the habit had grown, and with it the self-reliance of the boy.

There are those in education circles who say that gardening ought to be made a compulsory subject in rural schools. If this happened I am afraid we should find a good many round pegs in square holes, and, on the principle that one volunteer is worth a dozen pressed men, I like to see it come voluntarily. The teacher who asks the education authority if he may have a school garden means something in a general way, and if he does not make a complete success of it straight off, he should not be subjected to severe criticism, but be led on, as it were, and be given helping hints which teachers of a progressive type are always glad to receive and make use of. School gardening in this country is progressing nicely. The teachers who have taken it up are a volunteer army, and, though, as one would naturally expect, they have not all succeeded alike, it must be admitted that it has been left to the keen schoolmaster to demonstrate what the possibilities of a school garden are in education.

I am aware that a good many teachers have taken up school gardening without any particular training in horticulture, and there are people who criticise this course of action. I have known local managers to ridicule the idea of a schoolmaster teaching gardening for no other reason than he is a schoolmaster, and if one had suggested a mistress taking it, their horror would have been unbounded. "What can he know about gardening?" is the not uncommon question asked when the matter is brought up at a managers' meeting, but these good people of limited vision forget that, after all, school gardening, as gardening, is elementary gardening: in fact, the type of gardening that hundreds of men excel at without any special course of training, but they do not realise that, if the schoolmaster is a bit deficient in his knowledge of gardening, he can acquire that knowledge, and he has, at any rate, been taught to teach, and no matter how good a gardener a man may be, he cannot possibly get the most out of a school garden if he is unable to teach. I am decidedly of the opinion that the teacher is a more suitable person to have charge of a gardening class than a local gardener or local instructor, and I say this without being in any way uncomplimentary to the latter, who may be a most excellent gardener, but has never been trained to teach, and it is more difficult to impart knowledge to juvenile humanity than it is to grown-ups. Though I have known men without any particular training in or knowledge of horticulture make successful teachers of school gardening, they belong to the type of men who have capacity for mastering things they take in hand, and it is desirable that teachers of school gardening should have a sound knowledge of horticulture as far as it applies to a school. With this end in view it is hoped that better provision will be made in the future for young men during their course of training to acquire some knowledge of practical horticulture.

The parent of the boy, the man in the village streets, displays an interest in the school garden because it is the one part of his son's education that he knows something about, and in respect of it he feels that he is in a position to criticise. It is well for the teacher to realise this, and to remember that when he starts school gardening the men of the village, the fathers of the boys, treat it as a joke, sit on the fence and wait to see it fail. If, however, they find out a bit later on that the school garden is a bit better than their own, and produces a heavier weight of produce than any similar piece of land in the parish, their views change, and the schoolmaster goes up a few notches in their estimation of his abilities. These men, it should be remembered, know nothing about the meaning of correlation, and their estimate of the schoolmaster stands or falls by the garden. It is desirable that the school garden should be a force in the village, a demonstration of what is good in gardening; in short, a success as a garden, apart from anything else, and I mention this to show the desirability of the teacher being a good cultivator. It is here where he may be a bit deficient at the outset, but he can acquire the knowledge he may lack much more easily than the local practical gardener can ever learn to be a teacher.

H.

CORONILLA GLAUCA.

This little shrub, though usually treated as a greenhouse plant, proves quite hardy in the warmer portions of our islands, such as are to be found along the southern shores of Devon and Cornwall, where, in the dark winter days, it adds its clear yellow to the brighter tints of the same colour provided by Cytisus racemosus and Jasminum nudiflorum, to the sulphur of Chimonanthus fragrans, and the twisted gold leaf of Hamamelis arborea. This coronilla is common in Devon and Cornwall, where it may be seen in the humblest cottage plots, as well as in the finest of private gardens, while in some nurseries numbers of plants are grown, and in one, a few days ago, some dozens, about two feet in height, were in profuse bloom, their blossoms making an effective display.

Wherever seen it is welcome in the months of November, December, and January, for the yellow flowers associate charmingly with the subdued tints of the glaucous leaves. To show how extensively this plant is grown in the south-west it may be mentioned that in December a thousand flowering sprays were forwarded to London for the purposes of a lecture by a friend, who had no difficulty in procuring the quantity. Near London the climate is too cold for this coronilla in the open, but it makes an excellent conservatory plant. It is easily raised from cuttings, which strike readily in sandy soil if kept close for a short time. There is a variegated form, which is, however, decidedly inferior to the type. C. emerus bears yellow and chestnut flowers, and blossoms in the spring, but is not so effective as the subject of this note when in full bloom.

WYNDHAM FITZHERBERT.

GOLDEN IVIES.

The question whether ivies are injurious or otherwise to buildings over whose walls they are allowed to spread does not appear to have been answered to the satisfaction of all who write on gardening matters. Quite recently there has been a brisk discussion in which it was firmly held on one side that ivy is distinctly injurious to buildings on which it has become established, and on the other that the plant is incapable of doing damage to structures of a substantial character. Those who take extreme views with regard to the capacities of ivies for doing damage are not likely to soon obtain a solution of the question to which reference is made. They overlook the fact that the ivy is capable of doing injury to its supports if it is allowed to grow unchecked for a considerable period, and that with comparatively little pruning its injurious proclivities can be so restrained as to render it quite harmless.

For example, when allowed to grow untended, a dense mass of side shoots will be produced, and project a foot or more from the face of the wall. Such growths become a harbour for birds and vermin, and those growths at the upper part of the wall will find their way into the gutters and pipes provided for carrying the rain-water from the roof and choke them up. As the result thereof the water will overflow, run down the walls, and, in course of time, so saturate them as to render the rooms more or less damp. This is not all; some of stronger growths will penetrate any crevices there may be in the walls, and in course of time they may possibly loosen the brick or stonework, if they do not dislodge any portion thereof. Those who have visited old abbeys and other ruined buildings will have noticed the stout ropelike stems pushing freely between the stonework they have loosened, and probably they will have seen also large blocks that have been overturned by them. Many such blocks have come under my notice, and more than one of my friends have had their houses so damp as to be well-nigh uninhabitable as a consequence of the overflow of the water from the gutters.

There can be no question as to the power of the ivy for doing harm, but it is so simple a matter to restrain its injurious tendencies that no excuse can well be found for allowing it to damage walls over which it is trained. All that is necessary to prevent the slightest injury is to prune the ivy annually, and in performing this operation, be careful to cut back all growths that are likely to extend beyond the allotted space, and to give special attention to those about the eaves and the water conduits. The pruning can be done in March or at midsummer, as may be preferred. In pruning ivy in spring the practice is to cut the whole of the growths close back to the stems attached to the wall with a pair of shears, and to remove the whole of the leaves. The brown leafless shoots present a bare appearance for a time, but it is short, as when new growth commences the walls become clothed with leaves of the most pleasing verdure. In the midsummer pruning all the projecting shoots are cut close back to their base with a knife, and the leaves on the shoots attached to the wall remain intact.

The object of these notes is not, however, to give advice on ivies, but rather to call attention to a few of the most attractive of the varieties remarkable for their golden variegation. In a reference to these beautiful forms, it is not out of place to mention the conflicting opinions that are from time to time expressed with regard to the capability of ivies doing damage, and to show that any injury they are able to do can be readily prevented. The golden variegated varieties require the same attention as those with green leaves, but being less vigorous in growth, are not likely to grow beyond bounds so soon after being planted in their permanent positions.

The golden-leaved ivies have much to recommend them, and should be planted rather more freely than is generally the case because of the bright appearance they present during the greater part of the year. The variegated Irish ivy (Hedera Helix canariensis variegata) has much to recommend it for covering large wall spaces, for, as in the case of the green form, it is free in growth, and has large leaves, which are richly marked with gold, and produce a bright effect. The variegated Irish ivy is admirably adapted for furnishing pillars of rustic or other wood alongside walks or in other prominent positions, because of its free and bright growth. Being a vigorous grower, and with leaves much larger than even the normal form of the Irish ivy, the Tooth-leaved ivy, best known under its scientific name as Hedera Rœgneriana dentata, is one of the most handsome of the large-leaved ivies and of much value for covering wall spaces of big buildings. The leaves are relatively very large and distinctly handsome, and in the variegated form known as H. R. dentata aurea variegata, they are finely variegated with rich yellow. Their shape and markings are admirably shown in the accompanying illustration.

HEDERA RŒGNERIANA DENTATA AUREA VARIEGATA.

A handsome variegated variety of this large-leaved species; the illustration represents one of some richly-coloured plants exhibited at one of the R.H.S. meetings by Messrs. J. Cheal and Sons.

Quite distinct in character from the foregoing is H. H. spectabilis, which is not less vigorous in growth than the green-leaved Irish ivy, but has smaller leaves. During the earlier stages of growth the leaves are more or less of a golden hue, and specimens covering large spaces are singularly effective. The golden colour is retained during the greater part of the summer when it gradually disappears, and the leaves become of rich bronze-green, with a golden leaf here and there to remind the owner that the plant has not returned wholly to the green type. Another handsome form is H. H. latifolia maculata, which is free in growth, and has rather large leaves that, instead of being suffused wholly or in part with gold, are distinctly blotched with pale yellow. It will thrive and retain its distinctive colouring in almost any position, and is decidedly useful. H. H. digitata variegata is perhaps the best of the golden ivies, with finely-divided leaves, and is useful for the variety it affords.

In planting ivies for covering walls, trellises, and pillars, the preferable course is to obtain strong plants, well grown in six or seven-inch pots, as these quickly become established and grow away vigorously. The soil should be broken up to a depth of twelve inches or so, but the addition of manure is unnecessary. For the variegated varieties, the soil should be distinctly poor, and where the soil is a strong loam or clay-loam, it will be an advantage to add mortar rubble, gravel, or chalk in moderate proportions when the ground is being dug over. G.

LETTUCE WAYAHEAD.

We already have such a number of good cabbage lettuce that some may think another is not required, but there is always room for a superior variety. The variety under notice is a very good one, either for frame culture or the open ground, and when better known, should supersede some of the varieties now grown. While recognising the value of standard kinds, I fear there is a tendency among many gardeners to conservatism with respect to many things they grow. It is wise to rely on well-known varieties of salads and vegetables, but it is progressive to test sorts which are good, but may not be generally known. It is by such means we find out what is best to grow in our own particular district. One may grow this Wayahead lettuce with confidence; I do not think there are many firms who offer it, but it can be obtained from Messrs. J. Carter and Co.

PAUL T. MORE.

Allamanda violacea.—The dominant feature of this allamanda is the colour of the blossoms; in nearly all the cultivated kinds these are of some shade of yellow, whereas in this species they are of a rosy-purple hue.

SOME OF THE NEWER BALSAMS.

The introduction of the pretty free-flowering Impatiens Sultani somewhere about thirty years ago, served to direct attention to the desirable qualities of some members of the Balsam family, apart from the annual species, which had long been grown in gardens. Soon after I. Sultani, the rich magenta purple-flowered I. Hawkeri was introduced, but it proved so subject to the attacks of an insidious mite that it did not hold its own long in many gardens. Like I. Sultani, it is of perennial duration, and we have now several species of the same section, all valuable in the warm greenhouse for their brightly-coloured flowers and continuous blooming qualities. One of these—Impatiens Holsti—is herewith illustrated. Its habit of growth and exfusion, while they are borne more or less plentifully almost throughout the year. I have seen this Balsam at different times in good condition bedded out at Hampton Court. One of the last species to be introduced is I. Herzogi, whose flowers are larger than those of I. Holsti, and of a distinct orange-salmon shade. They are produced at all seasons,, and are particularly telling during the half-light of a dull autumn day. At Kew a hybrid has been raised between I. Herzogi and the old rosy-lilac-coloured I. platypetala. It is known as I. kewensis, and has flowers of a ruby-red colour, though among them there is a certain amount of individual variation. Like the rest, it is almost continuous flowering; indeed, one rarely visits Kew without seeing some good examples in bloom.

The culture of these Balsams is very simple, for while seeds of some can be

IMPATIENS HOLSTI.
As grown for Decorative Effect at Kew.

treme floriferousness is well shown, therefore it will suffice to say that in colour the blossoms are of a bright vermilion tint. Taken altogether, it is more robust in constitution than I. Sultani, and given a favourable summer, it will flower freely when used as a bedding plant. Impatiens Sultani is a native of East Africa, and I. Holsti also comes from the same region. It was introduced by way of the Berlin Botanic Garden.

A larger grower than any of the above is Impatiens Oliveri, introduced from Uganda about ten years ago by Sir John Kirk, who first sent seeds to Kew. It is one of the largest members of the genus, and will form a bushy growing specimen six feet or nearly so in height, and about as much through. The flowers are large, and in colour pale lilac with a pinkish suf- obtained, all are readily increased by means of cuttings, which must not be kept too damp and close, otherwise they are liable to damp off. In a compost made up of loam, leaf-mould, and sand they will grow freely if given a good light position in an intermediate house. K.

Begonia manicata.—Now we have so many winter-flowering begonias in cultivation this old Mexican species is much less grown than formerly. Still, it is well worth a place in the intermediate house, where its blossoms, though not showy, are decidedly pretty. This species forms a short, stout stem, clothed with large shining green leaves, while the flower stems reach a height of about three feet. On the branching upper part the small pink flowers are freely borne. There is a variety in which the foliage is irregularly blotched with yellow.—S. W.

THE BEST TIME TO PROPAGATE PERPETUAL CARNATIONS.

The man who thrusts his hand into a hornet's nest is invariably stung, and he who challenges a generally-accepted theory is likely to be somewhat severely criticised. However, I will risk all this, and venture to state that good cuttings rooted in January produce finer and better plants of perpetual-flowering carnations in twelve months than those rooted in October, November, or December, or any other month of the year.

Beyond being able to give practical proof, I would point to the fact that the cuttings inserted during October and November are of summer-made growth; this is much harder, and does not become free growing wood, also the dull weeks that lay before it are not conducive to a free growth. Consequently, the young plants remain half dormant until early in the spring, the stem or base all the time becoming practically case-hardened, or they are stood upon a shelf in a warm greenhouse, and forced into making an artificial growth, which is naturally weak, and the spring finds the young plants in a more or less exhausted state, but usually more than less.

Let us take, on the other hand, the case of the January-rooted cutting; it is produced during the autumn and early winter in the greenhouse, consequently, should be free from all taint of pest or disease. When it is removed the wood is in a half-matured state, so roots readily; hence with less stress or weakening effect it commences upon its new life in February, with increased light and other conditions conducive to plant growth. Far more important than all this is the fact that in March, when the perpetual carnation is in the height of its vigour, the young plants are in 4in. pots ready for their first stopping, and instead of making three or four breaks, as in the case of the autumn cutting, it comes away with at least six growths, some of which are fit to stop for the second time before June.

I believe in course of time that January cuttings will become more and more popular, thus preserving the constitution of the varieties because, all too often, autumn cuttings are removed from plants which flowered throughout the previous autumn, winter, spring, and summer, the cuttings being taken when they are in an exhausted state, at the end of their life precisely when they are unfit to reproduce their kind. The result is indifferent growth, and still more unsatisfactory blooms, both as regards colour and size.

Of course, you can continue propagating during February and March, and personally, I would prefer a March cutting to an October one, and January cuttings, to my mind, are superior to all others. The value of selecting only the correct cuttings from selected plants is becoming more and more apparent to all, for these alone can produce good flowers.

Another important point is the conditions under which the cuttings are rooted. Too high a temperature is unnatural and unduly excites the cutting, whereas too low a temperature places an undue strain upon it. The best temperature for propagating are a bottom one of 55 degrees, and a top one of 45 degrees, and if the cutting is potted up as soon as rooted it will lose none of its vigour.

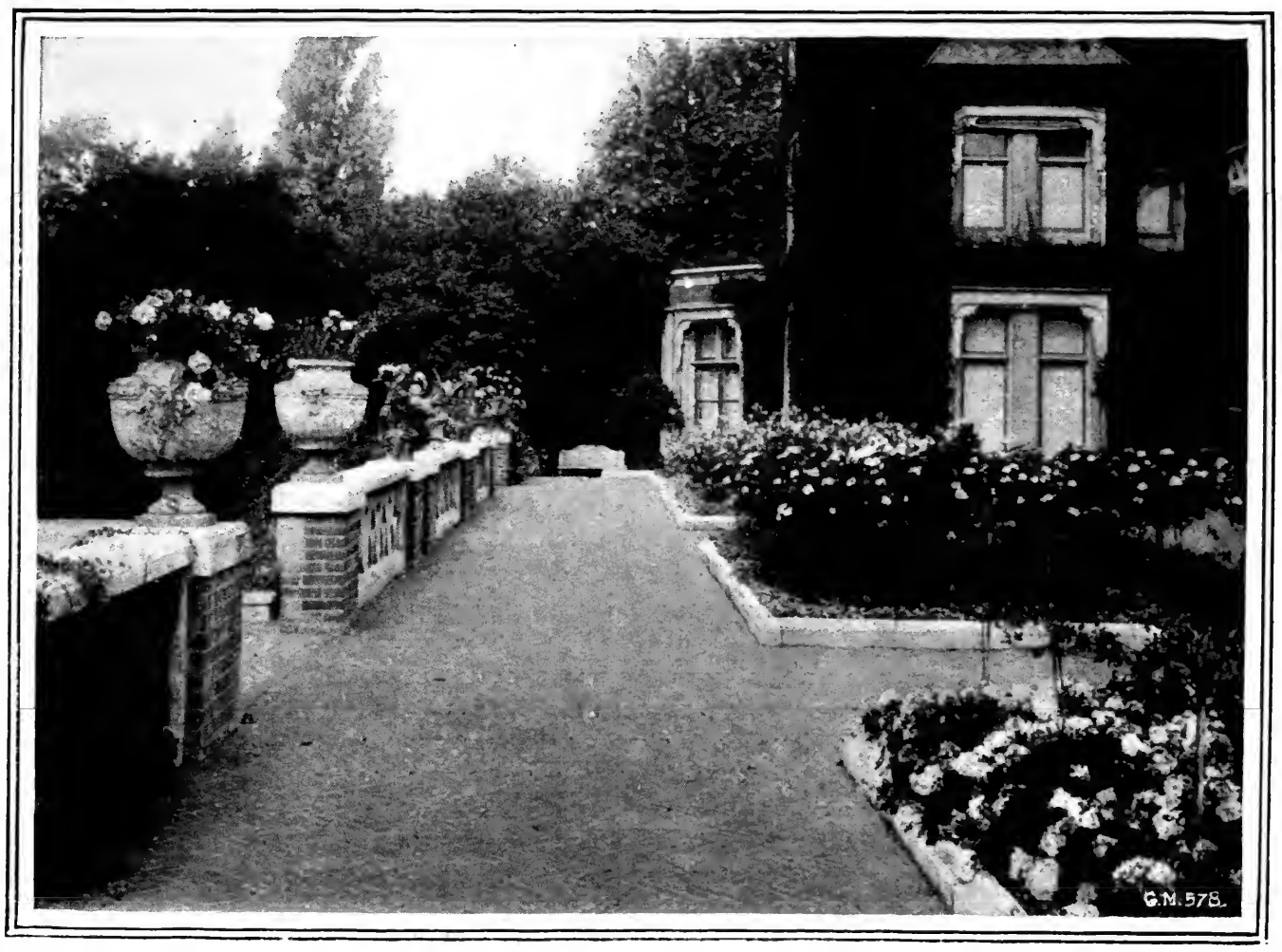
MONTAGU C. ALLWOOD.

Hayward's Heath

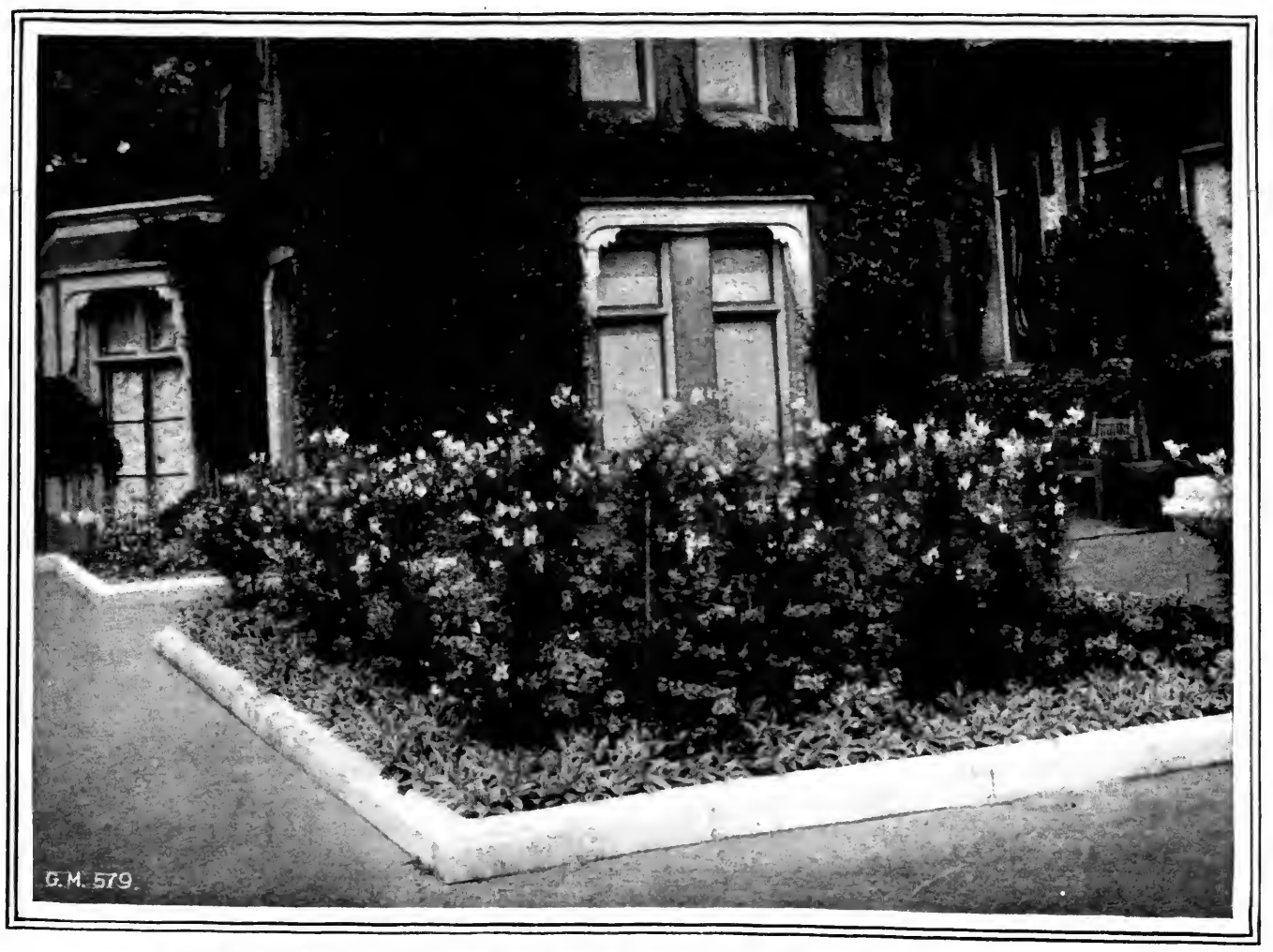
PREPARING FOR SUMMER BEDDING.

The prominence given to parterre planting with subjects of a half-hardy character, both in gardens of a private or public character, invests this branch of gardening with more than ordinary interest, and to those upon whom the arrangement devolves, its importance gains in interest from the fact that preparation for another season must be commenced early in the year. It is the general practice to develop this style of gardening under conditions that are severely formal, and usually in positions in front of, or in close proximity to the mansion; hence it follows that an arrangement that is continually under view must be elaborated with more than ordinary care. In some gardens the floral scheme can only be seen at some considerable distance, so that, to be effective it must be carried out on fairly broad lines, a result most readily attained by the simple combination of a few well-chosen subjects, in preference to any elaborate scheme involving the use of great variety.

A striking feature with present-day "bedding" is the sharp contrast it offers to, in its reaction from "carpet bedding," with its general feeling of stiffness and almost uniform flatness. To-day we employ two distinct types of plant. With one we obtain a groundwork or carpet to the bed, while the other is employed to secure height, an arrangement that admits of infinite latitude in treatment, and when successfully applied is, in the best sense, decorative, even in the case of plants trained in pyramidal or standard form. A certain freedom of growth is admitted, so that the artificial character does not obtrude itself, and the natural beauty of bedding plants is disclosed to a marked degree. The kinds of plants employed varies according to locality and the season during which they are expected to give the maximum display. In the southern and favoured parts of England, many tender subjects can be relied upon, that in the Midlands and northern parts of these islands give but indifferent results.



A TASTEFUL ARRANGEMENT OF TENDER PLANTS IN SUMMER AT COOMBE COURT.



A CHARMING COMBINATION OF SUMMER FLOWERS.
The tall plants are Swainsonia galegifolia alba, and the carpet of flowers and foliage is formed with Pelargonium Souv. de C. Turner and Veronica Andersoni variegata.

Chief among the most reliable subjects for bedding as tall plants, either pyramidal or standard trained, is Pelargonium Clorinda, a hybrid form with scented, rugose leaves and pretty bunches of deep pink flowers, carried all through summer. It is exceedingly vigorous in growth, and makes handsome standards in nine months from the cutting. Heliotropiums require longer to develop as standards, the best varieties being President Garfield, Lord Roberts, and Dr. Jeulin. Swainsonia galegifolia alba is one of the lightest and most graceful of summer plants, the pure white flowers being admirable in contrast with flowers of a deep pink or crimson shade. Cuttings of the previous autumn give plants a yard high by the following June. Where larger specimens are required it is desirable to use plants of two years' growth. Lantana delicatissima rivals the preceding in gracefulness, and introduces a distinct colour in bedding. Being a woody shrub, it is comparatively slow in growth, and where large plants are required, two seasons are at least necessary to secure this. Cuttings rooted in autumn produce nice bushy plants that are excellent to employ as groundwork; it is exceedingly free in flowering and always effective in autumn.

Plumbago capensis, for its unique shade of lavender flowers, that are most freely produced in autumn, is more a subject for favoured localities and warm seasons, as under adverse conditions it generally grows rank in wood and sparse in flower. Most popular of all, for tall pyramids, are the ivy-leaved forms of pelargonium, as they are exceedingly rapid in growth, brilliant in colour, and effective from May till November; Mdme. Crousse, pale pink; Galilee, soft rose-pink; Her Majesty, salmon; Souv. de Chas. Turner, rose-crimson; and James Hamilton, almost scarlet, are the most distinct and reliable varieties. Fuchsias lend themselves for standard work, as the pendulous flowers are then displayed to the best advantage. Charming is a reliable variety, with carmine and purple flowers, Alice Hoffman, has carmine and white semi-double flowers, and Sunray with tricolour leaves is valuable in contrast.

Calceolaria amplexicaulis, with large, soft lemon-yellow flowers, is a valuable asset in bedding, as it readily produces pyramids up

to four feet in height, and Streptosolen Jamesoni, an old greenhouse shrub, with huge-branched heads of rich orange flowers, is most effective when associated with lemon, lavender, and blue flowers.

Plants of an intermediate height are represented by Marguerites Queen Alexandra, Mrs. F. Sander, and Boule de Niege; cuttings of these taken in autumn and grown on under glass during winter, form large plants for placing in the open during May and June; dwarf cannas come under this section, their richly coloured flowers of many hues, in conjunction with their bold foliage, being most effective in mixed arrangements. Leucophyton Browni, when grown into dwarf pyramids, is valuable as a contrast, owing to the striking, silvery-white foliage; it is readily propagated by the growing points in autumn and spring, and Kochia trichophylla for its pale grass-green, feathery leaves, that glow a ruddy crimson in autumn, being distinct from all other bedding plants, its effect is always readily apparent. The last-named is an annual, easily raised from seed sown in March. Among low-growing bedding plants the variety is exceedingly great, and is, to a large extent, dominated by pelargoniums of the ivy-leaved and zonal sections. Of the latter section the most popular variety is Paul Crampel, with bright crimson-scarlet flowers. A distinct sport from this variety has flowers of a bright salmon shade. Of older single-flowered varieties, Henry Jacoby, crimson; Master Christine, pink; Robert Hayes, pearly-pink; Queen of the Belgians, white; and Vesuvius, scarlet; and of double varieties, Hermoine, white; Improved Raspail, orange-scarlet; and Mrs Lawrence, pink; are all effective and reliable. Of the ivy-leaved section those previously named are best. Achievement might be added, as it is neat in habit and equals any in the display produced.

Verbenas rival pelargoniums for a brilliant effect. Miss Willmott, pink, and Princess of Wales, dark blue, are two of the best; cuttings of the first-named are best struck in July, and, if potted up and grown in the open on a cinder bed, they make first-rate stock plants, not liable to be attacked by mildew. Princess of Wales may be struck in the ordinary way now, as mildew does not attack it to any serious extent. Verbena venosa is distinct from the others, having rich purple flowers; it is best grown from seed sown in August and grown on steadily till planting-out time. Iresines Herbsti and Lindeni and Coleus Verschaffelti are much in request for their highly-coloured foliage. Cuttings strike readily at the present season, from which cuttings are readily obtained in spring. Where tall plants of these are required, earlier propagation is advisable, and the plants grown on steadily without check, until the desired height is obtained. Numerous other subjects are in request for summer bedding, but their propagation does not materially differ from those already enumerated, which, with few exceptions, require the protection of glass, and a certain degree of heat, during winter. Plants like pentstemon, antirrhinum, and Veronica Andersoni variegata, are also propagated by cuttings in the autumn, but these only require the protection of hand lights to render them safe from frost. Stock plants of bedding subjects are best kept on the dry side during November, December, and the early part of January. It serves no useful purpose to force growth during that period, while plants over-watered are generally weak, and rarely produce satisfactory cuttings.

THOMAS SMITH.

Coombe Court Gardens.

THE JAPANESE GARDEN.

In pressing the Japanese ideal for what it is worth, let me say at once that I am not impelled by any idea of deficiency in English gardening. Not at all! My one aim and object is that the manifold art and peaceful beauty embodied in the Japanese garden should be utilised in this country as a branch of garden art alone.

The possibilities in either case are vast. The changing effects are endless, the whole is one interwoven picture of contrasts and harmonies of peaceful beauty and inspiring effects. The possibilities of the garden are utilised in such a way that one can only marvel at the garden values brought to light by following the Japanese ideals. That the Japanese are expert copyists, such as few English garden workers can equal, is without doubt. They will reproduce in the garden "a view of Fuji-Yama, even to the snow-capped peak," "a vista of Matsushima with its pine-clad islets, set in a summer sea," "a rocky waterfall, with darkening, distant trees and a massing of azaleas and maples on the hill-side," as one might see round Nikko, or "a miniature River Sumida, with the cherry orchards clustering on its green sloping banks," or aught else that the Japanese eye can see, or the Japanese heart desire.

But this is not necessary to the English garden-maker. We do not need these reproductions. What we do want is to get the ideals of this artistic race into our minds and apply them to the garden or gardens which we may have the opportunity of developing. The ideals which will help us to give every garden feature its true proportions will assist us to make the garden a haunt of pleasing diversity, a home of repose, a place to be remembered for its charming features and its telling effects.

Now to the point. To the utilisation of a correct ideal. There are two great essentials—rocks and water. Between these two one must evolve the main part of his picture. This requires "eye work" and "brain work." A good survey of the space available, and then a thoughtful consideration of how to make the most of the picture.

The "natural ideal" must predominate. If you have hill-side or mountain cliff, river bank or ferny glen, they must be where they would be in Nature, and be planted up with just those plants and trees that one would expect to find in such positions.

Then, again, everything must be proportionate. The rocks used must be of sufficient size to create a hill-side effect, otherwise all values will be lost. The stepping-stones must be stepping-stones, not pitfalls for the unwary. Yon distant hill must appear as a "distant hill." It may be the highest point in the garden, but it must not "predominate over the entire scene." Let it rise, if possible, at the back of lower hills, and be covered with low pines, or other mountain trees.

With the pools and water-courses, let them be in accordance with the arrangement of the ground around. A deep, slow-moving stream, or large lake, is only possible where one has an open expanse of ground. Amid rocks and sharp hills the streams will be small but quick in movement, and the pools comparatively small, and here and there flanked by rocks. A typical mountain pool, and not a marshy mere, is required for such a position.

If a jungled dell is desired keep it on one hand of the water-course, where the ground does not rise very quickly. A low depression with gently sloping banks would be ideal, and one could group bamboos, eulalias, glyceras, irises, etc., in a delightfully informal manner.

Bridges and Tea Houses, etc.

Here, again, warning is necessary. In the matter of garden bridges and tea houses the effect is often spoiled by elaboration. One should err, if he err at all, on the side of simplicity. A plainness of material, and softening, unobtrusive outlines should be the aim in either case. Here rough material in an artist hand is far more effective and harmonious than the more finished work of the expert mechanic. Bear in mind that all garden woodwork and garden houses must exist for a purpose. Do not put them in merely for the sake of "filling up the picture." Your bridges must exist to carry you over a waterway, but if the space is not sufficiently large to warrant a bridge, then a causeway of stepping stones would be more in keeping in providing a means of crossing the water dry shod.

The tea house should (if required) be made in proportion to the size of the garden, and its formation. Let it be overhung with wistarias or vines, or clematis, or other suitable climbing subjects. A bower of beauty!

"A Garden of Changing Scenes."

The present craze for stone lanterns is, perhaps, more a passing fancy than anything else. In it there is a certain danger of over-doing this phase of ornamentation, and producing a crude effect. Properly placed, a stone lantern is an asset to the informal garden. A low valley-lantern on a water-worn rock by the streamside, with a few hydrangeas, irises, or other subjects grouped at the sides, may well be effective, or a taller lantern of Kasuga pattern, near a grove of bamboos or a wide-flung pine, would give equal value. But beware of repetition and crude bizarre effects.

With my concluding notes I desire to draw attention to the value of diversity and changing effects. Half the value of any garden, and more than half the charm, is lost if you can see it all at a glance. One or two rock gardens recently designed with a view of producing a Japanese effect fail at this point. You can see the whole from the entrance! It is much more desirable, more pleasing, to wander through a garden where fresh beauty and new scenery confronts one at every turn. The pleasure of a hidden lily pool, an iris swamp in a depression, a range of stepping-stones through a waterway where one least expected them, a tea house half-hidden in a bower of greenery, an unexpected view through a hillside opening—these and many others are what constitute the charm and delight of a garden. Diversity and exquisite touches of natural beauty tell more than anything else.

Then the value of an ever-changing landscape! This is a strong point of mine in garden-making. By utilising the beauty of bulbous plants, flowering shrubs and trees, perennial plants, and waterside subjects, one can arrange a series of garden pictures which will carry one from beauty to beauty throughout the greater portion of the year. Especial displays of given subjects may occur by devoting space and attention to lilies, pæonies, irises, wistarias, azaleas, chrysanthemums, maples, or such other subjects that one might particularly desire. The idea is of distinct value. One should utilise it to the full.

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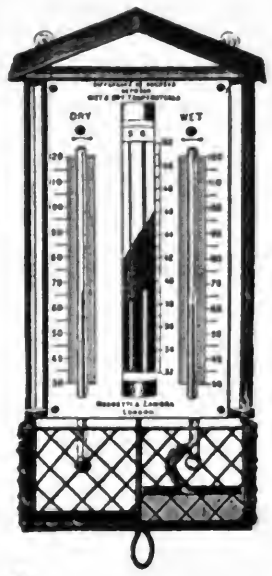

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Of all vegetables raised annually from seed perhaps none is more appreciated than the first dish of peas. At one time good peas in May realised high prices, as much as 1s. 6d. to 2s. per pound in the pods, but in recent years larger supplies have tended to reduce the price. Some seventeen or eighteen years ago, Mr. Norman Davis, one of the earliest cultivators of peas under glass for market, secured handsome returns when he commenced growing high-class culinary peas in the huge house in his nursery at Framfield.

The best results are obtained by sowing in the natural soil of the floor of a cold house, the soil having been previously double-dug and manured. Where lime is deficient, a liberal dressing of powdered chalk should be applied, or a smaller quantity of freshly slaked or even air-slaked lime.

I find, however, as I believe Mr. Davis did, that where the peas are grown annually in the same soil, no matter how thorough the preparation, the crop after a time falls off, and the individual plants are liable to become affected. Eel-worm also makes serious inroads on the energies of the plants, so that it is well to give the soil a rest every other year. I might say this deterioration is less marked on heavy than on light soils.

Varieties of moderate height, as Gradus, Early Giant, and Ideal, are most suitable. Ideal is the earliest pea I am acquainted with apart from the very dwarf peas. It bears at a lower node than other peas of the type. In structures with sufficient head-room, Duke of Albany, Centenary, and Harvestman may be included to prolong the supply. Two good second early pears of moderate height are Superlative and Discovery.

Selection of stock is important in the case of peas in the open, but doubly so when the seed is required for cultivation under glass. I know of no vegetable, excepting perhaps beet, which deteriorates so rapidly under indiscriminate methods of seed-sowing as the pea. The high price of good stocks is well repaid in the increased return.

A short time ago we had a number of rows of Duke of Albany grown from seed saved from the crop of one row. One-half of the rows was grown from seeds saved from selected pods, and selected plants bearing in pairs. In this set every pod was rejected which had not produced ten peas per pod. The remaining rows were grown from seed harvested after the selected pods had been gathered.

No one would have taken them to be the same stock, although every plant in the first instance sprang from seeds of one pod, and only a year or so before. Unceasing selection and re-selection has to go on if the standard is to be maintained, and hence the difficulty—the impossibility—of placing large quantities of high-class seed peas on the market at a low price.

We make our first sowing in a span house in the last few days of the year, the rows being three feet apart. Tall varieties will, of course, need more space. Sow thinly in drills six inches wide, and the individual seeds two and a-half to three inches apart, and cover half an inch deep. We usually rake in a dressing of superphosphate and wood ashes previous to drawing the drills.

The spaces between the rows are filled up with three rows of a small cabbage lettuce pricked out about the middle of January from seeds sown in the last half of November in a house with a night temperature of 45 to 55 degrees.

Those who have pits and frames sufficiently deep may sow dwarf kinds in rows eighteen inches to two feet apart or the seeds may be sown in pots, and subsequently planted out in the frames.

For planting outdoors I find the best time to sow is about the first week of February, sowing six or seven seeds in a large 60 or 54-sized pot. If sown earlier, the plants are apt to become too large before the weather permits safe planting out, except it is in those parts of the country where the winters are comparatively mild. The balls may be planted out unbroken one foot apart. Unless division of the roots is done very carefully, and the weather is favourable, the method of placing the plants out separately a few inches apart is liable to give the peas a serious check.

Peas in the early stages will not be hurried, and if growing in heated houses, only sufficient heat should be applied to keep out frost. Ventilation, too, must be attended to, or a close, damp atmosphere will bring about mildew and mould.

Turnips.

These are not in great demand, but a few may be sown in drills, six to eight inches apart toward the end of January or early in February, and intercropped with radishes. Thin when large enough to six or eight inches apart. The smaller distance is sufficient for the French Long White, which is the best for the earliest sowing. The February sowing may be the Red and White Milan, which need a little more space. The beds for these would be similar to those used for lettuce at this date. Turnips are sometimes disappointing. Unless carefully ventilated and watered, they are apt to bolt in the early sowings.

Vegetable Marrows.

Where sufficient room exists a few of these may very well be grown if variety is wanted. There appears to be a fair sale for them in June. The bush kinds are the best for frame culture. Seeds can be sown early in February in a mean temperature of 60 degrees in single pots, and the plants placed out at the end of the month on a mild hotbed, one to a sash, in a heated pit, and planting in good soil. The flowers may need fertilising at this time of year, as is sometimes the case with later sowings planted outside with some protection early in the season. Bumble-bees appear to be the chief agents in pollinating the flowers, and there are few of these about in the spring.

From want of oversight, it happens sometimes that all the earliest embryo fruits rot for want of attention in the way of pollination. The variety Tender and True is as useful a vegetable marrow as any to grow for the earliest supplies.

Reading. F. DREW.

ERICA LUSITANICA.

This erica, better known as E. codonodes, is undoubtedly the most beautiful of the tree heaths, and is especially valuable from its habit of flowering in the depth of winter. Before the old year has departed in Devon and Cornwall its earliest buds begin to show white, and before the conclusion of January, in the south-west, it is generally in full flower. Large specimens present a charming sight when in full blossom, appearing from a little distance like tall pyramids of white, faintly tinged with pink, six feet or more in height. The character of growth of this heath is erect, and the upright sprays, studded with a profusion of drooping, white, elongated bells, have the appearance of snowy plumes when cut. The individual blossoms, when closely examined, show a suspicion of pink, but this is scarcely apparent when they are seen in a growing bush. Since it is a native of Southern Spain and Portugal it can hardly be considered absolutely hardy, though to the south of London it is rarely injured by frosts, and in the south-west grows luxuriantly.

Though delighting in a peaty soil, it will, like rhododendrons, azaleas, and kalmias, flourish in a sound, porous loam that contains no lime. In some gardens it increases freely by self-sown seedlings, and on the embankment of a certain little Cornish station there are numbers of plants that have sprung from seed. Self-sown seedlings are cleared away when they threaten to crowd other plants, but they transplant easily, and soon almost rival their parents in size. It will occasionally attain a height of nearly ten feet, with a diameter of about four feet, if left untouched, but if it is annually cut hard for flower sprays it assumes a dwarfer habit, a bush in a neighbouring garden that has been treated in this manner for years now being about five feet in height and six feet across. Its foliage is of an extremely rich green, and the flowering season is a very prolonged one, generally lasting for three or four months. Erica mediterranea and E. arborea also do well in Devon and Cornwall, one of the largest specimens of the former being about eight feet in height, and fifteen feet through, while E. arborea considerably exceeds even these large dimensions.

WYNDHAM FITZHERBERT.

South Devon.

Clerodendron fallax.—The plants that flowered in autumn and have been reduced to the well-ripened wood, will by this time each show several young growths. These, if taken off with a small heel when about 3in. in length, inserted singly in small pots containing sandy soil, and plunged in the propagating frame, will be found to root readily. Shifted on into 5in. pots when nicely watered, they will provide a useful early summer batch. When grown from cuttings they rarely attain so high a state of development as well-grown seedlings. A batch for autumn-flowering may be raised by sowing seeds at once in a shallow pan. We prefer to save our seed, and, having carefully ripened it, store it in a small box filled with dry silver sand. Before they are sown the seeds are soaked in tepid water until they commence to swell when they are carefully dibbled in a seed pan about thirty in each. A compost consisting of loam, peat, leaf-mould, and sand, is used in filling the seed pan. Place a sheet of glass over the pan and shade until the seedlings appear, when they will require a light position. When of a size convenient for handling pot off singly, using a rich compost, and continue to grow near the glass in the stove until ready for the final potting. H. PRIME, Hatfield House Gardens.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

DECIDUOUS DENDROBIUMS.—The early-flowering plants, both of species and hybrids belonging to the deciduous section of dendrobiums, will now be pushing their flower buds from the sides of the matured pseudo-bulbs. In private gardens, where a succession of flowers is required through the winter and spring months, these plants are exceedingly useful, and by taking a little care in selection, they may be bloomed in batches, and a continuous supply of flowers obtained. It is a great pity these dendrobiums are not so extensively grown, as was the case a few years ago. It generally follows, however, that where plants cease to be fashionable, the opportunity is given for procuring the most useful kinds for a modest outlay; and where facilities are available for cultivation, it is desirable to procure a varied collection of the better kinds now the market is favourable for the purpose.

FLOWERING OF DENDROBIUMS.—In taking plants from their resting conditions, it is advisable to avoid any sudden excitement in the matter of temperature and treatment. It is desirable to select for starting into growth first those plants that have the flower buds well advanced. If possible, arrange the plants that are showing their flower buds separately for the first batch, have them removed by degrees into the warmest house, and place them in a position where they may obtain the full benefit of the available light. Supply water to the roots sparingly until the flowers commence to expand, and then more liberal treatment may be given. Care should be observed to see that the water is a few degrees warmer than the temperature of the house.

REPOTTING DENDROBIUMS.—Any repotting necessary may be attended to as the plants pass out of bloom. The advancing young growth emits new roots early, and to avoid injury to these potting should be attended to at an early period. Deciduous dendrobiums do not require a large bulk of potting material about their roots. Good fibrous peat and chopped sphagnum moss, with sufficient sand and broken charcoal intermixed, forms an excellent compost. This should be pressed firmly about the roots. Neat stakes to secure the pseudo-bulbs in position should be fixed where necessary and desirable. In the early stages of growth watering must be carefully done; considerable advantage will be found from syringing or spraying overhead in bright weather.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

EUPHORBIA FULGENS (JACQUINIÆFLORA).—This beautiful winter-flowering subject, now at its best, may be kept so for some time in a temperature of about 60 degrees, the atmosphere fairly dry, and the plants kept rather dry at the root. Plants from which the flowers have been cut should be examined weekly for the purpose of ascertaining the condition of the soil with respect to moisture, applying just sufficient water to prevent the stems shrivelling. This will ensure their becoming well matured and furnishing cuttings that will root fairly easy from the early part of March.

POINSETTIA PULCHERRIMA.—As the bracts of the poinsettias are cut the plants may be assisted in the ripening process by gradually reducing the supply of water at the roots, until they have lost their leaves. They may be stored in a dry position in a house in which a temperature of not less than 55 degrees is maintained.

SEED SOWING Stove plants grown for their flowers, which may be raised from seeds sown now include Amaryllis (Hippeastrums), Exacum macranthem, gloxinias, and streptocarpus. Among fine foliage plants that can be readily raised from seeds at this season are Asparagus Sprengeri, A. plumosus, A. decumbens, and others, grevilleas, and Rex begonias. A mixture of loam, two parts, leaf-mould one part, and peat one part, with sufficient sand to keep the whole open, will be suitable for filling the seed pans for all the kinds. The pans or pots should be clean, well crocked, and filled to within half an inch of the top with the compost. Water well before sowing the seed, which should be scattered evenly over the surface, and just covered with finely sifted soil. They may be plunged in the propagating pit, or in the hotbed material within the cucumber pit, covering with sheets of glass, and shading until the seedlings appear.

PROPAGATION BY CUTTINGS.—As shortly the propagating pit will be constantly filled it is advisable to strike as early as possible good batches of cuttings of such useful and easily-rooted plants as Panicum variegatum, selaginellas, and fittonias. Coleus will be found to root readily.

SAINTPAULIA IONANTHA.—Propagation of this beautiful and useful little plant is readily effected by means of leaf cuttings. Plants raised from leaves inserted at this season will produce a fine display during the summer months, given fair treatment. Leaves should be broken, not cut, from the plant, with an inch or so of the petiole, and inserted in any light, open place within the stove in a little sandy soil. By occasional light damping they will, in a short time not only have become rooted, but nice little plants will have been formed. Carefully pot them, using small 60's and a sandy compost, and reduce to a single crown. A place near the glass will suit them best, and, as with most newly-potted plants, great care should be exercised in the use of the watering-pot. Few plants will succeed if once over-watered.—H. PRIME, Hatfield House Gardens.

FRUITS UNDER GLASS.

PINES.—The few private growers who still cultivate these fruits successfully do not look to these calendars for instructions, so only a few hints are necessary as to their cultivation. The first batch of Queens should now be started to obtain ripe fruits in May and June with a bottom heat of 80 to 85 degrees. No advantage is gained by exceeding the latter figure, but the delicate roots may easily be injured. Those who have the beds heated with hot-water pipes have nothing to fear, as the temperature is easily regulated, but the uncertainty of fresh tan or leaves is very different, and great care and attention is necessary to maintain as steady a heat as possible. The beginner will see from these few remarks that success or failure turns upon a brisk, steady bottom-heat being maintained. Divest the plants when removed from the resting bed of a few of the short bottom leaves, and loosen the surface soil, and top-dress with good loam from the surface, which cannot well be made too firm round the collar.

EARLY VINES in pots and borders will now be found in various stages of growth, and the different operations must be attended to at the proper time. Disbudding and tying down will soon require daily attention, and later each shoot must be pinched at the second or third leaf beyond the bunch according to space. Syringing should be discontinued when all the buds have started, and the walls, paths, and borders lightly damped about three times a day. The temperature of houses that are closed now may range from 45 to 48 degrees, when in free growth 58 to 60 degrees at night or a little higher when mild, 70 to 75 degrees by day, and 80 degrees after being shut up. A little air should be admitted at all times, or at least should be admitted on all favourable occasions.

LATE VINERIES.—If all the grapes have not been cut, no further time should be lost in cutting the bunches with a piece of lateral, and placing them in the grape room with the end of the latter in water; otherwise there is danger of the vines bleeding later when pruned. Dress the wounds with styptic before the vines receive any water, and keep the houses dry and cool after cleansing until the end of February or March.

POT FRUITS.—Stone fruits of all kinds do well in pots when judiciously managed, and by forcing a score or two of the earliest sorts, the closing of permanent houses may be deferred. January is a good time to start the orchard house peaches, nectarines, pears, apples, plums, and cherries, commencing at the warmest end with peaches; of course, where separate departments can be devoted to the different varieties so much the better. The chief points are light, well-ventilated houses, healthy trees, avoidance of high and close temperature in mild weather, or falling below 40 in severe Weather.—F. JORDAN, Water Priory.

THE FLOWER GARDEN.

DELPHINIUMS.—In all well-arranged herbaceous borders, perennial delphiniums form a strong feature early in summer, and are of great beauty. An autumn display is somewhat uncommon and most attractive, and is by no means difficult to attain. For this purpose they require treating similarly to some annuals, and if well grown 95 per cent. of the plants will produce spikes during August and September of the first year that will range from three to six feet in height. The seed should be sown now in pans, and be placed in a gentle heat to assist gerination. When the seedlings are large enough, prick them off three inches apart in boxes containing about four inches in depth of rich soil. Grow them on in a moderately-heated pit in a light position until well rooted, then transfer them to a cold frame, which should be well ventilated on all mild days. Towards the end of April they will be ready to plant out. Prepare the ground previously by digging it deeply and adding a heavy dressing of well-decayed manure. Allow twelve inches each way between the plants, and water them well in if the ground is at all dry. The after treatment consists chiefly of frequently moving the soil with a hoe, and should a very dry spell be experienced, an occasional soaking of water will be very beneficial.

STOCKS OF SUMMER-BEDDING PLANTS must be carefully examined, and if there is a likelihood of any shortage occurring, immediate steps should be taken to make up the deficiency. In many instances this can be overcome by placing all available stock plants into a moderate heat, and so encourage them to produce young growths for the supply of cuttings. Heliotropes, lobelias, pelargoniums, salvias, etc., started now will give cuttings that will root most readily. Young plants of heliotropes and fuchsias that were rooted in August, which are intended to be grown on to make standards or pyramids, will now be growing freely in 6in. pots, and an effort should be made to maintain a vigorous growth without a check. Artificial manure and soot-water applied weak and often will greaty assist them. Pinching the lateral growths and tying in the leading shoots must be attended to regularly. Frames and pits containing calceolarias, pentstemons, violas, etc., will now need increased attention, and every opportunty should be taken to admit air whenever favourable, avoiding cold draughts. As growth becomes active amongst the various inmates, most of them will require pinching to induce side and base growths to develop.—T. B. FIELD, Wych Cross Place Gardens.

SHRUBS FOR WINTER EFFECT.

In the formation of shrubberies, or in adding to existing ones, consideration should be given to species and varieties that contribute, either by their flowers, fruit, leafage, or stems, brightness to the scene in winter and the dull season. It may be suggested that subjects that answer to this description be concentrated in such a position that they can be seen from the windows of the house, and certainly a cheery outlook could be created in this way.

In addition to the various conifers with coloured foliage, aucubas, the hollies, which illuminate the landscape with their fiery fruits, and many other subjects may be pressed into service. Amongst deciduous subjects we have nothing to compare, as far as brilliance and freedom of flowering is concerned, with Jasminum nudiflorum, which with the advent of winter hastens to clothe itself in pure gold. It is perhaps seen to the best advantage against walls, but in the shrubbery, provided it is sheltered by shrubs of larger growth, it will prove free in flowering, and highly attractive when in bloom. Almost before the old year has resolved itself into a memory the brilliant Pyrus japonica becomes a mass of tiny scarlet balls, and everybody knows how it hastens to expand and exhibit its ruddy colouring if the weather remains open. It is very generally employed in gardens as a wall shrub, but grown in bush form in shrubberies its value is clearly demonstrated. Hedges are formed of this plant in the county of Devon, also Cornwall, and what a beautiful effect they produce over a long period. The laurustinus is essentially a winter-flowering subject, and renders good service if sheltered from north and east winds, and is second to none for our purpose. Mature and green fruits, also flower buds and expanded blossoms, can be found upon the Strawberry Tree (Arbutus unedo), and its handsome hybrids, throughout the winter. In consequence thereof they are splendid additions to the list of winter subjects, and several good specimens should exist in every shrubbery.

Very effective is Pyracantha Lelandi with its wealth of scarlet berries, and it looks well covering a rustic pole or old tree stump, while Cotoneaster Simmondsi forms a handsome bush. Several of the honeysuckles possess the temerity to bloom while the year is yet young, and the offering they bring is characterised by delicious fragrance, the same remark applying to Chimonanthus fragrans. The Glastonbury thorn and the almond trees must find a place; the first-named is erratic in its behaviour, and at times fails to maintain its reputation, while the lovely inflorescence of the almond tree, borne in prodigal profusion upon the leafless stems early in the year, are often badly hit by frost.

The sea buckthorn and Skimmia japonica extend the list, and the more choice elæagnuses supply coloured leafage, as does also the gold and silver ivies, which should rise in column form trained upon large tree boles. I have yet to call attention to species of rhododendron which exhibit their charms early in February, namely, Nobleanum, præcox, and altaclarense. With regard to these it is necessary to add that if it is seen that severe frosts are likely to occur when the flowers are expanding, protection should be given by means of bracken or St. Petersburg mats carefully placed over the plants at night. Daphne mezereum will diffuse fragrance, as well as give colour to the shrubbery, while Garrya elliptica and Clematis calycina are charming additions.

We possess splendid material in the hardy heaths for beds and the front of shrubberies, and if planted in the latter, in groups of a dozen or more of suitable species, present a very cheery and effective appearance. Shrubs with coloured stems play an important part in the decorative scheme, and amongst these Cornus alba is a good example in bright red. The stems of Salix vitellina are of a golden hue, while those of S. argentea and S. daphnoides are white and bluish respectively. The "Lady of the Woods," otherwise the birch tree, should be represtnted on account of its glistening white bark; also Rubus biflorus, which has a decided glaucous bloom upon its stems. Lastly, great clumps of the Christmas rose should be encouraged, through the protection of the surrounding shrubs, to yield a succession of bloom, while great colonies of winter aconites and snowdrops, primroses and violets, are indispensable in the formation of this interesting feature, which may be termed an outdoor winter garden.

WALTER H. AGGETT.

CHOICE ALPINE FLOWERS.

From among the multitude of good alpine flowers now being placed before the public we may well select a few for notice as excellent and choice plants, not necessarily new, yet not common in gardens, and, notwithstanding this, not expensive to purchase.

Æthionema grandiflorum.

In this plant we have one of the easiest and freest of all the æthionemas, or Lebanon candytufts, refined sisters of the iberises, most of which have pretty blue-green leaves and nice spikes of flowers. There are some of special beauty, which may be reckoned as dwarfer and choicer than Æ. grandiflorum, but for general effect this carries off the blue ribbon for its value. Taller rather than most of its allies, it sometimes makes a nice spreading bush about a foot high, and yielding for a long stretch its nice rose-coloured flowers It is among the hardiest of the race, but, like its charming sisters, loves sun, lime, and a dry place. It may suffer from wet in winter, but in summer, when once established, Æthionema grandiflorum apparently delights in all the sunshine and almost torrid heat of our hottest and driest summers—all too few indeed, but welcome to this plant when they do come.

Alyssum montanum.

We observe a few of the alyssums or madworts in many gardens, and too much space is frequently devoted to the glowing mounds of yellow given by Alyssum saxatile, to the exclusion of some of the daintier and fascinating, though smaller and less effective sister flowers. A plant one only comes across now and again is A. montanum, the Mountain Madwort, which is, perhaps, the best of the smaller and more truly alpine species. Those who know it not may possibly realise something of its beauty when they are told that it is a charming hoary-leaved little plant, growing some three inches high, and bearing a host of its small yellow flowers, which have the added attraction of sweet scent to delight the olfactory organs of those who take pleasure in the fragrance of flowers—and who does not? Alyssum montanum need give little trouble if planted on a sunny slope and in a soil with a modicum of lime, if possible, although this is not essential. A packet of seeds, purchaseable for a few pence, will give plants enough and to spare, or small ones may be purchased from hardy plant dealers at a low price.

Silene Elizabethæ.

One wonders why Silene Elizabethæ always remains so scarce, and why it is so seldom to be met with in nurseries. Probably we may see it oftener nowadays when the moraine, large or small, is becoming indispensable to every good rock garden. It is most at home there, especially where there is some lime intermixed with the gravel or stone chips. The free drainage appears to suit this catchfly exceedingly well, but those who lack a moraine will not be disappointed with it provided they will plant it in stony parts of the rockery, where it is exceptionally well drained. One would expect a silene like S. Elizabethæ to be a craver for sun, but in the moraine it will flourish with either sun or shade, while in other parts it evinces a preference for a cool place. As for the plant itself, it has been well described as like a clarkia in its rose-coloured blooms, which grow on arching stems some six inches high, reared above the glossy, nice green leaves. It can be raised from seeds, not often offered, by the way, or by division. This Tyrolese species can be bought for a shilling or eighteenpence, and the price is not too high to pay for such a charming alpine.

Douglasia vitaliana.

One wonders why such a charming alpine as this has so many aliases. We do not generally associate an alias with a desirable character when assumed by any of the human race, and even in the kingdom of Flora we hardly appreciate the plant which has a long list of synonyms. Few are fated to have so many as the one under notice, which has been bandied about by the botanists from Androsace to Aretia, and from Aretia to Primula, and from Primula to Gregoryia (I am not adhering to the precise order of the process), and is now, for the nonce, at least, dubbed Douglasia vitaliana. As such we are content to take it now. No choicer plant can well be in a rock garden than this. Where it does well, it makes a close, tiny carpet of soft, mossy-looking bright green, rather silvered leaves, which in their season, when the plant does well, are spangled with charming little yellow flowers. Now we are told that this likes limestone crevices in full sun. So it does, but these are not essential, and one needful thing is not always granted in artificial limestone rocks. This is moisture at the roots, and, sun-lover as it is, drought is hateful to this Douglasia. But by all means attempt this charming—nay, exquisite—alpine.

Mertensia echioides.

It seems but a short time ago that we were confined to some three of the taller, or border, mertensias, but now we have some dainty kinswomen for the rock garden, and these are of still greater beauty, and mostly of rare value for the cooler corner of the rockery. None can well be prettier than M. primuloides, which grows some six or nine inches high, and has neat little tubular flowers, that, like those of its taller sisters, change in colour from the time they open. Ruby, blue, purple, and intermediate shades are to be seen on these flowers, so that the plant, taking it all in all, is a subject which may and does command our highest admiration. As for its culture, it is not difficult, but it does not enjoy a dry, sunny place, and should be in a cool, peaty soil, or in good, though not stiff loam, in a shaded or semi-shady nook. Mertensia primuloides is one of the alpines we delight in as the year comes round.

S. ARNOTT.

ALTERATIONS.

It has been said, not without a considerable amount of truth, that the greatest pleasure of gardening consists in the making of alterations. I used to know an ardent old amateur whose enthusiasm was not lessened by the near approach of his tenth decade, who used to make a considerable number of alterations every year, though they were principally of a minor character, and his greatest delight was to take friends round the garden and describe what he had done, speaking with great gusto of the effects that would be produced in two or three years' time, and though he would sometimes admit that he might not live to see them, his keenness was not dimmed by the thought, and he had reason on his side, for do not actuarial tables tell us that even at the age of a hundred a man still has an expectation of more than a year's life?

Now this is not altogether the delight in change for the sake of change, as ladies sometimes change the position of a piece or two of furniture in a room, without any idea of improvement. It takes a long time to exhaust the possibilities even of a suburban rectangular back garden, and when people have lived in a place for twenty years they are sometimes suddenly seized with the idea of an alteration which is such an obvious improvement that they wonder how it is they never thought of it before. It is not only that ideas dawn upon us after this lapse of time which might equally well have come to us before, but our minds have been, or should have been, growing all that time, and our taste and our ideas of beauty developing, for when we cease to grow it is the near approach of the stagnation of all things. And besides the changes in our ideas there are changes in the garden itself, which make other changes inevitable, whether we will or not.

Of these many instances might be given, such as the decay or increasing size of trees and shrubs, the necessity of changing the positions of very old beds of roses, asparagus, and the like, besides the effect of our neighbours' building, tree planting, and so on.

All these changes need to be done at the right time, and in the right way. There are some homes without repose, where there is always some part of it in a condition of being cleaned or done something to, or where the inmates are always in haste to be doing something, either at home or out of it, with the result that there is a general atmosphere of unrest, and an entire absence of those features in the home life of the Arnolds at Rugby which made Thomas Carlyle describe it as "a temple of industrious peace." So, in many gardens, there is always a state of unreadiness for the inspection of visitors—a heap of rubbish to be burned or buried, a rockery in the making, an arch broken down and not yet repaired, and so on—with the result that the garden lacks what should be, next to privacy, the most precious feature of all gardens—the sense of repose, which makes the garden a place to dispel our moods of irritability, worrying, depression, and other conditions of mind, which, if we ever experience them, are best dispelled so quickly that they are a long time before they return to us.

In order that the making of alterations should not destroy this most precious feature of the garden, even temporarily, plans should be well matured before being put into execution. We expect to see our gardens in the making during the autumn and early in winter, and any muddle there may be seems rather in keeping with the season of whirling leaves and battered stems. An exception should be made, perhaps, in the planting of evergreen shrubs, which are not most successfully planted then as well as some plants. At this season we frequent the garden more for work than for repose, and the taking up of plants and the barrowing of earth and manure, do not spoil the harmony of the place, as the soil usually works so well that it seems intended by Nature that we should take advantage of the season for this work. In the spring there will not be that appearance of discomfort about unestablished plants, which need to be kept watered after a dry fortnight in April; they will start so well that they will make us forget the wild disorder a few months before. Nothing proclaims the thoroughgoing enthusiast so clearly as the use he makes of the month of November for works of this character. The half-hearted amateur, if he can even be called a gardener at all, wonders what interest there can be in a garden at midwinter, and what there can be to do then, but the other knows that it is the season for wheelbarrow, pickaxe, and spade, and the season of all the four when he would least soon be away from it, for there is more enjoyment and more real satisfaction in moving plants, renovating beds and borders, and making general alterations at that season than in any other part of the year.

ALGER PETTS.

THE AMERICAN WITCH HAZELS.

Although it is usual to speak of Hamamelis virginica as the American witch hazel, and to regard it as the only species indigenous to the New World, there is another distinct kind, which, although sometimes classed as a form of the better-known shrub, is considered to be quite distinct by Transatlantic botanists. H. *virginica* is usually considered as the least decorative of the several witch hazels, and it is certainly a less desirable shrub than the several Asiatic kinds insomuch that it blossoms in autumn, usually before the fall of the leaves, therefore its golden flowers, which have the familiar thread-like petals common to the genus, are less noticeable than those of the various sorts which blossom from leafless branches. It has, however, an asset in autumn which makes it worth planting, for the leaves assume a pretty golden hue before they fall. In its home in Eastern N. America it is regarded as a useful economic shrub, for its bark is used in the preparation of cooling ointments, etc.

The second species is H. vernalis. It is said to form a bush six to seven feet high, with a considerable spread, increase in width being added to by shoots, which appear from underground stems. The leaves are three and a-half to four inches long, and two and a-half or three inches wide, the margins being entire on the lower half and deeply dentate above. They are hairy on the under-surface, and the young bark is also covered with hairs. The flowers have yellow petals, and the inside of the calyx is red. The latter is a distinguishing mark from H. virginica, for in that case the sepals are yellowish-green. The flowering time is also different, for whereas the older plant blooms in autumn, H. vernalis opens its flowers in January. Seen growing side by side at Kew H. vernalis appears to grow later than the other species, for at the end of October the ends of the shoots were not thoroughly ripened, and most of the leaves were green.

D.

TOO-MUCH-ALIKE SWEET PEAS.

The following varieties have been bracketed as too-much-alike by the National Sweet Pea Society, and it is stipulated that "Not more than one of the grouped varieties shall be shown on the same competitive stand at any exhibition of the National Sweet Pea Society." The names are placed in alphabetical order.

Blue—
Anglian Blue
Flora Norton Spencer
Kathleen McGowan
Zephyr

Blush—
Countess of Northbrook
Lady Evelyn Eyre
Mrs. Hardcastle Sykes
Princess Victoria

Carmine—
George Herbert
John Ingman
Mrs. W. King
Paradise Carmine

Cream, Buff, and Ivory—
Clara Curtis
Cream (Dobbie's)
Giant Cream Waved
Mrs. Miller
Paradise Cream
Primrose Paradise
Primrose Spencer
Primrose Waved
Princess Juliana

Lady Knox
Paradise Beauty
Paradise Ivory
Queenie

Cream-Pink—
Earl of Plymouth
Holdfast Belle
Juliet
Mrs. Alec Ware
Mrs. Henry Bell
Mrs. Hugh Dickson
Mrs. Routzahn
Mrs. S. S. Champion
Queen (Sutton's)
Queen Mary
Romani Rauni
Seashell
W. T. Hutchins

Cream-Pink (deep)—
Anglian Pink
Doris Usher
Lancashire
Minnie Furnell
Miriam Beaver
Mrs. Gibbs Box
Mrs. R. Hallam
Syeira Lee

Constance Oliver
Nell Gwynne

Crimson—
Anglian Crimson
Dodwell F. Browne
King Edward Spencer
Maud Holmes
Northumbrian Crimson
Paradise Crimson
Rosie Gilbert
Sunproof Crimson
The King
The Squire

Lavender—
Asta Ohn
Masterpiece
Mrs. Charles Foster
Mrs. E. Noakes

Florence Nightingale
Freda Unwin
Lavender Geo. Herbert
Lavender Paradise

Pale Mauve—
Bertha Massey
Mrs. R. H. Carrad
Winsome

Magenta—
Menie Christie
Mrs. Charles Mander

Maroon—
Anna Lumley
Black Knight Spencer
Douglas Unwin
Dusky Monarch
Maroon Paradise
May Gerhold
Nubian
Othello Spencer
Prince of Asturias
Silas Cole
Tom Bolton

Orange-Pink—
Anglian Orange
Helen Grosvenor
Helen Lewis
Maggie Stark

Mauve—
Amethyst
Empress
Helio-Paradise
Mrs. Walter Wright Spencer
Queen of Norway
Tennant Spencer
The Marquis

Orange-Scarlet—
Dazzler
Earl of Chester
Edna Unwin
Prince of Orange
Ruby (Aldersey)
St. George
Thomas Stevenson

Picotee Edged (Cream Ground)—
Evelyn Hemus
Mrs. C. W. Breadmore

Picotee Edged (White Ground)—
Dainty Spencer
Distinction
Elsie Herbert
Picotee
Winifred Deal

Eric Harvey
Marchioness of Tweeddale
Martha Washington
Paradise Apple Blossom

Pink—
Countess Spencer
Enchantress
Hercules
Paradise
Pink Pearl

Marjorie Linzee
Minnie Toogood
Olive Bolton

Salmon—
Barbara
Charlie Irving
Earl Spencer
Melba
Nancy Perkin
Stirling Stent

Flossie Jeffrey
Iris
Isabel

Scarlet—
George Stark
Premier
Queen Alexandra Spencer
Red Star
Scarlet Emperor
Scarlet Empress
Scarlet Monarch
Vermilion Brilliant

Striped and Flaked (Chocolate)—
President
Senator Spencer
W. R. Beaver

Striped and Flaked (Red and Rose)—
American Spencer
Lizette Lumley
Mrs. Wilcox
Paradise Red Flake
Uncle Sam
Yankee

Magnificent
Mrs. W. J. Unwin

Ethel Roosevelt
Gipsy Queen
Mrs. Tigwell

Rose—
Albert Gilbert
Lady Farren
Marie Corelli
Marjorie Willis
Rosabelle

White—
Etta Dyke
Freda
Moneymaker
Nora Unwin
Paradise White
Purity
White Spencer
White Waved

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EXHIBITIONS AND MEETINGS.

Horticultural Club.

TRAVELS IN BULGARIA.

On Tuesday, December 7, after the usual monthly dinner at the Windsor Hotel, presided over by W. A. Bilney, Esq., and at which a goodly numberof members and guests were present, a very interesting lecture, illustrated by lantern slides, prepared from original photographs and entitled "My Travels in Bulgaria," was given by Mr. Herbert Cowley.

The visit was made before the outbreak of the present war, but the lecturer gave a very vivid idea of the complicated "tangle," as he termed it, involved by the curious mixture in Bulgaria of natives of various and, as a rule, hostile nationalities and religions, which, of course, is not by any means ameliorated by the influence of the Turkish domination which has now presumably been thrown off by the recent outbreak.

Apart, however from the political associations, the country is very interesting from the botanical and horticultural point of view, a range of fairly lofty mountains reaching altitudes of 1,200 feet or more, providing habitats for a very varied flora and material for some very fine photographs of alpine and other plants in situ, which evoked much admiration. More particularly, the fact that Bulgaria is so much the home of the rose, that it is the source of that valuable essence known as "attar of roses," was of interest, and photos of the girls who are mainly the workers of that industry were reproduced in groups, which, however, failed to show such transcendent beauty as should be properly associated with so poetic an employment as the culling of the Queen of Flowers. Inasmuch as about 100,000 blooms had to be gathered to produce an ounce of attar, it is clear that its high value in the market is fully justified. Photos of natives and native priests, and also of their towns and villages, with the accompanying remarks, showed that cleanliness and godliness were not at all associated there, an article in the popular creed being indeed the sinfulness of washing at all, while the 'roads" were clearly rather preadamic than macadamic, being entirely unpaved even in the towns.

Poverty seemed the rule everywhere, the dwellings being of the most ramshackle kind, the inhabitants, both in costume and habits, matched their domiciles to a nicety. A portrait was shown of the King of Bulgaria, who, fortunately for Mr. Cowley, is himself an ardent horticulturist, and, as a result, gave him every facility and a guide, which secured him a hospitable reception everywhere, to his great advantage.

A short discussion followed, and a most cordial vote of thanks concluded a very pleasant and instructive lecture.

Bournemouth Gardeners' Annual Supper.

On Tuesday, January 7, the annual supper took place in the Avenue Assembly Room, Town Hall Avenue. There was a good attendance of members, presided over by Mr. Charles Stewart, F.R.H.S., a vice-president. The president, Mr. J. H. Ralph Smythe, J.P., F.R.H.S. was unavoidably absent.

The officials had very favourable reports to make. There had been a net gain of eleven new members during the past year. Two only had been lost to the society, one through death and the other had gone abroad. The total membership was now nearly one hundred and fifty. The finances of the society were in a very satisfactory state, there being a substantial balance in hand. The meeting was an enjoyable one throughout.

Ulster Horticultural Society.

The annual meeting of this society was held at Ye Olde Castle Restaurant, Castle Place, Belfast, on the 9th inst., with the High Sheriff of Belfast in the chair. There was a good attendance, among those present being: Mr. Alex. Dickson, Mr. R. Watson (the treasurer), Mr. Hugh Dickson, Mr. S. McGredy, J.P., Mr. Thomas Paul (the hon. secretary), and Mr. J. MacBride (the acting secretary).

After the minutes of the previous annual meeting had been read and adopted, the following report of the committee was submitted to the meeting: The twenty-fourth show of the society will probably be remembered as one of the finest, if not the finest, held under the society's auspices. In practically every department a distinct advance in quality and arrangement was noticeable. The spacious market was taxed to its utmost capacity to accommodate the numerous exhibits; never before has the cut flower section been of such extent and of such uniformly high excellence. Although the past season was one of the most adverse to the successful cultivation of fruit, seldom has a brighter or better display been staged in Ireland, the exhibition of pears being far above the average. Vegetables were a distinct and prominent feature of the show. The various collections shown were magnificently staged, and evidenced a high degree of cultural skill on the part of the exhibitors. This was particularly the case in the collection staged by Mr. Gibson, gardener to his Grace the Duke of Portland, Welbeck Abbey, which was probably the finest collection of vegetables ever staged in Ireland. The magnificent exhibits of the florist's art staged by Messrs. Alexander Dickson and Sons, Lim., Messrs. F. E. Smith and Co., and Messrs. A. S. Ritchie and Co., were a prominent feature of the show, and drew from the English and Scottish exhibitors and judges unstinted praise and admiration, and the encouraging assurance that in this department Belfast was far ahead of all other similar displays. The groups of stove and greenhouse plants and chrysanthemums were of a very high standard, and, although not quite so numerous as the previous year, attracted admiring crowds throughout the show. Special mention must be made of the magnificent group of conifers shown by Messrs. Hugh Dickson, Lim., in connection with which were introduced groups of their new roses.

Notwithstanding the fact that the society's shows are amongst the most beautiful and educative in the United Kingdom, it was with regret that the committee had to record a falling-off in public interest, the gate receipts having fallen about £37, and that under very favourable weather conditions. That, unfortunately, had been the experience of almost every large horticultural society in the country, as a perusal of their annual reports conclusively proved. Many explanations were attempted, the most general being the number and popularity of picture houses, which have sprung up in such large numbers everywhere within the last two years. Whether this be the real reason or not, the committee feel that they are faced with the fact that further support from the general public is necessary if the society is to continue its steady course of progress, and if its annual shows are to be in the future, as they have been since the inception of the society twenty-four years ago, a yearly record of the progress of horticulture in Ireland and an object-lesson of the possibilities of skilful cultivation and scientific methods.

Through the generosity of the Department of Agriculture and Technical Instruction for Ireland, the committee was enabled to extend the apple orchard competitions by inaugurating a new competition for young orchards from three to ten years old. A competition of this nature was much required, and they anticipated it would become a great stimulus to those planting orchards.

Mr. Robert Watson presented the financial statement, from which it was seen that the year was commenced with a credit balance of £83 5s. 1d. The total receipts were £802 19s. 5d., and the balance in bank at the close of the year was £66 15s. 11d.

The Chairman, in moving the adoption of the report and financial statement, said the falling-off in the receipts was not so bad as it seemed on the surface, as it only reduced their credit balance by a sum of about £17. The public had not during the year supported the society as they ought to have done. The annual exhibition was immensely attractive, and it was surprising that a greater number of those resident in and around Belfast did not embrace the opportunity of seeing the progress which is being made in horticulture, as indicated by the specimens of flowers, fruit, and vegetables which were sent in for competition. He was glad to learn from the report that their last show was the best which had been held under the auspices of the society, so far as quality was concerned, although the attendance should have been more satisfactory. He hoped that in the present year they would try to obtain more subscribers, so that at the next annual meeting they might be able to report an increase in their receipts.

Mr. Alexander Dickson, who seconded the report, said, as one of the active workers on the committee of the society, he wished to thank the chairman for the encouraging remarks he had made respecting the progress of the society and its educational value in horticultural matters in the North of Ireland. It was very gratifying to the members of the committee to know that their efforts were being appreciated, not only in the city of Belfast, but throughout the whole province of Ulster. They received congratulatory messages from all over Ireland; and it was generally acknowledged that of all the horticultural societies which had come into existence in the last quarter of a century none had enjoyed such long and eminent success in the face of such great difficulties as had the Ulster Horticultural Society.

The election of office-bearers was, on the motion of Mr. A. J. Morrow, as follows: President, the Lord Mayor of Belfast (Mr. R. J. M'Mordie, M.A., M.P.); committee, Messrs. John R. Allen, Thomas H. Dickson, Wm. M'Laren, F. W. Moneypenny, Wm. T. Braithwaite, R. Meyer, Alex. Dickson, R. Jamison, W. J. M'Clements, R. Draper, John Atkinson, A. Graham, D. Baillie, F. J. Dolan, R. Ewing, Robert Wilson, Thomas Bradshaw, John Harding, Alex. Dickson, J. B. Sproull, Hugh Dickson, Robert Irvine, W. H. Andrews, J.P., F. E. Smith, John Whytock, S. M'Gredy, J.P., James Davies, James M'Cormick, P. J. Tiernan, J.P., S. Graham, A. J. Morrow, Isaac Smith, Thomas M'Ervel, H. P. Pinkerton, F. J. Leitch, Wm. Watson, and A. S. Ritchie; hon. treasurer, Mr. Robert Watson; hon. secretary, Mr. Thomas Paul; secretary, Mr. J. MacBride.

A hearty vote of thanks to the High Sheriff brought the meeting to a close.

Royal Caledonian Horticultural Society.

The annual general meeting of the Royal Caledonian Horticultural Society was held in Dowell's Rooms, George Street, Edinburgh, on January 8. Mr. D. W. Thomson, senior vice-president, was in the chair, and there was an attendance of about 30.

The report for 1912 stated that, notwithstanding the bad season, both the spring and autumn shows had been well maintained as regards entries, the latter being the best autumn display since the International Show of 1905. The abstract of the accounts showed a small balance of income over expenditure, and it was mentioned that it was gratifying to observe that the public was giving the shows more patronage, the drawings for the two shows representing an increase of £45 on the previous year. The report was adopted, on the motion of Mr. J. W. McHattie.

Mr. J. Stewart Clark, of Dundas, was re-elected president, and Mr. J. D. Adair was elected vice-president. Messrs. Kidd (Carberry Tower), Methuen (Edinburgh), and Plant (Edinburgh) were elected to fill the vacancies on the Council.

Dundee Horticultural Association.

The ordinary monthly meeting was held in the Technical College on the 10th inst. The President, Mr. William Christison, occupied the chair, and there was a good attendance of members and friends interested in the subject, which was "Notes on the Great International Horticultural Exhibition, Chelsea, 1912." Mr. James Beats, Binrock Gardens, was the lecturer, and dealt with the subject in a racy and interesting manner, and with the aid of lantern slides his remarks on the varied features were greatly enhanced. Although upwards of five dozen slides were shown on the screen, each depicting an interesting feature, Mr. Beats remarked that justice had not been done to it, as the magnitude was bewildering. The rock and water gardens and the orchid tent and some of the outstanding trade exhibits formed the chief topics of his notes, which were heartily appreciated by those present.

Dumfries and Galloway Gardeners' Association.

The first ordinary meeting of this newly-constituted association was held in St. George's Hall, Dumfries, on the evening of January 11, when there was a good attendance, considering the inclement weather, the heavy snowfall, the worst for eighteen years, preventing many of the members from a distance from being present. Mr. S. Arnott occupied the chair during the first part of the meeting, when the byelaws submitted by the committee were approved of. Mr. Croall was then called to the chair, and Mr. S. Arnott delivered his lecture on "Alpine and Rock Plants," which was illustrated by between fifty and sixty lantern slides of many of the most useful alpine flowers. The lecturer briefly discussed the leading points in the cultivation of the plants, and gave much useful information respecting the plants shown on the screen. An interesting discussion, taken part in by Mr. Croall, Mr. Sturrock, Mr. Reid, Mr. Hunter, and others followed, and Mr. Arnott was heartily thanked.

Woolton Gardeners' Society.

This society held its twenty-fourth annual meeting on the 9th inst. at the Mechanics' Institute, when Mr. Jos. Stoney occupied the chair.

The report gave evidence of a good season's work, the attendance being satisfactory throughout. The committee recorded a great difficulty in securing capable lecturers in the immediate neighbourhood, but they have been successful in securing some excellent practical essays by men specially able in their respective subjects. The under-gardeners showed an increased interest in essay-writing five competing for the prizes for a paper on "Sweet Pea Culture," an improvement on the past few years, which was followed by a satisfactory report from the adjudicator. The excellent library and microscope owned by the society have again proved useful. The balance-sheet showed an increased balance in hand of one pound on that of last year, the amount standing to the credit of the society at the present time being £7 0s. 9d. Mr. R. G. Waterman was re-elected as hon. treasurer and secretary.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

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who will give the matter immediate attention.

ANSWERS TO CORRESPONDENTS.

SAXIFRAGA APICULATA. — F. S. L., Warwick: I have never been very successful with the popular and beautiful Saxifraga apiculata. I grow it in a sheltered position on my rockery, and it receives a fair amount of sunshine. The soil is a trifle heavy, but otherwise there seems no good reason why I do not understand how it is the plants never attain a good size and spread as they do in so many gardens?—Saxifraga apiculata is one of the easiest of species to cultivate, and there must be something very much at fault if it is a failure. A position fully exposed to the sun should be provided, and this must be well drained. Give it such a position, and plant it in a compost consisting largely of grit and limestone, and it should succeed. A limestone soil suits it particularly well.

CANOE BIRCH.—F. F., Galway: Will you please tell me what species of birch is used in North America for the purposes of canoe making?—Betula papyracea is the species formerly used extensively for making canoes in North America. It has very flexible branches, and the bark peels well and in large pieces if properly handled. The bark of B. papyracea has also some value for paper-making, and this has suggested the specific title. It may be added that a large number of species of birch are natives of Canada and the United States, and, doubtless more than one species has been used for the manufacture of canoes. The birch trees are very hardy; indeed, our common or Silver Birch is the tree that grows "farthest north," though in Greenland it is very stunted.

HERBACEOUS PLANTS FOR EXHIBITION PURPOSES.—E. W. P., Cambridge: Will you be good enough to give me the names of about a dozen herbaceous plants suitable for exhibition purposes during July and August, and likely to be of real service in a keen competition?—We assume that the flowers, and not the plants, have to be exhibited. We need hardly point out that a good selection of kinds is most desirable, but at the same time high cultivation and careful arrangement of the flowers at the exhibition are of the first importance. Where the class is for a dozen bunches, then many more than a dozen kinds must be grown, because the influence of the season, soil, and position must be taken into account, and some considerable latitude allowed for contingencies. Some kinds that should be grown are Oriental poppies, delphiniums, Lilium candidum, L. umbellatum, L. auratum, L. speciosum, L. Lychnis chalcedonica, some of the coloured astilbes of the A. Arendsi group, such as Ceres, Salmon Queen, Venus, Vesta, or Gerbe d'Argent; Japanese and other irises; gaillardias, Lychnis chalcedonica, Galega Hartlandi, Erigeron speciosum; some of the finer forms of Chrysanthemum maximum, such as Mrs. Lothian Bell, Wm. Robinson, King Edward, etc.; Sidalcea candida, gladioli, Campanula Moerheimi, C. lactiflora, C. latifolia macrantha, Stenanthemum robustum, Galtonia candicans, Helenium pumilum, Scabiosa caucasica, some of the finer phloxes, such as Frau von Buchner, Coquilicot, Belvedere, Iris, and Selma; Anchusa italica Dropmore var., herbaceous lupins, Platycodon grandiflorum, pyrethrums—especially the bright single varieties like Jas. Kelway; Monarda didyma Cambridge var.; Lobelia cardinalis and L. Queen Victoria; Lathyrus latifolius The Pearl; Kniphofia caulescens, K. Pfitzeri, K. Lemon Queen, K. Tucki, etc.; heucheras, Geum Mrs. Bradshaw, Eryngium alpinum Asclepias tuberosa, hollyhocks, and Achillea ptarmica fl.-pl. The Pearl. Selections must be made according to the space that can be devoted to herbaceous plants, and no selection of twelve kinds would suffice for competitions during both July and August. All the foregoing are excellent border plants, and of every kind and variety mentioned we have seen fine bunches in prize-winning sets during the past season. In arranging the flowers on the exhibition stage, due consideration must be given to colour effect, and crowding innumerable spikes or blooms into each vase should be avoided. It is far better to have fewer flowers or spikes, and these of first-rate quality, than a host of third-rate ones.

LARGE ONIONS.—H. G., Bedford: I wish to obtain a good crop of fairly large onions, not necessarily for exhibition purposes, but because I am very fond of good-sized specimens cooked whole. If you would kindly give me an outline of the methods necessary to secure strong plants for early planting I shall be obliged. So far, I have depended entirely upon outdoor sowings in spring and autumn. I may say that onions do very well here.—We hope to deal with this matter more fully in an early issue, but for the present we advise you to sow your onion seeds thinly in boxes of fairly light soil, place the boxes in a warm greenhouse, where the temperature is from 55 to 65 degrees. Give one good watering after sowing, and then very little more will be needed for some time. When the seedlings are large enough to handle they should be pricked out into other boxes. The latter may be about 2ft. long, a foot wide, and five inches deep, and prepared by placing a layer of old rotten manure in the bottom, and filling with fairly rich soil. Make the compost firm, and prick out the seedlings three inches apart each way. Keep the boxes well up to the glass in the warm house, but as soon as the seedlings have re-established themselves a gradual process of hardening off must commence, and presently a cold frame will afford sufficient shelter, and subsequently the lights must be removed so that the onions are quite hardy and robust, and ready for planting towards the end of April.

NAMES AND SYNONYMS OF ROSES.—B. J. K., Chippenham: As rose-growing is now such a widespread hobby, and as raisers crowd new varieties of the Queen of Flowers upon us each year, there seems to be a great need for a complete list of names of roses, and, more particularly, a need of a list of synonymous varieties. There are, I know, several extensive lists of rose names, but none of these seem to be anything like complete, but, perhaps, there may be one known to you. If that is so, will you kindly tell me where I can obtain it?—By far the most complete list of names of roses we know is published by the Librairie Horticole, 84bis Rue de Grenelle, Paris. Its title is "Nomenclature de tous les Noms de Roses"; it was issued in 1906 and compiled by MM. Leon Simon and P. Cochet. Of large octavo size, it extends to 178 pages, and contains name, group or family, raiser, date of introduction (in most cases), and colour of eleven thousand and sixteen varieties of roses; many synonyms are noted, probably fewer than a thousand. This would leave ten thousand names plus the many varieties named since 1906.

IS LEPTOSPERMUM SCOPARIUM HARDY? — O. C., Grantham: I ask the question, Is Leptospermum scoparium hardy? chiefly because I wish to draw attention to a very pretty and rarely-grown flowering shrub from New Zealand, but also because it would prove very instructive and interesting if readers of the GARDENERS' MAGAZINE would write and state the gardens and counties wherein the species is grown out of

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Juliet, H.Per.	Mrs. Foley Hobbs, T
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doors without any other protection than is afforded by walls, terraces, or mansion. I am led to ask the question in this general fashion because the plant is referred to by two writers in the very entertaining issue of the "G. M." for January 4 this year. "W. T.," in reviewing "New Hardy Trees and Shrubs of 1912," gives first place to Leptospermum scoparium Nicholi (the crimson-flowered variety that gained a Silver Cup and a F.C.C. at the International Horticultural Exhibition of 1912), and says that "leptospermums are tender in most parts of these islands." I wonder whether "most parts" is correct? In his description of "Nuneham Park and Gardens," Mr. C. H. Curtis tells us that outside the terraces "a long border is largely filled with the pretty Leptospermum scoparium, an Antipodean Myrtaceous shrub which flourishes here so well that self-sown seedlings are quite numerous." Further, I believe that L. scoparium has withstood a dozen or so degrees of frost in the gardens at Belvoir Castle. My point is that if L. scoparium is hardy at Grantham, it ought to be hardy (with a few easterly exceptions) everywhere south of a line drawn across England, Wales, and Ireland, a little below the 53rd degree of latitude, and I fancy "most parts of these islands" would come south of this line.—"O. C." raises a very interesting matter, and we should be very glad if any of our readers living north of, say, Leicester, or in what are regarded as cold districts farther south, would tell us whether Leptospermum scoparium is hardy in their locality. The introduction of L. s. Nicholi has stimulated interest in this group of shrubs, and the plants are so beautiful when full of bloom that a wider knowledge of the range of their hardiness would prove most useful, especially when the newer varieties come into commerce.

NAMES OF PLANTS.

D. D., Nantwich.—Jasminum nudiflorum.

E. D. J., Shiplake.—Eupatorium ianthinum.

J. S., Chepstow.—1, Odontoglossum Wilckeanum; 2, Ardisia crenulata; 3, Combretum racemosum.

C. M., Earl's Colne.—1, Begonia fuchsioides; 2, B. President Carnot; 3, Calceolaria Burbidgei.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. JANUARY 5 TO JANUARY 11.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 5—Sunday	—	49	48	51	46
,, 6—Monday	2 36	40	40	48	38
,, 7—Tuesday	0 24	47	46	49	40
,, 8—Wednesday	2 54	44	43	48	43
,, 9—Thursday	6 0	45	44	52	43
,, 10—Friday	—	39	39	40	39
,, 11—Saturday	—	36	35	45	35
Means	(total) 11 54	43	42	47	40

DATE. 1913. JANUARY 5 TO JANUARY 11.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Jan. 5—Sunday	0·25	45	44	46	43
,, 6—Monday	0·01	43	44	46	28
,, 7—Tuesday	—	44	44	46	36
,, 8—Wednesday	—	44	44	46	39
,, 9—Thursday	—	44	44	46	37
,, 10—Friday	—	43	44	46	36
,, 11—Saturday	0·34	42	43	46	33
Means	(total) 0·60	43	44	46	36

MARKETS.

COVENT GARDEN.

Flowers.

Forced tulips and daffodils are now plentiful and in great request; carnations find a ready sale, and violets are in demand.

		s.	d.		s.	d.
Acacia	per bun.	0	6	to	1	0
Arums	per doz.	2	0		3	0
Adiantum cuneatum	per doz. bun.	4	0		6	0
Asparagus plumosus	per doz. bun.	8	0		16	0
,, Sprengeri	per doz. bun.	8	0		12	0
Azalea	per doz. bun.	4	0		5	0
Bouvardia	per doz. bun.	5	0		8	0
Camellias	per doz.	1	6		2	6
Carnations	per doz.	2	0		3	0
,,	per doz. bun.	10	0		18	0
,, Malmaison	per doz.	10	0		15	0
Cattleyas	per doz.	9	0		15	0
Chrysanthemums	per doz. bun.	9	0		12	0
,,	per doz. blooms	1	6		4	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz.	2	0		3	0
Daffodils	per doz. bun.	7	0		8	0
Eucharis	per doz.	2	0		3	0
Freesias	per doz. bun.	2	6		3	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	3	0		5	0
Lapageria	per doz.	2	0		2	6
Lilium auratum	per bun.	3	0		5	0
,, speciosum	per doz.	2	0		2	6
,, longiflorum	per doz.	2	0		3	0
Lily of the Valley	per doz. bun.	10	0		18	0
Marguerites	per doz. bun.	2	6		4	0
Mignonette	per doz. bun.	3	0		5	0
Odontoglossums	per doz. blms.	3	0		5	0
Pelargoniums	per doz. bun.	4	0		7	6
Poinsettias	per doz.	9	0		10	0
Roman Hyacinths	per doz. bun.	12	0		15	0
Roses	per doz.	2	6		8	0
Smilax	per doz. trails	2	0		3	0
Spiræa	per doz. bun.	5	0		8	0
Tuberoses	per doz.	0	6		0	9
Tulips	per doz. bun.	8	0		10	0
Violets	per doz. bun.	2	6		5	0

Fruits.

There is a good range of fruits in the market, and apples, oranges, bananas, and grapes meet a steady demand. Pears are becoming expensive.

		s.	d.		s.	d.
Apples, English	per bush.	3	0	to	6	0
,, Cox's	per ½-sieve	5	0		9	0
,, American	per bar.	11	0		24	0
,, Californian	per box	4	6		10	0
,, Nova Scotian	per bar.	10	6		20	0
Bananas, Canary	per bar.	7	0		10	6
,, Jamaica	per bun.	3	0		5	6
Cobnuts	per doz. lbs.	3	6		5	0
Cocoanuts	per 100	18	0		23	0
Cranberries	per case	7	0		9	0
Custard Apples	per doz.	4	0		8	0
Dates	per doz. boxes	2	9		3	6
Figs	per box	0	9		1	6
Grapes, English	per lb.	1	0		8	0
,, Almeria	per barrel	14	0		21	0
,, Lisbon	per case	7	0		8	0
Lemons	per case	10	0		16	0
Medlars	per crate	4	0		5	0
Oranges	per case	10	0		28	0
,, California	per box	9	0		12	0
,, Jamaica	per case	4	0		8	0
Pears	per ½-bush	2	0		4	0
,, French	per box	2	0		5	0
,, Californian	per case	10	0		16	0

Vegetables.

Vegetables are an abundant supply, but there is a fairly good demand all round.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	0	to	3	0
,, Ground	per bush.	3	0		4	0
Asparagus, Paris	per bun.	3	6		4	6
Beet	per bush.	1	6		3	0
Brussels Sprouts	per ½-bush.	1	0		2	0
Cabbage	per tally	2	6		4	0
Carrots	per doz. bun.	2	0		2	6
Cauliflowers	per tally	4	6		7	6
,, Cornish	per crate	3	0		4	0
Celery	per doz. bun.	9	0		14	0
Celeriac	per doz.	2	0		3	0
Cucumbers	per flat	7	0		9	0
Endive	per doz.	0	6		2	0
Horseradish	per doz. bun.	10	0		12	0
Leeks	per doz.	2	0		2	6
Lettuce	per doz.	1	0		2	0
,, French	per crate	2	0		3	0
Mushrooms	per doz. lbs.	6	0		10	0
Onions	per bush.	2	0		3	0
,, Spanish	per case	4	6		6	0
Parsley	per doz. bun.	2	0		3	0
Parsnips	per bush.	2	0		3	0
Radishes	per doz. bun.	0	8		1	0
Rhubarb	per doz. bun.	1	3		2	0
Savoys	per tally	3	0		4	0
Seakale	per doz. pun.	10	0		15	0
Spinach	per ½-bush.	2	0		3	0
Tomatoes, English	per doz. lbs.	3	6		4	6
,, Canary	per case	10	0		12	0

LONDON POTATO MARKETS.

Supplies are moderate and prices are steadier.

		s.	d.		s.	d.
Bedfords	per ton	85	0	to	95	0
Kents	per ton	90	0		100	0
Lincoln	per ton	80	0		95	0
Blacklands	per ton	70	0		80	0
Scotch	per ton	80	0		90	0
Dunbars	per ton	100	0		110	0
German	per ton.	75	0		90	0
Belgian	per ton	60	0		70	0
Dutch	per ton	55	0		65	0

FORTHCOMING ENGAGEMENTS.

TUESDAY, JANUARY 21.—Royal Horticultural Society; Meeting of Fruit, Floral, and Orchid Committees at noon; General Meeting 3 p.m. Scientific Committee, 4 p.m.

THURSDAY, January 23.—Gardeners' Royal Benevolent Institution; Annual Meeting and Election of Pensioners at "Simpson's," Strand, London, 2.45 p.m.

TUESDAY, January 28.—Royal Institution; Lecture by Professor Bateson.

SATURDAY, February 1.—Société Francaise d'Horticulture de Londres; Meeting.

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NEWS FROM HEADQUARTERS.

PEDIGREE.

Stockbreeders have constantly before them the question of pedigree; and whether it be horses, cattle, sheep, pigs, or pigeons in which they are interested, the same conditions apply.

However perfect an animal may be, it is not considered suitable for perpetuating its species unless its parents for generations have an unblemished record.

It is, almost without exception, only those animals which have been carefully bred through numerous generations that are able to prove their superiority over others.

In the case of Horticultural subjects the same extreme care and attention to the most minute details of breeding are essential, and the analogy between the animal and vegetable with regard to pedigree breeding are very much closer than is generally recognised. Stocks of choice garden peas require the same principles of pedigree breeding as Race Horses and Homing Pigeons.

It is difficult to write of the many interesting phases of breeding and selecting Pedigree tested Seeds, but a visit at this season to the commodious premises of Messrs. Carter, at Raynes Park, will quickly convince one of the necessity and importance of the scientific and practical methods upon which the world-wide reputation of Carter's Tested Seeds has been built up. A visit also in the Summer months will prove of great interest when the trials are in full growth.

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RAYNES PARK, LONDON, S.W.

VOL. LVI.—No. 3,091. SATURDAY, JANUARY 25, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Greater Snapdragon.

The procession of Time, as it proceeds ever onward in the path of progress, brings in its train many changes that affect in varying degrees all classes of the community, and produces a profound influence upon those who take an active interest in what is constantly going on around them. Probably no members of the body politic are more forcibly reminded of the changeability of methods of procedure and matters of taste than those who are concerned with the garden and its occupants. They share in the effects of the changes that concern all, whatever may be their avocations or tastes; and, in addition, they have constantly before them the reminders that the various classes of plants in which they are greatly interested are so well able to afford. They will not have long been engaged in gardening, whether as a hobby or a means of livelihood, before they discover that there are fashions in flowers as in other matters, and that kinds which have enjoyed a high degree of popularity for one or more decades are pushed on one side by others of more recent introduction that have caught the public fancy, and have thus been fortunate in obtaining general recognition of their merits. These changes are, it may be assumed, very trying to those who have devoted a considerable part of their activities to the cultivation and probably the development of certain classes of plants, to watch them slowly but surely declining in public favour, and finally see them superseded by other subjects. Those who pass through such an ordeal have our fullest sympathy, however warmly we may welcome the newcomers. Such changes have constantly to be borne, and happy are those who can bear them in a philosophic spirit, and recognise the fact that, were it not for the influence of fashion, and the desire of those engaged in plant improvement to create new forms, the garden would, in comparison with existing conditions, be lacking in interest, and possess fewer charms. It should also be borne in mind that these frequent changes indicate continuous progress in those sections of the plant world that receive the attention of those more or less concerned with the art of gardening. The varieties of the Greater Snapdragon which have leapt into public favour within the past few years, as a consequence of the immense improvements that have been effected in them, afford a remarkable proof of this. Early in the last century the varieties then available enjoyed a considerable degree of popularity; but at this time several plant collectors who had been sent out in quest of plants from other regions were actively engaged in their work, and were so successful as to considerably enrich our garden flora. As the new plants became distributed, some of the old favourites had to be banished or relegated to the background in exactly the same manner as at the present time. We find evidence of this in a book of repute that was published in the first half of the last century. The author writes: "The antirrhinum may be considered rather a rustic than an elegant plant, and it should therefore not occupy a place amongst choice flowers, but should be mixed with the shrubs in the background, or placed on the banks or most elevated parts of the grounds, where in large clumps it produces a showy effect from the end of spring to the autumn." There may be some difficulty in realising that such beautiful flowers as the antirrhinums unquestionably now are, could with any degree of propriety be relegated at even an early stage of their development to the shrubbery border, or to that part of the grounds now known as the wild garden, because of their unfitness for association with choice flowers. Such was, however, the case, and the advice given by the old author is fully justified by the illustrations of the antirrhinums as seen in gardens at that time. The difference was immense between the present-day race and varieties that were available seventy or eighty years ago. The growth was evidently tall and straggling, the flowers comparatively small and rather thinly arranged on the spike, and the colours were few in number, and the best of them were much less attractive than any of the shades that are now obtainable. Both in habit of growth and flower development they were not much better than the antirrhinums which may be seen on the rocks at Dover, and on old walls and banks in some other parts of the country, where in the distant past they became established on their escape from neighbouring gardens. The Greater Snapdragon is sometimes described as a member of our native flora, but it is an alien, albeit a beautiful one, and its home is in the South of Europe. Several of its varieties have long been in our gardens, and John Parkinson enumerates in his "Paradisus" (1640) white, yellow, blush and yellow, and rose-coloured forms; and in such manner as to suggest that they were of specific rank. With reference to them he writes, "All these are nourished by us in our gardens, although in Spain and Italy they are found growing wild." For how long a period the Greater Snapdragon has had a place in our gardens it would not be easy to determine, for there is no information available relating to the year of its introduction. It would be hardly less difficulty to state with the proper degree of exactness the period over which the work of improvement on systematic lines extended. The development of the antirrhinum as we now know it is a quite modern achievement. From the time Phillips described it as unsuitable for associating with choice flowers, until the hardy flowers were practically swept away from many gardens to make way for the brilliantly-coloured masses of tender plants, nothing was done to improve the habit of growth or develop new colours. Moreover, for long after

MR. G. MULLINS.

scarlet pelargoniums, yellow calceolarias, and blue lobelias had made their triumphal entry into the flower garden, the antirrhinums had to take refuge in cottage and other gardens in which the facilities did not exist for annually raising large numbers of tender bedders. It is now some years since we had the opportunity of becoming acquainted with the efforts that were being made in several directions to obtain by selective culture varieties with a free, branching habit, flower spikes on which the blooms are closely arranged, and yielding a great diversity of colouring than was previously available. In the earlier stages the progress was rather slow, and did not, perhaps, obtain the attention it so well merited; but of late years the pace was quickened, and, when the results of the work of the several raisers were combined, flower lovers at once saw that they had at their disposal a race of plants of immense value for beautifying their gardens, and were not slow to take advantage of their opportunities. We have on several occasions during the past decade directed attention to what was being done, and advised our readers to take full advantage of the newer types; and it gives us much satisfaction to know that our efforts have contributed appreciably to the popularity which the antirrhinums now enjoy. The raisers have, with remarkable judgment, taken into account the different position the various classes of plants have to occupy, and the diversity of taste that exists, and shaped their course accordingly. They have, in the progress of their work, developed three groups, differing chiefly in height. There are the tall varieties, with an average height of three feet; the intermediate varieties, with a height of eighteen inches; and the dwarfs, with a height of six or eight inches. The development of new colours is, perhaps, even more remarkable, for in each group there are varieties with blush, carmine, coral-red, chamois, cinnabar-red, crimson, pink, lemon-yellow, golden-yellow, striped, white, and rose-coloured flowers. All the varieties have a more or less free branching habit, and bloom freely and continuously from quite early in the summer until the autumn, and throughout the whole period produce effects of surpassing beauty. The continuity of flowering depends upon the plants being strong when bedded out, the soil being sufficiently rich to maintain a free growth, and the removal of the flower spikes as soon as the beauty of the flowers is passed, that the energies of the plants may not be taxed by seed production. The plants may be raised from seeds in an unheated pit in August, and the seedlings be wintered in a similar structure: or the sowing may be made in heat in February or March, and the seedlings grown on steadily with a little warmth, and in due course thoroughly hardened off. Antirrhinums are hardy, and when located on an old wall, or growing in a light sandy soil, will pass through a winter of average severity without injury, but the best results are obtained by raising a fresh stock of plants annually, in accordance with the foregoing suggestions.

Mr. G. Mullins has occupied the position of head gardener to Lady Henry Somerset during the past seventeen years, and throughout the period he has had charge of the Eastnor Castle Gardens he has brought to bear on their management cultural skill and administrative ability of so high an order as to greatly enhance the reputation they have so long enjoyed, and to obtain for himself a foremost place among the leading horticulturists of the country. There has not been a time within the recollections of those actively engaged in gardening when the gardens of Eastnor Castle have not been famous for the fruit grown within their boundaries, and it is a point of some interest that at no period was the fame higher than at the present time, while other departments have been maintained in a manner worthy of their traditions. Throughout the whole of the period Mr. Mullins has been at Eastnor Castle he has exhibited, without a break, in the classes for large collections of fruit at Shrewsbury. Last year he was successful in winning the silver cup offered as the premier award in the class for a collection of choice fruit at the Royal Horticultural Society's fruit show, and he was not less successful at the Birmingham Chrysanthemum and Fruit Show. Entering the eight classes for fruit collections, he was awarded five firsts and three seconds—a success that of itself is sufficient to indicate Mr. Mullins' ability both as a cultivator and exhibitor of fruit. Of special interest in the gardens of Eastnor Castle is the old Black Hamburgh vine, which is upwards of one hundred years old and fully occupies a span-roof house 80ft. long by 18ft. wide. The cultivation of hardy fruits in the open is not less important than the growth of choice fruits under glass, and of special interest are the trees that clothe the twelve hundred yards' run of walls which range from six to twelve feet in height. Mr. Mullins regards with much favour the cordon system of training, and those who have an opportunity of seeing the trees have no difficulty in understanding his high appreciation of the method. Even peach trees are grown as cordons, and Mr. Mullins finds that he obtains much better results from them than from fan-trained trees. Perpetual-flowering and Malmaison carnations are grown very largely, and with so much success as to constitute an important and highly attractive feature. Mr. Mullins is by no means a specialist, for while we find him obtaining high distinction as an exhibitor of fruit, we have unquestionable proofs of his skill in the pleasure grounds, which have an area of about eighty acres, and are remarkable for the magnificent specimens of coniferous trees.

Proposed Testimonial to the Rev. W. Wilks.—With the annual meeting on February 11 the Rev. W. Wilks will complete the twenty-fifth year of his secretaryship of the Royal Horticultural Society, and a strong desire is being felt by those who are fully acquainted with the splendid services he has rendered to horticulture in general, and the society in particular, to mark the occasion by presenting him with a suitable testimonial. A circular, signed by Sir Trevor Lawrence and a large number of Fellows, is on the point of being issued, and in this it is stated that, "On the 11th prox. the Rev. W. Wilks, M.A., V.M.H., will have served twenty-five years as secretary of the Royal Horticultural Society; and it is thought by many of those closely associated with him in the society that the occasion should not be allowed to pass without some recognition of the event, and of the valuable work he has done during this long period. The hold the Royal Horticultural Society has established on public confidence has led to a success which may almost be described as phenomenal. This has been, in part at least, due to the labours of Mr. Wilks, and the Council have always felt that they might rely upon his tact, judgment, and resource to help it to meet the difficulties it has had to contend with from time to time. The result has been that a large body of Fellows feel anxious to take advantage of this opportunity to mark by a suitable recognition their appreciation of the valuable services rendered to the society by Mr. Wilks during a quarter of a century. This should take, they propose, the shape of a testimonial, subscriptions to which are not to exceed one guinea. As it is hoped to make the presentation at the society's annual meeting (February 11), will you kindly, if you are willing to support the proposal, send your subscription to the Manager, London County and Westminster Bank, Victoria Branch, Victoria Street, Westminster, S.W. Cheques and postal orders should be crossed 'Wilks Testimonial.' Mr. W. A. Bilney, a member of the Council, has kindly undertaken the duties of hon. secretary, and all communications (except subscriptions) should be addressed to him at Temple Chambers, Temple Avenue, London, E.C."

Veitch Memorial Trust.—At a meeting held on Tuesday last by the trustees of the Veitch Memorial, the sum of £100 was contributed to the fund which is being raised for the purpose of publishing a new edition of Pritzel's "Botanical Index." The trustees also awarded a Veitch Memorial medal to Mr. W. H. Adnit and Mr. W. Naunton in recognition of the splendid services they rendered in the development of horticultural exhibitions in Shropshire. They also presented a silver Veitch Memorial medal to the National Dahlia Society to be awarded for the best display of garden dahlias exhibited by amateurs at the society's exhibition of garden dahlias at the Royal Horticultural Hall in September next.

The National Chrysanthemum Society will hold its annual meeting at Carr's Restaurant, Strand, W.C., on Monday, February 3, at 7 p.m., when the President, Sir Albert K. Rollit, is expected to preside. The Society's Floral Committee holds its annual dinner and social evening at Carr's Restaurant on Monday, February 17, when Mr. D. B. Crane will preside.

Shrewsbury Floral Fete.—We understand that Mr. George Brazier has been appointed by the Shropshire Horticultural Society as secretary, in succession to Messrs. Adnitt and Naunton, to whom he has acted as assistant for many years.

Horticultural Club.—The annual general meeting of this club will be held in the Club Room at the Hotel Windsor on Tuesday, February 4, at 5.30 p.m., with the president, Sir Frank Crisp, Bart., in the chair. The annual dinner will take place on the same date at the Hotel Windsor, at 6.30 p.m. The proceedings will be interspersed with a musical programme provided by the President.

Provision of Open Spaces in Surrey.—The refusal of the Surrey County Council to contribute to the fund for the extension of Wandsworth Common and to other projects of a similar nature has given rise to considerable dissatisfaction in the county. In consequence thereof, a sub-committee was appointed by the General Purposes Committee to consider the whole question, and report as to the principles that should guide the Council in making contributions under the Open Spaces Act of 1906. The recommendations of the sub-committee were presented to the Council at its last meeting, and unanimously adopted. These were to the effect that before the Council undertake to contribute either to the capital cost or to the maintenance of an open space it must be proved—(1) that an open space is urgently required in the district; and (2) that the minor local authorities concerned are prepared to make an adequate contribution towards its capital cost and maintenance. While each proposal will necessarily have to be considered on its merits, the County Council should not contribute more than (1) one-sixth of

the capital cost in the case of an open space of local advantage only; and (2) one-fourth of the capital cost in the case of an open space of widely-enjoyed advantage.

Onion Culture on Small Holdings.—In the course of a lecture on "Small Holdings" given before the North of England Horticultural Society, Mr. W. B. Little, the senior horticultural instructor, referred to the suitability of the onion crop for such holdings. He said that, in his opinion, the growing of onions on a larger scale might with advantage be encouraged in certain districts. He did not attempt to supply any data regarding the income to be derived from this crop, but he pointed to the traffic between places like Brittany, and England in this commodity. Thousands of tons, he said, are shipped to England each year, and those responsible go about selling them from door to door, and while doing this they have to spend money on food and clothing, but nevertheless, he was told that many of these men take enormous sums of money back with them. To him it seemed feasible that this crop could be grown at home with equally profitable results. If not, there must, he thought, be something wrong somewhere.

The Free Distribution of Seeds in America has assumed such large proportions as to have become a serious business. The preparation of the seeds for distribution through the post last month was commenced early in November by the Department of Agriculture, and upwards of 600 tons of seed have been put into, approximately, 60,000,000 packets. Arrangements were this season made under the direction of the Bureau of Plant Industry for a special distribution of seeds of plants adapted to dry land conditions. The object is to afford cultivators in the great plains and other dry sections an opportunity for becoming acquainted with the crops that are best suited to dry soils.

A Novel Christmas Gift.—Mr. W. Atlee Burpee, on behalf of Messrs. W. Atlee Burpee and Co., Philadelphia, U.S.A., presented their employees with a novel Christmas gift recently. To every male employee was given a box of cigars, and a present of money, and to every woman a box of candy and a present of money, while, in addition, every employee received a life insurance policy for an amount equal to the recipient's salary for a year, the sums ranging from 500 to 5,000 dollars. Needless to say, these gifts were greatly appreciated.

Precocity of Spring Flowers.—Within the past fortnight a considerable number of letters relating to the precocity of spring flowers this season have appeared in the newspapers. As evidence of the influence of the mild weather that we have experienced on the flowering of plants that usually bloom in spring they have been of little value. The writers of the majority of the letters were evidently unable to differentiate between the plants that naturally bloom during December and January and those which, in normal seasons, produce their flowers in spring. For instance, Garrya elliptica, Eranthis hyemalis, Chimonanthus fragrans, Jasminum nudiflorum, witch hazels, and certain heaths, all of which belong to the winter, were included in the majority of the list of spring flowers that were flowering in advance of their proper season. A notable exception is the list which Miss Armitage, of Dadnor, Herefordshire, has contributed to "Nature." In this the ordinary and abnormal times of flowering are given, and the list is, therefore, of considerable value for purposes of reference. Miss Armitage writes: "The winter aconite began on December 8, and has been flowering profusely since the middle of the month, when about a hundred blossoms were gathered in one day; other early dates are December 20, 1911; December 23, 1897; the first week in January is the mean, the latest January 27, 1887. Green hellebore, January 10; usually end of February; latest, March 26, 1902. Fœtid hellebore, December 1; usually early February, latest February 21, 1904. Lesser celandine, December 1; usually early February; latest, March 12, 1900; other early records, January 20, 1898 and 1901. Wild white sweet violet in the hedges, January 5, many to be seen now, whereas mid-February to early March is its usual season. Pyrus japonica on many walls has been as much covered with flowers throughout December as it is usually in April and May. Lonicera fragrantissima, from December 18 onwards; usually begins early in January; earliest, February 10, 1900. Adoxa moschatellina (Moschatel), in bud January 11; usually flowers in April. Petasites fragrans (winter heliotrope), mid-November, occasionally as early, but more usually December and January. Yellow coltsfoot, January 7; usually early March; earliest previously, January 21, 1898. February 20 1897; latest, March 26, 1909. Primroses abundant in December and early January. Omphalodes verna abundant December; usually early March; latest, April 1, 1902. Spurge laurel, December 20; usually early in February; January 12, 1912, January 28, 1898, March 18, 1897. Chimonanthus fragrans, very abundant from November 14; earliest before, December 9, 1907. Yellow crocus, January 5; earliest, January 22, 1901, January 24, 1898. Galanthus Elwesii, November 14. Common snowdrop, December 28; earliest, January 8, 1912."

CŒLOGYNE CRISTATA.

Flowers white, with yellow markings on the lip. A.M., R.H.S., January 21. Messrs. J. Cypher and Sons, Cheltenham.

A HOTBED.

"The stable yields a stercoraceous heap,
Impregnated with quick-fermenting salts,
And potent to resist the freezing blast.

. . . . . .

Warily, therefore, and with prudent heed,
He seeks a favoured spot; that where he builds
The agglomerated pile, his frame may front
The sun's meridian disk; and at the back
Enjoy close shelter—wall, or reeds, or hedge
Impervious to the wind. First he bids spread
Dry fern or littered hay, that may imbibe
The ascending damps; then leisurely impose,
And lightly shaking it with agile hand
From the full fork, the saturated straw."
—COWPER, "The Task," Book III.

For those who have no glass, or only a cool house, a hotbed is almost a necessity in the spring, not only for raising tender plants and striking cuttings, but for raising hardy plants early. The most useful period is from the middle of February to the end of April, after which the advancing season, and the slight warmth from the slowly-fermenting manure, will probably be sufficient to keep the night, or, rather, early morning, temperature from falling below 45 degrees, or thereabouts, if the sashes are covered in the evening. The latter is very important, the covering not only lessening the radiation of heat, but preventing little currents of cold air entering between the overlapping panes of glass, especially in windy weather. Anyone sceptical upon this point should observe the difference in two similar frames, one of which has been covered during the night and the other not, by putting a thermometer in each in the morning.

If it is intended to have a hotbed in working order by the middle of February a quantity of stable manure proportionate to the size of the frame should be collected by the end of January. For a small frame about four feet by three one good load is sufficient, but if the frame is, say, six feet by four, two loads should be used. After the manure is procured, supposing it to have been well turned over in loading and unloading, it should be left for a week—otherwise turned after four or five days and left another few days—after which the bed may be made up, thoroughly shaking out the manure in the process to aerate it and rid it of some of the noxious gases. A quantity of leaves, equal to a quarter or a half of the volume of the manure, may be mixed with it to eke it out, moderate its heat, and sweeten the gases given off, besides lengthening the fermentation process. A layer of leaves should be put over the top of the dung-bed before any earth is put over it. If it is intended to make a bed of earth on the manure, and plants or seeds put in it, the materials should be left another week before making up the bed, and again turned over, or it may heat too violently and kill the young roots; but if the frame is to be used to start with simply for pans and boxes of seeds to be set in it, this risk is much less, even if existent, and the shorter time will suffice.

The site for the bed should be staked out, leaving a foot or eighteen inches more in both breadth and length than the size of the frame. The building up of the bed needs some care, and the novice will probably find one part of the bed sink more than another after a week or two, leaving his frame rather lopsided. Firm and compact building is the secret in putting it together, paying special attention to the corners. When completed the bed should be about three feet high at the top, or back, of the frame, and from two to two and a-half feet at the other end, so arranged that the slope is towards some point of the compass between south-east and south-west, preferably south. If it is to be used for raising seeds, etc., an inch or so of soil should be laid all over it to give it a little surface, sweeten the air of the frame, and absorb some of the ammonia which will rise from the manure.

After the bed is made, and the frame set upon it, some recommend leaving the sashes off for three or four days to let the rank steam escape, but this is not always advisable, as a heavy rain in the meantime may wash much of the valuable fermenting matter out of the dung, and permanently cool it. The sash should be raised at the back for a few days, though pans of slowly-germinating seeds which it is desired to hurry on may be put in at once, the pans standing on the earth being safe from any scorching, and the air becoming sweet before the seedlings appear. To quote our rural poet again:

"Thrice must the voluble and restless earth
Spin round upon her axle ere the warmth,
Slow gathering in the midst, through the square moss
Diffused, attain the surface; when, behold!
A pestilent and most corrosive steam,
Like gross fog Boeotian, rising fast,
And fast condensed upon the dewy sash,
Asks egress."

When the sash is first shut down a thermometer should be put in to see that the temperature does not rise much above 70 degrees, and when this is the case, and the interior smells fairly sweet, plants, cuttings, bulbs, and anything which it is desired to expedite may be put in, especially any early-flowering chrysanthemum stools which are slow in sending up shoots for cuttings. Plenty of air must be given or mildew will soon appear, but the end of the sash that is raised should be away from the cold winds. If it is shut down in the middle of the afternoon, and the coverings thrown over it before dark, the temperature should be not much below 70 degrees in the morning for two or three weeks, after which it will be gradually less, and then it becomes necessary, in order to maintain a good heat, to put a layer—or lining, as it is called—of fresh manure along one side and one end of the bed, and, after a week or two, when the frame again begins to get cool, to treat the other side and end in the same way. Another, but more laborious, method of maintaining the warmth, when nothing is planted in the bed, is to obtain as much fresh manure as was used in the first case, and, after leaving it for a week, make a new bed with it and the old hotbed mixed together, supposing there to be somewhere to put the contents of the frame during the change. The heat will not be so great as in the first bed, and as the season will be becoming more advanced, less will be necessary, but it will be a fair, moderate heat, and will last a good time, as long, perhaps, as it is really needed.

It is, however, perhaps as well to make up a new bed altogether in general circumstances, if a long succession of heat is wanted for rearing young plants in pots and boxes. If one has a cool, but frost-proof house or frame into which things can be transferred after early April, the bed, by putting more soil on the top, may be used for forcing radishes, lettuce, and such-like, or for cucumbers and marrows. There is little cost about the bed beyond the labour, as the manure will be just as useful afterwards as before, the frame having prevented most of it from being washed by the rain, and a wide board at the bottom will carry off the drippings from the sash.

ALGER PETTS.

SHRUBS WITH COLOURED STEMS.

Very pleasing effects can be created during the winter months by a judicious planting of shrubs with coloured stems, as these form a welcome contrast from the usual evergreen and deciduous species that are so much in evidence in most gardens.

Shrubs with coloured stems have come more into notice during recent years, but there are still many gardens that might be rendered more attractive by their inclusion. Masses planted near the waterside and by the side of drives are a source of attraction when there is but little colour to beautify the landscape. Those subjects with red, green, yellow, brown, and white stems are the most conspicuous, and should be principally utilised, for when seen on a bright winter's day the effect is very telling.

Few subjects can equal the dogwood for the brilliancy of its bark, and as it succeeds in almost all localities it should be freely planted. Cornus alba is one of the best to grow. C. sanguinea and C. stolonifera should also be planted, while the golden-stemmed form of the latter is a distinct acquisition.

Salix alba vitellina is an attractive red-stemmed willow, and S. ramulus aureus has lovely golden bark, which contrasts beautifully with the previous variety when the two are planted alternately in beds. A great advantage with these plants is that they thrive in almost any soil or situation, while damp, low-lying positions that are unsuitable for many subjects suit them admirably. In common with the dogwoods the willows should be cut down to the ground each spring, in April; a clean growth of three or four feet is then made during the season, with the result that the colour effect is not marred by a mass of old and badly-coloured wood near the base. There is no doubt that the practice of cutting right down to the base is the right one to adopt, as partial pruning does not give nearly such good results. Spiræa Douglasi should also be treated in this way; it will flower equally well in the summer, and the rich brown stems create a telling effect in the winter. Green is found in the common Broom (Cytisus scoparius), a beautiful subject for massing. Leycesteria formosa also possesses bright green stems of a distinct character.

Several brambles have picturesque white stems, notably Rubus biflorus, which grows to a height of twelve feet, and is known as the white-washed bramble. R. leucodermis is similarly effective, and R. lasiostylus also has white stems. Rosa lucida must not be omitted, as its bright red stems are a fine feature during the winter, but it should be planted in large masses to show off its full beauty. J. GARDNER.

Batsford Park Gardens.

Kerria japonica flore plena.—The uses to which this delightful golden-flowered shrub can be put are many. In the first place, it is in several districts valuable as a shrub in the open ground, where the rich green of its bark renders it, though leafless, almost as effective in winter as an evergreen; next, even in colder districts, it is a most desirable subject for training to a wall, the thorough ripening of the wood thus ensured being very favourable for the production of blossoms. Further, it occupies a foremost place among shrubs for forcing, as it readily lends itself to this mode of treatment, and the shoots wreathed with golden rose-like blossoms, form a bright and pleasing feature in the greenhouse, not the least notable item being the fact that they supply a tone of colour but little represented among their associates.—W. T.

THE SNOWDROP ANEMONE.

The number of hardy plants that bloom in May and June, and possess much beauty, is very large, but numerous as they unquestionably are, there would be some difficulty in finding many that could be described as more beautiful than the elegant snowdrop anemone, better known, perhaps, under its scientific name of Anemone sylvestris. Whether there are kinds that possess a greater charm than this wind-flower is a matter of but little consequence, for there are none that so closely approach it in appearance as to admit of a comparison being made that would be really useful.

It is sufficient for our present purpose to know that the snowdrop anemone is distinct in character, and exquisitely beautiful, and that it merits more attention than it has received. The plant grows to a height ranging from eight to eighteen inches, according to the conditions under which it is grown, the bright green leaves are elegantly divided, and the snow-white glistening flowers range from two to three inches in diameter. The general character of this anemone when in bloom is well shown in the accompanying illustration of a group of plants in the rock garden at Kew. Success may be achieved in its cultivation in the mixed border, provided the soil is of a suitable character, or can be adapted to the requirements of the plant, and positions can be given the groups where there will be no great risk of their being injured by neighbours of more robust growth. The rock garden, however, appears to be the most suitable place for the cultivation of the snowdrop anemone, but it should not, as is sometimes the case, be planted on the rockery. If the ledge on which it is located is relatively of considerable breadth, and contains a good depth of soil, the growth will be fairly good, but nowhere is so high a degree of development attained as when it is given a place, as at Kew, in a recess at the base of the rockery. The soil should be rather light, and contain a liberal proportion of decayed vegetable matter, and in the preparation of the stations spread about two inches of coarse grit and four inches of leaf-mould over the surface, and fork over the ground to a depth of twelve or fifteen inches. If the soil contains sufficient grit, give a dressing of leaf-mould only. The plants may be put in their positions in the course of the next month, and examples that are well established in pots will be preferable.

There are two varieties, and both are well worthy of a position in the rock garden or mixed border. One is A. sylvestris fl. pl., which is similar in growth to the specific form, and has double white flowers, the backs of the petals sometimes tinted with rose; and the other, A. sylvestris balcalensis, differs from the species in attaining about two-thirds the height, and in having single white flowers that are suffused with rose at the base of the petals.

THE SNOWDROP ANEMONE (Anemone sylvestris).
A beautiful species with snow-white flowers, as growing in the rock garden at Kew.

Philadelphus Lemoinei erectus.—This, one of the oldest of the garden varieties of mock orange raised by the late M. Lemoine, is, from a flowering point of view, still one of the very best. What is more, it is in the winter, when devoid of foliage, particularly bright and cheerful, the bark of the slender, upright shoots being of a warm red-brown colour. Now that more attention is devoted to the winter aspect of deciduous trees and shrubs than was at one time the case, this philadelphus, in its dual role, merits all that can be said in its favour. —K.

CALLAS.

The beautiful pure white spathes of the callas, or arum lilies as they are popularly designated, in contrast with the massive green leaves, show to great advantage in greenhouse and conservatory, and in bold arrangements in rooms during the winter and spring seasons.

Special efforts are generally made to have a good batch of flowering plants at Christmas, and again at Easter. I have noticed, in many instances, that the plants are sadly neglected for a time after the Christmas stock of spathes has been used up. Experienced cultivators do not make the mistake of neglecting the plants. I refer to the placing of the latter in very cool quarters direct from very warm ones; then a severe check is given. The plants are often subjected to a forcing temperature for a short period prior to Christmas, and it is such plants that suffer the greatest checks afterwards.

Of course, cultivators have different ways of treating their arums throughout the winter time. I like to give them warm greenhouse treatment after Christmas, and not be too free with the water, nor give any stimulant for a few weeks. In such circumstances I find that odd spathes show from time to time, and then, if placed in a slightly warmer house, a good batch of spathes are produced in time for Easter use; and it is while the flower stems are growing that I find it such an advantage to feed freely.

Well-grown plants will bear at least four spathes during the winter and spring seasons. I know some cultivators who assert that they produce six spathes. The plants are too often placed on the floors of glass structures, and are considerably weakened by want of light and air. G. B.

CULTIVATION OF LILIUMS.

Cultivation in Beds and Borders.

Suitable soil and moisture are very important matters in lily culture. Where they delight in moisture at the roots in summer, badly-drained soil, causing moisture to congregate round the bulbs in winter, will cause untold loss. To guard against this, even in light soils, it is desirable to place a layer of coarse sand below and on the top of the bulbs when planting.

As a rule we find the European lilies grow the best in British gardens, the ordinary soil of the herbaceous and shrubbery border suiting them. Most of the North American lilies, and some of those from Asia, will not thrive in soil containing lime in any appreciable quantity. In gardens where rhododendrons and the ericaceous shrubs thrive these lilies may be expected to succeed. To overcome the difficulty of growing rhododendrons the owners of many gardens where the soil contains lime have spent money freely in the purchase of soil and the preparation of borders and beds for their accommodation. The spaces between the rhododendrons may be planted with the peat-loving liliums—L. pardalinum, L. superbum, and L. auratum, for instance. Failing this a little trouble in the preparation of suitable soil is more than justified by the results obtained in gardens of lily lovers.

A very successful mode of culture is to plant bulbs of liliums in small groups between evergreen shrubs. These latter afford a little protection from frost to the young growths of kinds which push up above the soil early in the season, shade the lower portions of the stems from the sun, and prevent the ground drying up rapidly. Rhododendrons afford useful protection to L. auratum, L. pardalinum, L. superbum, and similar tall-growing lilies. Dwarf rhododendrons, kalmias, andromedas, etc., are shrubs among which may be planted L. rubellum, L. Grayi, L. canadense, L. philadelphicum, L. Parryi, L. washingtonianum, and L. Krameri.

The tall-growing, lime-loving lilies, L. sulphureum and L. Henryi, may be planted between such shrubs as Osmanthus aquifolium, Olearia Haasti, and Cistus laurifolius. Six of the best lilies for the herbaceous or mixed border are L. candidum, L. testaceum, L. croceum, L. szovitzianum (colchicum), L. umbellatum, and L. chalcedonicum.

Shady corners and pockets in the rockery are suitable for the smaller-growing lilies, while, if the rock garden covers a considerable area, with a setting of trees and shrubs, places can generally be found in the background where the taller-growing kinds will thrive.

A well-drained soil is necessary for lilies, particularly those from North America and Japan. When preparing soil for these use equal parts light sandy loam, peat, and leaf-mould, adding plenty of coarse sand or grit, wood ashes, and a little charcoal if available. Plenty of flaky leaf-mould should be used when planting all lily bulbs. The depth at which to plant the different species and varieties is important, as some root both from above (at the base of the stems) and below the bulbs, while others only root from below. The great difference in the size of the bulbs naturally necessitates planting them at varying depths. The following may be cited as instances of the depth to plant the bulbs: L. sulphureum and L. Henryi, which have large bulbs, and produce many stem roots, should be planted nine inches to one foot deep; four inches will be deep enough for the smaller bulbs of L. concolor and L. rubellum, which also root from the stem as well as below the bulb. In the case of the larger bulbs with no stem roots a covering of soil about three inches deep may be given; from one to two-inch covering being enough for the species in this group with small bulbs. Exception must be taken to this rule for L. giganteum and L. candidum, which may sometimes be seen in a very flourishing condition with the bulbs protruding out of the ground.

The more tender species, particularly the shallow-planted species, may be protected from frost in winter with a covering of coal ashes, sand, or half-decayed leaves. A mulching of half-decayed leaf-mould or manure from an old hotbed applied in early summer is very beneficial, as it keeps the ground moist and cool, and supplies nutriment to the stem roots.

When the bulbs are to be lifted and replanted it should be done in autumn, not later than the middle of November. Notable exceptions are L. candidum and L. testaceum, the planting of which is best done in August. The remarks also apply to the purchase of home-grown lilies, but the planting of imported Japanese bulbs is generally more satisfactory when done in early spring. Bulbs of L. auratum, L. speciosum, L. longiflorum, etc., arriving during the winter as a rule do better when potted up or placed in boxes in a cold frame and covered with leaf-mould. Planting out where they are to flower may be done towards the end of February or early March, by which time there should be plenty of young roots.

Cultivation in Pots.

Most liliums may be grown successfully in pots, though not more than ten or twelve species and varieties are grown to any appreciable extent under glass. The three most popular species and their numerous varieties for pot culture are L. longiflorum, L. auratum, and L. speciosum—or lancifolium, to use the market growers' name. It is difficult to say how many tens of thousands of bulbs of these three lilies are potted annually by market growers to supply the market with cut flowers, and by private growers for greenhouse decoration and cut flowers. As all three of these lilies produce stem roots freely the pots should not be filled more than two-thirds full of soil when potting, the remaining one-third being left for a top-dressing of rich soil later, when growths are pushing up. A suitable compost consists of two parts fibrous loam to one part leaf-mould, adding plenty of coarse sand. For L. auratum and L. speciosum half the above quantity of leaf-mould may be substituted by peat when available, possibly with advantage, by the private grower, but it is rather expensive material for the market grower to use.

As a precaution against loss the imported bulbs showing signs of disease should be dusted with a mixture of powdered charcoal and lime. Though not an absolute cure, this usually checks the disease sufficient to carry the plants over the flowering stage. Decay of the scales may be stopped by using powdered charcoal.

The size of the pot used depends on the size of the bulbs and the number placed in each pot. As a rule, it is more satisfactory (at all events, when used for greenhouse decoration), to grow three bulbs in a pot. In the case of L. longiflorum five bulbs in a ten-inch pot produces splendid results. On the other hand, large bulbs of the same species are valuable for decoration grown singly in six-inch pots.

The dwarf species, L. tenuifolium and L. rubellum, for example, are more satisfactory when cultivated in dwarf pots.

The question of what to grow in an unheated greenhouse is one often asked, particularly by amateurs. For such a purpose the lily is probably unsurpassed, for while, with one or two exceptions, all are perfectly hardy, the protection afforded improves the quality. The Madonna Lily (L. candidum), though perhaps most at home in the border of an old-fashioned garden, is also valuable in pots for the greenhouse, flowering six or eight weeks in advance of those outside.

The bulbs, when potted, may be placed in cold frames, and covered with leaf-soil, or plunged to the rim in ashes outside, with a covering of leaf-soil, and a sheet of galvanised iron or other suitable material placed in position to carry off heavy rains. To provide an early supply of flowers a sufficient quantity of L. longiflorum, L. speciosum, or L. auratum may be stood in a heated greenhouse when potted, and further batches be introduced from time to time as required. In due time, as the bulbs make roots and push up growths the covering must be removed, being only replaced at night if the shoots are advanced enough to suffer from late spring frosts.

L. sulphureum, L. Henryi, and L. giganteum are more at home planted in a greenhouse border than in pots, if the means exist to afford them such treatment. At Kew, in the Himalayan House, L. Henryi does remarkably well planted among the rhododendrons, and probably the finest specimen ever grown in this country was one in this house, where a single stem, ten feet high, bore fifty-seven flowers and buds. In No. 4 conservatory at Kew, growing in a bed among the camellias, a stem of L. sulphureum 11 feet 6 inches high several years ago produced ten flowers and buds.

In addition to those already named the following liliums are also grown in pots, to some extent, for greenhouse decoration: L. tigrinum and var. giganteum, L. pseudo-tigrinum, L. Browni, L. japonicum colchesterense, L. Hansoni, L. monodelphum (colchicum), and concolor forms.

Two or three tender lilies, which, though possibly hardy in sheltered spots of the sunny south and west, require the protection of a greenhouse in most localities, are L. nepalense, L. roseum (Thomsonianum), and L. philippinense.

A few years ago growers of the Trumpet Lily, L. longiflorum, for market, were put to considerable extra expense in their endeavours to obtain flowers from Christmas to Easter. Bulbs of L. Harrissi, from Bermuda, an early-flowering form of the trumpet lily, commanded high prices early in the season, but since the advent of the retarding process lily flowers can be readily obtained throughout the year. L. longiflorum, L. speciosum, and, in a lesser degree, L. auratum, are the three lilies generally favoured for retarding.

Kew. A. OSBORN.

APPLE WASHINGTON.

Among particularly handsome apples that possess high merit as dessert varieties Washington will always occupy a prominent position. As its name suggests, it was raised in America, and its introduction to our own gardens is due to the late Mr. Rivers. The large, regular, and handsome fruits have a rich yellow colouring that is brightly marked with mottlings of crimson. The richly-flavoured flesh is yellow-tinted and perfumed, and the variety is at its best from October to Christmas. Messrs. T. Rivers and Sons, of Sawbridgeworth, grow this apple remarkably well, and point out that it is a capital variety for pot culture, as, ripened under glass, the fruits are of fine size, colour, and flavour. As an orchard-house apple it is first-rate, and frequently figures in collections of ripe dessert fruit at the earlier summer exhibitions. In gardens it is not over-particular as to soil, but prefers a warm position.

OUR COMMONS.

In England, the ownership and property in the common land belongs to the lord of the manor, although rights over the common land are possessed by certain persons who hold land in the manor, and are known as Commoners.

The nature and origin of rights of common are derived from the old Germanic rights of common pasture on the folk-land.

The only land in England at present subject to common rights is waste land.

A very popular song in Lincolnshire in the year 1700 was one relating to the Inclosure Act.

"The lawyer he up to London is gone,
To get the Act passed before he returns;
If the lawyer ne'er returns, nor the Act any more,
It will be all the better for all our poor.

Before the Commons are ta'en in,
And you have hung your gates,
I very much fear
You will mortgage your estates.

But now the commons are ta'en in,
The cottages pulled down,
And Moggy's got na wool to spin
Her linsey-woolsey gown."

By permission we quote from the "Antiquary" of 1894 the following extract:

"In olden times there were no hedges or fences, but we learn that for boundaries objects were generally selected which on the one hand could be readily described, and on the other were not liable to change, rivers and brooks were preferred, and roads very frequently. When these were not available it was usual to set up crosses, so that the boundaries could be described as running from cross to cross and of such crosses the ordinary boundary stones in use at the present day are the degenerate representatives.

"Before the middle of the fifteenth century the open field system was in full operation in England, and the country was not cut up by hedgerows and fences as we see it to-day; from that date, however, the ancient arable lands were enclosed, and in many instances laid down as pasture, but we can see to this day the ridge furrow then known as 'lands'; when sheep-farming commenced these lands were broken up.

"The process of enclosure commenced about the year 1450. Roads which have been formed since the period of the enclosure may be known by the fact that they intersect both the hedgerows and the strips."

An old writer tells that we owe our hedges to the "Black Death"; this terrible pestilence so decimated the rural districts of England that arable land passed out of cultivation, and was turned into pasture, then hedges were planted to prevent the cattle from straying.

G. SIMMONDS.

THE SOAPWORTS.

Upwards of three dozen species go to make up the genus Saponaria, in which are included perennials, annuals, and biennials. Less than a dozen kinds are, however, in general cultivation, or found outside botanic gardens, and these, with one or two exceptions, are of perennial habit, and, further, constitute choice subjects for the rock garden. Their requirements are of a simple order, and, provided they are given an open and sunny position, a well-drained and sandy loam in which to grow, together with being so arranged that they are secure from excessive moisture in winter, they will be perfectly happy.

With regard to propagation, this is readily effected by division of the root-stock, the work being carried out in spring; also by means of cuttings and seeds. It may be explained that if slugs are present in a rock garden they make a determined raid upon these plants, and often there is great loss, hence the importance of making things uncomfortable for these garden pests, which do not seem to possess any redeeming quality.

Of very considerable decorative value is S. ocymoides, which produces in uninterrupted succession bright pink flowers throughout the season, while its trailing stems lend a light and elegant appearance to the plant. From the Pyrenees we have S. cœspitosa, whose rose-coloured flowers are freely produced from June to August. They are borne in loose umbels on stalks that seldom exceed six inches in height, while the habit of the plant is dwarf and tufted. Very similar to the foregoing, both in habit and colouring, is S. pulvinaris, which is found growing in stony and barren soil in its native habitat; as far as my experience goes, it is less susceptible to damp in winter than other species. S. bellidifolia must take rank as one of the choicest and most desirable, its heads of golden inflorescence being supported by tufts of ample foliage. Of lowly growth is S. Weinmanni, with flowers of a light purple shade. It seems to be identical with S. cœspitosa, with the exception of the flowers being several shades lighter in colouring that the last-named.

Everyone is acquainted with S. officinalis, which, as naturalised, is found growing in a wild state, not only in this country, but over the greater part of Europe. S. lutea and S. depressa extend the list, with yellow and purple flowers respectively.

The soapwarts of annual or biennial duration are of little value as garden plants, and, apart from S. calabrica, a floriferous and showy subject, with rose-coloured flowers, they are rarely, if ever, met with outside botanic gardens.

WALTER H. AGGETT.

APPLE WASHINGTON.

An American-raised, handsome and finely-flavoured dessert apple, introduced and finely grown by Messrs. T. Rivers and Sons, Sawbridgeworth.

RHODODENDRON NOBLEANUM.

This early-flowering hybrid between Rhododendron arboreum and R. caucasicum is one of the most conspicuous ornaments of the garden at the present time. In a Kingston garden there is a magnificent specimen that had over eighty heads of bloom open on New Year's Day, and this feast of colour is not an uncommon one, owing to the abnormal season through which we are passing. In R. nobleanum the corymbs of flowers are of medium size, and the individual blooms are carmine-rose, paler towards the base of the tube, with dark spots on the upper part of the segments. It is an old inmate of gardens, and as the flowers are always precocious it should be given a sheltered position from rough winds, which, more than anything, mar their beauty.

S.

HANDSOME DECORATIVE PLANTS FROM SEEDS.—I.

Many plants of a highly decorative and useful nature may be advantageously raised from seeds, and nowadays the choice is so large, and the variety of plants so numerous, that a comparatively few kinds only can be dealt with in the space at command.

These notes are not written as an argument against the orthodox method of raising plants from cuttings, or by other recognised methods of propagation, but in the hope that they may prove helpful to those who are unable to raise plants for home and house decoration in the usual and, more often than not, complex way. One great advantage in raising this class of plants from seed is that with ordinary care they are thus very easily grown.

Most of the subjects mentioned may be raised in gentle heat, such as may be obtained in a hotbed, by placing a frame over a mixture of fresh stable manure and leaves in about equal parts, prepared in the usual way, early in the season. Under such conditions the seedlings soon appear, and may be potted off as they become ready for that operation, using a compost somewhat coarser in texture than that in which the seed was sown. Great care must be exercised in preparing the soil and pots or pans beforehand. All the receptacles should be scrupulously clean, and the soil, when mixed, be in a friable condition—that is, neither wet nor dry. A compost of about equal parts of fibrous loam, leaf-mould, and peat, with a good addition of silver sand, will answer admirably in which to sow the seeds. Pass the whole through a quarter-inch or three-eighths sieve, and fill the pots and pans to within an inch or so of the rims. In the case of very fine seeds no covering will be necessary beyond a very light sprinkling of fine sand; larger seeds may be covered with about a quarter of an inch of soil, not more.

Abutilons and Browallias.

Hybrid abutilons are of very easy culture, and the seeds, if sown early, will produce plants that will bloom profusely during the current year. The seedlings are usually very vigorous, and after one or two stoppings the resulting growths quickly become studded with buds, and bear blossoms, which, when fully expanded, open to three or more inches in diameter. For house and conservatory use these are invaluable During the second season of growth these—if too large for indoor use—may be used with advantage as dot plants in the flower garden and shrubberies.

Browallias are extremely pretty, free flowering, and useful, affording a display of colour during the autumn and winter months. B. elata grandiflora—really a half-hardy annual—is a useful variety for greenhouse cultivation, producing very freely flowers pale blue in colour. The plants grow to a height of about fifteen inches, but should dwarfer plants be thought desirable, the young growths may be stopped as often as may be thought desirable. By making occasional sowings this variety may be had in flower during the greater part of the year. B. speciosa major is an excellent winter-blooming variety, producing large blue flowers, much deeper in colour than B. elata grandiflora, if the strain is a good one.

Celosias.

Celosia plumosa affords beautiful plants for conservatory decoration, making a very effective display during the latter part of the summer and in early autumn. These require a fairly high temperature during their growing period, and liberal treatment in the way of feeding, but should not be grown in large pots, or the plants become coarse rather than elegant. When the flower spikes or plumes are about half expanded the plants may be gradually hardened off, and afterwards, if a sheltered sunny spot out of doors can be given them for a week or two, the brilliancy of the colouring will be very considerably heightened. This is a plan we ourselves have followed for many years, and have invariably found the plants much improved by this treatment, and lasting much longer in good condition.

Coleus.

Coleus hybrids, the seeds of which, if sown early, will produce large plants during the first season, are rightly classed with the most beautiful and useful of our soft-wooded ornamental foliaged plants. From seeds many new and distinct varieties may be raised. To obtain good plants by midsummer seeds should be sown as early in the year as possible in pans of light rich soil, covering the seeds but lightly, and shading until germination takes place. Prick off the seedlings as soon as they are large enough to handle into other pots or pans, and then keep growing in a brisk heat until the roots have obtained a good hold of the new soil; afterwards they will succeed well in a lower temperature.

Coleus thyrsoideus is an extremely pretty free-flowering species, growing to a height of eighteen inches or two feet, the branches terminating in racemes of bright blue flowers during the winter and spring months, at which time the plants will do well in an intermediate temperature; in fact, too much heat at this stage is decidedly injurious to the flower spikes. Upon all favourable occasions plenty of air may be given, avoiding cold draughts. This coleus may be fed with artificial manures pretty frequently, and an occasional watering with clear soot water will aid in keeping the foliage green and healthy after the pots are well filled with roots. During the growing period little or no shading should be given, the plants delighting in plenty of bright sunshine. During the summer and early autumn we have grown C. thyrsoideus and poinsettias in the same structure, giving both of these precisely the same treatment with unvarying success.

W. HEDLEY WARREN.

Aston Clinton Gardens, Tring.

Iris stylosa.—This beautiful plant has been producing its flowers for several weeks, and will continue for some time. It deserves to be grown more extensively. In cold districts it requires shelter, and the foot of a south wall, either that of a dwelling-house, or preferably, a greenhouse, is an ideal position for it, if given light soil to grow in. In sheltered parts of the country, where the soil is light and well drained, it will thrive in an open border; but the former situations will be found most suitable generally.—T. B. FIELD, Wych Cross Place Gardens.

POT CULTURE OF APPLES AND PEARS.

I was much interested in the pithy and timely article on this subject by Mr. James Hudson, V.M.H., and also in the excellent photographs of the two pot-grown trees bearing fruits, in the issue of the GARDENERS' MAGAZINE for December 14.

In many gardens there is ample room for pot-grown apples and pears. All specimens so grown are under the direct control of the cultivator, therefore, while the flowers are open, they can be protected from frosts.

I was glad to see pear Durondeau and apple Ribston Pippin included in Mr. Hudson's list. Both are excellent varieties for the purpose, and amateur cultivators should not fail to grow them.

Where more substantial houses cannot be spared for the accommodation of fruit trees in pots, cheap ones made of wood may be erected in sections. They are easily and quickly put up, and as readily taken down. They are useful for many kinds of plants in the autumn time, as well as fruit trees when the latter should be placed in them. It is necessary to keep these houses well painted; then they will last many years.

Some years ago I inspected a rather large wooden orchard house, in which peaches and nectarines were planted permanently and grown as standards. Apples, pears, and cherries in pots were placed in this structure in due season, and a most interesting collection they formed. The roof was so constructed that it could be removed, or at least, the glazed lights, and thus the trees were exposed at will to the weather.

G. B.

CLEMATIS BALEARICA.

This is the earliest of all the clematis family to flower in the open air, coming into bloom in the south-west before January is out, and a blossom or two is generally discernible before the New Year has commenced. Although its whitish flowers, spotted in the interior with purple, cannot be said to be particularly showy, it is a valuable plant on account of its early blooming. It is a very rapid grower, ascending to the eaves of a house, a height of over twenty feet, in a few years, while in a friend's garden a plant has clambered up into a variegated tulip tree to a height exceeding twenty-five feet; in fact, it may be considered almost as good a tree climber as Clematis montana. The flowers are borne in great profusion, having as companions few open-air blossoms besides the winter jasmine, Chimonanthus fragrans, the witch hazel, Prunus Davidiana, Iris stylosa, and Christmas roses. The feathery, grey seed-vessels, though perhaps scarcely so effective as those of the common Traveller's Joy (Clematis vitalba), have a pretty appearance during the autumn months. It is also known as Clematis calycina.

This clematis is often confounded with C. cirrhosa, which bears flowers of the same size and colour, but with no spots in the interior. This, however, is much later in blooming, its first blossoms expanding just as the last flowers of C. balearica are fading. C. cirrhosa is by far the oldest occupant of our gardens, having been introduced into this country more than three hundred years ago, whereas C. balearica has not been known for much over one hundred years. Both species should undoubtedly be planted in gardens, as they extend the flowering season of their family from the winter days almost until the time that the Mountain Clematis (C. montana) spreads its veil of ivory-white star blossoms in the late spring.

WYNDHAM FITZHERBERT.

South Devon.

CHRYSANTHEMUM RED CAP.

The market grower has the habit of contracting names of plants and flowers, consequently the man in the street sometimes wonders what plant or flower is intended by certain expressions common in the markets. "Cues" for cucumbers, "gipsy" for gypsophila, and "pellies" for pelargoniums are examples of such contraction, and are generally well understood; but there are others not easily recognised. A chrysanthemum that has found great favour with growers who produce dwarf and beautiful pot plants is Caprice du Printemps, and, as in the case of so many chrysanthemums that have been grown widely, it has sported, and given many colour variations distinct from its own rosy-pink hue. It was not long before the market man shortened the title of this variety by dropping the second and third words and cutting the first one in half, until instead of offering or requiring plants of Caprice du Printemps, he sold or bought "Caps." With this abbreviation for a base the market men prefixed colour adjectives as needed, and so we have White Cap, Yellow Cap, and Red Cap, all varieties of Caprice du Printemps, and differing only in colour.

These are all splendid sorts for greenhouse and conservatory decoration, grown in 48 or 32-sized pots, and they are very fine when, in such pots, they carry from eighteen to thirty well-developed blooms, and stand about eighteen inches high. It is a good plan to insert the cuttings at the end of March or early in April, in a warm frame. These are potted off singly as soon as rooted, and stopped as soon as established. From thumbs to 60-sized pots is the next move, and early in July the last potting should be done, and the shoots must be only stopped once after the final potting, though they may have been stopped two or three times previously.

One or two special points are worth remembering, and these are to plunge the pots, out of doors, to their rims in ashes as soon as possible after the final potting; to keep the plants at all times free from insect pests; to never allow the soil to become dry; to disbud to one flower per growth; and to commence feeding as soon as the flower buds have set, making a fairly free use of clear soot water, so that the leaves may be kept a deep green colour. Many other chrysanthemums, especially those bearing compact, medium-sized blooms, may be cultivated in this fashion, and the accompanying illustration of Red Cap, as grown at their Feltham Nurseries by Messrs. Jas. Veitch and Sons, will serve as a model for those who propose to cultivate these useful dwarf chrysanthemums for conservatory and corridor decoration.

C.

The Blue Sow Thistle.—Mulgedium alpinum, the blue sow thistle, is most handsome, though possibly considered by many a little coarse in its aspect. Yet it is a good border subject, giving little trouble when in a dry soil, and it looks well in a large border among other tall perennials. It may also be planted with advantage in the wild garden or in openings in the woods, where it grows to a height of three or four feet, and affords a number of blue flowers, of considerable depth of shade, in clusters. The leaves are on long stems. Somewhat coarse on the whole, the alpine blue sow thistle is worth growing in many places, and the colour is by no means too plentiful among composites in bloom in late summer, when it flowers. M. alpinum may be increased by division or seeds.—S. ARNOTT.

THE ALPINE HOUSE AT KEW.

Throughout the spring months this house forms quite a centre of attraction by reason of the number of floral gems that are sure to be found therein, and even as early as the middle of January it contains much to admire.

Some of the species of crocus are now particularly bright and cheerful, among them being C. chrysanthus, yellow, with dark striping inside; C. Sieberi, mauve; C. Imperati, purple and fawn, with dark markings on the exterior; C. Fleischeri, pure white, with orange-red stigmata; C. biflorus, white, with dark feathery outside; and C. marathonensis, white. Snowdrops, too, are numerous, Galanthus byzantinus, G. robustus, G. Fosteri major, G. Elwesi, and G. Whittalli being in bloom.

A few saxifragas which serve as harbingers of many more to follow include the pure white S. Burseriana grandiflora and S. Boydi alba; the pale yellow S. Ferdinand Coburgi, and that charming species, S. Griesbachi.

The brightest feature of all is furnished by masses of bulbous iris, notably the golden-yellow Iris Danfordiæ, the bright blue I. histroides major, and I. stenophylla, whose flowers are lilac, blotched with purple. Anemones include A. hepatica and its white variety, the lovely blue A. blanda atrocærulea, and A. pulsatilla Halleri, a deep violet-blue variety.

Other subjects that contribute their share to the floral display are Adonis amurensis, whose pretty fern-like leaves serve to set off the golden blossoms; Arabis alpina, with tiny white flowers; Leucojum vernum, the Spring Snowflake; the new Indian Primrose—Primula Winteri; Scilla sibirica, and its white variety, and Sternbergia Fischeriana.

K.

MAGNOLIAS

The hardy evergreen magnolia should be grown in our gardens more than at the present time. It is very rare that one sees fine old specimens of M. grandiflora. In one garden in Hampshire, of which I had charge for many years, there was a row of trees in one border, and several growing near walls in the kitchen garden—which was six acres in extent. The stems of some of these trees, at 2ft. from the ground, measured 3ft. in circumference; several had been badly beaten about by strong winds, but every year there was a fine crop of huge flowers.

Now, these old trees did not make much new wood yearly, but it all matured owing to the full exposure of the branches to light, sunshine, and air. Annual top-dressings of decayed manure and loam, mixed, were needed to maintain the strength of the trees, and they were always satisfactory. Some of the trees were growing in a very moist soil, while others were in a very dry one, but there was little difference in the amount of new growth made each year, and none in the matter of flowering. Those trees in the moist soil made a little more growth, but it was scarcely noticeable.

In the same district were other specimens of Magnolia grandiflora. These were, however, in positions that were none too light, and the sunshine only reached them for a few hours in the early morning. Flowers on these trees were scarce, indeed, but the foliage was much finer than on the specimens I have first referred to. Every year long-jointed shoots grew, and these suffered in severe weather. The fully-exposed trees were the most satisfactory.

B.

CHRYSANTHEMUM RED CAP.

A deep red-coloured sport from Chrysanthemum Caprice du Printemps. The plant represented was grown in a 5in. pot by Messrs. Jas. Veitch and Sons, and exhibited by them last autumn.

ROSE ROSE QUEEN.

Unquestionably this rose is a very beautiful one, and admirably adapted for forcing, as under skilful cultivation it produces splendid broad-petalled, large rich rose-coloured blooms on long stems. It is an American-raised rose, and was put into commerce by the Messrs. E. G. Hill Company, of Indiana, U.S.A., after having been grown very extensively for the cut flower market. Mr. W. E. Wallace, of Eaton Bray, Dunstable, ever on the alert for improvements in roses and perpetual carnations, entered largely upon its cultivation under glass. During a visit to the United States he was much struck by the beauty and usefulness of the variety, and on his return very substantially increased his stock: indeed, we believe he grew fifteen thousand plants this last season. On March 19 last Mr. Wallace exhibited some grand flowers at a meeting of the Royal Horticultural Society at Westminster; the blooms were greatly admired for their form, substance, and colour, and an Award of Merit was granted.

DAHLIAS IN 1913.

It may appear to many readers somewhat early to talk about the dahlia in January, and perhaps it is to the amateur who divides his roots in April, and plants them straight away in their flowering quarters, but such good people have but a mild idea of dahlia growing. There are many phases of dahlia cultivation quite unknown to many people who are even interested in the flower, and they have little idea of the large amount of work that has to be done by the dahlia specialists before the plants reach their hands for planting purposes in the month of May.

I am under the impression that the prospects of the dahlia were never brighter than now, and I might also say these prospects are shared by other countries, for the export of pot tubers must be a record by the close of the season in April. The pot roots have been shipped in hundreds, yes, and thousands, to Japan, the United States, South Africa, Australia, India, and the Straits Settlements, to say nothing of the European countries.

Surely this points to bright prospects for the coming season.

The National Dahlia Society, too, appears to be imbued with renewed energy, and will hold a conference next month, at which some interesting subjects are to be dealt with, particulars of which will appear in these pages as soon as arrangements for

ROSE ROSE QUEEN.

A deep reddish-rose, H.T. variety, raised in America. It gained an A.M., R.H.S., on March 19, 1912, when exhibited by Mr. W. E. Wallace, of Eaton Bray, Dunstable.

the papers to be read and the place of meeting are complete.

The past two years cannot be described as good dahlia seasons, for in 1911 the dry weather that went on without a break week after week was not conducive to the rapid growth so essential to the dahlia, and no doubt many people were disgusted with the results obtained after all their trouble with the water-can; 1912 was little better, the cold, wet, sunless summer, with an almost Arctic August was not suited to the dahlia, and again the results were not so good as they might have been, though it must be admitted that show flowers were up to their usual form. Anyway, we are looking forward to a better growing season in 1913.

It is advisable at the present time to look over the dahlia roots in their storage, for they did not ripen off well and naturally last autumn, and where they were lifted as soon as the frost cut them down, and stored without any drying off previously, I fear many of the roots will not have kept well, but if they are examined now, and the decaying portions of the tubers are cut off, the crowns will be saved, and the partial loss of the tubers will matter but little. Even the turning over of the tubers will do them good, especially if they are at all damp, while if they are shrinking badly they can be moistened, and, after drying out again, be placed back in store.

Those specialists who have to produce thousands of plants for next April and May are already at work, and I have no doubt they have thousands of cuttings in their propagating houses already, but these early cuttings are for the production of pot-root tubers, and are not usually sold as green plants. It will, however, be as well to emphasise the necessity of growing or obtaining good plants ready for planting time, and these can be grown on steadily in frames protected from frosts, with little trouble, but the plants must be kept growing, for once they get hard their prospect of success has gone altogether.

J. B. RIDING.

LINDENBERGIA GRANDIFLORA.

This yellow-flowered labiate, which was given an Award of Merit on January 7, is of considerable decorative value, a great point in its favour being the fact that it continues to bloom during the late autumn and winter months. It is by no means a novelty, having been introduced about a dozen years ago, but though it has been several times exhibited it was only this year that it was honoured by an Award of Merit, possibly owing to it not having been submitted to the Floral Committee.

In a state of nature it occurs in a considerable tract of the Himalaya, from Simla to Bhotan. In this country it must be regarded solely as a greenhouse plant, and succeeds best when raised from cuttings of the young growing shoots in the spring, and the young plants are grown on as salvias and many other subjects are. Bushy plants about a couple of feet in height will bear a large quantity of blossoms, which are individually very much like those of the common musk, but considerably larger.

After the plants have done flowering they may be cut back and kept somewhat drier for a short time, then with increased heat and moisture they will push out a considerable number of young shoots, and these taken as cuttings will strike root in a very short time if inserted in pots of sandy soil, and placed in a close propagating case in a gentle heat. Care should be taken not to leave them therein after they are struck, otherwise they will run up weakly. Ordinary potting compost, such as a mixture of fibrous loam, well-decayed manure, leaf-mould, and sharp silver sand, will suit this lindenbergia.

S. W.

HYDRANGEAS AS TERRACE PLANTS.

The use of bold specimen plants in tubs for terrace decoration is no new matter, but with the advent of wild gardening—so-called, semi-wild gardening, and a freer and less formal style in our methods of garden design and decoration, there was a decline in their use. Their value has, however, never been lost sight of in these pages, and the growing popularity of shrubs in tubs, and specimen pot plants on terraces, by the sides of steps, and in other places, where they are in keeping with the surroundings, is largely due to the continued advocacy of their claims in the GARDENERS' MAGAZINE. Scented-leaved pelargoniums, agaves, agapanthus, lemon-scented verbena, bays, and oranges are a few of the more popular subjects, but fuchsias, zonal pelargoniums, marguerites, and chrysanthemums are often pressed into service, and, perhaps, hydrangeas are most popular of all. We have, on several occasions, indicated the few simple cultural details necessary to success, and have at various times given illustrations of the effective use of hydrangeas in tubs. In the present issue we show how large specimens are placed with great effect during the summer by the terrace steps (of grass) at Downside, Leatherhead, where Mr. W. Mease, gardener to Alfred Tate, Esq., grows roses, chrysanthemums, and many other things so well.

SPECIMEN HYDRANGEAS BY THE TERRACE STEPS AT DOWNSIDE, LEATHERHEAD, THE RESIDENCE OF ALFRED TATE, ESQ.

SOWING SMALL SEEDS OF GREENHOUSE PLANTS.

At this season of the year there are many things that require attention, but I doubt very much if there are any that require greater care than sowing seeds of choice greenhouse subjects to produce plants that are intended to bloom later in the year. Some of these seeds are very minute indeed, and, therefore, require special treatment to induce them to germinate freely, for not only must the soil in which they are sown be of a suitable kind, but the temperature in which they are placed after sowing be such as to induce free germination.

There is far more art in successfully raising early plants from seed than some who are unacquainted with the facts would believe. Some seeds, if covered too deeply, will fail to germinate, while others, if placed in too high a temperature, or sown in the wrong class of soil, refuse to grow, and not a few fail to produce a stock of plants through failure to keep the soil in a proper condition as regards moisture. Before commencing seed sowing it is well to prepare the compost for that purpose. The pots, pans, or boxes used should be well drained, and, after placing in them about two inches of rough material, the fine soil should be put on the top. For these very small seeds the soil should be passed through a fine sieve, and afterwards watered, so as to settle it. When the superfluous water has drained away the boxes, etc., should be carried into the propagating house and allowed to stand until the following day, by which time the soil will be in a fit condition to receive the seed.

Sowing.

We often notice that when seeds are self-sown the majority germinate, whereas when they are sown by us, in many instances, they fail to grow, and seedsmen are often blamed for supplying old or inferior seeds. It is well known that some seeds possess a greater vitality than others, and in not a few instances the best results are obtained by sowing the seeds as soon as gathered. But this is not possible in all cases, so we must try and follow Nature as best we can.

I remember well when the seeds of Primula japonica were first offered that but few people were able to induce more than about five per cent. to germinate. They were sown in heat, in cold frames, out of doors, and in a variety of places; still they refused to grow, but, after a time, when plants were allowed to stand and seed themselves, the young plants came up in such numbers as to become quite a pest, covering everything just like common weeds and in some places the seed pods had to be removed before the seed ripened to prevent the trouble of getting rid of the young plants.

Now such things should teach us a lesson as to the way of sowing and the after-treatment of such plants and seeds. Many make up a hotbed, and on this they stand the boxes or pans after the seeds are sown with a view of getting them to germinate more quickly. These beds, unless great care is exercised, frequently become so hot as to kill the seeds, except a few round the edges of the boxes, etc. Again, when the seeds are sown on the surface of the soil, on no account should the boxes be exposed to the bright sunlight, as this would cause the tender seedlings to wither up in a short time, and when this happens the person in charge is at a loss to account for the failure, and blames the seedsmen, when, in reality, it is his own fault. Half an hour of bright sun shining direct on small tender seedlings would be sufficient to cause them to wither, especially should the soil be in the least dry. To guard against this possibility the house or frame should be shaded from the bright sun, but, on the other hand, the shade should not be so dense as to cause the plants to become drawn.

The seeds of the majority of greenhouse plants do not require a great amount of heat to cause them to germinate; in fact, a temperature of from 60 to 65 degrees is ample for most of them, and if subjected to a higher degree of heat they do not grow so well.

There is another thing that should be guarded against, and that is sowing too thickly, for when the plants touch each other almost as soon as they are through the soil they hold moisture, and damp off, and when this damping off has once set in there is often a difficulty in checking it. The seeds of some kinds of plants are so minute that it is almost impossible to see them, and they are issued in such tiny packets that one has to be very careful they do not all come out at once. If it takes a little longer to separate them the time is well expended if the seeds are sown evenly over the surface of the soil. There are, of course, some seeds of much larger size, and these should be sown at various depths, according to their class, but with even the largest of them it will not be necessary to place them more than two inches deep. Some kinds germinate much quicker than others, for while some only take a few days, others require two or three weeks. When sowing is finished it is a good plan to cover the seeds with a sheet of glass, and over this put a sheet of brown paper. This will prevent evaporation and save watering. The paper should be removed at night, after the seeds have been sown two or three days, in case any plants make their appearance, and all ought to be examined daily afterwards.

When the young seedlings appear guard against snails, woodlice, and the like, as these troublesome pests often do a great amount of damage before they are detected. On no account allow the soil to become dry, but at the same time avoid too much moisture, as this would cause damping. Seedlings should be pricked out as soon as large enough to handle, but must afterwards be kept in the same temperature until re-established.

H. C. PRINSEP.

"Sweet Peas and Their Cultivation," by C. H. Curtis, is a compact and very readable Guide to the culture of this lovely and fragrant flower. Mr. Curtis, who is Hon. Secretary of the National Sweet Pea Society, deals fully and practically with its varieties, culture, and diseases. The book is well illustrated, and can be obtained from our publisher for 1s. 2d. (cloth 1s. 9d.), post free.

SOME JANUARY ROSE NOTES.

If the weather continues mild and open there is no need to cease planting, but I always prefer autumn or early spring planting to mid-winter. At present the soil is several degrees warmer than is seasonable, and planting may still go on whilst this condition continues. The various mixtures of soil and manures, intended to enrich our roses early in the spring, should be turned over a few times before use. This will not only incorporate the ingredients more evenly, but turning it admits air, disturbs many insects, and assists the uniform decay of the whole.

Mulching and Surface Digging.

Personally I prefer mulching early in the year rather than during autumn. Many mulch with the idea of protection, but I have not found this to be useful; a wet mulch, suddenly snapped by a sharp frost, is no protection whatever, and I prefer the plants to be open and dry. Where the ground is being improved by mulchings I would not place these around the base of the plants for this reason; earth is better than any form of manure around this part during winter. Besides, the best of the feeding roots are a little away from the base, and it is these that we want to assist.

Light or shallow digging between the plants will help to keep the ground sweet and clean. Do this now, before mulching, and then turn it over again directly after the pruning is done. This will till the ground, get the manure just under the surface where wanted, and leave the top in a good condition for the late spring and summer hoeings, to which I attach great importance.

Where planting has to be delayed until spring, have the ground prepared as soon as possible. It is better when allowed to settle a little than to plant upon loose, freshly moved soil. In this connection it is difficult to advise definitely, and each must decide for himself according to the condition and nature of the soil; but never plant while the soil clogs to the tools and boots. It is far better to lay the plants in by the roots and wait for a more favourable opportunity.

Shortening Standard Brier Growths.

The shoulders of standard briers, containing live rose buds inserted last summer, may be cut back to within six inches or so of the bud. This will allow of one getting among them better, and there is no reason why they should not be cut back thus early. We leave a little more growth beyond the bud, in order that some of the brier eyes may break into new growth, and encourage a better flow of sap to reach the rose bud. The rose eyes alone do not draw up enough sap to give themselves a fair start, and we find better results by encouraging the flow of sap in this way, and gradually reducing the brier growth as the rose progresses. The brier stems can be set up straight, and the ground between them dug over fairly deep, for there will be few roots near to the surface among standard briers of only one season's growth.

Supports for Standard Roses.

It is very necessary to afford efficient support for standards, also to the heavy-topped dwarf and pillar roses. Without this they cannot fail to sway about, which is always harmful. Stakes of many sizes may be used, but they seldom last more than a couple of seasons, unless of an unsightly and clumsy size. Iron stakes are best, and it is a capital plan to use galvanised gas

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or water piping, painting this over to preserve the metal and check any undue influence of frost. Though a trifle expensive at first, they last for a generation, and never rot off at the ground line—a weakness that makes the usual stakes and sticks so unreliable at the very time when most wanted. Great strength with desirable neatness can be had thus.

No time should be lost in potting up a few extra plants to use for filling blanks that are found when pruning. There are almost certain to be some of these, and it is safer to have pot plants to take their places than to move any so late from the open ground. I would have a few standards, climbers, and ordinary dwarfs prepared in this way. Even if not wanted, they will be useful to grow for flowering in pots the following winter, and they are always a little better than freshly-potted plants for forcing.

Delay the planting of dwarf stocks for budding upon until the end of next month, when a few hints upon this matter may appear.

Roses in Pots.

The main batch of roses under glass will need careful overhauling this month, and any repotting should be done at once. A somewhat coarser compost and much firmer potting than usually adopted will be found advisable. Although good drainage is very essential, I have frequently come across instances where this has been overdone, more especially in the use of far more crocks than were necessary. Half the quantity can be made effective if we take more care in placing them, and, seeing that crocks contain no element of plant food whatever, it seems a pity to occupy unnecessary space with them. I have found nothing better than a few half-inch bones, as these provide ample drainage, while feeding the lower roots at the same time, and so make a practice of placing a few over the three or four carefully-laid crocks.

Always remove as much of the old soil as possible when repotting, and be sure the old soil and roots are moist when placing the new soil around them. If the roots can be separated a little sand and some of the fresh compost worked well in among them they will start better and stronger. Any tendency towards looseness of soil should be avoided by ramming it down with a label or piece of wood between the old ball and the pot. I have found a somewhat coarse compost, rammed down fairly firm, much better than one of a finer character.

Pruning roses in pots is rather different to the same operation in the open. The centre of the plants need more care in thinning, and one should study the direction the strongest eyes are taking if a plant with any pretentions to shape is wanted. But so much depends upon the character of each variety's growth, and whether it is a well-formed plant with a few good blossoms or a greater quantity of flowers independent of the plant's appearance that is wanted.

House all pot roses, and prune them at the same time. They can be brought on in distinct batches by removing them to warmer quarters as wanted. Any fairly light shed will answer the purpose, the main thing being to keep the wood from severe frost, and to protect the pots. One does not obtain the same pleasing results from wood that has been openly exposed to severe frost as that receiving this little, but most important, protection.

Let us once more advise steadiness in forcing, and cleanliness in all ways from the very first. Roses may be hurried a little after the growth has become well advanced, but to force them from the outset is not satisfactory.

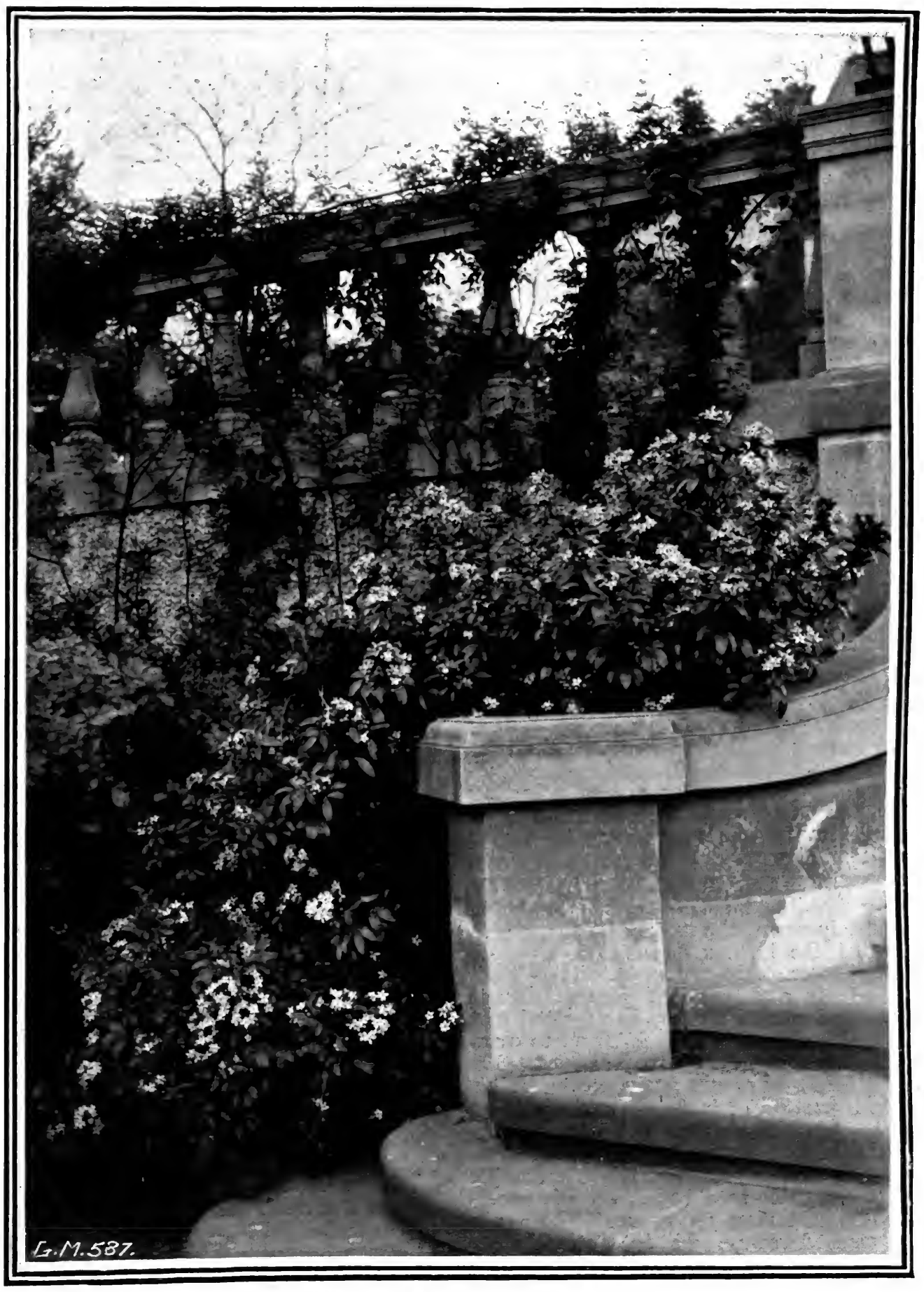
A. P.

CHOISYA TERNATA.

Choisya ternata is comparatively well known, as it is one of our handsomest evergreen shrubs, and although not absolutely hardy in every locality, it nevertheless enjoys a full share of recognition in cold districts as a wall shrub, for which purpose it is well adapted. In the young state the point of the branches are frequently damaged by frost, owing to their unripened state, but as the tree becomes older it naturally produces shorter growths, and as these ripen earlier they more frequently pass through the winter uninjured. In mild localities and coastal districts generally Choisya ternata forms a dense bush in the open, some six to eight feet in height, producing the white orange-like blossoms in loose, branched heads from the axils of the leaves near the points of the branches. The flowers have a delicate fragrance, like hawthorn, while the foliage, when handled or bruised, also emits a pleasant odour.

Branches of this plant, when cut, are admirable for arranging with various flowers, as the rich glossy green leaves contrast effectively, and when cut in winter and spring they last for several weeks in a fresh condition. This choisya flowers during April and May, and again in September and October. The display during the past autumn was quite equal to that usually produced in spring. Choisya ternata is one of the finest shrubs for limestone or chalky soils, on which it makes rapid growth. It is readily propagated by cuttings inserted in the open ground during October, or by layers put down at the same season, or in spring.

Coombe Court Gardens. T. SMITH.



CHOISYA TERNATA.

A beautiful evergreen shrub with white fragrant flowers.

Primula malacoides is very beautiful; its elegant spikes of rose-lilac flowers give it a great charm, and for a small table it is most useful. One serious drawback to this primula is that, although it needs a good amount of water, the supply, unless given very carefully, will cause the plant to damp off at the collar wholesale in a few days. The old double white primula is still one of the best, and the improved form, Beauty of Exeter, is very useful for buttonholes when three flowers are wired together with a frond of Adiantum cuneatum as a background.—LEWIS SMITH.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEED SOWING.—Many of the winter-flowering cypripediums will have matured their seeds, and others will ripen during the next few weeks. It is desirable that a portion of the seeds should be sown at whatever season they may ripen, immediately the pod bursts, the remainder being made secure and held over for more favourable conditions. It is not always convenient to find suitable seed beds ready to take the seed, or plants that will not need repotting during the coming season, although I advocate sowing on the compost of plants that have been undisturbed for a long period. We have to prepare suitable seed beds as a rule before any quantity of seeds are sown, but it will usually be observed that the seed germinates much more rapidly on the surface of the soil about the roots of a cypripedium that has been potted some months We have found that where seed has been sown on prepared surfaces and on freshly-potted plants, that in many cases it has taken a long time to germinate; and where polypodium or osmunda fibre has been used in the potting compost, the seed has rarely germinated under a year. It is advisable to use as far as possible at the present time such surfaces as may be available from among the plants that will not require repotting. Sow the seed thinly.

WINTER-FLOWERING CYPRIPEDIUMS.—Now that so many of the winter-flowering cypripediums have passed out of bloom, it is desirable to repot or divide those needing it, and prepare the surface so that it may be ready to receive the seed as occasions demand. In mixing the compost, see that it is porous and of a lasting nature, and to retard the overgrowth of sphagnum moss the heads may be picked off before the moss is finely chopped.

ODONTOGLOSSUM SEEDS will also be ripening now, and some portion should be immediately sown, the remainder being held over until the lighter days. These germinate best when sown around plants of their own kind, or closely allied genera. When sown around plants that were repotted last autumn all sphagnum that is likely to overgrow the seedlings should be removed. We find it difficult to secure germination, unless there is a portion of leaf-soil in the potting compost. We use nothing but peat, sphagnum, and broken leaves for our odontoglossums, so that we have generally little trouble in finding suitable seed beds. Care is necessary when watering to prevent the seeds being washed away. It is desirable to carefully dip the pots containing seeds, so that there may be no danger of the seeds being floated away. I am convinced that many failures may be traced to carelessness in watering.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

SCHIZANTHUSES. — The Wisetonensis and retusus varieties of these delightful annuals are indispensable for conservatory decoration during late spring and early summer. The plants which were raised in the autumn are growing on shelves in a cool greenhouse. Their chief requirements now will be timely attention to shifting into larger pots, staking, and careful watering. A compost of loam, leaf-soil, and sand, or lime rubble, will be suitable. The staking must be done efficiently, but neatly. Give plenty of fresh air when the weather is favourable, and use fire-heat sparingly.

MIGNONETTE.—The autumn-sown plants must be kept growing as near to the glass as possible in a cool greenhouse. These will be useful for their fragrance either in the conservatory or dwelling during the spring months. Some mild stimulants must be given the plants when they begin to develop their flower spikes. Another sowing may be made now.

CELSIA ARCTURUS. — This is a most useful pot plant for use in the conservatory. It must not be hurried by the use of fire heat, or the flower spikes will be weak. Plenty of stimulating manure when developing their flowers is needed.

CINERARIAS AND CALCEOLARIAS.—These should, if possible, be grown on a cool base, such as coal ashes or gravel; and, although they do best in a cool greenhouse, they must not be subjected to cold draughts. Give them plenty of feeding when their final pots are full of roots. They are very subject to attacks of aphis, and should be lightly fumigated occasionally to keep them clean.

CHRYSANTHEMUMS. — The cuttings which were inserted last month must be examined frequently, and those which have rooted must be placed on a shelf near the glass in a cool house. Do not expose them to cold draughts. Old stools which are being retained for stock must be kept near the glass in a cool house, and if they are producing too many cuttings, the most forward should be removed.

BULBS.—Any bulbs which are still buried in ashes must be examined, as the unusually mild weather will have encouraged them to grow freely. Move them to a cold frame until they are required for forcing.

LACHENALIAS.—These will need liquid manure and soot-water as the pots become filled with roots. Keep them growing near the glass in the cool greenhouse. They may be subjected to gentle forcing when the flower spikes appear, should it be desirable to hasten their flowering. — E. HARRISS, Lockinge Park Gardens.

HARDY FRUITS.

WALL TREES.—With the exception of peach and nectarine trees, we always commence and push forward as fast as possible with the pruning and nailing of all wall fruit trees as soon as the leaves have fallen in the autumn, beginning with those on the coldest aspects. If, however, through pressure of other work, these trees have so far been neglected, I would strongly urge that the work be taken in hand at once, and be proceeded with as quickly as possible, so that the branches, etc., may receive a thorough cleansing before the buds become too advanced.

MORELLO CHERRIES.—These bear the finest fruit on sturdy young growths, so that when attending to the trees during their growing season, suitable shoots should be retained to take the place of those which have borne fruits, and are not required for extension. It is not necessary to take down the whole of the trees if the main branches are equally balanced, but great care should be taken to see that none of the old ties or shreds are pinching the bark. Spur back to a couple of buds all weak shoots, and those not required for filling up bare spaces, and train all the shoots as straight as possible, so that, when finished, the trees present a good appearance. It takes no longer to train a tree well than it does to train it badly. Aim to keep the whole of the walls covered from the bottom to the top with clean, sturdy, fruiting wood. Young trees, if not equally balanced, will need to be taken from the walls and have their main shoots regularly placed and made secure before commencing to fill in the bare spaces with the young fruiting shoots, and those required to form an even-balanced head.

PLUMS.—When pruning and regulating the branches of plums, I strongly advise the retention of plenty of young wood. Although the plum fruits well on the spur system, I have always had the best crops produced from young two-year-old wood closely nailed to the walls, and in some seasons some capital fruits have been grown on the previous year's wood. Any old trees that yield only scanty crops, and that are really not worth the room and labour, should be grubbed out. Among our most dependable varieties at Wrotham are Early Transparent Gage, Oullin's Golden Gage, Washington, Jefferson, Denniston Superb, Coe's Golden Drop, Victoria, Monarch, Grand Duke, Gisborne, and Pershore. Thoroughly prepare the station for all young trees, and fill up with good loam, etc. In the case of narrow borders, first trench the whole two feet six inches deep, and then set out the stations for the reception of the trees, 17 or 18 feet apart.—H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

POTATOES.—Where new potatoes are required early in the season, the tubers should now be planted either in pots or heated pits. For pots the soil should be of a rich, open nature, and 10in. pots are a useful size for the purpose; half fill the pot with soil when planting, and add more soil when the growths are sufficiently advanced; that is, when they are showing above the pot level. An early peach house or vinery will afford the necessary conditions for starting the tubers. Water should be carefully given in the early stages of forcing. When making use of heated pits a mild hotbed materially assists and hastens early production; it is, of course, not a necessity where top heat is at command. The soil should be in good condition, and well warmed through previous to introducing the tubers. Light, sandy loam, with a liberal addition of well-rotted leaf-mould, spent mushroom bed manure, and wood ashes which have been well mixed, should be placed in the pit to a depth of nine or ten inches. Soil previously used for frames, and again pressed into service, will require the addition of a goodly portion of the above compost. Potatoes may also be forced in unheated pits, but in this case a good body of fermenting material is necessary to maintain a regular and continuous warmth, and adequate protection must be afforded during severe weather. This method entails a considerable amount of labour and watchfulness. The tubers should be well sprouted preparatory to planting, and further batches should be introduced into slight heat for planting in cold frames. Sharpe's Express is an excellent forcing variety.

SOWING SEEDS FOR EARLY CROPS.—A sowing should now be made in pots, pans, or boxes, according to requirements, of the small early maturing cabbages; Sutton's Earliest and Tender and True are early, and form a succession. Also lettuce of the Tom Thumb and Golden Ball class, and onions, celery, and leeks, if desired for exhibition purposes. As a succession to the December-raised tomatoes, which are usually fruited in pots, make a further sowing for pot culture or planting out. Towards the end of the month is quite early enough to sow the first batch of cucumbers, and one seed should be inserted in a 3in. pot, using fresh loam—free from eelworms and wireworms—with a liberal addition of leaf-mould and sand. It is a good plan to insert the seed upright in a pinch of sand, as I find this hastens germination, and the danger of the seeds rotting is thereby greatly reduced. The tomato and cucumber seeds should be placed in brisk heat, and covered up until germination takes place. A temperature from 50 to 55 deg. will suffice for the cabbage, lettuce, onions, etc., and these should be covered to exclude light until the young seedlings appear.—W. MESSENGER, Woolverstone Park Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

JANUARY 21.

The second exhibition held at the Royal Horticultural Hall this year was not up to the average, either in extent or interest. The hall seemed fairly well filled, but there were numerous exhibits of horticultural sundries, garden furniture, pottery, and paintings, and nothing was crowded. The outstanding exhibit was the very fine one of home-grown oranges from Sawbridgeworth. Orchids were fairly well represented, and perpetual carnations were largely shown. Cyclamen, apples, vegetables, and hardy flowers (chiefly alpines) were other features.

FLORAL COMMITTEE.

The exhibit of cyclamen from Messrs. Sutton and Sons, Reading, was a large and bright one, and the flowers were varied in size, shape, and colour. The big, bold blooms of Giant White contrasted finely with Giant Crimson and Vulcan, while among fringed forms a distinct improvement was noticed, the good form being retained in conjunction with delicate fringing and pretty colour combinations. In some of the plants the leaves are finely variegated and as handsome in their way as the flowers. The St. George's Nursery Company, Harlington, Middlesex, exhibited baskets of salmon-coloured cyclamen, but it was the beautiful silvery markings of the leaves of their variety St. George (A.M.) that attracted general attention and admiration.

A large collection of ferns was submitted by Messrs. H. B. May and Sons, Edmonton; small-growing polypodiums and nephrolepis were the chief kinds represented. Mr. L. R. Russell, Richmond, brought up a collection of ivies and some graceful plants of Jasminum pumilianum, carrying numbers of golden-yellow flowers. Some bright winter-flowering begonias of the semperflorens type were shown by Mr. W. A. Manda, St. Albans. Mr. Manda also showed a large vase of a new H.T. rose named Mrs. Charles Russell; this is a shapely, broad-petalled, deep reddish-rose variety, with paler shading. The flowers had been cut about fourteen days, and had travelled from the United States in cold storage, and, after such a journey, were of sufficient merit to secure an A.M. Zonal pelargoniums from Messrs. H. Cannell and Sons, Swanley, proved very interesting by reason of their brilliant colouring,, while the long-stemmed plants destined to form standard and half-standard specimens excited a good deal of comment.

Varieties of Azalea indica made a very bright display as staged by Messrs. Jas. Veitch and Sons, Chelsea; with these were some splendidly developed white and salmon cyclamens, the blue Coleus thyrsoideus, freesias, the rich blue Tillandsia Lindeni, etc. A fine group of forced flowering shrubs and early spring flowers from Messrs. Wm. Cutbush and Son, Highgate, was very noticeable, but the forced shrubs were only a part of the display, as the foreground was occupied by delightful groups of Iris Danfordæ, I. histrioides major, I. reticulata, and I. Krelagei, with many other good things.

Narcissus mini-cycla, a very charming and dainty hybrid between N. minimus and N. cyclamineus, the latter being the seed parent. The tiny flowers are perfect miniatures of golden trumpet daffodils, but the spread of the perianth segments is only 1½in. This was raised and shown by Mr. F. H. Chapman, Rotherside Gardens, Rye, and gained an A.M. We believe that January 21 is the earliest date on which a daffodil has ever gained an award.

Hardy rhododendrons from Messrs. R. Gill and Sons, Falmouth, were very attractive, especially the trusses of R. arboreum, R. cornubia, R. argenteum, and R. barbatum. Primula Winteri was largely represented. As usual, Mr. G. Reuthe, Keston, contributed many interesting hardy plants, and among these we made note of the exquisite species of crocus, Berberis nepalensis, irises of the reticulata group, Erica carnea, Oriental hellebores, Garrya elliptica, and hardy cyclamen.

The rock garden arranged by Messrs. John Piper and Sons, Bayswater and Barnes, contained a good selection of dwarf shrubs and little groups of Sisyrinchium grandiflorum, S. g. album, Saxifraga Boydi alba, Hepatica triloba plena, P. Winteri, and P. denticulata. From the Wargrave Plant Farm, Twyford, Berks, came Cyclamen ibericum, Arabis rosea, Iris histrioides, Soldanella alpina, Artemesia frigida, and other very interesting alpines.

Iris fimbriata, Viola gracilis, P. malacoides, P. Isabellina, P. denticulata alba, and P. Cashmeriana were a few of the early alpine flowers displayed in a fairly large group by Messrs. T. S. Ware, Lim., Feltham, Middlesex. Mr. James Box, Lindfield, Sussex, showed hardy heaths, colonies of coloured primroses, Primula Cashmeriana, and P. malacoides, with a few sedums, saxifrages, etc.

Alpine flowers came from Mr. C. Elliott, Six Hills, Stevenage, and among these the colonies of Saxifraga Bursariana and Morisia hypogæa were very pretty. Messrs. Barr and Sons, Covent Garden, presented a few early daffodils, a charming series of crocuses, primulas, saxifragas, snowdrops, anemones, and a very beautiful lot of Cyclamen ibericum, showing a goodly range of colouring in the seedling forms exhibited. The golden crocus chrysanthus var. E. A. Bowles was particularly handsome in this group. The brightly-coloured primroses shown in some quantity by Messrs. G. and A. Clark, Dover, foretold the coming of spring, and with these were Iris stylosa, I. s. alba, crocuses, and hardy cyclamen.

Mr. T. Smith, The Gardens, Coombe Court, Kingston Hill, provided a very bright little exhibit of forced Pyrus Schiedeckeri, Prunus triloba, these forming a background to muscaris, lachenalias, Anemone blanda, Chionodoxa Lucilæ, Iris reticulata, I. histrioides, and a good strain of Primula obconica. Very pretty were Iris reticulata, I. r. Krelagei, Crocus Sasianus, C. aureus, C. biflorus, Rhododendron præcox, and Erica carnea, exhibited by Messrs. R. Wallace and Co., Colchester.

Messrs. Whitelegge and Page showed various alpines in pots and pans, chiefly irises, saxifragas, and primulas, the latter genus being freely represented by P. malacoides. Mr. Maurice Prichard, Christchurch, Hants, had a very fine lot of Primula denticulata and its variety alba, of Gentiana acaulis, Erica mediterranea hybrida, and a goodly number of varieties of Helleborus orientalis, including the lovely purple-spotted Grosse Claude.

The great popularity of perpetual carnations was once more demonstrated by numerous exhibitors. Mr. H. Burnett, Guernsey, had a very bright display of fine flowers of Mandarin, Empire Day, R. F. Felton, Mikado, Marmion, C. F. Raphael, White Wonder, Mrs. Tatton, and Lady Alington. Messrs. Stuart Low and Co., Enfield, were fairly large exhibitors of carnations, and Fairmount, Cinnabar, Baroness de Brienen, Lady Northcliffe, and British Triumph were the outstanding varieties; this firm also displayed some excellent cyclamen.

A very fine vase of the scarlet sweetly-scented Mrs. L. Mackinnon formed a splendid centrepiece in a group of perpetual carnations shown by Messrs. Wm. Cutbush and Son, Highgate; the flowers were of grand size and substance; R. F. Felton, Goldfinch, Edna, Countess of Latham, and Mrs. Waldorf Astor were a few other striking varieties in a goodly group. Messrs. W. Wells and Sons, Merstham, were also represented by carnations, and their leading varieties were St. Nicholas, Salmon Enchantress, Benora, Gloriosa, Northport, and Geisha.

Messrs. Allwood Bros., Haywards Heath, were well represented by their good variety Mary Allwood, by La Rayonante, Fairmount, Scarlet Glow, Rosette, and Wivelsfield Wonder. Mr. C. Engelmann, Saffron Walden, had a good exhibit, and the bunches and stands of Lady Northcliffe, Sunstar, Harlequin, Elektra, White Perfection, Salome, and the red-striped Fanny were especially attractive.

Mr. R. Hughes, Ellesmere, Potters Bar; and Miss E. S. Ough, Streatham Common, exhibited paintings of flowers and garden scenes.

ORCHID COMMITTEE.

Messrs. Sander and Sons, St. Albans, presented a very bright collection of orchids, and used ferns and moss pleasingly among and below the flowers. Cypripedium insigne Louis Sander was an exceptionally big bloom, obtained by crossing the Harefield Hall and MacNabiana varieties of the popular C. insigne; Odontioda Bradshawiæ, Pleurothallis Roezli with its blackish flowers, Oncidium splendens, Dendrobium Brymerianum with its beautifully-fringed golden blooms, Saccolabium Harrisonianum, and S. bellinum superbum were other good things on view.

In the group from Messrs. Stuart Low and Co., Bush Hill Park, Enfield, Cattleya Luminosa, C. Harrisonæ, Oncidium splendidum, and freely-flowered specimens of the showy dendrobium Wardianum were the chief features.

A graceful exhibit from Messrs. Charlesworth and Co., Haywards Heath, consisted largely of fine spikes of odontoglossums, odontiodas, and varieties of Lælia anceps. A few things of special note were Odontoglossum armainvilliersense, O. ardentissimum, O. Wilckeanum, O. Lawrencianum, the quaint Catasetum discolor, Zygopetalum Roeblingianum, and the bright Odontioda Keighleyensis with a pair of freely-branching spikes of crimson-scarlet flowers. Mr. W. A. Manda, St. Albans, exhibited numerous varieties of Cattleya labiata, and a few cypripediums and philcenopsis, and associated these with the very handsome Polypodium Mandaianum.

Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, showed a fine plant of Cymbidium Lady Colman with six spikes of bloom, a large specimen of Cirrhopetalum robustum, and also a large one of the pretty Restrepia striata, with Zygocolax Veitchi and Z.-c. Wiganiæ Masdevallia elephanticeps, Pleurothallis scapha, and Masdevallia tovarensis. From Westonbirt, Mr. H. Alexander, grower to Sir G. Holford, brought up the fine Cypripedium Jura, a descendant from C. insigne Mostyn. M. Firmin Lambeau sent over from Brussels the lovely red, crimson, and yellow Lælio-cattleya Firmini var. Ardens (A.M.), and the no less beautiful cattleya Enid var. Firmin Lambeau (F.C.C.), obtained by crossing C. Mossiæ Reineckiana and C. gigas Frau Melanie Beyrodt. Francis Wellesley, Esq. (gardener, Mr. Hopkins), submitted Cypripedium Cupid magnificum and the chaste Brasso-cattleya Wellesleyæ, Brassavola glauca and C. Mossiæ Wagneri.

Mr. Shill, gardener to Baron Bruno Schroder, Egham, showed a three-spiked specimen of the lovely Lælia anceps Hilliana, which has a delicate rose-pink lip. Messrs. Hassall and Co., Southgate, put up good forms of Odontoglossum Lambeauianum, O. amabile, and O. percultum, and a good plant of Cattleya Blacki. Mr. E. H. Davidson, Orchid Dene, Twyford, brought forward Sophro-cattleya Saxa Orchid Dene var. (A.M.), with a broad, deep rosy-red flower; Odontioda Bradshawiæ, and Odontoglossum illustrusissimum.

From Cheltenham, Messrs. J. Cypher and Sons, brought up Calanthe Bryan, C. bella, C. William Murray, and Lælia anceps Hilli, their long, arching spikes curving over Lycaste Balliæ, Miltonia Hyeana, Cypripedium Beckmani, C. aureum viginale, C. Vandyke, C. Venus, and the very pretty white and yellow Cœlogyne intermedia (A.M.), a cross

between C. cristata Lemoinana, and C. Massangeana.

Mr. G. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, showed Odontoglossum Aireworthy Goodson's var. (A.M.), handsomely spotted with rich crown on a blush ground, and somewhat in the way of O. Jasper.

Odontoglossum Phoebe was well shown by Mr. H. A. Tracy, Twickenham, and Mr. Metcalfe, gardener to Lady Wernher, Luton Hoo, Luton, showed a group of finely-grown plants of Calanthe Regnieri and C. Baron Schroder albescens, carrying spikes 4ft. long. Mr. C. J. Phillips (gardener, Mr. R. J. Bucknall), The Glebe, Sevenoaks, submitted Odontioda Madeline var. Prince of Orange (A.M.) (Odontioda Charlesworthi × Odontoglossum crispum), a very distinct pale yellow-ground flower, with light yellow-brown blotches, edged with deep yellow; the lip is yellow, with a central red-brown blotch and a yellow crest; from the same exhibitor came Odontioda Joan, with crimson and purple flowers.

FRUIT AND VEGETABLE COMMITTEE.

One of the largest and most striking exhibits in the show was from Messrs. Thos. Rivers and Son, Sawbridgeworth, and consisted wholly of fine home-grown oranges. There were large numbers of picked fruits, scores of heavily fruited cut branches, showing how free-cropping many of the varieties are, and a number of fruiting trees in pots and tubs. In the centre of the group fruiting branches were tied to wires overhead to show how the plants fruit in a span-roofed house. Varieties of special merit were Seville, Silver Achilles, Navel, St. Michael's, Jaffa, and Long Orange, while the citrons, lemons, and the tiny myrtle-leaved oranges were fully as attractive as the quantities of brilliant and richly-flavoured oranges.

A very bright and interesting collection of apples from Messrs. J. Cheal and Sons, Crawley, attracted a great deal of attention, and very tempting were the dishes and baskets of Paroquet, Wealthy, Cox's Orange Pippin, Encore (fine), Rival, Newton Wonder, Crawley Beauty (exceptionally brilliant), King of the Pippins, Ribston Pippin, Allington Pippin, Beauty of Stoke, etc., etc. Fine specimens of intermediate carrots, Sutton's Black and Blood Red beets, Ailsa Craig and Globe onions, and Supreme and Centenary potatoes were capitally shown in a collection of vegetable roots by Messrs. Sutton and Sons, Reading.

CERTIFICATES AND AWARDS.

First Class Certificate.—To Cattleya Enid var. Firmin Lambeau, from Mons. Firmin Lambeau, Brussels.

Award of Merit.—To Cattleya Firmin Lambeau var. Ardens, from M. Firmin Lambeau, Brussels; to Cœlogyne intermedia, from Messrs. J. Cypher and Sons, Cheltenham; to Odontioda Madeline var. Prince of Orange, from Mr. C. J. Phillips, The Glebe, Sevenoaks; to Sophro-cattleya Orchid Dene var., from Mr. E. H. Davidson, Orchid Dene, Twyford, Berks; to Odontoglossum Aireworth Goodson's var., from H. S. Goodson, Esq. (gardener, Mr. G. Day), Fairlawn, Putney; to Rose Mrs. Charles Russell, from Mr. W. A. Manda, St. Albans; to Cyclamen St. George, from the St. George's Nursery Company, Harlington; and to Narcissus mini-cycla, from Mr. F. H. Chapman, Rotherside Gardens, Rye.

MEDALS.

Gold.—To Messrs. T. Rivers and Son, Sawbridgeworth, for home-grown oranges.

Silver-gilt Knightian.—To Messrs. J. Cheal and Sons, Crawley, for apples and pears.

Silver Flora.—To Messrs. Charlesworth and Co., Hayward's Heath, for orchids; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Mr. Metcalfe, gardener to Lady Wernher, Luton Hoo, Luton, for calanthes; to Mr. H. Burnett, Guernsey, for carnations; to Messrs. Wm. Cutbush and Son, Highgate, for forced flowers, carnations, etc.; to Mr. Maurice Prichard, Christchurch, for hardy flowers; to Mr. L. R. Russell, Richmond, for shrubs; to Messrs. Sutton and Sons, Reading, for cyclamens; to Messrs. Jas. Veitch and Sons, Chelsea, for greenhouse-flowering plants; and to Messrs. H. B. May and Sons, Edmonton, for ferns.

Silver Banksian.—To Mr. W. A. Manda, St. Albans, for orchids; to Messrs. Hassell and Co., Southgate, for orchids; to Mr. C. Elliott, Stevenage, for rock plants; to Messrs S. Low and Co., Enfield, for carnations; to Mr. G. Renthe, Keston, for hardy plants; to Mr. T. Smith, The Gardens, Coombe Court, Kingston Hill, for hardy flowers; to Messrs. R. Wallace and Co., Colchester, for hardy flowers; to Messrs. T. S. Ware, Lim., Feltham, for alpines; to the Wargrave Hardy Plant Farm, Lim., Wargrave, for hardy plants; to Messrs. Gill and Sons, Falmouth, for rhododendrons, etc.; and to Messrs. Sutton and Sons, Reading, for vegetables.

Bronze Banksian.—To Messrs. G. and A. Clark, Dover, for hardy flowers; to Messrs. J. Piper and Co., Barnes, for alpines.

SCIENTIFIC COMMITTEE.—January 7.

Present: Mr. E. A. Bowles, M.A., F.E.S., F.L.S. (in the chair); Messrs. J. O'Brien, G. Wilson, R. H. Pearson, E. M. Holmes, W. Hales, A. Worsley, and F. J. Chittenden (hon. secretary).

ADIODA × ST. FUSCIEN. — Messrs. Charlesworth and Co., of Haywards Heath, sent a hybrid between Ada aurantiaca and Cochlioda Noezliana with narrow-petalled flowers of a deep red colour on a many-flowered raceme. This cross was first shown at the International Exhibition at Chelsea by M. Graire, and had also been raised by Messrs. Charlesworth simultaneously. The committee unanimously recommended that Certificates of Appreciation should be awarded to both M. Graire and to Messrs. Charlesworth for their work in raising this unique cross.

CYNOCHES COOPERI.—Messrs. Sanders showed a plant under this name which was thought by some to be identical with C. pentadactylon, but Mr. Rolfe reports that, though very similar in structure to that species, it is quite different in colour, the sepals and petals being of a nearly uniform mahogany-brown, and there are also some differences in the details of the lip. It would therefore appear to be sufficiently distinct to warrant a new name, and the Award of Merit recommended, subject to the name being found correct, therefore stands.

EPIDENDRUM CILIARE × LÆLIA CINNABARINA.—Mr. J. O'Brien showed flowers of a hybrid between these two plants, pointing out that, though not very conspicuous, the markings on the lip followed the remarkable fringing of the Epidendrum parent, and the form of the lip was markedly elongated.

MILTONIA VEXILLARIA × ODONTOGLOSSUM CRISPUM.—At the corresponding meeting last year M. Firmin Lambeau showed a seedling of this cross, and the committee requested that further plants of the same raising should be shown when the opportunity occurred. M. Lambeau now sent two more plants, bearing flowers very similar in appearance, and leaving no doubt that the parentage was as stated originally.

DATURA ARBOREA. — Mr. Holmes showed a flower of D. arborea bearing a white out-growth from the outside of the corolla similar to those frequent in gloxinias and several other plants. This species not infrequently produced them.

INSECT ATTACKING FENNEL. — Mr. Holmes also showed a number of insects belonging to the genus Typhlocyba (leaf-hoppers). Few insects attack the fennel, possibly owing to the oil it contains, but these seemed remarkably numerous.

GROUSE EATING WILLOW BUDS. — Mr. F. M. Ogilvie, of the Shrubbery, Oxford, sent shoots of a willow on which he had seen grouse feeding in Argyllshire. The crop of the grouse was full of the buds. The willow appeared to be Salix repens, an apparently uncommon food plant for grouse in Britain.

CYCLAMEN WITH BRANCHING INFLORESCENCE.—Mr. Hawkes, of Osterley Park Gardens, sent shoots of cyclamen bearing leaves springing from the peduncles, and in their axils other flowers. These branching peduncles of cyclamen appear not uncommon in collections where the plants are growing with unusual vigour.

GALL ON ROOT OF THUYA.—A large globular growth the size of a cricket ball was shown on the root of a Thuya. It was very similar in appearance and structure to those not uncommon on the roots of loganberries and other plants, and was possibly allied to the crown-gall which attacks so many widely-different plants.

National Chrysanthemum Society.

A largely-attended meeting of the executive committee was held at Carr's Restaurant, Strand, W.C., on Monday, January 20, and a great deal of business was got through in excellent order and despatch. The draft balance-sheet and report of the committee were duly considered and passed for presentation to the annual meeting, and it was a pleasure to learn that the society has now a reserve fund of £75, and carries forward a small balance to the good as well. The work of the Floral Committee occupies considerable space in the report, and shows that the society is keeping abreast of the times.

The schedule sub-committee's reports were considered and adopted, and arrangements were made for the annual meeting on February 17, and a conference in December next, while the question of the annual outing was discussed at some length.

A somewhat unusual proceeding was the hearty passing of a vote of thanks to the sub-committees and officers who had so carefully prepared the business of the evening that the sitting was not unduly prolonged.

United Horticultural Benefit and Provident Society.

The monthly meeting of the committee of this society was held at the Royal Horticultural Hall on Monday, January 13. Mr. Chas. H. Curtis in the chair. Five new members were elected. The sick pay for the month amounted to £79 6s. 6d. Two members over 60 years of age were allowed to withdraw double the amount of their interest, being £2 11s. 4d. and £3 12s. 10d. respectively. One lapsed member, having reached the age of 60, was allowed to withdraw his deposit account, amounting to £24 14s. 2d. Also one member having reached the age of 70 years, having the handsome sum of £161 7s. 7d. standing to his credit, was granted leave to withdraw £61 7s. 7d., leaving £100 still standing to his credit. The committee wishes to draw the attention of young gardeners to these figures, which should be a great inducement for them to fill up their forms and thus become members of the society.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the PUBLISHING MANAGER, 148-9, Aldersgate Street, London, E.C., who will give the matter immediate attention.

East Anglian Horticultural Club.

The twenty-third annual dinner of this club was held at the Criterion Restaurant, Norwich, on the 15th inst. The committee had tastefully decorated the tables with pot plants and cut flowers from the members. Mr. F. Williams presided, and was supported by a large and influential body of local amateur and professional gardeners. After the loyal toasts had been duly honoured, Mr. J. E. T. Pollard gave "Success to the East Anglian Horticultural Club." He congratulated the club upon its splendid membership and its strong financial position, also upon the useful educational work it had done. He thought the club ought to have a motto, such a one as "Advance horticulture," or "Progress," for both these had been well maintained.

The President, the Vice-president (Mr. J. Clayton), and the Secretary (Mr. W. L. Wallis) fittingly replied to this toast, each remarking upon the splendid brotherly feeling that existed among the members, and which, no doubt, helped it to maintain its present unique position. Mr. J. Forder ably proposed "The Norfolk and Norwich Horticultural Society," one of the oldest in the country, it having been in existence for 83 years. To this toast Mr. C. E. Pilling, the hon. secretary, responded, and gave a much brighter outlook of affairs than one has heard for the past year or so.

Mr. A. G. Stark, of sweet pea fame, gave "Success to the Royal Horticultural Society," remarking, among other things, that it was the mother of all British horticultural societies, and, in fact, was recognised as the leading society throughout the world. Mr. C. Daniels replied, and gave a resume of the useful work being carried on at Wisley.

"The Horticultural Trade of Norfolk" was proposed by Mr. H. Perry, who said that by "trade," the name of any place was carried far beyond the confines of its own little sphere of labour, and he knew that the name and fame of Norwich and Norfolk had gone far and wide as the result of the enterprise of the leading firms associated with horticulture, whose activities were carried on within the county. Other toasts were "The Visitors," "The Press," and "The Prize Donors." A good musical programme was also provided.

Scottish Horticultural Association.

The annual business meeting of the above association was held in Dowell's Rooms, George Street, Edinburgh, on January 14. Mr. Massie, the president, was in the chair, and there was an attendance of 170 members.

The annual report stated that the work of the past session had been carried on vigorously, and that the average attendance at the ordinary monthly meetings was over 90. The exhibits at the monthly meetings were generally of much excellence, and four First Class Certificates, 14 Certificates of Merit, and eight Cultural Certificates were awarded to new or meritorious plants, etc. Chiefly as the result of a personal appeal by Captain Stirling of Keir, the honorary president, there had been a large accession of new members in the higher grades of the scale of subscriptions brought into existence last year under the new constitution, and the membership now stood at about 1,400, a net increase of 120 over the previous year's number. The Horticultural Institution Fund, which, at the commencement of the previous year stood at £80, now amounted to £288; a benevolent fund had been instituted, and the funds of the association, which now, after providing for present depreciation of stocks, stood at £828, were fully £100 better than at the beginning of last year. A considerable number of local secretaries had been appointed in the various Scottish counties, and the governors of the Edinburgh and East of Scotland College of Agriculture had favourably entertained a suggestion made by the Council that horticulture should have direct representation on the governing body of that institution. The chrysanthemum show, owing to the sunless, backward season, was rather smaller than usual; nevertheless, there was a balance of income over expenditure of £22 18s. 9d., and it was visited by over 21,000 people during the three days. Both the Council's report and the financial statement were adopted unanimously.

On the motion of Mr. Fife, seconded by Mr. Whytock, the president, Mr. Massie, was elected an honorary life member of the association.

Captain Stirling of Keir was re-elected honorary president for the current session. Mr. David King was elected president, and Messrs. R. Fife and W. Galloway were elected to the two vacancies in the vice-presidencies. The following were elected to the seven vacancies in the Council, viz., Messrs. W. Copeland, Dr. W. G. Smith, H. Thomson, G. Cochran, A. Johnstone, W. Mather, and A. C. Scott. Mr. A. D. Richardson was re-elected secretary and treasurer, and Messrs. Robertson and Carphin, C.A., were elected as official auditors. On the motion of Mr. King, a hearty vote of thanks was accorded to the retiring office-bearers, which was acknowledged by Mr. Massie.

A donation of £10 each was voted to the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund.

It was intimated that, on the invitation of Mr. C. W. Cowan, the members would visit Dalhousie Castle on April 19. A syllabus of subjects for session 1913 was submitted, and it was agreed to revert to the former hour of meeting, viz., 7.30 p.m., all the year round. A number of donations to the library, including 25 volumes of the "Gardeners' Chronicle," from 1841 onwards from Messrs. Wm. Thomson and Sons, Clovenfords, were intimated.

The new president, Mr. King, will deliver his inaugural address at the meeting on February 4.

Morley Paxton Society.

This society held its annual meeting on January 3, the President (Mr. E. Bentley) presiding over a large attendance. The report showed that the work of the society had been very successful, both horticulturally and financially, there being many signs of a healthy growth of interest in horticulture in the district. The eighth annual chrysanthemum show, held in the Town Hall in November last, was a record in many ways, the blooms were of a high order, and the attendance large.

The secretary, Mr. S. J. Wormald, Zion House, Morley, received instructions to make enquiries as to the methods followed in holding cottage garden competitions, with a view to establishing them in Morley. If any ings for the two shows representing an in- this direction, Mr. Wormald will be pleased if they will communicate with him.

Reading Gardeners' Association.

The annual meeting of the Reading and District Gardeners' Mutual Improvement Association was held in the Abbey Hall, Reading, on Monday evening, when there was a large attendance of members. The chair was occupied by the President, Mr. F. B. Parfitt, and he was supported by Mr. Leonard Sutton (vice-president), Mr. L. Castle (hon. secretary), Mr. F. W. Macdonald (hon. treasurer), Mr. F. W. Drew (chairman of the committee), Mr. Blackwell (Fox Hill), and others.

The annual report, which was presented by the Hon. Secretary, stated that the year had been very successful. The year ended with a membership of 291. In conclusion, the report stated that if the society was to maintain its high standard the wholehearted support of every member must be given.

The balance-sheet was presented by the Hon Treasurer, and showed that the year started with a balance in hand of £50 11s., and, after meeting all liabilities, the year ended with an increased balance of £59 13s. 9d.

The President, in moving the adoption of the report and balance-sheet, paid a tribute to the many kindnesses the Association had received at the hands of the vice-president.

The Vice-President seconded, and the proposition was agreed to.

The Hon. Secretary and the other officers were heartily thanked for their services to the Association. Mr. Castle and Mr. Drew acknowledged the compliment.

The president, vice-president, secretary, treasurer, chairman of committee, and other officials were re-elected, and a committee was appointed for the current year.

OBITUARY.

MR. EDWARD WEBB, J.P.

It is with much regret that we record the death of Mr. Edward Webb, J.P., D.L., the senior partner in the firm of Messrs. E. Webb and Sons, of Wordsley, which occurred at Paris on the 21st inst. Mr. Webb was on his way to Nice for a rest and change of air, and was seized with paralysis during his journey from Calais to Paris. He was taken to a nursing home in Paris, where, in a short time, he passed away. From the time of entering the firm, when comparatively young, until the close of his long life, Mr Webb took a very active part in the management of the great firm of which he was head, and enjoyed a high reputation amongst those with whom he had business relations, and was highly respected by the firm's employees at Wordsley and elsewhere.

NEWS FROM HEADQUARTERS.

VEGETABLES FOR EXHIBITION.

It is still very early in the new year, but if you are to be in front of your neighbours when exhibition time comes round, it is time a few of those subjects which require a long growing season to bring them to perfection were sown. Even if you do not aspire to exhibit, it is very gratifying to have a few dishes of choice vegetables earlier in the season than your friends.

A sowing of Leek seed should be made in gentle heat this month, when the resultant specimens will be available in good season either for gracing the exhibition table, or taking their place as one of the principal constituents of that delicious production of the land beyond Cock a Leekie. A variety which can be depended upon for producing fine show specimens is Carter's Holborn Model; whilst their improved Musselburgh is splendid for main crop.

Fine specimen onions will not materialise unless seed of a pedigree strain is sown under glass during the next week or so.

Carter's re-selected Ailsa Craig can be sown with every confidence, and was more successful than ever as an exhibition variety last season.

A sowing of Carter's Seville Giant Longpod Bean should also be made in a protected situation, as the young pods from early-sown plants will supply a few pickings of beans early in the late Spring or early Summer. Full particulars will be found in our Catalogue, which will be gladly sent.

JAMES CARTER & CO.,

Seedsmen to His Majesty the King,

RAYNES PARK, LONDON, S.W.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149 Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

BOXES FOR SWEET PEAS.—G. B., Colwyn: Can you give me information as to where I can obtain a box for the purpose of conveying sweet peas to exhibitions?—You could make a box for sweet peas if you are at all handy with carpenter's tools. It should be stout, have some ventilation holes, and be deep enough for three or four rows of bunches. In the case of a very deep box, if there are no shelves or carriers, there is a danger lest the lower rows of bunches become badly crushed by the weight of those above. If the flowers are to be conveyed in water, then the box must be deep enough to carry the flowers upright, and the inside measure should be about twenty or twenty-four inches. To the bottom of the box a number of stout tin tubes must be fixed by means of screws passing through a basal flange; these tubes should be from four to six inches apart, and when they are filled with flowers the blooms should be fairly close together, so that they cannot move much during the journey. A plug of moss or cotton wool should be placed in the mouth of each tube as soon as the flowers have been inserted, to keep the water from splashing up on the flowers. Have the box made with a strongly-hinged lid, and with the front of the box also hinged, because the flowers can be much more easily removed from the front than from the top. Any of the horticultural sundriesmen who advertise in our columns would make such a box for you.

SHADING FOR SWEET PEAS. — G. B., Colwyn: Will you please tell me what, in your opinion, is the best shading for sweet peas?—Not all sweet peas require shading, but, for exhibition purposes, the salmon, orange, and blue varieties should be shaded from the brightest sunshine. Butter muslin is capital material for shading sweet peas because the flowers do not need heavy shading; it is possible that by the seaside, in the height of summer, a double thickness might be desirable.

LÆLIO-CATTLEYA WALTER GOTT.—F., Kew: In a recent issue you make reference to Lælio-cattleya Walter Gott; am I to take this as correct, or is it a misprint for L.-c. Walter Scott?—Lælio-cattleya Walter Gott is quite correct, and the name is that of one of Messrs. Sander and Sons' employés. The hybrid was obtained by crossing Cattleya bicolor with Lælio-cattleya Bletchleyensis.

AFTER PASSING THE R.H.S. EXAMINATION.—G., Durham: Would you kindly tell me, through the columns of the GARDENERS' MAGAZINE, what is the best thing to be done after securing a First Class Certificate at the Royal Horticultural Society's examination for gardeners, to aid one in obtaining a good position? So much has been said and written of late regarding a gardener's education, diplomas, certificates, etc., that I am anxious to know what course to follow after winning a certificate. Some of us who do our best in this matter of education live so far from towns and from each other, that we rely upon the "G. M." to keep us in touch with present progress, therefore I seek your advice.—Given equal practical ability in gardening matters, a man who holds a First Class Certificate from the Royal Horticultural Society should have a distinct advantage over the man who has not passed the examination. It is most unfortunate that all too many who hold certificates seem to think that winning such award ends their personal effort towards success, and that thereafter they should not be called upon to soil their hands. Having won a certificate, and possessing practical ability that comes from personal experience in several gardens or nurseries, the next step will depend largely upon the end in view. Private gardening, public gardening, and horticultural teaching in connection with colleges, County Councils etc., have their allocations, and the nursery and market garden trades may offer inducements to those with business instincts. It is a great thing to be able to decide as early as possible which particular line of work is to be followed. Assuming you prefer private gardening, then proceed to widen your experience by securing service in first-class gardens in different parts of the country. In whatever subject you feel you are weakest, seek to improve yourself. Land surveying, drawing up plans for laying out new or improving old gardens, land measurement, and the cost of moving soil, etc., keeping accounts for presentation to steward or owner, and the science of manuring, are all important matters, especially in the management of the larger gardening establishments, and a knowledge of these things will prove valuable. Take advantage of local horticultural improvement societies, and cultivate a ready utterance. Cultivate also the art of letter-writing, and do not be afraid of writing to the heads of large and important gardens, if you wish to take service under them; everybody appreciates a legible, well-written and interesting letter. A well-written letter often secures an appointment, but only ability can keep the position obtained; the pity of it is that so many very capable men do not "get on" because their ordinary education has been so sadly neglected, and they are not able to turn their practical knowledge to the best account. Write us again; we shall be glad to hear from you, and to help you so far as it lies in our power to do so.

NATIONAL DAHLIA SOCIETY.—S. L. E., St. Neots.—Looking at the schedule of the National Dahlia Society for 1912, I cannot find any trace of the origin of the Society, of how many annual exhibitions the Society has held, or when it held its first exhibition. These matters are of interest, and if you can enlighten me I shall be glad. —The National Dahlia Society was instituted very many years ago, but the exact date escapes us for the moment. There were dahlia shows long before the N.D.S. was formed, and we have before us a four-page quarto schedule of an exhibition held in 1858. The title reads, "The First Grand National Dahlia Show, open to all exhibitors, will be held in St. James' Hall, London, on Thursday and Friday, the 23rd and 24th September, 1858." Prizes amounting to one hundred guineas were offered, and there were eleven classes. Eight of those classes were for show and fancy dahlias, one for a group of cut dahlias artistically arranged, one for the best device of dahlia blooms, and one for the best six dahlias in pots. It will be gathered from this that there were only the large double show flowers in those days, and that the numerous floral sections we now have, such as single, cactus, and pompone, did not exist then, while pæony-flowered and collarette types are of quite recent origin.

NAMES OF PLANTS.

R. J. A., Guildford.—1, Quercus ilex variegata; 2, Empetrum nigrum.

G. H. G., Exeter.—1, Iris stylosa; 2, Rubus leucostachys; 3, Ruta graveolens.

J. C., Cardiff.—1, Acacia dealbata; 2, A. Baileyana; 3, Jacobinea chrysostephana; 4, Nertera depressa.

E. C., Wrexham.—1, Garrya elliptica; 2, Calanthe Veitchi; 3, Episcia fulgida; 4, Monochætum Lemoinianum.

L. C. S., Frant.—1, Myrtus Ugni; 2, Pittosporum Tobira; 3, Euonymus japonicus radicans; 4, Diplacus (or Mimulus) glutinosus; 5, Desfontainea spinosa; 6, Juniperus Sabina.

MARKETS.

COVENT GARDEN.

Flowers.

Flowers are abundant for the time of year, and the variety is also good. Business is steady.

		s.	d.		s.	d.
Acacia	per bun.	0	6	to	1	0
Anemones	per doz. bun.	2	6		3	0
Arums	per doz.	2	0		3	0
Adiantum cuneatum	per doz. bun.	4	0		6	0
Asparagus plumosus	per doz. bun.	8	0		16	0
,, Sprengeri	per doz. bun.	8	0		12	0
Azalea	per doz. bun.	4	0		5	0
Bouvardia	per doz. bun.	5	0		8	0
Camellias	per doz.	1	6		2	6
Carnations	per doz.	1	6		3	0
,,	per doz. bun.	10	0		18	0
,, Malmaison	per doz.	10	0		15	0
Cattleyas	per doz.	9	0		15	0
Chrysanthemums	per doz. bun.	8	0		12	0
,,	per doz. blooms	1	6		4	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz.	2	0		3	0
Daffodils	per doz. bun.	3	6		6	0
Eucharis	per doz.	2	0		3	0
Freesias	per doz. bun.	2	0		3	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	3	0		5	0
Lapageria	per doz.	2	0		2	6
Lily of the Valley	per doz. bun.	6	0		15	0

Fruits.

English apples continue good, and there is a brisk demand for them, notwithstanding the Canadian and American supplies. There is a fair general demand.

		s.	d.		s.	d.
Apples, English	per bush.	3	0	to	6	0
,, Cox's	per ½-sieve	5	0		10	0
,, American	per bar.	20	0		30	0
,, Californian	per box	6	0		10	0
,, Nova Scotian	per bar.	10	6		20	0
Apricots, Cape	per case	4	0		6	0
Bananas, Canary	per bar.	7	0		10	6
,, Jamaica	per bun.	3	0		5	6
Cobnuts	per doz. lbs.	3	6		5	0
Cocoanuts	per 100	18	0		23	0
Cranberries	per case	9	0		14	0
Custard Apples	per doz.	4	0		8	0
Dates	per doz. boxes	2	9		3	6
Figs	per box	0	9		1	6
Grape Fruits	per case	8	0		18	0
Grapes, English	per lb.	1	0		10	0
,, Almeria	per barrel	9	0		15	0
,, Lisbon	per case	7	0		8	0

Vegetables.

Full supplies are offered, and the demand is fairly good.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	0	to	3	0
,, Ground	per bush.	3	0		4	0
Asparagus, Paris	per bun.	3	6		4	6
Beet	per bush.	1	6		3	0
Brussels Sprouts	per ½-bush.	1	0		2	0
Cabbage	per tally	2	6		4	0
Carrots	per doz. bun.	2	0		2	6
Cauliflowers	per tally	4	6		7	6
,, Cornish	per crate	3	0		4	0
Celery	per doz. bun.	9	0		14	0
Celeriac	per doz.	2	0		3	0
Cucumbers	per flat	7	0		9	0
Endive	per doz.	0	6		2	0
Horseradish	per doz. bun.	10	0		12	0
Leeks	per doz.	2	0		2	6
Lettuce	per doz.	1	0		2	0
,, French	per crate	2	0		3	0
Mushrooms	per doz. lbs.	6	0		10	0
Onions	per bush.	2	0		3	0
,, Spanish	per case	4	6		6	0

LONDON POTATO MARKETS.

Prices are quite firm, and there is an upward tendency for best stocks.

		s.	d.		s.	d.
Bedfords	per ton	85	0	to	95	0
Evergoods	per ton	70	0		80	0
Kents	per ton	90	0		100	0
Lincoln	per ton	80	0		95	0
Blacklands	per ton	70	0		80	0
Scotch	per ton	80	0		90	0
Dunbars	per ton	110	0		125	0
German	per ton.	75	0		90	0
Belgian	per ton	60	0		70	0
Dutch	per ton	55	0		65	0

Syringes

Every gardener knows that the very best Syringes the world has ever seen, or can ever hope to see, are the "FOUR OAKS," which are the only Syringes ever awarded a Gold Medal.

The Gardeners' Ideal Syringe is No.1 Four Oaks Undentable, 1½ × 20in. 21/-; or with Angle Joint 27/- For Spraying.—No 9 Undentable Syringe, 1½ × 20 in. 12/6 or with Angle Joint, 18/-

Any "Four Oaks" Syringes willingly sent on approval to Head Gardeners

Complete Catalogues of Spraying and Limewashing Machines and Syringes of every description free on application to the Sole Manufacturers:— The FOUR OAKS SPRAYING MACHINE Co., No. 30, Sutton Coldfield.

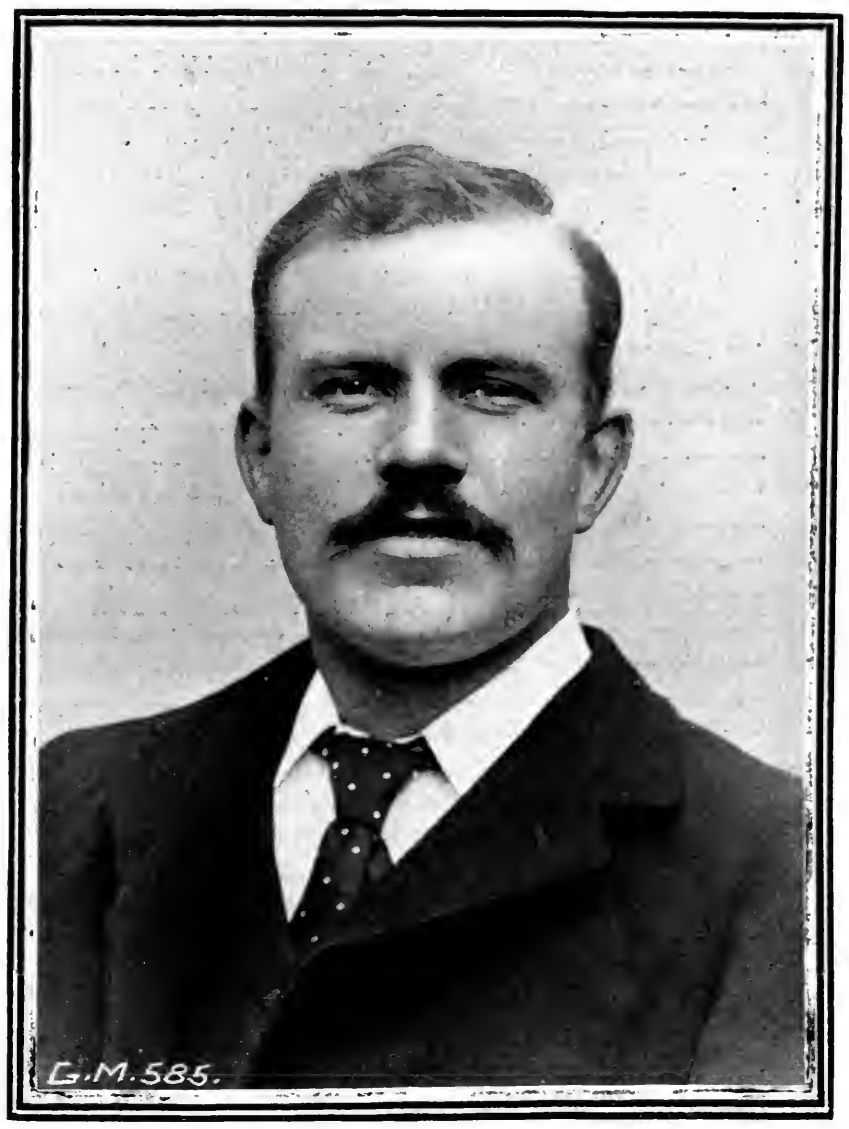
VOL. LVI.—No. 3,092. SATURDAY, FEBRUARY 1, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Wardian Case.

Under judicious management the Wardian Case may be rendered one of the prettiest and most interesting ornaments for room decoration, though far too rarely used for that purpose. The standard form consists of a shallow, oblong metal receptacle or open box, about thirty inches long by eighteen wide and five or six inches deep. This is intended to contain the soil. Over this and resting upon its edges, flanged for that purpose, is an oblong glass case, about two feet high at the sides, and with a domed or semi-cylindrical glass roof, with a long, narrow opening at the top, which is provided with a glass slip or slips to close it if desired. Each of the square ends are doors, thus permitting of easy access to the contents. The box aforesaid should be provided with a short pipe and tap at one end to admit of drainage, and it is well if the inside be well protected with tar, as the zinc, of which it is constructed, is apt to oxydize in time, and oxide of zinc is very poisonous to plant life, apart from the question of longer preservation. The outside should be well painted with some quiet colour, dark green for preference. Such a case affords precisely the the close, almost air-tight, conditions most congenial for the cultivation of delicate small-growing ferns like the Filmy Ferns, or for the accommodation of spore cultures in their juvenile state. To start such a case, as stagnant water and a waterlogged soil are very detrimental, even to such moisture-loving plants as ferns, the bottom of the box should first be well covered with broken pieces of flower pots hollow sides downwards; the outlet to the tap being particularly well guarded in this way. A layer of moss or very fibry material should entirely cover this to prevent the soil from clogging, and then over this sufficient open, sandy, fibrous, peaty fern compost can be placed, so that the box is quite full and well heaped up in the centre, as it is sure to settle down very considerably when watered. Upon this a small rockery of porous sandstone or broken brick, red for preference, can be arranged, in the interstices of which the ferns can be planted. A station may be made in the centre if desired for a small Todea superba, and the small-growing Hymenophyllums, tunbridgense, and unilaterale may be well bedded in smaller stations between the "rocks" together with a few plants of Trichomanes radicans. These latter in time will take hold and spread without interfering with the larger central Todea for a long time to come, while each season will add to their beauty as they develop. Practically this is quite enough to fill the case. To plant the smaller ferns which have creeping rootstocks, they should be pegged down upon the surface, and then buried shallowly by a mulching of extra sandy compost. This done, the compost is washed in by a douche of water from the spout of a jug or watering pot, until the fronds are freed from the soil. The Todea having a central crown should be planted in the usual way, with the crown just flush with the surface. The planting done, a gentle shower through a rose until water escapes from the tap will settle everything comfortably, and all that remains is to put on the glass cover, close the doors and top orifice, and leave it severely alone for several weeks, not even watering it, as, given such close conditions, the plants will not need it probably for months. Constant wetting overhead does more harm than good. For the ferns to thrive, even such shade-lovers as these, they are the better for plenty of daylight, but direct sunshine must be entirely avoided. The best position therefore is as close as possible to a north window, though a well-lighted hall table will do very well. Given such advantages, the case will slowly fill with beautiful translucent green frondage, while smaller spontaneous growths of moss, etc., will soon cover the "rocks," the healthy condition of which growths will be sufficient evidence that the watering has been adequate. Seedling ferns of other species will be fairly sure to present themselves, and these must generally be regarded as weeds, and extracted as soon as they assert themselves prominently, otherwise a crowd of conflicting plants will entirely spoil the effect. Such small-growing species, however, as the spleenworts, A. trichomanes, and others, may, of course, be left where they originate, or their spores may even be scattered, especially of their good varieties, to facilitate their appearance, but large species are entirely out of place in this scheme. For the mere purpose of propagating young ferns, cocoanut-fibre may be used instead of soil, and into this the spore pans, or small pots, containing seedlings can be buried up to their edges, and so long as the varieties are good and dwarf, very pretty results may be attained in cocoanut-fibre alone with specimens inserted in small pots at sufficient intervals to give them room. There is, however, no doubt that the Filmies are the best adapted, and give least trouble in the long run, if properly started.



MR. G. CRADDUCK.

Mr. G. Cradduck has on many occasions given ample evidence of his skill as a cultivator by exhibiting finely-grown examples of Acalypha hispida, Chrysanthemum Maud Jeffries, etc., at the Royal Horticultural Hall, and we have in these pages illustrated the fine nelumbiums and water lilies under his care at Bishop's Hall, Romford. Mr. Cradduck has charge of the indoor department at Colonel Lockwood's gardens, and finds therein ample opportunities for his robust energy and cultural ability. He has served under Mr. C. Fielder, V.M.H., at North Mymms Park,

near Hatfield, and under Mr. A. Bullock, at Copped Hall, Epping, and he is ever ready to acknowledge his indebtedness to these clever gardeners, who were always ready and willing to impart the knowledge they possess to those employed under them. Mr. Craddock is an exceptionally good plantsman, and in this connection he has the happy knack of making experiments that invariably succeed because they are based on keen observance and practical experience.

The Seed Industry.—In our next issue we shall publish an exhaustive and freely-illustrated article on the seed industry of the United Kingdom. The writer will deal with the various aspects of this important industry, and the article, with numerous illustrations of the more recently-introduced appliances for the preparation of seeds for distribution, should be of immense interest to all who are engaged in horticulture.

Messrs. E. Webb and Sons.—The business of this well-known firm, of which the late Mr. Edward Webb was so long the head, will be carried on by the surviving partners—Mr. W. Harcourt Webb, and Mr. Charles Webb—on exactly similiar lines as hitherto.

Market Gardeners' Compensation Bill.—In the House of Commons the other day Mr. Runciman, in moving the second reading of the Market Gardeners' Compensation (No. 3) Bill, said that it was all that remained of the provisions of the two Market Gardeners' Bill introduced earlier in the session, and whose object was to annul a legal decision which upset the custom of market gardeners, particularly in the Evesham district. As controversy had arisen in Grand Committee in connection with those Bills it was felt that whatever hope there was for setting right the matters affected by the legal decision would be jeopardised unless legislation was restricted to this one-clause Bill. The Bill was read a second time and committed to a Committee of the whole House.

Horticultural Club.—At the annual dinner of the Horticultural Club on Tuesday next the guest of the evening will be the Rev. W. Wilks, M.A., V.M.H., who has completed the twenty-fifth year of his occupying the position of secretary to the Royal Horticultural Society.

The Amenities of Windermere.—We are informed by Mr. S. H. Hamer, secretary of the National Trust, that an opportunity has arisen for purchasing on behalf of the public the beautiful property on the shores of Windermere, consisting of the hill immediately to the south of Millerground, known as Queen Adelaide's Hill, with its lake foreshore, and the wooded glen and stream. There is no isolated hill contiguous to the main road and accessible from the lake anywhere between Bowness and Ambleside from which such incomparable views of Windermere can be obtained. Not only is the whole of the lake northward seen, but looking south the eye passes over the whole of the indented shores and wooded islands as far as the Ferry, and is carried on beyond that to Gummershow and Lakeside, while the fells from Coniston Old Man in the west right round by Bowfell, the Langdales, Silver Howe, Fairfield, to the High Street range in the east, are visible. The trustees have given the National Trust an option expiring in June, 1913, to purchase the property, amounting to about twenty acres, for the sum of £5,000, which, in view of the prices for land obtaining in the neighbourhood, is not considered excessive. It is proposed to vest the property, if acquired, with the National Trust for the benefit of the nation at large. That the local public are interested in the matter is quite plain from the fact that before an appeal was made, £2,800 out of the £5,000 was locally promised.

Royal Agricultural Society's Flower Show.—As for some years past horticulture will occupy a very prominent position in the exhibition that will be held by the Royal Agricultural Society at Bristol from July 1 to 5. The flower show will be held from July 1 to 4, both days inclusive, and the schedule is comprehensive and liberal. The most important of the classes for plants is that for miscellaneous plants in and out of bloom occupying a space not exceeding 350 square feet. The prizes are £30, £25, and £20. There are also classes for groups of orchids, carnations, tuberous begonias, hardy herbaceous plants, and cut flowers, and for collections of cut roses, sweet peas, vegetables, and ripe fruits with correspondingly liberal prizes. Thirty dishes of fruit have to be shown, and to be decorated with flowers at the discretion of the exhibitors. The management of the show will, as in previous years, be in the hands of Mr. Peter Blair, Trentham Gardens, Stoke-on-Trent, and entries must be sent to him, the latest date for receiving these being Saturday, May 31.

Gardeners' Royal Benevolent Institution.—We have much pleasure in making the announcement that Mr. Leopold de Rothschild, C.V.O., will preside at the seventy-fourth anniversary festival dinner, which will be held on June 25, in aid of the funds of the Gardeners' Royal Benevolent Institution, of which he is a vice-president.

North of England Horticultural Society.—The close of the second year of operations of this society shows a paid-up membership of just over 500 Fellows and members, 16 affiliated societies, and a turn-over of £650. The increase in Fellows is nearly 50 per cent., and the number of affiliated societies has been doubled. The society is still handicapped by its heavy initial expenses, but in the coming year income and expenditure will, it is expected, balance each other. This year should see a great movement forward, as very few Fellows or members have fallen out of the ranks, except by death and inability to attend shows, and an appeal is to be made on a large scale. Various special sub-committees are taking matters in hand with keenness, chief among which is the new Magazine Committee, which will conduct the magazine on the "Round Table" method, there being sub-editors from each of the four main committees of experts, besides a chairman (Professor R. S. Seton) and a printing and advertisement secretary (Mr. T. H. Gaunt). The annual meeting will be held at the Queen's (Midland) Hotel, Leeds, on Wednesday, February 19, 1913, at five p.m.

The Love of Flowers.—The other evening Mr. W. Daniels, the superintendent of the Crows Nest Park, Dewsbury, gave a lecture, entitled "The Love of Flowers," at the Dewsbury Club and Institute. There was a large audience, and the lecture was of much interest. In directing attention to the additions that have been made to gardens during the past three centuries, Mr. Daniels said that since Lord Bacon's time the wealth of this country has increased beyond computation, and there could be no doubt that gardening and gardeners have kept fully abreast of their opportunities to promote and extend the purest of human pleasures. The wide world had been ransacked in search of stately trees and plants producing the most beautiful flowers, and every country and every clime had enriched our resources in this direction. Botany now claimed to be an exact science. Eminent and thus reliable botanists had computed at least one hundred and twenty thousand known species of plants, which are again divided into classes, orders, genera, and species—the latter again divided into varieties uncountable. It could be readily realised what this means to the gardener, knowing that the most beautiful in form, colour, and floriferousness of this stupendous mass of floral beauty is placed at his command, giving endless variety. So there could be no fear of our love for flowers becoming palled.

Mr. George P. Miln, the hon. general secretary of the Chester Society of Natural Science, Literature, and Art, and hon. secretary and treasurer of the Chester Paxton Society, has been appointed a magistrate of the city of Chester—an appointment which has afforded much satisfaction, more especially to the members of the two societies with which Mr. Miln has been so long associated.

Presentation to Mr. H. P. Pinkerton.—On the occasion of the annual meeting of the Irish Rose and Floral Society at Belfast advantage was taken of the opportunity for presenting Mr. H. Pinkerton, the secretary, with a testimonial as an acknowledgment of the services he has rendered the society. The testimonial consisted of a silver lamp and a pair of silver candlesticks, and the presentation was made on behalf of the members of committee by Mr. Alex. Dickson, of Belmont, Belfast.

Cornwall Daffodil Show.—The annual exhibition of the Cornwall Daffodil and Spring Flower Society will be held at Truro on April 8 and 9, and has the promise of being of exceptional interest. The Royal Horticultural Society has arranged to send a deputation, which will be authorised to award gold, silver, and bronze medals, and to grant certificates and Awards of Merit to such exhibits as they may consider worthy of distinction.

Rosa stellata.—With reference to this new rose, Professor Cockerell, of Boulder, Colorado, writes to "Nature" as follows: "In 1898 Professor E. O. Wooton described a remarkable new rose from Southern New Mexico, giving it the name of Rosa stellata on account of the stellate trichomes. The peculiar, mostly trifoliolate leaves, the leaflets with cuneiform bases and more or less truncate, sharply toothed apices, gave the plant an unusual appearance; while even the flowers, described as "large and showy . . . deep rose-purple," were not at all like those of the ordinary wild roses of the Rocky Mountains. Through the kindness of my friend, Professor Fabian Garcia, I obtained some living plants of R. stellata from the original locality in the Organ Mountains. Some of these were sent to Dr. A. R. Wallace, who has grown them in England successfully; the others have been growing in Boulder, Colorado. Last year the plants in my garden grew exceedingly well, and were most attractive. Certainly if R. stellata can be generally used in gardens, it will be a valuable addition to horticulture, but it probably will do its best only in relatively dry climates. My wife attempted crosses with several other roses, and in one case was successful in getting good seed; what will result remains to be seen. The fruit of R. stellata, as indicated by Wooton, is large, beset with strong slender prickles. Quite unlike the usual types of rose fruits, its walls are dense, not at all fleshy or brilliantly coloured, but corky.

The orifice is very broad, with a diameter of 8 mm. The bright chestnut-red seeds, about 4 mm. long, are long-oval, not compressed, and therefore not at all angular. All this differs conspicuously from the fruit of typical Rosa.

Pollination of Hardy Fruits.—To a recent meeting of the Linnean Society, Mr. Cecil H. Hooper contributed a paper of considerable importance on the pollination of hardy fruits, in which was embodied his observations on the insect visitors to the flowers. According to Mr. Hooper's observations, strawberries, provided there is wind, set fruit well without insects. Raspberries and loganberries set fruit imperfect in shape if insects are excluded. Currants and gooseberries, owing to the construction of their flowers and pollen, cannot be pollinated and set their fruit without the visits of insects. All these plants set fruit perfectly with pollen of the same variety, or even of the same flower; but in the case of the apple, pear, plum, and cherry, this is not always the case, many varieties being self-sterile, and almost all produce more abundant and finer fruit with pollen of another variety. In these trees there is little transference of pollen by the wind, and even if a self-fertile tree is enclosed in muslin whilst in blossom (there being ample movement of the wind, insects only being excluded), it is the exception for any fruit to set; it is the same with gooseberries and currants. In trials with apples, only nineteen varieties out of sixty-five proved self-fertile; in pears, four out of thirty; in plums, twenty-one out of forty-one; in cherries, five out of twelve; whilst, when cross-pollinated, in three-quarters of the trials one or more fruits set on a truss. There seems to be a preference as to pollen, some varieties setting better with pollen of one variety than with that of another; and some varieties will not set with certain pollen. Out of nearly 3,000 insects observed last spring visiting the blossoms of the various fruit bushes and trees, 88 per cent. were hive-bees, 5½ per cent. bumble and other wild bees, and 6½ per cent. flies, ants, beetles, wasps, and other insects; but the latter group have not fluffy bodies for carrying pollen, and amuse themselves by eating the pollen.

Peat Moss Litter Manure.—In the issue of the "Journal" of the Board of Agriculture for December, 1911, an article was published on peat moss litter manure in which Dr. Voelcker attributed the ill-effects of this manure to its acidity, and to the consequent unhealthy, imperfectly oxidised condition of the soil. In "Biedermann's Zentralblatt für Agrikulturcheurie" for November last reference is made to the foregoing article, and it is stated that good results have been obtained in the use of this manure in oher countries. It is contended that the acidity of peat moss litter manure is not too large to be neutralised by the bases of a normal soil without causing the reduction of Fe_2O_3 compounds into FeO compounds. Laboratory experiments were, it is stated, carried out at Jonköping with two samples of peat moss litter of marked acidity, mixed with various manures and examined when fresh, and when four weeks, six weeks, and three months old. In each case it was shown that the acidity of the peat moss litter was neutralised by the ammonia of the manure. At the experimental grounds at Flahult and Torestorp peat moss litter manure on both ordinary and moor soils gave good results with garden crops, both as a top dressing and when mixed with the soil. The manure is also much used by Swedish commercial gardeners for all crops. The advantages claimed are that it is the best material for absorbing excreta and for minimising the unavoidable loss of nitrogen in stable manure; that it has a deodorising and hence disinfecting effect on the manure; and that the manure made from it is more efficacious than when other materials are used as litter.

The Cultivation of Sweet Peas continues to occupy the attention of very large numbers of both professional and amateur gardeners; at this season of the year seed-sowing and the question of varieties are uppermost in the minds of growers, consequently "Sweet Peas and Their Cultivation," by Chas. H. Curtis, comes very opportunely, with its supplement dealing with the best varieties, new varieties, and giving other information that brings the book up-to-date. The book is a most compact and readable guide to the history, cultivation, and exhibition of the Queen of Annuals.

Physiological Effect of Bordeaux Mixture.—During the past five or six years experiments were carried out in Germany with a view to determine whether the increased yield resulting from spraying with Bordeaux mixture was due to a physiological effect on plants. In some experiments with potatoes, radishes, and beans, the crop decreased with an increased strength of Bordeaux mixture used. The mixture was found to have a favourable physiological effect only in dry weather, the mixture acting by hindering transpiration from the leaves. It was considered possible that the coating of copper sulphate also acted as a shade to the plant from an excessive amount of sunlight in hot, sunny weather, and thus prevented an early ripening of the haulm. The repeated spraying of currants and gooseberries with Bordeaux mixture had the effect of increasing the sugar content of the sap of these fruits. This was shown not to be due to the fungicidal action, as spraying immune varieties of fruits had the same effect; nor to any increased assimilative activity of the leaves, the latter, indeed, decreasing as a result of the spraying.

MESSRS. SUTTON AND SONS' FINE EXHIBIT OF GIANT CYCLAMEN AT THE ROYAL HORTICULTURAL SOCIETY'S MEETING.

Held on January 22, and awarded the Silver Flora Medal. The principal varieties represented are Giant White, Giant Crimson, and Vulcan, all of which are remarkable for the high development of their flowers and for their finely variegated leaves. For fuller particulars of this exhibit, see page 69 of our last issue.

THE CULTIVATION OF ONIONS.

Soil and Preparation.

The best soil for onions is a rich medium friable loam, though any good light soil, even if of a gravelly or silty nature, is suitable. Clay and clay loams should be avoided where possible, though moderate crops can sometimes be obtained on land of this type. Newly broken up grass land is quite unsuitable, not only because the crop will be liable to various insect attacks, but also because this soil produces "thick-necked" onions, that is to say, plants in which the parts above ground increase heavily in bulk at the expense of the bulb. Good results have, however, been obtained in the third season after the grass has been broken up.

The land should be thoroughly cultivated and freed from weeds before sowing. The importance of thorough cultivation cannot be over-estimated, and perhaps the greatest mistake in onion growing is the neglect of this precaution.

The soil should be cultivated in October or November, and left in a rough state, so that it may benefit from the action of frost during the winter. Some growers recommend deep "bastard" trenching, but others consider that a "one-spit" digging or ploughing of about nine inches in depth is sufficient. If onions are grown at all frequently on the same land, trenching is without doubt the better plan.

The choice between the two methods depends largely upon the rotation practised, and on the area grown. Generally speaking, for extensive field culture, ploughing to nine or ten inches is more practicable, while for cottage garden purposes deep digging is recommended.

A difference of opinion also exists on the subject of manuring. Some growers apply a dressing of good half-rotten stable or cow manure at the rate of, say, 10 tons to the acre, while others who are equally successful use artificial manures only. Some Bedfordshire growers have been known to apply as much as 50 tons of half-rotten stable manure per acre.

Manure should not be allowed to lie on the land for any length of time, as this encourages insects; fresh farmyard manure should never be used.

Where the grower has only stiff land at his disposal the advocates of deep trenching and the use of cow-manure recommend, in addition to a good dressing of short mellow manure, the application of a mixture of wood and cinder ashes with basic slag or lime, in the proportion of 7cwt. of ashes and 10cwt. of lime or basic slag to the acre.

It is not uncommon for onions to follow a crop of celery. The rotation in this case would be (1) Early potatoes or cabbage, the land being cleared in July; (2) celery; (3) onions. The advantage of this method is that the extra cultivation of the land, owing to the constant "moulding up" of the celery, and the heavy manuring of the trenches, bring the soil into an excellent condition to receive the onion seed. The land, as soon as the celery is off, should be dug and left until February or March. Good results may also be obtained with onions following corn, cabbage, carrots, or parsnips.

A dressing of 5cwt. of superphosphate, and from 3 to 4cwt. of soot per acre, is recommended by the Board of Agriculture immediately before sowing. Soot is particularly valuable. On light soils, which are apt to be deficient in potash, kainit at the rate of 5cwt. to the acre should be added.

In February or March the land should be reduced to a fine tilth.

For culture on a large scale the land is harrowed and rolled, and finally it is often raked by hand for the purpose of obtaining an inch of fine soil to receive the seed. For cottage garden culture the land is raked, then rolled or trodden firmly, and lightly raked again ready for sowing.

The importance of a firm seed bed cannot easily be exaggerated.

Sowing and After-Cultivation.

A day should be chosen when the land is dry and workable. The seed should be sown thinly in drills about 9in. apart and an inch in depth. The amount of seed required will be from 6 to 8lb. per acre, depending upon the variety and the size of the seed, which varies in different seasons. The seed must be raked in lightly, and the back of the rake is sometimes used for this purpose. The ground should then be rolled, and again directly the plants are up in the rows, if the weather is dry. The plan of raising the plants in autumn under glass and transplanting in spring is one that might well be adopted by small growers. One great advantage obtained by this method is the much greater freedom from attacks of "onion fly." Another dressing of soot or one of nitrate of soda is sometimes recommended at this point. Hoeing lightly is advisable to check seedling weeds and to aerate the surface soil.

As soon as the plants are large enough to handle, thinning should be commenced. The aim should be to have the plants ultimately from 4 to 6in. apart in the rows, but it is not usual to complete the process at one operation. The first thinning may be done by hand, but the labour is often reduced by using a 2in. hoe. The final thinning is given a few weeks later, and the plants then removed may be utilised for salad purposes. An advantage of prolonging the thinning in this way is that, even though a considerable number of plants are attacked by the onion fly in the early stage, the weight of crop is not necessarily seriously reduced, as sufficient sound plants may be left to give a full crop.

The hoe should be kept constantly in use, to prevent the growth of weeds. In a damp season, when the tops appear to be making too much growth, it is advisable to bend them over with the hoe handle or something similar. This should be done about the first or second week in August. It is not advisable to perform the operation too early.

Harvesting and Storing.

Towards the middle of August it is well to determine, by pulling up a few bulbs, whether the crop is ready for harvesting. If such be the case the bulbs come freely away from the soil, and the roots will be noticed to have withered. If new white roots are seen to be striking out from the bulb, the crop must be pulled without delay. This precaution prevents the possibility of what is known as second growth, namely, that of the new bud, lying between the swollen leaf bases of the bulb, and avoids the extra labour involved in lifting bulbs re-established by the new rootage.

Having determined when the crop is ready, the gathering should be done on the first fine dry day. A few rows are pulled, and the bulbs allowed to lie. Then the rows on either side of these are pulled, and the bulbs placed with those lying in the centre, so that as pulling proceeds there are alternate alleys of drying onions and of bare land.

During the drying, should the weather be showery, the bulbs should be constantly moved, to prevent second growth and the formation of fresh roots. When the bulbs are perfectly dry, they should be collected and stored either on a barn floor, or on specially constructed drying shelves. These shelves are placed along the length of the barn—one above the other, as in a book case—and are constructed of 3in. laths placed lengthways about 1in. or 1½in. apart, to allow the air to circulate freely. The crop should be occasionally inspected—to see whether there are any signs of "sweating" or dampness. If such be the case, the bulbs should be regularly stirred—a little experience will soon enable the grower to judge whether such stirring is necessary or not. Among small growers onions are often "strung" or "sticked" for storing, one method being to take a stick about a yard long and to bind the onions around the stick with string until the whole stick is covered. These sticks can conveniently be hung up in sheds.

Growing Pickling Onions.

There are several differences in cultivation when onions are grown for pickling. In this case, the soil is prepared in exactly the same way, but the drills are 7in. apart, and a much larger quantity of seed (up to 60lb. per acre) is used; no thinning of the young seedlings is required. Thus the density of the crop and the struggle for existence prevent the bulbs from attaining any but a pickling size. As a rule, however, large onion growers grade out the small bulbs from ordinary crops for pickling purposes rather than make a special cultivation.

In preparing for pickling, the small onions should be steeped in boiling water for a short time, then drained and allowed to cool. This makes peeling much easier. The onions, after being peeled, should be steeped in a strong solution of common salt for about a day, then carefully drained, and allowed to dry thoroughly. Finally, they should be put in bottles containing vinegar, which has been well spiced with cloves, peppercorns, coriander and ginger.

Production of Pickling Onions in Holland.

The growing of pickling onions on a large scale suffers rather severely from competition from Holland, and, owing to various representations made to the Board of Agriculture as to the serious effects of competition from this source, investigations were undertaken by the Board in the year 1902. These showed that the social and economic conditions under which the industry was conducted in the Netherlands differed in many respects from those existing in this country.

The secret of the success of the Dutch competition was, however, considered to lie mainly in the fact that the onions exported from the Netherlands presented, on the whole, a better appearance, and met more readily the requirements of the pickling firms.

Varieties of Onions Recommended.

(a) For Market Purposes: White Spanish, Bedfordshire Champion, Giant Zittau, Nuneham Park, Rousham Park Hero, James' Long-keeping. (b) For Pickling Purposes: Silverskin, Queen Pickling.

Board of Agriculture Leaflet.

Browallia viscosa.—This browallia, which has been seen a good deal of late, has proved to be just as floriferous in winter as in summer, and it should become very popular where flowers have to be maintained at all seasons of the year. The flowers are smaller than those of the better-known Browallia speciosa major, while they are of a much deeper blue, with a conspicuous white eye. This latter feature tends to brighten them up when seen in a mass. Browallia viscosa is readily propagated by means of cuttings, and also by seeds. Last summer it was very attractive bedded out at Kew.—K.

Sowing Peas.—Where the soil is of a light nature a sowing out of doors should be made at the earliest opportunity, selecting a warm, sheltered position. In dealing with heavy, retentive soils, sowings in pots, boxes, and turves will have to be resorted to; the seeds should be placed in gentle heat until germination takes place, and then be shifted to a cool frame near the glass. Air must be gradually admitted until the young plants are thoroughly hardened off, when planting-out may take place. The rows should be marked out, and the ground trenched, incorporating a good layer of well-rotted manure in each spit; a good dusting of bone flour and wood ashes may be added with beneficial results. When sowing outdoors no manure should be within five inches of the surface, for, should the seeds come into contact with the manure, they are liable to rot. For the earliest crops out of doors, Improved Pilot is one of the most reliable, while Pioneer (dwarf) is most suitable for narrow borders. Gradus may be sown at the same time for succession.—W. MESSENGER.

NEW PLANTS AND FLOWERS.

CATTLEYA ENID, VAR. FIRMIN LAMBEAU.

A very beautiful form of the hybrid between C. Mossiæ Reineckiana and C. gigas Frau Melanie Beyrodt. The flower shown was large and shapely, with broad, substantial, pure white sepals and petals, and a white lip, having a yellow throat and purple veins on the apex. F.C.C., R.H.S., January 21. Mons. Firmin Lambeau, Brussels.

LÆLIO-CATTLEYA FIRMIN, VAR. ARDENS.

A very handsome and brilliant lælio-cattleya, and though, as shown, not so large-flowered as the original, it had brighter colouring. The parents are L.-c. Ceres and C. Dowiana aurea. The sepals and petals are of a rich orange-red with a coppery shading, and the ruby-crimson lip has bright yellow markings. A.M., R.H.S., January 21. Mons. Firmin Lambeau, Brussels.

CŒLOGYNE INTERMEDIA.

This pretty hybrid cœlogyne is quite intermediate between its parents, which are C. cristata Lemoniana and C. Massangeana. The arching spikes are longer than in C. cristata, and carry more flowers, but the blooms are smaller. The flowers are white, with red lines on the lip, and a yellow disk. A.M., R.H.S., January 21. Messrs. Jas. Cypher and Sons, Cheltenham.

ODONTIODA MADELINE VAR. PRINCE OF ORANGE.

A remarkably distinct variety, showing how very possible it is to obtain quite new colours in odontiodas; indeed, we are only now beginning to understand the possibilities of odontiodas as decorative subjects. O. Madeline Prince of Orange comes from Odontioda Charlesworthi crossed with Odontoglossum crispum. A quite small plant was shown, and its rounded flowers were of O. crispum size and form, but of pale yellow colour, with large, light yellow-brown blotches; the lip is yellow with a red-brown blotch. A.M., R.H.S., January 21. C. J. Phillips, Esq. (gardener, Mr. Bucknall), The Glebe, Sevenoaks.

SOPHRO-CATTLEYA SAXA, ORCHID DENE VAR.

This is a finely-formed flower, and one of the best of its group. Rather over three inches across, and shapely, the flower is rich reddish rose, with a yellow base to the lip. A.M., R.H.S., January 21. Mr. E. H. Davidson, Orchid Dene, Twyford.

ROSE MRS. CHARLES RUSSELL.
A deep rose-coloured, fragrant H.T. variety; A.M., R.H.S., January 21. Mr. W. A. Manda, St. Albans.

ODONTOGLOSSUM AIREWORTH, GOODSON'S VAR.

This form of the hybrid between O. Lambeauianum and O. crispum, has broad segments and rounded flowers. The blush ground colour is freely marked with rich

purple-brown over the basal halves of the sepals and petals. A.M., R.H.S., January 21. H. S. Goodson, Esq. (gardener, Mr. G. Day), Fairlawn, Putney.

H.T. ROSE MRS. CHARLES RUSSELL.

A large-flowered, broad-petalled hybrid tea rose, of vigorous habit. The flowers exhibited were grown in the United States, and had been sent over in cold storage; they were full, fresh, and sweetly scented, and borne on stems 2½ft. long. The deep rose colour was, in many flowers, tinged with purple, but probably this shading was due to the journey and the lapse of fourteen or fifteen days since the blooms were cut. A.M., R.H.S., January 21. Mr. W. A. Manda, St. Albans.

CYCLAMEN ST. GEORGE.

A strain of salmon-flowered cyclamen, particularly remarkable for the silvery variegation of the foliage. In some plants the leaves had a wide and regular zone of silver, between the margin and the centre of the leaf, but in other cases the variegation was less regular, but none the less beautiful. As foliage plants alone these cyclamen are worthy of consideration. A.M., R.H.S., January 21. St. George's Nursery Company, Harlington, Middlesex.

NARCISSUS MINI-CYCLA.

A charming and dainty little hybrid between N. minimus and N. cyclamineus, the latter being the seed parent. It is a miniature trumpet daffodil of excellent proportions, the perianth having a spread of 1½ inches, with an elongated, frilled trumpet. The colour is golden-yellow, and the flowers stand five inches high on sturdy little stems. The elongation of the trumpet is the chief evidence of the influence of N. cyclamineus, though in one or two flowers the perianth segments showed a tendency to reflex slightly. A.M., R.H.S., January 21. Mr. F. H. Chapman, Rotherside Gardens, Rye.

SWEET PEAS FOR GARDEN DECORATION.

For all purposes of garden decoration the sweet pea must be considered and treated as a plant—that is to say, each seedling must be put out where a plant is wanted, and where it can have ample room to develop above and below ground. The careless grower, who turns out a potful of seedlings and thrusts sticks in their midst, then claims that he has arranged for a clump, will not experience any satisfactory results, no matter how rich the soil may be or how generous the after-treatment. Probably the best way to grow the sweet pea, for beauty and for size, is to give each plant a stick of its own, and locate it at least nine inches from any other plant. A charming effect is gained by giving each two sticks, slender bamboo rods, and latticing string between these, making a support a foot wide. When the main stem and side branches of foliage and bloom are tied out to these, the flowers and the natural grace of the habit of the plants can be perfectly appreciated.

A large bed in which these supports, with sweet peas trained to them, stand as much as three-quarters of a yard apart, may have a ground-covering of pegged-down verbenas, for example; scarlet and white, blue and blush, violet and salmon, rose-pink and crimson, white and carmine, primrose and purple are beautiful harmonies. The garden in which sweet peas are all cultivated in this fashion, either in beds as suggested or added to borders, will demonstrate how this favourite perfumed flower can be enjoyed without any faggots being tolerated. Many owners of ornamental grounds object strongly to the pea-sticks in such general use, and this objection is certainly one that can be fully respected.

When branched sticks are used it should be in such a manner that they are sure to be completely hidden by the summer luxuriance. Hedges or clumps will be found possible that are, to the eye, merely composed of plants, every twig being enveloped in growth; but to achieve this the sticks must be thinned out, no crossing or out-jutting branches being left, and the tops so bound together that they cannot be spread out by gales. Fine brown string is the best material to use for tying in.

Sweet peas on a slope are exceedingly beautiful, for the second row of plants will bloom about a foot below the chief blossom masses of the first row, and so on until the base is reached. This should be composed of the new bush sweet peas, that do not exceed two to three feet. Wherever there is a high hillock in the garden, if single plants of sweet peas, or well-made clumps, are dotted all over it, the colour display is sure to be glorious. Should the sides offer a very abrupt slope, some huge slabs of rock should be added at intervals, partly embedded in the soil in such a style as to arrest the washing down of the earth and manure mulches by heavy rain; and this will not only improve the appearance of the whole by imparting something of a natural look, but will also serve to maintain more even moisture over the whole surface. If the sides are turfed, round beds should be cut out to hold the clumps, the winter attractiveness being supplied by sunk evergreen or variegated pot shrubs.

A happy device is to make winding spiral paths up a high mound or bank of the garden, with a few wooden steps where necessary and leaving a plateau at the summit for a rustic bench. If this is rather low, the surrounding sweet peas will give shade, rendering the hidden nook a delightful one to occupy.

Perhaps the most triumphant employment of sweet peas was seen last season in a fine old moat. The whole base was given up to this plant, all the colours being used, well separated so as to harmonise, without any white or cream, so that the cheerful hues predominated. Seen from the level, the florescence looked like a brilliant low hedge. Seen from the windows of the house, the effect was of a diversely-coloured ribbon encircling the terraced courtyard. Two bridges over the moat had hedges of sweet peas on either side, to be walked or driven between; while the slanting banks showed extraordinarily vivid green, through being the permanent home of thousands of mossy saxifrages.

Sweet peas trained to fences can be cordially recommended. The sunniest positions are suitable; but if walls are similarly adorned, west or north-east aspects should be selected, as otherwise the bricks will become so hot as to to scorch the stems. Orange-scarlet sweet peas on old grey wood are especially charming.

Where temporary light screens are required, fish-netting tied to a few poles will afford a suitable hold for sweet peas, though some fastening of stems to the mesh will be needed. This has a more artistic appearance than wire-netting, and will not blow out with the wind if securely stretched. Growers must be cautioned against buying netting direct from fishermen, and employing it before it has lain exposed to the atmosphere for some weeks, as the salt may injure the plants. When wire-netting is used, it should be painted the pale grey-green of the foliage (not the ordinary green at all), or white.

M. H

POINSETTIAS.

These bright subjects have been more generally used in the arrangements of groups during the recent festive season than has been the case for many years, I think. Some really fine heads of bracts were to be seen in different parts from November onwards, and at the present time, at the end of January, the supply does not appear to be at all exhausted.

For many years I have grown these plants both under very hot conditions and comparatively cool. Thirty years ago, I was accustomed to keeping the plants in a fairly high temperature right through the summer. In later years I have, on my own account, grown them in cold frames, and, when the weather was not stormy at all, with the glass lights off night and day during July and August.

It will soon be time for dealing with the old plants and the cuttings, and a few hints on general cultivation may be useful to those who have not, as yet, had any experience with them.

The same kind of treatment is not followed alike by all growers, so I will only refer to my own.

I always grew on a few of the old plants in addition to young ones from cuttings. After the bracts had faded the plants were rested, but not kept in a too low temperature. An intermediate one I found best for them; water was withheld for a short time and the old plants to be retained were cut down to within 9in. of the base. In a short time young shoots commenced to push from the stem, and then water was given, and the plants placed in a light position. When the young growths were an inch long the soil was carefully shaken from the roots, and the plants repotted in smaller pots, just as fuchsias are often dealt with. Care was taken not to over-water the fresh compost, and, as it could be clearly seen which of the young shoots were going to grow freely (some never make progress) the weakly ones were rubbed off, and five or seven retained; sometimes it was found necessary to reduce the shoots on some of the plants to four, and even three.

The tips of the old stems were cut back in the case of some of the other plants, and young shoots, to form cuttings, were encouraged to grow lower down. These young shoots were taken off with a small heel attached and inserted singly in small pots, filled with a sandy compost, and placed in a propagating frame. The old plants, denuded of their cuttings, were then thrown away. So I had two batches of plants growing; one from old stems, to form specimens bearing from three to seven heads of bracts, and the other, single-stemmed plants, bearing one head each.

Light, fibrous loam and leaf-soil in equal proportions with plenty of coarse sand will make an excellent compost for the cuttings. More loam than leaf-soil, with a small quantity of old shed-dried cow manure and a 6in. potful of old mortar rubble to a bushel of the compost, will do nicely for subsequent repottings.

In their early stages the young poinsettias are best grown in a summer temperature and a fairly moist atmosphere. In July and August frame treatment; then housing the plants about the middle of September.

I like to feed regularly after there are plenty of roots formed in the flowering pots, giving frequent but weak doses of soot-water and approved chemicals, with occasional applications of ordinary manure water. When the plants are housed care must be taken not to give them a check through inattention to watering, ventilating, heating, etc.; or else many lower leaves will be lost.

GEO. GARNER.

CARE OF PEACH TREES AFTER FRUITING.

An observation was made recently in the GARDENERS' MAGAZINE to the effect that the splendid condition of certain fruit trees was due to the care bestowed upon the trees after they had fruited. I am quite sure that this touches a very weak spot in connection with fruit culture in private gardens, and especially in connection with peach trees grown in the open.

I do not think anyone will attempt to refute the assertion that out-of-door peach culture is not so largely practised or so well managed at the present time as was the case two or even three decades ago. Much blame for want of success is heaped upon the weather, and employers are induced to cover the walls with glass for the sake of the peach crop.

True, even now we come across successful examples of open-air peach culture, such as that at Frogmore and Aldenham, which are splendid examples of what can be achieved by care and attention, and which certainly can be copied.

One of the greatest errors committed in outside peach culture on walls is that of failing to supply the trees with sufficient moisture at the roots after the fruits have been gathered, especially if there is a spell of dry weather about that time. Too often the trees are forgotten after they are cleared, until they are showing signs of new growth in the spring. Little thought is given to the capacity of a brick wall for absorbing moisture from the soil, to the detriment of the trees, and so the roots are not able to supply material for storing up the necessary nutriment for the production of fruit buds in a proper condition. A careful cultivator will note the condition of the roots of the trees during the months of September and October, periods when nourishment is as much needed as at any stage of growth. If the rainfall is not sufficient artificial watering must be given.

Vegetable crops are very often grown in front of the trees, and these need quantities of manure into which the roots of the peach trees penetrate, and so useless vigour is induced in the trees. Such exuberant growth, if not corrected, is liable to do much harm. Under such conditions an annual trenching of the border to within four feet of the wall is imperative to sever the strong roots, and induce those of a more fibrous character to be formed.

Too often we see tall herbaceous plants growing in front of the trees to within a yard of the wall, and these rob the surface roots of the peach trees of nutriment. Helianthuses, solidagos, Michaelmas daisies, and such-like exclude sunlight and air from the trees, thus preventing that natural maturation of the current year's growth which is an absolute necessity in the case of peaches and nectarines.

Delaying the pruning or partial pruning of the trees until the month of March is all too common, but is not for the welfare of the trees. If the primary branches and shoots that need removal were cut out directly the crop is gathered the remaining branches would benefit by free exposure.

E. MOLYNEUX.

CYCLAMEN ST GEORGE.

A strain with salmon-coloured flowers, but most remarkable for the fine silvery variegation of the leaves. A.M., R.H.S., January 21. St. George's Nursery Company, Harlington.

AUTUMN-FLOWERING ROSES FOR NORTHERN CARDENS.

In the case of deferred planting, the roses when received should be carefully inspected, and any very lengthy or evidently superfluous shoots be reduced to a moderate extent; the same process may also be followed with any rough or broken roots. The plants may then be placed in a shallow trench, formed in any good friable soil, and be covered with the finer portions thereof to the same depth at which they were before removal, and all pressed firm.

Should very severe weather occur, leaves, litter, or fern shaken about them might be beneficial, though such aid is seldom required.

The Best Varieties for Autumn Flowering.

These notes were prompted by the frequent enquiries that are annually made as soon as an early frost strips the flower garden of much of its beauty, but leaves the roses practically unharmed. So many folks want to know the best and most reliable varieties for carrying on the supply of flowers long after the summer blooms are past, or, to be more precise, until the end of October in normal seasons.

It is at once apparent that the best classes of exhibition roses cannot be depended upon for this, though odd blooms may occasionally be in evidence upon them; hence it is to the garden or bedding roses that one must turn to obtain what is desired. During the rose season now practically closed I have paid particular attention to a fair-sized collection of varieties, most of which, however, are well-tried favourites and needed but little scrutiny to reveal their respective merits, which were pretty well-known beforehand.

The collection referred to comprises about a thousand plants, and nearly all are dwarfs; probably about half this number are of the hybrid perpetual class, the majority of the remainder hybrid tea, Bourbon, and China varieties, and all were selected, when purchased, for their freedom of flowering and general usefulness for display as growing or for cut blooms for room decoration. For the latter purpose several good-sized vases have, up to the present (October 25), been utilised and kept replenished thrice weekly, in a pleasing variety of colouring; and table decorations worked out entirely with roses and rose foliage have on several special occasions during the month been carried out, to the evident delight and wonderment of the assembled guests.

To obtain good flowers in quantity possessing the richest perfume thus late in the season may to some appear a difficult matter, but such is not the case in most country districts, and cultural methods do not enter very largely into the subject. What is needed is a selection of varieties adapted for the purpose, and to plant these in sufficient numbers to meet the requirements of the establishment.

Twelve Reliable Hybrid Tea Roses.

Caroline Testout. Bright rose; large open flower, shell-shaped petals: flowers usually produced in well-spread clusters. One of the very best at all seasons.

Madame Abel Chatenay.—Carmine rose, changing with age to light pink, or late in season almost white; erect in growth, and one of the latest to flower.

Gustave Grunerwald.—Deep pink, with yellowish markings at the base of the petals. The flowers are well supported and withstand the autumn storms with little or no injury. The best of any of its colour.

Madame Ravary.—Golden-yellow, very free flowering, and may be considered the finest yellow rose for outside culture. The exact tint of the colour varies with the season, but is always attractive.

La France.—Pale flesh colour, very highly perfumed and free flowering. In very wet or adverse weather the buds do not open freely, a fault that seems more pronounced than formerly. Still it is one of the best, as a few hours of sunshine amid storm will reveal.

Lady Battersea.—Light crimson, changing to rose as the flowers expand. The blooms are borne on long, straight stems which renders them very convenient for decorative purposes. The foliage, too, is of the best and is retained upon the stems for a long time.

Mrs. Aaron Ward.—Bronze-yellow in general, but very variable, at times several distinctly coloured flowers may be taken from one plant.

General McArthur.—Dark red flowers of large size, well-shaped, and freely produced throughout the season; perhaps the best dark rose in the hybrid tea class. Foliage also large, green, and of good substance, while the perfume is superb.

Ear of Warwick.—Salmon-pink; flowers large, and of good form, a grand late variety.

Lyon Rose.—Apricot. An attractive flower at any season, particularly so in late autumn, when the intensity of colour is splendid; growth of plant rather open or straggly; well adapted for the centre of a bed or mass.

Augustine Guinoisseau.—Pure white on opening, afterwards faintly tinted with rose; very distinct and valuable for cutting or garden embellishment.

Betty.—Coppery-rose, changing to yellow as the flowers open. A charming variety that should be included in every collection of plants. It is also one of the latest, flowering well into November generally.

To these may be added, if greater variety is desired, such standard sorts as Viscountess Folkestone, cream-pink; Liberty, crimson; Mrs. Theodore Roosevelt, creamy-white; Papa Gontier, rosy-crimson; Richmond, crimson-scarlet; Killarney, light pink; Marquis de Sinety, yellow and red; and Prince de Bulgarie, silvery-pink.

Hybrid Perpetual Varieties.

To accompany the foregoing some of the hybrid perpetual varieties are worthy of a place for their fine appearance and late-flowering properties, besides which, if used with the H.T.'s for decorative purposes, their more formal habit and pose, together with their sturdy foliage, provide a contrast that results in one class contributing in a somewhat indirect way to the enhancement of the other.

The popular Frau Karl Druschki continues to flower as late as any rose upon plants that are allowed a fair amount of freedom, and the purity of the blooms, though scentless, elicits admiration from all.

Ulrich Brunner, cerise red, is beautiful in all its stages of development and colouring, and when placed within the range of a brilliant illumination, possesses a charm peculiarly its own.

Captain Hayward, dark crimson; Mrs. John Laing, pink; Abel Carriere, purple crimson; Dupuy Jamain, cerise; Fisher Holmes, scarlet; General Jacqueminot, crimson; Duke of Edinburgh, vermilion; and, lastly, the old favourite Madame Victor Verdier, having rather small pointed buds, crimson in colour, freely produced, and well adapted to withstand inclement weather, are all excellent autumnal flowerers that should be largely planted in every garden.

JAMES DAY.

Galloway House, Wigtownshire.

THE FORSYTHIAS.

Few, if any, of the flowering shrubs of early spring are so beautiful as the forsythias, which during March and April are thickly studded with their soft yellow blossoms that prolong, in a paler tint, a display of the same colour afforded in the opening days of the year by the winter jasmine.

Of the two species, Forsythia suspensa is, perhaps, the more valuable, as it is eminently adapted for clothing a wall; while, if given adequate support, and allowed to develop its gracefully-arching shoots, it forms an exquisite picture in the open ground. In training this forsythia against walls only the main shoots should be fastened in, the more slender shoots being allowed to droop naturally. Treated in this manner, a wall planted with this subject presents a veritable cascade of gold in the blossoming season.

Forsythia viridissima is of upright growth, and forms a handsome shrub, which naturally attains a greater height than F. suspensa grown in the open, since the shoots of the latter are pendulous. Large, well-furnished bushes, 10ft. or so in height, add greatly to the attractions of the spring shrubbery. Both forsythias should be planted in positions where they may enjoy the full sunshine, as it is only when the wood is well ripened that an abundance of flower is produced.

Any pruning necessary, which should be confined to the thinning out of old and weak growths, is best taken in hand immediately the flowering season is past. When allowed to ramble at will in elevated positions in the wild garden, Forsythia suspensa is perhaps seen at its best. A striking instance of this was where a plant growing at the top of a low cliff-face had hung a veil of golden blossom over the rugged rock, presenting a picture charming both in colour and form. There is a reputed cross between F. suspensa and F. viridissima, to which the title of F. intermedia has been given; but it is doubtful if this is more than a form of F. suspensa, in which the drooping habit is less pronounced.

WYNDHAM FITZHERBERT.

The Oyster and Mussel Scales. — The plum is subject to the attack of the Oyster and Mussel Scales; the last-mentioned is a pest which, if allowed to increase, saps the vigour of the tree to a considerable extent, and also disfigures the fruit by its unwelcome appearance. During the dormant season the affected branches should be scrubbed with a stiff brush, using a suitable insecticide to loosen the scale. Paraffin emulsion will be found to answer the purpose. Where shreds are used they should be replaced annually and the old ones burnt. — W. MESSENGER, Woolverstone Park Gardens.

PERENNIAL EVERGREEN CANDYTUFTS.

The evergreen forms of candytuft (iberis) are remarkable for their wealth of blossom in spring, and they comprise some of the most useful for clothing dry and arid positions, often disclosing their beauty under conditions where little else would grow. They are among the easiest subjects to propagate. Seed and cuttings, as the case may be, offer a ready means of increase, and good strong plants can be obtained within the year. One of the most familiar and reliable species is

Iberis sempervirens, of which there are numerous garden forms, differing chiefly in the habit of the plants. The type forms a spreading sub-shrub, which frequently attains a breadth of several yards. The leaves are dark green, and persistent, on thin twiggy branches, from which, in May, the flowers are produced in such abundance as to present the aspect of a veritable snowdrift. The individual flowers are white, and are arranged in circular, umbellate heads. Little Gem is a miniature, compressed form, only three inches high, and choice enough for the best type of rock garden, where, on sunny slopes, it makes a close carpet of verdure, and in season arrays itself with its pretty snow-white flowers. Snow Queen is larger, forming a neat and attractive plant some nine inches in height. The flowers are white, and of a large size, and it commends itself for planting on bold promontories of rock gardens.

I. correæfolia is a vigorous garden hybrid. The individual flowers are of the largest size, and as the compound heads elongate with age they assume a massive aspect. It is one of the best for the front edge of borders and shrubberies.

I. gibraltarica produces exceedingly large flowers, which are tinted a delicate shade of rose-lilac. It is a beautiful and effective subject, succeeding best in dry walls and as one-year-old plants, as after this it becomes very straggly.

I. saxatilis is another miniature species, some four to six inches in height. It is one of the oldest and prettiest of the evergreen candytufts. THOMAS SMITH.

LÆLIO-CATTLEYA FIRMINI VAR. ARDENS.

One of the showiest of lælio-cattleyas, with a combination of orange-red, ruby-crimson, and yellow colouring. A.M., R.H.S., January 21. Mons. Firmin Lambeau, Brussels.

THYMES FOR THE ROCK GARDEN.

The Garden Thyme (Thymus vulgaris) is a well-known fragrant plant in all gardens, being much valued on account of its strong aromatic odour. It is recorded as having been introduced into cultivation about the middle of the sixteenth century, but was probably grown here long before that time. It is a native of Southern Europe, and is especially abundant in Spain, a country that is said to be peculiarly favourable to the growth of all sweet herbs. The genus comprises several species, chiefly found in the Mediterranean region and Central Asia, and the most universal member of the genus being the Wild Thyme (T. Serpyllum), which is found on dry banks, and in hilly pastures throughout Europe and temperate Asia. It is very abundant in this country, forming beautiful dense green carpets that are a delight, both to the sight and to the touch. When the passing foot bruises the leaves, they exude a sweet fragrance that is ever a source of pleasure. In cultivation the carpeting thymes will thrive anywhere in the sun, especially in the crevices between rocks, on old walls, or in the angles of rough-made steps, while they comprise some of the most useful plants for growing between the joints of stepping-stones or flagstone paths.

There are several species of thymus in cultivation, but the majority bear a very great resemblance to each other in habit of growth and general appearance. When in favourable quarters they are rampant growers, soon covering large areas. One of the most distinct is

T. azoricus, a charming little plant from the Azores, which might be described as a diminutive shrub. The stems are quite woody, but prostrate and much branched, covered with light-green foliage. It is most at home on a rocky ledge in full sun, so that the stems are pressed against the stones. Then it forms a dense turf-like plant, covered in summer with pretty purplish flowers. Although coming from the azores, it is quite hardy when planted on rocky ledges.

T. varnosus.- -This is a shrubby species of erect habit from Spain, with fragrant greyish leaves, and white or pale-purple flowers. It is useful as an evergreen for the rock garden.

T. Chamædrys. — By many authorities this is considered merely a form of the Common Wild Thyme, but it differs in that the branches are all ascending from the root-stock, while the whorls of flowers are in axillary heads. In growth it is dwarf and neat, with light purple flowers. Several varieties of this are offered in catalogues; T. C. var. comosus having larger rounded leaves and darker-coloured flowers, while T. C. var. nummularius has erect spikes of bright rosy flowers.

T. Herba Barona. .The Corsican Thyme is remarkable for a distinct odour, which resembles nothing more than caraway seed. It is of spreading habit, with twiggy branches, somewhat more erect than the last. A rare plant, it is confined in its native habitats to the Island of Corsica, where it takes the place of the common thyme. Neither is it common in gardens, although plants have recently been introduced in cultivation.

T. odoratissimus.—The Russian Thyme, which is admirably shown in the accompanying illustration, is one of the handsomest members of the genus. It is of free spreading habit, with prostrate ascending stems, terminating in long inflorescences of pale-purple flowers. From six to nine inches high, the plant is covered with flowers for the greater part of the summer, while it possesses a powerful fragrance which suggested the specific name. Like the last, this is a recent acquisition, having been introduced to cultivation by Mrs. W. H. Stansfield, of Southport, a few years ago.

T. Serpyllum, the Wild Thyme, is a delightful native creeping plant, with slender, much-branched stems that are woody at the base. It forms low dense turfs of herbage, from a few inches to several feet in diameter, covered in summer with its purple flowers. Of this there are many varieties grown, ranging from a pure white, T. S. var. albus, to T. S. var. pulchellus, which is here illustrated, with rich rose-purple, or almost crimson flowers. T. S. var. lanuginosus is a form with leaves clothed in soft grey, woolly hairs, and very attractive with lilac flowers. Other varieties are: Coccineus, with crimson flowers; and splendens, with bright red ones.

THYMUS ODORATISSIMUS.
A sweet-smelling thyme, rather strong in growth, and bearing lilac-coloured flowers.

The members of the thyme family are amongst the easiest of all plants to manage in cultivation. They may be propagated by division in the autumn or spring, or raised from seeds, which most of the different kinds produce freely. The latter method, however, would not be advisable in the case of bright-coloured varieties, which it is desired to increase. Cuttings root readily at any time during the summer, if kept in a close frame for a short time.

For the rock garden there are no more useful plants, as they may be used for covering stony banks where little else will grow, and they are charming when seen in such masses as are shown in the illustrations herewith. W. I.

FLOWERS FOR CUTTING.

The present-day demand for cut flowers is very considerable, and in some places taxes the resources of the gardener to the uttermost during the winter months, and not a few have a great difficulty in keeping up a supply. True, many plants bloom at this period of the year which do not need much forcing to induce them to expand their flowers, but all are not suitable for cutting. We might mention some of the early-flowering shrubs by way of example; these, such as deutzias, soon shed their flowers when put in water in a warm room. What one requires for cutting is something light and effective when set up, and that will last for several days in the atmosphere of a hot, dry room. To enable flowers to do this there must be some substance in their petals, and very few of the hardy shrubs possess this when forced into bloom; the flowers will last fairly well on the plants, but when cut and stood in water they soon fade or wither up.

The most useful flowers for cutting are those having fairly long stems, though, in some instances, for small vases, this need not be taken into consideration. Some of the anemones are very useful, though they are somewhat heavy in appearance, but if grown in frames or boxes where a very slight degree of warmth can be provided the plants will bloom most profusely. It is advisable to raise a batch of seedlings each season for this purpose. If the seeds are sown in spring, and the plants grown through the summer without a check, they will bloom freely through the winter and early spring months. When the seedlings are large enough to handle they may be pricked out into boxes in which they are intended to bloom. The boxes should be at least six inches deep and should be of a handy size so that a man can readily carry them about. If stood close together during the summer in a sunny position the plants will keep growing and by the autumn will have attained sufficient strength to enable them to throw up strong flower stalks. If the boxes are moved into a cool house at the approach of winter the plants will continue to give a supply of flowers.

All who have had much experience in floral decorations are well acquainted with the usefulness of the early-flowering irises, but though these naturally bloom very early, they will not put up with much heat. Those who are desirous of having them in bloom thus early must plant in good time, and keep them growing very slowly. Iris reticulata is very beautiful when well grown. The Spanish iris, too, are most useful, but these should be grown in separate colours. The narcissi are so common now that most people grow them, but the whole secret of success in having the flowers to last is early potting, and keeping the plants growing gently from the time the roots are formed. It is useless to pot up the bulbs in October and expect them to produce strong flowers at Christmas. Plant well-ripened bulbs early in August, and when rooted place them in a cold frame, and they will then be sending up their flower spikes about the time some people think of potting.

Many years ago, when under Mr. Taplin, at Enville, I was taught a lesson that I shall never forget, which was, "always be abreast of the times, and, if possible, in advance of them." It is this being first in the field with produce that enables a man to command the best prices; there is often no advantage in waiting until the usual time for doing certain things; it is far better to strike out a line of one's own.

There are now many useful hardy annuals that are great favourites for cutting, and as these are inexpensive to grow, a few might be added to the list for the production of cut flowers early in the season. There is now a large number of shades of schizanthus, and these are charming things for cutting. If sown early in the autumn they may be had in bloom in February with but little attention. Nemesias, also, grow quickly, and are of but little trouble. There are many others too numerous to mention, which could be grown by those possessing a cool house, but the above-named will be sufficient to show that with those who have but small convenience it is possible to make a display.

Among the foliage plants useful for greenery there is nothing, in my opinion, to equal Ruscus racemosus. This is a plant that will produce fine sprays of vivid green foliage that will last a considerable time in water. Plants may be grown in the shrubbery, where, during the summer, they are most attractive. In the autumn they produce a quantity of red berries, and these, if gathered as soon as ripe, and sown in a cold frame, will in time produce plants. The seeds are some time in germinating, and the plants grow slowly at first, but when established make shoots from two to three feet long, having finely-pointed leaves, somewhat resembling those of the smilax. H. C. PRINSEP.

THYMUS SERPYLLUM PULCHELLUS.

A beautiful variety of the wild thyme with brilliant rose-purple flowers.

Mr. F. Bennett, gardener to Captain Glyn, has been successful in winning the Royal Horticultural Society's medal, which was offered as a prize for the member of the Wimborne Gardeners' Association who obtained the highest number of points for exhibits at the society's meetings during the past year.

THE ROYAL NURSERIES, HANDSWORTH, SHEFFIELD.

There are nurseries in Great Britain that may justly be counted old-established, a number that are of great extent, some that are famous as having been the birth-place of valuable and beautiful trees, shrubs, fruits, or stove and greenhouse plants. Many honoured men and great horticulturists are numbered among the founders and proprietors of nurseries in this land of ours. Certain firms are celebrated as specialists in fruit, others in ornamental trees and shrubs, hardy plants, or particular classes of exotic and tender plants, the clientele extending from end to end of the kingdom, and even to distant countries, but every one of these distinctions may well be claimed by the Royal Nurseries, Handsworth, Sheffield, belonging to Messrs. Fisher, Son, and Sibray, Lim.

A hundred and sixty odd years is the length of this firm's career, during which time the growth of the business and extensions to the nurseries have been such as to make the establishment one of the largest in the trade. Some idea of the size of the Handsworth Nurseries may be gathered from the fact that there are about seven miles of cart-roads within its boundaries, and it may certainly be said that all classes of plants are here grown on a large scale. To name and describe all the choice varieties of trees and shrubs that claim this nursery as their birthplace would be no small task, and from the big range of glass-houses some of the most handsome crotons and dracænas have been distributed, as well as some exceedingly fine anthuriums.

Hollies, as most people know, are a great speciality of the firm, the several home-raised varieties being everywhere recognised as among the most handsome and useful in cultivation. The "mother" trees of these hollies are a feature of exceptional interest, there being quite a number of tall, stately specimens still full of vigour, maintaining splendid symmetry, but, of course, not possessing the remarkable beauty of foliage which characterises their progeny. Indeed, it affords a striking object-lesson upon the real value of the plant-breeders' painstaking efforts to compare the choice named varieties of hollies which have helped to make these nurseries famous, with the old types from which they have been evolved. Our common green holly (Ilex aquifolia) is a grand tree, but, as everybody knows who is at all acquainted with hollies, we have many varieties that are infinitely superior to it, and for a number of the best among them we are indebted to Messrs. Fisher, Son, and Sibray. Ilex Wilsoni deserves a special word of praise, not only on account of its splendid dark green foliage, but for its vigour and perfect habit. This was the first, if indeed it is not the only, green-leaved holly to receive a First-class Certificate from the R.H.S., and right worthily does it hold this distinction. I. Wilsoni is grown in immense quantities, many fine specimens being seen, as well as thousands of vigorous young plants that are laying the foundations for good trees of the future. Handsworth New Silver is another variety of which its raisers may well be proud, for surely no one wants a more delightful variegated variety than this. I. Handsworthensis, a small-leaved green variety, has its particular charms, and another of the "Fisher" group is I. Mundyi, which has large leaves of a bright glossy green, and grows into beautiful pyramids with very little pruning. The collection includes all the best hollies in cultivation, I. Shepherdi, otherwise known as Hodginsi being obtainable in any quantity and any size, from young plants a foot high to big specimens. There is nothing about which Messrs. Fisher, Son, and Sibray are so extremely particular as the periodical transplanting of their stock to ensure the abundance of fibrous roots, that alone will render successful removal possible even in the case of very large trees. It is worth mentioning that the first propagated plant of I. Shepherdi may be seen growing in the nurseries to-day, so that, although not actually raised here, this popular holly has from the beginning been closely associated with the nurseries. Altogether there are over fifty named varieties of hollies in this collection, and the greatest care has been exercised in regard to accurate nomenclature.

On either side of a straight walk a quarter-mile in length, grows a magnificent lot of golden yews. There are trees of all shapes and forms, but all beautifully developed, and of very effective colouring. Fisher's variety of the Golden Irish, and Taxus grandis, another home-raised form, possess characteristics that mark them out from their many companions, but T. Dovastoni variegata, elegantissima, laevigata, and several others are excellent in every way. If we do not write at length upon the abies, the cupressus, and all the other conifers, it is simply because there is so much else that demands notice, and it is difficult in one brief review to decide what to mention and what, of necessity, to pass over. The flowering shrubs alone would furnish material for an exhaustive article, the rhododendrons being exceptionally meritorious. It may be that good varieties of rhododendrons exist which are not to be found in this collection, but we may say, with all confidence, that the best of the Handsworth collection are the best in cultivation, and are grown on a large scale.

The soil suits them, the propagators are experts at their work, and the same watchful care in regard to periodical transplanting, as was noticeable in all departments, has kept the whole stock in capital condition, so that even big, well-developed plants measuring as much as six feet in height may be removed with scarcely a shadow of risk. The beautifully balanced standards of Pink Pearl arrested our attention, and conjured up in our mind's eye pictures of loveliness that they would present when in full bloom, for, without a doubt, it is on standard plants, which raise the trusses of bloom to the level of the eye, that this glorious rhododendron is seen to greatest advantage. Countess Fitzwilliam, a variety introduced by Messrs. Fisher, Son, and Sibray, is a bright and very attractive variety, bearing big trusses of carmine-tinted flowers with dark spots. Another of the firm's raising is Duchess of Portland, a variety that has strong claims to the distinction of being accounted one of the best white-flowered hardy rhododendrons in commerce. The hardy ericas constitute another most interesting feature, and the berberis, including all the finest species and varieties, and many extremely beautiful seedling forms of B. aquifolia, provide both foliage and flowers that may grace the finest shrubberies or borders.

A most charming shrub that can scarcely be over-estimated is Phillyrea Vilmoriniana, with large foliage and fragrant white flowers. That it is held in high esteem may be gathered by the extent to which it is propagated at Handsworth, and I was informed that there is always a ready sale for this highly effective shrub. Shrubs that bloom late in the season are especially valuable, and on this account we made a note of Cytisus nigrus hirsutus, which, even in November, carried a good show of flowers. There were also any amount of berried plants, such as pernettyas, cotoneasters, and gaultherias, which do so much to brighten the garden when flowers are scarce and the days are dull.

We were much interested in the Handsworth variety of the purple sycamore, and Salix vitellina aurea pendula, an exceedingly graceful weeping willow that certainly merits a place beside even the most ornamental of lakes or streams. Golden elms, scarlet and double white chestnuts, silver birch, and the Handsworth limes, are all available in magnificent young trees. A big stretch of Quercus palustris, the marsh oak, comprised a fine lot of this distinct and noble tree; and a batch of tall, shapely trees of Cotoneaster frigida, ranging in height from five feet to ten feet, was of much interest. The Wheatley elm, one of the best street trees in cultivation, is largely grown for this particular purpose, and, of course, plane trees are also grown and strongly recommended for town planting. Purple beech, erect and weeping poplars, Japanese maples, thorns, and, in fact, every kind of tree is represented.

Herbaceous and alpine plants are extensively grown, and there are capital show borders on either side of a very long walk, where one may see good clumps of all the kinds stocked growing and flowering under admirable conditions. So, too, there are borders of shrubs arranged for effect, and beside a very pretty piece of ornamental water all sorts of ornamental willows, gunneras, gyneriums, and bog plants are grouped in a natural and effective manner.

The glass department of the nursery is of great extent, most of the houses being long, broad, span-roofed structures capable of accommodating very big stocks of plants. Crotons are very well grown, and included in the comprehensive collection are a number of very beautiful varieties which have originated in this establishment. One of these, named Duke of Portland, is a fine broad-leaved variety of capital habit and rich colouring; and a new pendulous form of C. Heathi elegans is exceedingly graceful. Interesting also was a batch of Dracæna australis, among which some very distinct and handsome forms — all home-raised — were noticed. Orchids are grown, and most of the more popular greenhouse flowering plants are produced on a large scale. Anthuriums have for many years been a big feature with Messrs. Fisher, Son, and Sibray, and those of our readers who saw the magnificent group of these gorgeous plants which the firm exhibited at the International Exhibition will not readily forget it.

This establishment has a large seed and bulb department, with a spacious, well-appointed warehouse, in a prominent position in Sheffield, and a big agricultural as well as horticultural seed trade is done.

East Lothian Stocks. — These stocks are not so freely used in the South of England for summer bedding as they are in the North, and when one considers their usefulness for such work, it seems rather surprising, as they flower continuously from July until well into the autumn. When growing them for this purpose, the seeds should be sown at once in shallow pans or boxes and placed in a gentle heat to germinate. When the seedlings appear give them a position close to the glass in a cool house, and as soon as they become large enough to handle pot them off singly, using large 60's, and grow them on in a cool-house or pit until well established. Then remove them to a cold frame, giving plenty of air on all favourable occasions, so that by the time they are ready to be planted out in their summer quarters they will be well hardened off. Seeds of these stocks can be obtained giving distinct shades, and if procured from a reliable source the flowers can be depended upon to come true to colour. This is a decided advantage when planting masses of separate colours, in which, by the way, these stocks are seen at their best. A very desirable white stock named All the Year Round produces an abundance of bloom from June until Christmas, should the autumn prove mild, if treated in this manner.—T. B. FIELD.

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All of the Finest Quality.

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PERPETUAL FLOWERING CARNATIONS.

STRONG HEALTHY PLANTS

In 60's from 6/- doz.
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Many large specimens and rare varieties.

STOVE AND GREENHOUSE PLANTS OF ALL KINDS

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Exotic Nursery, Cheltenham

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MAUD HOLMES.

SWEET PEAS.

After making hundreds of trials of Sweet Peas, and having examined many more hundreds on various seed trial grounds, we make the following selections for the guidance of those who have not had the opportunity to closely study and compare the vast army which is now in cultivation.

THE 12 BEST DECORATIVE SWEET PEAS for 2/6.

	Seeds.		Seeds.
Evelyn Hemus	25	John Ingman	25
Flora Norton Spencer	25	King Edward Spencer	25
Helen Lewis	25	Lady G. Hamilton ...	100
Helen Pierce	100	Nora Unwin	50
Hon. Mrs. Kenyon ...	100	Queen Alexandra ...	50
Mrs. Hugh Dickson ...	25	Othello Spencer	25

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12 Splendid Varieties for 5/- ; post free.

	Seeds.	Price.		Seeds.	Price.
Elfrida Pearson	18	6d.	Florence Nightingale	25	6d.
Eric Harvey ...	25	6d.	Masterpiece ...	25	6d.
Etta Dyke ...	25	6d.	Maud Holmes ...	25	6d.
Evelyn Hemus...	50	6d.	Othello Spencer	25	3d.
Flora Norton Spencer ...	50	6d.	Scarlet Monarch	25	6d.
Giant Cream Waved	25	6d.	Thos. Stevenson	15	6d.

We offer all the choicest stocks of **Vegetable and Flower Seeds** at the **Lowest Profitable Prices.** We feel confident that many amateurs now paying from 25 to 50 per cent. more than we charge would, if they gave us a trial, find the results equally good, and they would have the surplus to spend in other directions. We quote below a few specialities.

Many of our friends and customers having told us that *ounces* of seed were often far more than they required, we have lately, for the convenience of those with small gardens, put up packets at **2d.** and **3d.** for their convenience. We also offer nearly all the Hardy Annual Flowers in (liberal) **2d.** packets.

Fully Illustrated Catalogue Free on Application.

PEAS.

Gradus 1/-, Thos. Laxton 1/2, Reading Wonder 1/-, Triumph 8d., Prince of Wales 8d., Autocrat 9d., Prizewinner 1/-, Capt. Cuttle 1/-, Little Marvel 1/-, The Gladstone 1/-. ALL PER PINT.

All the best **BEETS** from **6d.** to **1/-** per oz.

„ **CABBAGES 6d.** to **8d.** per oz., **2d.** per pkt.

„ **LETTUCES** from **6d.** to **1/-** per oz., **2d.** and **3d.** per pkt.

Nearly all the best **ONIONS 6d.** to **1/8** per oz.

RADISHES 2d. to **3d.** per oz.

The BEST TOMATOES.

Best of All (Sutton), the best exhibition variety, **6d.** and **1/-** per packet.

Sunrise (Carter's), the heaviest cropper in cultivation: fruit perfect in shape and excellent in flavour, **3d.** and **6d.** per packet.

Smith's Ruby Cluster, an extremely free cropper; colour, shape and flavour excellent, **3d.** and **6d.** per packet.

Up-to-Date, very short jointed in habit, and extremely prolific. Fruit smooth, medium size, excellent quality, **3d.** and **6d.** per packet.

Kondine Red (Holmes), a wonderful cropper, **6d.** and **1/-** per packet.

ALL THE ABOVE ARE SAVED FROM SELECTED FRUITS.

CHOICE PRIMULAS.

We have a magnificent strain of these. The seed is saved in our own houses, with the utmost care. All seed is 1912 crop, and *certain* to grow if it has a fair chance. Large flowered varieties—**Brilliant King**, intense crimson; **Cannell's Pink**, gigantic flower, peach blossom colour; **Brilliant King**, deep velvety crimson; **Mrs. Robt. Cannell**, lovely white with deep red stems; **Pink Perfection**, pure light pink; **The Duchess**, white, with centre of rosy carmine and yellow eye; lovely **White Perfection**, fern leaved, the largest white. All these in separate packets, at **1/-** per packet. Also mixed, from above varieties, **1/-** per packet. **Stellata Mont Blanc**, and finest mixed, **1/-** per packet. The packets contain about 120 seeds.

A Fine Selection of Seed Potatoes—Scotch Grown.

J. R. PEARSON & SONS, "THE NURSERIES,"

LOWDHAM, NOTTS.

Established 1782.

BUSH APPLE TREES.

One of the most interesting features of the kitchen garden is a well-managed collection of bush apple trees, but if they are not properly looked after they are nothing more than an eye-sore. In travelling about the country I have seen a good many garden fruit trees, some in fine order, but the majority showing incorrect treatment in various forms. Very frequently the present gardener is in no way responsible for the neglect, because it may be that the trees were allowed to grow out of hand for years before he saw them. One of the most thankless tasks that can fall to the lot of a gardener is that of having to attempt to bring back to shape a number of wayward bush trees. If they are well-established in a good strong soil, a few seasons of unpruned liberty, above and below, will absolutely ruin them from the point of view of form. The careful, methodical grower who takes them over at this juncture feels his helplessness; he knows he has come too late. He cannot cut the branches back to the last pruning place on each limb, because such procedure would pitifully mutilate the branches, and remove a goodly portion of bearing wood into the bargain.

The only practical course open to the grower, in such circumstances, is to commence pruning again at the current year's wood, and gradually to thin out the head by cutting overcrowding branches away altogether. If there is much of this to do, let it be extended over several seasons. But even if the best is made of such trees, what do they look like? Instead of nice dwarf specimens, with a number of straight, definite, well-spurred branches set around a common centre, we have lanky, over-grown things, with many a foot of branch growth wholly devoid of spurs. Subsequent root and branch pruning will set them on the right track again, but, unfortunately, they must always carry the very obvious mark of some one's neglect, which is so irritating to those who are keen on shape and good methods generally.

Quite independent of all this, I think that many people who have good ideas on fruit growing allow their garden trees too much latitude. A system of pruning is now largely advocated by horticultural instructor and others which might more correctly be termed thinning. Under the hand of an expert this thinning process in the place of more severe pruning may be all very well, but the average man who attempts it will usually have his trees too straggling and encumbered with thickets of small growths. Where there is ample room, as in an orchard, by all means let us have fruit trees with large, spreading, natural heads, but I contend that the kitchen garden is no place in which to develop the practice. The space for garden trees is always strictly limited. They must not encroach upon vegetable quarters by root or branch, neither should they extend over the paths. The height must also be regulated within reasonable limits.

A bush tree dealt with under the light pruning system is unconformable to my ideal in several ways. In the first place, it grows too tall, thus overshadowing more vegetable ground than is justifiable; its diameter is too great, and its roots extend too far into adjacent soil. In a word, the system leans more closely to orchard culture than is compatible with garden ideals. I am acquainted with catalogues which recommend the planting of bush trees six feet apart. Suppose a novice acted on this advice, and then attempted to cultivate on the light-pruning principle. He would have a pretty tangle in a few years. I am aware that to plant six feet asunder is cutting it rather fine, but eight and ten feet are common distances, and, in no case, should it be necessary to exceed twelve feet. To keep trees within these limits, it is by far the best plan to run up a number of straight branches in open formation around the centre, and to prune them in exactly like so many cordons. Such specimens are neat and formal as garden subjects should be, and the fruit they yield is of the very best show quality. Of course, the weight of the produce is less than the yield from the semi-natural types, but, after all, a dwarf tree will bear heavily in proportion to its capacity. If we want a large quantity of fruit it is best to plant orchards or special quarters where we may legitimately practice the extension system of pruning, but such methods are out of place in an ordinary kitchen garden.

I have heard it said that close spur-pruning and the occasional root-pruning entailed are conducive to short life in a tree, but some years of close observation have convinced me that such is not the case.

The varieties in the list given herewith do well as bush trees, the fruits being excellent both for exhibition and culinary purposes.

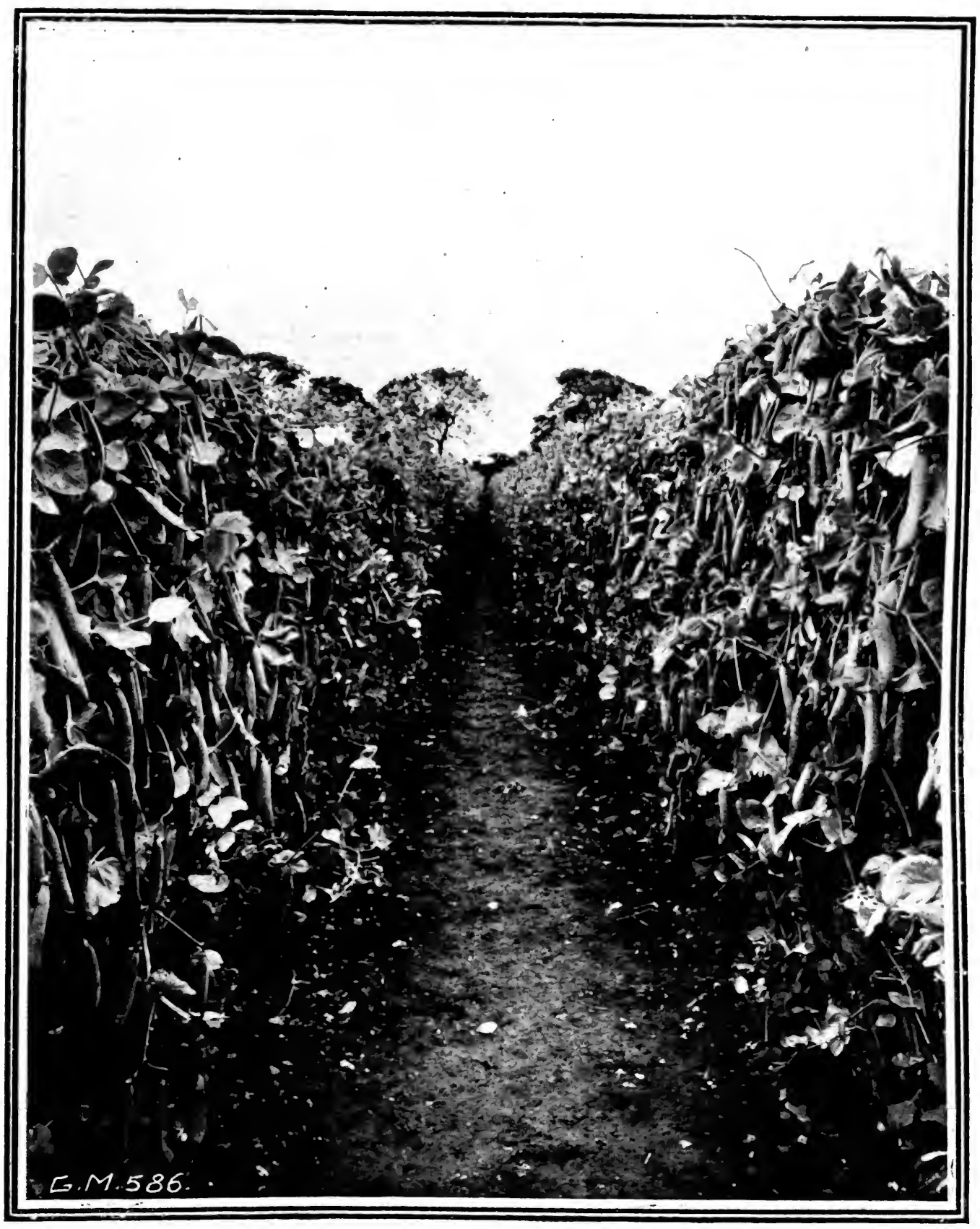
Culinary.—Peasgood's Nonsuch, Mère de Ménage, Lady Henniker, Stone's (Loddington Seedling), Bismarck, Sandringham, Lord Derby, Newton Wonder, and Lane's Prince Albert.

Dessert.—King of the Pippins, Adams' Pearmain, Allington Pippin, Beauty of Bath, James Grieve, Scarlet Nonpareil, Cox's Orange Pippin, King's Acre Pippin, Scarlet Pearmain, and Christmas Pearmain.

Ilmington. J. E. SIMMS.

NEW CULINARY PEA, BELL'S PREMIER.

For a number of years the Scottish firm of Messrs. Bell and Bieberstedt, of Leith, have paid particular attention to culinary peas, and the several varieties they have raised are all of first-rate constitution, free croppers, and of fine flavour. This season they are introducing two varieties that are altogether excellent and thoroughly well worth a trial, both in private and market gardens. Warriston Wonder is perhaps the heavier cropper of the two, but Bell's Premier is very little behind it in this particular, and it is of especially fine appearance. The pods are freely borne in pairs and usually ten peas in a pod. Bell's Premier is a second early pea, grows about 5½ft. high, and is the result of carefully selecting the best types from a cross between Gradus and The Bell. We have seen the varieties growing, and can testify to their excellence.



NEW CULINARY PEA BELL'S PREMIER.

Raised by Messrs. Bell and Bieberstedt, Leith, N.B.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

ARTIFICIAL HEAT.—A common mistake in the erection of glass structures both for fruit and plant growing purposes, lies in the neglect to provide sufficient hot-water pipes and boiler power to maintain the desired temperature without having to make the pipes excessively hot during periods of unfavourable outside conditions. Where sufficient piping is provided the temperature is naturally more readily and evenly maintained than is possible with an insufficiency of piping. Those who have these difficulties should endeavour to have every defect rectified. A great deal may be done to minimise excessive fire-heat by covering the roof of the house with a few archangel mats, waterproof covering, or even old blinds hung along the side lights and the lower portion of the roof. Where lath roller blinds are fitted to the roof, these may be let down on frosty or windy nights, and will make at least 7 to 10 degrees' difference to the inside temperature of the house. There is one thing one must be careful about in the use of lath roller blinds, and that is not to leave them down when there is a prospect of snow. Any great weight of snow is liable to break the blinds where they are jointed, and also twists them so much out of shape that they may be rendered useless for protection from sun afterwards.

ATMOSPHERIC CONDITIONS.—During the past fortnight we have been suffering from the effects of a snowy blizard, which has been followed with bitterly cold east winds and very little light. With so much fire-heat necessary, more than ordinary care has been required to keep the atmosphere in a condition to save the plants from any ill-effects. Damping the floors, staging, and surfaces below the hot-water pipes has been done as soon as the temperature commenced to rise in the morning; discretion has then had to be exercised respecting a second damping. Some portions of a house invariably become dry under ordinary conditions, and there need be no second thought over these spots, as the humidity rising from them when damped will have a tendency to equalise the moisture throughout the structures.

VENTILATION, or the admittance of fresh air to the houses is always desirable, but ventilation may easily be overdone just now. Whenever the outside conditions are favourable, air may be admitted either by the top or lower ventilators, but at no time during winter should the top and lower ventilators be opened simultaneously. It is always safest to use the bottom ventilators on the leeward side of the house, unless there is a good system of roof ventilation, for a very little aperture in the roof suffices for all purposes of ventilation at this season.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

AMARYLLIS (HIPPEASTRUM).—Bulbs intended for flowering in March and April should forthwith be removed from their resting quarters and receive a top-dressing or repotting as is considered necessary. Those selected for top-dressing should receive a thorough soaking in tepid water, and be allowed to drain, afterwards removing, with the aid of a pointed stick, as much of the surface soil as possible without damage to the roots, and adding new compost carefully made firm. Where repotting is necessary, thoroughly soak and carefully wash away all the old soil from the roots, afterwards potting firmly in well-drained pots of the same size, or, if necessary, a little larger. If the soil is in good condition no water will be required for some time, and must be given sparingly until the roots are quite active. A suitable compost is made up of loam two parts and leaf-mould one part, with a little mortar rubble and dried cow manure added.

GLOXINIAS.—A second batch may now be started into growth. Select those corms showing signs of starting, and after carefully removing the old soil, place them in pans containing sifted leaf-mould. In the humid atmosphere of the stove they will soon start sufficiently to be potted. Either 60 or 54-sized pots may be used with the view to shifting on later, or they may at once be put into their flowering pots, when 32's will be most suitable. In this case greater care will be required in watering or the soil will become sour. A suitable compost consists of two parts fibrous loam, one of peat, and one of leaf-mould, with a little sand and burnt earth.

CALADIUMS.—The remainder of these should be potted up, and started as early as possible, otherwise losses may occur. A compost similar to that used for gloxinias will be suitable; use as small pots as possible, and plunge in a hotbed. When nicely growing they may be transferred to larger pots.

ALLAMANDAS.—Where grown as trained specimens in pots allamandas, having completed their season of rest, should have their growths cut back to one or two buds, and if dry receive a watering. The free application of the syringe will soon induce them to break freely, when they may be turned out of their pots, the ball being carefully reduced, and the plants repotted. Good drainage is essential, and to ensure firm, short-jointed growth; there must be firm potting. Allamandas enjoy good fibrous loam to which has been added sufficient charcoal, mortar rubble, and sand to maintain porosity; a little bone-meal added will also be found beneficial.

PROPAGATION should be pushed on as far as possible. Cuttings of acalyphas, pandanus, Panax Victoriæ, and Dracæna Sanderiana will be found to root readily at this season.—H. PRIME, Hatfield House Gardens.

FRUITS UNDER GLASS.

POT VINES.—One-year-old vines, cut down to the lowest bud last month, will have been kept dry in a cool house; they may now be placed in a gentle heat, and gradually moistened to excite growth before being shaken out and repotted. Prevention being better than cure, a dressing of styptic should be applied to prevent bleeding, and a second dressing in some cases is advisable. When the buds have grown out from one to two inches, the strongest and most promising plants should be selected and potted. Meantime 11in. pots and compost should be got ready for use, especially the latter, as all composts in which bone-meal and other concentrated stimulants form a part are greatly improved by laying two or three weeks in a warm potting-shed or early vinery. Sound turfy loam, with lime rubble and a little bone-meal, must form the staple compost; a few handfuls of an approved vine manure may be added according to the quality of the loam. A little warm water may be given to settle the soil after potting; otherwise, when plunged in a steady bottom-heat of 75 degrees, the daily syringing will keep the vines quite moist enough until fresh roots are formed. Remove the weakest shoot where two have started; and put a light stake to the strongest to prevent accidents. Pure tepid water will suffice for a time, and good feeding later with liquid stimulants.

PEACHES.—The earliest pot and permanent trees will be swelling their fruits, and must be kept well syringed with tepid water twice daily in fine weather, and once only when cold and cloudy. As no one waters peaches during the flowering stage, a liberal supply at a temperature of 68 to 70 degrees should be given to inside borders as soon as the fruits attain the size of peas. Disbudding must be regulated by the vigour of the trees, young shoots may be removed from strong-growing trees with a liberal hand, but not so as to produce a check.

SUCCESSION HOUSES started now and the beginning of the year must be kept well supplied with atmospheric moisture, not so much by direct syringing as by damping the walls, paths, etc. A nice syringing once a day, or twice when bright, is beneficial, but keeping the trees constantly wet is detrimental. As the trees approach the flowering stage greenfly must be destroyed by one or two moderate fumigations, for if neglected it will soon mar the trees and possibly ruin the crop. A temperature of 45 to 50 degrees at night and 60 to 65 degrees by day, with little fire heat, will ensure strong perfect blooms, but to further ensure a good set the brush should be passed over the flowers daily. Later houses will set their fruits freely enough by keeping the pipes warm and the house carefully ventilated. As we cannot compel the sun to shine, we should endeavour to produce the next best conditions in our forcing houses, maintaining a brisk buoyant temperature by using warmth in the pipes and by the admission of plenty of fresh air on all favourable occasions.—F. JORDAN, Warter Priory Gardens.

THE FLOWER GARDEN.

CLIMBERS ON WALLS AND PERGOLAS, etc., which have not yet received attention with regard to thinning and tying, should be dealt with without further delay, as many of them are becoming quite active. Some of the large-flowering varieties of clematis have already made growths a few inches in length; these will require supporting to prevent them being broken off by rough winds or rain, to which they are liable at this stage. Ornamental vines which have not been pruned will, in many instances, bleed as this operation proceeds. Should this occur smear the cuts with shellac as a preventive.

WORKS OF CONSTRUCTION OR REMODELLING in the rock garden should be completed at an early date, if full advantage is to be taken of the coming season in establishing the various occupants, which are to be planted in any new positions. Preparations must be made for replanting any existing fissures or pockets which are becoming overgrown, or are in other ways unsatisfactory, by removing as much as possible of the old soil, and adding a compost most suited to the individual subjects. Rock plants intended for planting out that have had the protection of a cold pit or frame, should now be exposed as much as possible on all occasions, excepting during extremes of wet or cold, to ensure hardiness. The first opportunity during a spell of mild weather should be taken to transfer these to their permanent quarters in the rock garden. Timely planting is essential to success, as, naturally, alpine plants are most sensitive to early growth. The remainder of the rock garden should also be dealt with. All established plants must be looked over, removing any dead portions and rubbish which has accumulated. Move the surface soil between the plants in all accessible places with a small hand fork and pointed stick. Where any mossy growth is detected, it must be displaced and a top dressing of light sandy soil should afterwards be applied, which greatly benefits the plants, and also gives the whole a fresh and tidy appearance.

HOLLYHOCKS.—In districts where these cannot be successfully grown as perennials or biennials, owing to the prevalence of the disease which so often attacks them, it is advisable that they be treated as annuals, as the plants often then prove quite immune, and some very good results are obtained. Sow the seeds at once, thinly in pans, and place them in a brisk heat where they will soon germinate.—T. B. FIELD, Wych Cross Place Gardens.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE.—January 21.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Canon Fowler, Messrs. J. W. Odell, J. O'Brien, R. Hooper Pearson, A. Worsley, G. Wilson, A. W. Hill, G. Gordon, W. Hales, and F. J. Chittenden (hon. secretary).

DENDROBIUM FUSCESCENS. — Mr. O'Brien showed a specimen of this curious species with brown flowers from the Himalayan region. It is figured in Griffith's "Icon. Plant. Asiat.," t. cccix., and belongs to the section included by Lindley in his genus Sarcopodium (see Lindley's "Folia Orchidarum"), along with D. Cœlogyne, D. amplum, and D. rotundatum. Lindley considered the genus Sarcopodium intermediate between dendrobium and bulbophyllum, but later botanists have divided it, putting some of the species in bulbophyllum and some in dendrobium. It may be noted that the technical descriptions published of the species describe two orange spots on the column, but there are really three out of them quite low down.

APPLES WITH MANY OR NO PIPS.—Mr. Chittenden showed specimens of the apples, to which he had previously referred, having more than two seeds in the capillary cells. The variety Duchess's Favourite had, as a rule, in the past season four seeds in each cell, and the one case five had been found. This is remarkable, as the number in the wild types is practically constantly two, and that has been used as a basis of separation between the genera Pyrus and Cydonia. Like many other points of distinction between species and even genera, this would appear not to be absolute. He also showed specimens of an apple sent him by Mr. P. C. M. Veitch, of Exeter, called "No-Pip," which was reputed to form no seeds, although the apple was perfectly developed Those exhibited had only the merest rudiments of seeds, apparently no larger than the ovules had been.

GALLS ON POLYPODIUM SP. FROM THE GOLD COAST—Mr. W. H. Patterson sent specimens of the fronds of a polypodium galled along the edges of the pinnæ, and somewhat crested through the attacks of a species of Eriophyes. Mites belonging to this genus are well known as exciting the development of galls on all sorts of plants, and one, E. pteridis, and another, unnamed, are described as causing galls on the margins of fronds of Pteris aquilina in South Europe. Mr. Patterson finds the mite to spread but slowly among ferns at Aburi.

EARLY-FLOWERING ASH.—Mr. E. E. Turner sent from Coggeshall an example of an early-flowering species of Ash which had been identified as Fraxinus angustifolia. It always flowers in January, and is conspicuous by reason of the bright colouring of the flowers. Dr. Henry believes this to be the very rare variety holotricha.

Gardeners' Royal Benevolent Institution.

Punctual to the minute, the annual meeting of this charity was opened at Simpson's Restaurant, Strand, W.C., at 2.45 p.m. on Thursday, January 23. Sir Harry J. Veitch presided, and those present included: Messrs. A. W. Sutton, J. Hudson, D. Macdonald, R. H. Pearson, A. W. Paul, G. Caselton, G. Monro, L. Castle, O. Thomas, R. Cuthbert, P. Veitch, R. Ballantine, J. Rochford, W. Iceton, etc.

The minutes having been read and other formalities disposed of, the Secretary, Mr. G. J. Ingram, read the report and balance-sheet for the year 1912:

ANNUAL REPORT.

For seventy-four years the Institution has maintained the work for which it was founded with increasing benefit year by year to those deserving applicants who have been eligible for its assistance in their necessity and distress. No less a sum than £142,000 has been disbursed in relief since its foundation, and in the last year a sum of £4,413 was expended in affording permanent assistance alone, being £67 more than in any other year in the history of the Institution.

At the beginning of 1912, 252 persons—men and widows—were in receipt of life annuities of £20 and £16 a year respectively. Of their number 22 have died during the year—12 men and 10 women. Four of the men left widows, whose circumstances and needs being such as to render them eligible to succeed to the widow's allowance, were at once placed on the funds in succession to their late husbands, and without election under Rule 3, 13. Thus at the close of the year there were 234 annuitants on the funds. And to this number it is proposed to add by election this day 20 candidates from an approved list of 67 applicants—which will increase the list of beneficiaries to 254, being the largest number there will ever have been on the funds of the Institution. This further liability necessarily entails some anxiety, especially at a time when the charitable public are met with additional claims on their benevolence, but the committee feel their subscribers will justify this liberal action, and not let the Institution suffer in any way.

It is gratifying to the committee to be able to again report that the Victorian Era Fund and the Good Samaritan Fund have rendered invaluable services in helping applicants in distressed and necessitous circumstances.

Sincere thanks are also given to W. A. Bilney, Esq., J.P., the honorary solicitor, for legal services, and to Messrs. Thos. Manning, J. Willard, and Bert J. Monro, the auditors.

The committee have also again to acknowledge the kindness of the "George Monro, Lim." Concert Committee for devoting a share of the proceeds from their well-known and successful annual concert for the benefit of the funds.

The several auxiliaries have been a source of invaluable help during the past year, and have been well maintained, special and hearty thanks are tendered to the following honorary officers of the Auxiliaries for their services and kindly interest which is so much appreciated: Bristol and Bath—Col. H. Cary Batten (pres.), Mr. Geo. Harris (hon. sec.); Worcester—Rt. Hon. Earl Beauchamp, K.C.M.G. (pres.), John White, Esq. (treas.), and Mr. Percy G. White (hon. sec.); Devon and Exeter—Mr. W. Mackay (treas.), Mr. W. Mackay (hon. sec.); Wolverhampton—C. T. Mander, Esq., J.P. (pres.), Mr. Geo. Bradley (treas.), Mr. Geo. Bradley (hon. sec.); Berkshire, Reading and District—Mrs. Rowland Sperling (pres.), Arthur W. Sutton, Esq., J.P., V.M.H. (treas.), Mr. L. Castle (hon. sec.); and Liverpool Auxiliary—The Right Hon. the Early of Derby, K.G. (pres.), Mr. A. J. Crippen (treas.), and Mr. R. G. Waterman (hon. sec.).

The committee are also grateful to Messrs. Sherwood, Sutton, and Monro, who gave special contributions for unsuccessful candidates, which proved so beneficial to the recipients; they would also express their best thanks to Mr. N. N. Sherwood for his kind "Sherwood Commemoration Gift" of £500, which will be invested and form a fund to create a perpetual annuity of £20.

The committee are very glad to be able to acknowledge the distinction of knighthood bestowed upon their treasurer and chairman, and to recognise the generous donation of three hundred guineas to the funds from Sir Harry and Lady Veitch, "in recognition of the honours conferred upon horticulture."

The committee have to tender their cordial thanks to the directors of the recent great and successful Royal International Horticultural Exhibition for their kindness in voting two-thirds of the balance of the profits remaining, after all liabilities have been discharged, to the Institution. It is hoped that the funds will be considerably augmented from this source.

In concluding this brief summary of the year's work, the committee very earnestly commend this national horticultural charity—the only one of its kind in the United Kingdom to the generous consideration of all lovers of gardens and gardening, the purest of all human pleasures, for a larger measure of support to enable the Institution to extend a helping hand to those toilers in their distress and need who have given of their best for the pleasures and necessities of others.

BALANCE-SHEET.

To Balance	£1,135	8	8
,, Amount on Deposit	2,830	0	0
,, Amount on Deposit "Wolfe" Legacy and Interest	1,069	2	6
,, Annual Subscriptions	1,240	12	6
,, Donations at Festival Dinner (including Gift from N. N. Sherwood, Esq.)	3,220	7	9
,, Legacy from the late Henry F. Tiarks, Esq.	100	0	0
,, Royal Horticultural Society ("Schroder" Annuity)	20	0	0
,, Dividends and Interest	894	1	6
,, Return of Income Tax	50	16	9
	£10,560	9	8
By Annuities and Gratuities, including special Gifts from Messrs. Sherwood, Sutton, and Monro	£4,413	15	6
,, Expenses of Annual Meeting and Election	9	16	4
,, Rent, Firing, Lighting, and Salaries	610	0	10
,, Printing and Stationery (less advertisements)	93	6	7
,, Postages and Carriage	67	9	2
,, Advertisement in "Fry's Charities"	3	3	0
,, Collection Boxes, etc.	5	19	6
,, Post Office Telephone	6	10	0
,, Expenses of Festival Dinner, £300 8s. (less Dinner Charges, £251 9s. 6d.)	48	18	6
,, Investment of "Tiarks" legacy	100	0	0
,, Placed on Deposit	2,480	0	0
,, Placed on Deposit "Wolfe" Legacy and Interest	1,069	2	6
,, Placed on Deposit "Sherwood" Commemoration Gift for investment	500	0	0
,, Balance with the Treasurer	1,136	3	10
,, Balance with the Secretary	16	3	11
	£10,560	9	8

(Signed) THOMAS MANNING, BERT J. MONRO, J. WILLARD, } Auditors.

VICTORIAN ERA FUND.

To Balance January 1, 1912	£142	17	9
,, Donations	5	5	0
,, Dividends	219	14	8
,, Return of Income Tax	14	13	10
	£382	11	3
By Gratuities	£225	15	0
,, Balance in hand, December 31, 1912	156	16	3
	£382	11	3

GOOD SAMARITAN FUND.

To Balance January 1, 1912	£351	6	2
,, Donations	63	13	0
,, Dividends	133	18	8
,, Return of Income Tax	8	3	10
	£557	1	8
By Gratuities	£212	18	4
,, Balance in hand December 31, 1912	344	3	4
	£557	1	8

The Chairman moved the adoption of the report and balance-sheet, and in doing so referred to the many losses the society had sustained by death during the year, and made special reference to Mr. Tillman and Mr. Garaway, who in the past had worked so well for the institution. Sir Harry urged that these losses should induce members and friends to work all the harder. Besides the amounts distributed in pensions, forty-two applicants were assisted by the Victorian Era Fund, and forty-one by the Good Samaritan Fund, making a total of 335 assisted in various ways by the institution. The Chairman made special refrence to Mr. N. N. Sherwood's generous gift of £500 to be invested, and said that Mr. Sherwood wished to nominate the first beneficiare. A goodly sum was anticipated from the Royal International Horticultural Exhibition, and Sir Harry

suggested that an extra pensioner might be elected in view of this expected gift. Kindly reference was made to the generous help received from Sir J. Colman, Bart., and to the promise Mr. Leopold de Rothschild had given to preside at the annual festival dinner on June 25 next. The work of the Auxiliaries was reviewed, and Sir Harry expressed a sincere wish that gardeners throughout the country might render more assistance than, as a body, they do at present, in carrying on the work of the Charity. He pointed out that there were five candidates coming up that day for election who had come up five successive years.

The motion was duly seconded, and carried without comment.

Mr. Arthur W. Sutton very pleasingly moved the thanks of members to Sir Harry J. Veitch, and his re-election to the office of treasurer. Mr. Ballantine seconded this, and it was very enthusiastically carried. Sir Harry returned thanks, and said this was his 27th year of office. On the motion of Mr. George Monro and Sir Harry J. Veitch Mr. G. J. Ingram was very heartily re-elected secretary, and his services were eulogised.

Mr. L. Castle moved the re-election of the retiring members of the committee, and the election of Mr. Martin Nash; this was seconded by Mr. Iceton, and carried.

Messrs. T. Manning, J. Willard, and B. J. Monro were re-elected auditors on the motion of Mr. Macdonald and Mr. P. Veitch. Arbitrators were also re-elected on the motion of Mr. Cuthbert and Mr. Rochford. Messrs. Bert J. Monro and Mr. J. White were appointed scrutineers, and the meeting was then adjourned until the declaration of the poll.

The poll was declared about 4.30. There were sixty-seven candidates, and those elected were: D. G. Chisholm (3,450), E. Morley (3,417), R. Stevens (3,394), Frances Throssell (3,253), H. Barnes (3,220), J. Page (3,144), G. Forty (3,120), Mary Smith (3,107), E. Baxter (3,014), W. Baker (2,991), H. Wright (2,935), F. Tucker (2,896), H. Witt (2,877), Fanny Stocking (2,869), Harriett Evans (2,859), W. Birse (2,826), Annie Canham (2,779), Susan Bryan (2,778), and Th. James (2,755). Under the permissive rule Martha Batten (1,376), and D. Reed (2,584) were also put on; Mr. Sherwood's nominee was R. McCombie; the International pensioner was W. E. Gaiger (2,739); and, as Mr. A. W. Sutton kindly offered a pension of £20 to a very needy unsuccessful candidate, Wm. E. Hill (2,710) was elected. This made a total of 25 placed on the funds—a record for any one election.

On the motion of Mr. Jas. Hudson, seconded by Mr. D. MacDonald, a hearty vote of thanks was accorded Sir Harry Veitch for presiding, and to the scrutineers for their services.

At the close of the day's proceedings the subscribers and friends dined together under the genial presidency of Sir Harry J. Veitch. Speeches were brief. The Chairman proposed "Success to the Institution," and referred once more to the splendid work of the Auxiliaries, and to the fact that a record number of pensioners had been placed on the funds of the institution that day. He made a strong appeal for greater help from the general body of gardeners, so that the institution might do greater good in the future. An interesting record of the progress of the institution was given in brief by Sir Harry, who stated that £4,500 a year was now needed to provide for the pensioners on the funds. The Chairman's reference to a gift of £10 from Mr. George Monro for the most necessitous unelected candidate was received with applause.

Mr. W. A. Bilney proposed thanks to the committee for able services freely rendered and to this Mr. Jas. Hudson, V.M.H., responded. Mr. Edward Sherwood very ably proposed "Our Country Friends," and in doing so emphasised the excellent work done by the several Auxiliaries: Mr. Peter C. M. Veitch (Exeter), Mr. Percy G. White (Worcester), and Mr. L. Castle (Reading) responded. "The Chairman," proposed by Mr. George Monro, V.M.H., was enthusiastically accorded musical honours. Sir Harry suitably replied. Mr. Ingram's services were eulogised, and the toast of his health was most heartily received.

A good programme of music added greatly to the pleasantness of this evening gathering.

Liverpool Horticultural Association.

This society held its 34th annual meeting on Saturday of last week in the Common Hall, Hackin's Hey, Liverpool, Mr. W. Mercer occupying the chair.

The statement of accounts submitted showed subscriptions, £255 10s. 6d. (a loss of some ten pounds); cash taken at the door for the spring exhibition, £41 2s. 11d.; summer show, £40 10s. 7d.; autumn show, £64 16s. 8d.; and special prizes, £43 13s. 6d. On the expenditure side: prize money at spring show, £74 6s. 6d.; rose and carnation show, £42 7s.; autumn show, £110 ;total, £227 13s. 6d. Hire of Corn Exchange, judges, music, staging, etc., totalled £227. The balance in hand, January 1 1912, stood at £152 9s. 9d., and on December 31 at £107 8s. 8d., a loss on the year's working of £45 1s. 1d.

The following gentlemen were elected: Patron, the Right Hon. Earl of Derby; president, the Lord Mayor of Liverpool; hon. treasurer, Loo Thomson, Esq.; sub-treasurer, Mr. G. Blackmore; and secretary, Mr. Harold Sadler, 31, North John Street, Liverpool. A cordial vote of thanks was tendered to Mr. Mercer for presiding.

Southampton Horticultural Society.

The 51st annual meeting of this society was held, by permission of the Mayor, at the Municipal Offices on January 20.

In the absence of the Mayor, detained by professional duties, Mr. R. C. W. Dixon, one of the vice-presidents, presided over a fairly representative gathering.

The Council's annual report stated that the efforts made to celebrate the jubilee of the society had resulted in two of the finest shows ever held in the South of England. It also expressed the Council's grateful thanks to the National Rose Society for assisting to secure such a fine rose show, and to all those patrons who subscribed liberally to the prize funds, but it contains regrets that the general public took little interest in the event; the attendance at the great jubilee show was less than at the ordinary summer shows for several years past, with the result that the society completed the year with a deficit of over £50. The statement of accounts shows the following results: Receipts: Rose show, £172 6s. 1d.; Jubilee show, £426 0s. 10d.; autumn show, £115 15s. 3d.; general account, £158 10s. 3d.—total, £872 12s. 5d. Expenses: Rose show, £166 4s. 10d.; Jubilee show, £459 3s. 7d.; autumn show, £134 2s. 10d.; general account, £158 11s. 3d.; new material, £8 2s. 6d. total, £926 5s. Assets (cash), £9 17s. 2d.; liabilities to treasurer, £54 1s. 7d.

The adoption of the report was proposed by Mr. E. Kemp Toogood, who took the opportunity to state that the exigencies of business would prevent him from continuing the office of chairman of the council. The president, Lord Swaythling, and the vice-presidents having been re-elected, the Chairman conveyed to Mr. Toogood the warmest thanks of the members for the way in which he had conducted the business of the society during his three years of office, and then proposed the election of Mr. Herbert E. Molyneux as chairman of the council, eulogising that gentleman's services to horticulture and to the N.R.S. especially. The election was carried by acclamation, as was also the re-election of Mr. C. S. Fuidge as secretary, a position he has held since January, 1873. The election of six members to serve on the council, and other officers concluded the business. The dates finally fixed for this year's shows are: Rose show, June 25; carnation and summer show, July 15 and 16; autumn show, October 28 and 29.

Bournemouth Gardeners'.

JANUARY 21.

The last meeting of the winter session was held on the above date. The evening was devoted to "Questions and Discussion." The questions are written on slips of paper by the members and placed in a box, then the latter is handed round and each member draws out a slip bearing a written question which he is expected to answer. Some of the queries are quickly answered, others create a lively discussion, as other members are allowed to state their opinions on each subject as well as the one who is entitled to first answer the query. This method is very popular, and so several evenings are devoted to "Questions and Discussion during the year.

The following are a few of the queries put: "What are the best manures for cinerarias?" Nitrate of potash and phosphate of potash were greatly favoured, at the rate of half an ounce to the gallon of water, as stimulants. "How can canker on Marechal Niel rose be cured?" One answer to this question was, that if a mixture of fresh cow manure and clay was put on the cankered parts a cure would result. Another reply was, the free use of fir tree oil. "Is April the best time to plant pines?" From November to April was considered to be suitable, generally, but Pinus pinaster should not be planted until new shoots commence to grow. "Should basic slag and kainit be applied to lawns in the autumn, at the same time, or should basic slag be applied in the autumn and kainit in spring?" Although some authorities favour the former, the members were unanimously in favour of the latter. "Is it advisable to propagate Primula sinensis by mossing side shoots?" The answer was No;

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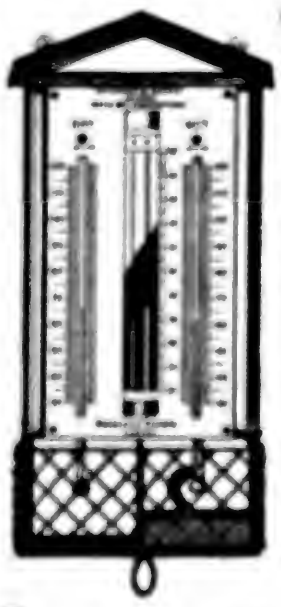

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because those side shoots, so rooted, would rarely bear more than one small truss of flowers. "Which are the best six Zonal Pelargoniums for winter flowering?" Snowstorm, E. Bidwell, Dryden, Souvenir de Mirande, Zelia, and Gertrude Pearson were the varieties favoured. There were many other questions, all dealing with seasonable subjects.

Ferns and narcissus were shown in pots by Messrs. Pearce, Evans, and Heath, in the "Points" competition. These exhibits were the final ones in the year's competition, and the following members are the winners, namely: Mr. C. Pearce, 56½ points out of a possible 66; he wins the silver-gilt medal. Mr. G. H. Heath, 53½ points; he wins the framed water-colour painting presented by Miss Agnes Rooper (the painter). Mr. Evans, 46½ points, wins the unframed water-colour painting presented by Miss Rooper, and painted by that lady. Mr. Pavey (who has not been able to take part in the contest at the two last meetings owing to illness), 39½ points, wins the book presented by the assistant secretary, Mr. C. Nippard.

The Chairman, Mr. Heath, was heartily thanked at the close of a very interesting meeting.

Beckenham Horticultural Society.

"Orchid Culture" was the subject of the lecture given by Mr. J. Collier, Gatton Park Gardens, Reigate, at the recent meeting. The lecture was intended for gardeners in general rather than for those who specialise, it being Mr. Collier's contention that those who can grow chrysanthemums and carnations well, can also, if they give the same amount of care and attention, succeed with many classes of orchids, and thus make them even more popular than now. The lecturer spoke of the value of the hybrids now being raised, many of which have such fine and robust constitutions. A few plants which had been raised at Gatton Park, were shown and much admired; they included an Odontioda Bradshawi, carrying 50 flowers; Odontoglossum Queen of Gatton, and Cypripedium insigne Gatton Park variety.

Broughty Ferry Horticultural Association.

The first meeting for this session was held in the Y.M.C.A. Hall, Brook Street, on the evening of the 21st ult. The President, Mr. James Bethel, occupied the chair, and there was a large attendance of members. After duly thanking those present for again re-electing him and by some encouraging remarks referring to the ensuing session, the President introduced the lecturer, Mr. A. W Brown, of Messrs. Alexander and Brown, seedsmen, Perth, who had for his subject "A Trip to the Dutch Bulb Fields." In the course of an excellent lecture, Mr. Brown led his audience from the "Fair City" to Haarlem, and with the aid of lantern slides, prepared from his own photographs, gave much interesting, educative, and amusing information on the bulb farms and the city and town life of Holland.

Of the area devoted to bulb culture the lecturer had much that was both interesting and instructive to relate, while his pictures enhanced the value of these remarks, clearly showing the methods of cultivation and manner of preparing the bulbs for market and transportation. Many new, rare, and expensive flowers of the various types of narcissus and tulips were also shown on the screen and commented upon by the lecturer, who spoke very highly of the kindness and courtesy shown him on his trip.

A short discussion ensued, after which the lecturer was accorded a cordial vote of thanks.

The monthly prize was awarded to Mr. George Reid, Invertay Gardens, for six pots of cyclamen, seventeen months old; marvellous specimens in 5in. pots.

Other exhibits were a vase of chrysanthemum flowers from Mr. D. Keillor, Seaborne Gardens; and leeks and celery from Mr. James Slater, Panmure Villa.

Dumfries Gardeners' Association.

The second meeting of this association was held in St. George's Hall, Buccleuch Street, Dumfries, on January 25, when Mr. S. Arnott, chairman, presided over a large attendance of the members, and after the usual formal business, called upon the lecturer, Mr. Croall, to give his paper on "Shows and Showing." This subject is always interesting, but it was treated by Mr. Croall in a manner which gave it special pleasure to the members. The usual practical treatment was varied by many humorous points, drawn from the author's experiences, and he discussed such questions as that of finances; the securing of influential support; that of tents or halls for the show; staging; choice of judges; judging by the eye or points; and the various details which make for the success or failure of a flower show. The head of "showing" was also well dealt with, and here, again, Mr. Croall's remarks were of a useful nature. The paper received close attention, and a capital discussion followed, taken part in by a number of the members, the subject of judging by points receiving special notice on the initiative of one of the members. Mr. Croall was heartily thanked for his paper. Mr. J. Hutchison, Terregles, exhibited a very fine begonia of the Gloire de Lorraine type, called amabilis, grown in an excellent manner.

York Florists' Society.

Alderman Agar presided over a moderate attendance on the occasion of the annual meeting of this ancient society.

Mr. W. Clack, the secretary, presented the report of the committee, from which we make the following extract: The committee again regret to have to record that the past year has not been of a satisfactory character financially. The number of members who have paid their subscriptions during the year is 453, as against 503 last year, and, in order to increase the membership the committee earnestly desire the members to try and influence their friends to join the society. The total income and receipts from all sources, inclusive of the sum of £63 14s. 6d. received from guarantors and special donations from the committee, members, and other supporters of the society amount to £374 8s. 7d., and the expenditure £365 6s. 10d., leaving a balance in favour of the society of £9 1s. 9d. The receipts at the Chrysanthemum Show amounted to £100 6s. 8d. for the two days, as compared with £157 8s. for the three days last year.

Mr. J. J. Hunt was elected president for the current year, and the following were elected members of committee: Councillor E. Allen, Messrs. J. W. Brocklebank, J. W. Clarke, E. Hagyard, J. W. Hodgson, H. S. Jubb, R. Keightley, J. Key, S. P. Kirkby, R. McIntosh, M. Murchison T. Parkin, S. Pickering, F. Raney, W. Todd, and J. Winn.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

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who will give the matter immediate attention.

ANSWERS TO CORRESPONDENTS.

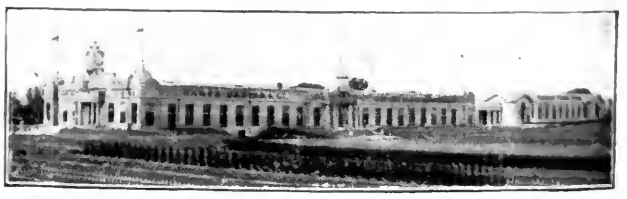
Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

AZALEA LEAVES FALLING.—A. W. B. Hounslow: Just at the time when the foliage of my azaleas should be forming a background to the coming flowers, they are falling off wholesale, owing, apparently, to a disease on the leaves themselves. I enclose a few leaves from the double white Niobe, which has suffered most, and I should be glad if you could tell me the nature of the disease, what steps can be taken for its prevention in future, and what can be done to cure it. I take considerable care in watering and syringing the plants, and at this season they receive occasional doses of liquid manure.—Insect pests, the results of dry atmospheric conditions, are largely responsible for the falling leaves. We found both thrips and red spider on the leaves, as we expected directly we saw the silvery-grey under-surfaces of the leaves sent. A dry atmosphere encourages these pests, hence the advantage of standing the plants on a good base of ashes which will hold moisture and



NEWS FROM HEADQUARTERS.

Throughout the entire year there is possibly no vegetable which creates such entire satisfaction as the first dish of Green Peas. Coming at a time when, for months past, the main supplies for culinary purposes have been a succession of those kinds familiarly known as "greens," the deliciously succulent Peas are very welcome. In company with a toothsome duckling, they form an addition to the menu which runs the traditional roast beef very close for first place in English gastronomy.

Sow two or three rows out of doors early in February if you have a very warm border, or should your garden be rather bleak, sow a few boxes in your most airy greenhouse, taking care not to coddle the plants, and plant out during April.

With only a moderate amount of care you will have the satisfaction of picking delicious peas quite early in the season, the flavour of which will be quite in advance of those forced under glass.

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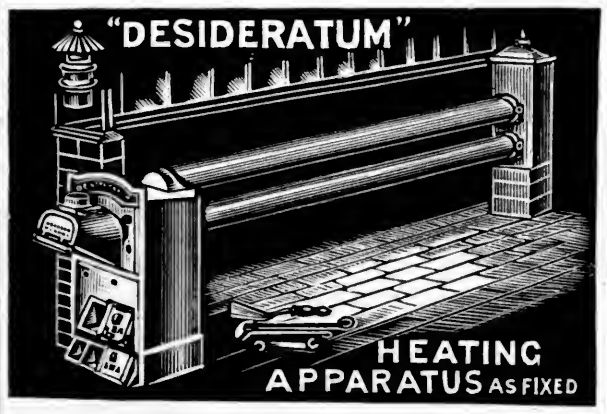

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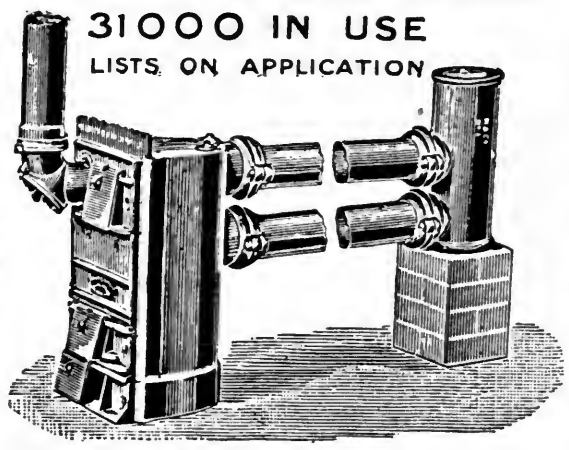

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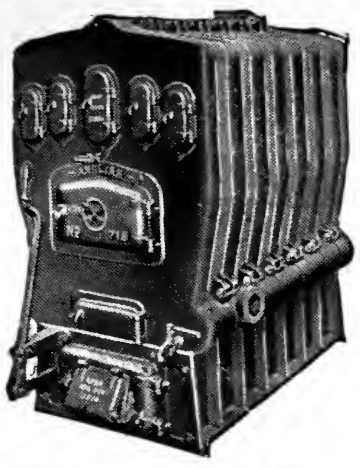

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yet not keep very wet. The leaves are well formed, consequently we may presume that in spring and summer the cultural details followed were successful, and that the trouble has come since the azaleas were housed. Lay the plants on their sides and syringe them with a nicotine preparation; it will be necessary to syringe them with an insecticide two or three times at intervals of about four days. Well-grown plants of Indian azaleas do not need liquid manure, though, when well rooted, an occasional watering with clear soot water is beneficial. You may have over-dosed the plants, and this in conjunction with the weakening effects of the thrips, would readily cause the leaves to fall.

POROUS FANCY JARS FOR FERNS.—A. W. B., Hounslow: I am anxious to find out where I can procure those porous jars sometimes used to grow maidenhair ferns in. They are indifferently called Egyptian or Maltese jars.—The horticultural sundriesmen who advertise in our columns will be able to supply you with these jars.

YARROW IN LAWNS.—J. B., Kettering: We have a lawn full of yarrow or wild achillea, and I should be very glad if you would give me any advice as to the best means of removing this weed without taking up the turf. I am much afraid we cannot do much good, as the yarrow is so abundant and so deep rooted.—Probably, your best plan would be to remove the turf and lay down new clean turves or sow the lawn with the best lawn grass seed. Later on, if you decide not to returf or sow, use lawn sand, but we may say at once that if the lawn is now practically composed of yarrow then the lawn sand will leave the area very bare. All things considered, your best plan would be to remove the present turf, thoroughly dig the site, add new soil to make up the levels, and prepare for sowing.

APPLE FOR NAME.—D., Uckfield: I enclose six fruits of an apple, and should be glad if you can tell me the name of the variety. I know nothing like it, but, as the tree appears to be about sixty years of age, it may very likely be a local and unnamed seedling. It is a splendid apple, and keeps finely without any special care.—The apple is in excellent condition, and should be perpetuated. We do not recognise it. Why not put some grafts on two or three young trees that you can spare for the purpose, and then see what the variety is capable of?

PELARGONIUMS FOR EXHIBITION.—G. B., Colwyn: Could you give me particulars respecting the treatment of pelargoniums for exhibition?—Yes, and we shall be pleased to do so, but we do not gather whether show or fancy or zonal pelargoniums are under consideration; what period of the year the exhibition you have in view is being held, or whether good, useful plants or large specimens are to be grown. If you have some sturdy plants of zonal varieties, struck early last autumn and potted off singly, you may produce large plants by midsummer, if good feeding, due potting, pinching and tying are attended to, and a greenhouse or pit can be used for them. However, let us have further particulars of your intentions.

PROPAGATION OF PERPETUAL CARNATIONS.—Mr. G. Herbert Lawrence, Stratton, Godstone, Surrey, writes: As a regular reader of the GARDENERS' MAGAZINE, I hope you will allow me to cast some doubt upon Mr. Allwood's advice in your issue of January 18, given respecting the time to propagate perpetual carnations. Mr. Allwood states that, provided good cuttings are rooted in January, better plants are produced in twelve months than from those rooted in October and November. I agree with him up to a point, and that is January cuttings will produce the best flowers the following January and onwards, but I contend that if good flowers are required in November, the cuttings must be taken the preceding November. It takes fully twelve months' development, from the propagation period, to produce really good flowers. One nearly always reads in catalogues, where hints on carnation culture are given, that to obtain good blooms before Christmas cuttings should be taken in January. I maintain that this advice is erroneous and misleading, and my point is that one must not reckon on the full development of the plants, and blooms worth looking at under twelve months, therefore, if blooms are wanted in November and December, propagation should start in the corresponding months of the preceding year. However, perhaps, Mr. Allwood may have a further explanation to offer?

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

S. S., Johnston.—1, Berberis Hookeri; 2, Begonia manicata; 3, Helleborus orientalis.

O. W., Wokingham.—1, Saxifraga sancta; 2, Acantholimon glumaceum; 3, Veronica Hectori.

G. H., Kenilworth.—1, Anthericum variegatum; 2, Dieffenbachia amœna; 3, Phyllotænium Lindeni; 4, Calathea Sanderiana; 5, Selaginella cæspitosa.

D., Uckfield.—The fern is Polystichum aculeatum divisilobum; the bamboo is not in a good condition for naming, but it may possibly be Arundinaria castillonis.

W., Cheam.—1, Send when in flower; 2, Begonia Haageana; 3, probably Begonia argentea-guttata; 4, Maranta bicolor Massangeana; 5, Rhœo (or Tradescantia) discolor; 6, Carex brunnea.

FORTHCOMING ENGAGEMENTS.

MONDAY, February 3.—National Chrysanthemum Society's Annual Meeting at Carr's Restaurant, Strand, W.C., at 7 p.m.

TUESDAY, February 4.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Plant Hunting in Bulgaria," by Mr. C. F. Ball; Scientific Committee at 4 o'clock.

Horticultural Club, Annual Meeting and Dinner at the Hotel Windsor, Victoria Street, Westminster.

THURSDAY, February 6.—Linnean Society.

FRIDAY, February 7.—Royal Gardeners' Orphan Fund, Annual Meeting and Election at Simpson's Restaurant, Strand, W.C., at 3 p.m.

MONDAY, February 10.—United Horticultural Benefit and Provident Society.

TUESDAY, February 11.—Royal Horticultural Society's Annual Meeting, at the Royal Horticultural Hall, at 2.30 p.m.

National Vegetable Society's Annual Meeting, at Royal Horticultural Hall.

WEDNESDAY, February 12.—Croydon Gardeners' Society, Annual Dinner at the Greyhound Hotel, Croydon, at 7.30 p.m.

FRIDAY, February 14.—Finchley Chrysanthemum Society's Annual Meeting.

MONDAY, February 17.—National Chrysanthemum Society; Floral Committee's Annual Dinner, Carr's Restaurant, W.C.

TUESDAY, February 18.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Some Flowers of Eastern and Central Africa," by Miss Mason; Scientific Committee, at 4 o'clock.

WEDNESDAY, February 19.—North of England Horticultural Society's Annual Meeting and Exhibition at Leeds.

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

DATE. 1913. JANUARY 19 TO JANUARY 25.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 19—Sunday	—	39	39	46	34
,, 20—Monday	1 30	42	42	48	40
,, 21—Tuesday.....	—	41	41	44	40
,, 22—Wednesday..	—	30	30	51	30
,, 23—Thursday....	—	50	49	52	31
,, 24—Friday.....	—	47	45	51	45
,, 25—Saturday.....	2 18	43	42	47	43
Means	(total) 3 48	41	41	48	37

DATE. 1913. JANUARY 19 TO JANUARY 25.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Jan. 19—Sunday	0·28	39	41	44	26
,, 20—Monday	0·25	40	41	44	35
,, 21—Tuesday.....	—	41	41	44	35
,, 22—Wednesday..	0·34	39	41	44	33
,, 23—Thursday....	trace	40	40	44	27
,, 24—Friday.....	0·01	43	41	44	41
,, 25—Saturday....	—	44	42	44	36
Means ...	(total) 0·88	41	41	44	32

CATALOGUES RECEIVED.

JAMES CARTER AND CO., RAYNES PARK, S.W.—This catalogue is of unusual interest, because of its illustrations of the firm's new business premises and trial grounds, and the evidences they give of the great care taken to ensure seeds of the finest quality. There are nearly 300 pages, and not a dull one from beginning to end. Seeds and plants are listed, and there are numerous novelties for consideration in addition to old favourite varieties.

J. JEFFERIES AND SON, LIM., CIRENCESTER.—A carefully-arranged seed catalogue; flowers are a special feature, and collections of asters, grasses, stocks, sweet peas, etc., figure largely in the list.

The Thames Bank (Blackfriars) Iron Company, Lim.—Owing to the similarity of the name of this company and that of the Thames Iron Works and Shipbuilding Company, of Blackwall, confusion, we are informed, often arises in the public mind as to whether the two companies are not one and the same. This, however, is not the case, and we are desired to state that the Thames Bank (Blackfriars) Iron Company, Lim., are in no way connected with the Thames Iron Works and Shipbuilding Company.

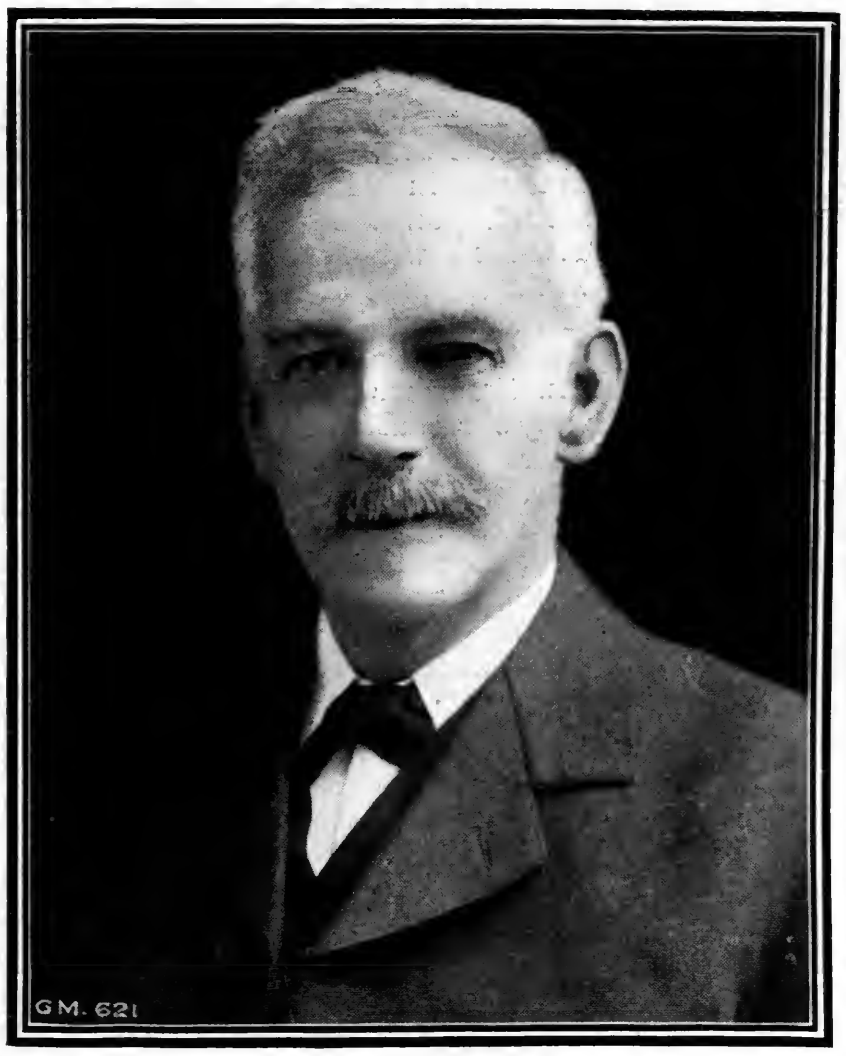
VOL. LVI.—No. 3,093. SATURDAY, FEBRUARY 8, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Progress of the Royal Horticultural Society.

Twenty-five years having elapsed since the Royal Horticultural Society vacated the gardens that it had so long occupied at South Kensington, and adopted a strictly horticultural policy, the report that will be presented by the Council to the fellows assembled in annual meeting on Tuesday next will have an importance that may be regarded as quite exceptional. Interesting as the society's annual reports have invariably been since the initiation of the present regime, the record for the past year is especially so because of the opportunity it affords of making an estimate of the society's progress, based on the results obtained during a well-defined and comparatively long period. It has been possible to obtain a very clear idea of the achievements of the society from the reports submitted to the Fellows from year to year, but a comparison of the results obtained in one year with those of the twelve months that have immediately preceded it fails to impress one in the same manner as does the institution of a comparison between the achievements of, say, 1888 and the past year. Then the society's fortunes were at so low an ebb, as a consequence of the mistakes of previous Councils, as to give rise to the gravest anxiety, and now the society is the largest, the most vigorous, and the most wealthy organisation associated with horticulture the world has ever seen. Twenty-five years is not so long a period for a society with comparatively few Fellows and a small income to increase its Fellowship to over 13,000, to establish an experimental garden on a large scale, and fully equipped in accordance with the most modern ideas, to found a School of Horticulture, to build itself an exhibition hall and offices at a cost exceeding £40,000, to invest upwards of £60,000, and, what is certainly not less, to obtain the confidence of horticulturists of all classes, not only in this country, but in all parts of the civilised world. Such achievements as these necessarily evince rare judgment and unremitting energy on the part of both members of Council and officers, and also unity in formulating and carrying out the various schemes of work. The representative character of the Council has, it may be assumed, contributed in no small degree to the success that has been achieved; and there can be no doubt that the few changes in the constitution of the Council have been a source of strength, inasmuch as they have rendered possible the continuance of the policy which has had such remarkable results. In the president and secretary there has been no change during the past twenty-five years, and fortunately so, for



MR. DAVID KING.

the occupants of these offices have evinced ability of an exceptionally high order in the discharge of their respective duties. Five years since Sir Trevor Lawrence was presented by the Fellows with his portrait as a mark of their appreciation, and at the present time it is thought by many of those closely associated with the Rev. W. Wilks in the society that the occasion should not be allowed to pass without some recognition of the splendid service he has rendered during this long period. As a consequence of this feeling a movement is on foot for the purpose of presenting him with a testimonial, and as the subscriptions are not to exceed £1 1s., a large number of Fellows and others will, it may be assumed, take advantage of the opportunity for showing their appreciation of his work. During the past year there was a considerable accession of new Fellows, and a substantial increase in the income. The total income was £27,201 17s. 3d., and of this amount the sum of £19,003 2s. was received as annual subscriptions, £2,549 18s. 6d. in dividends and interest, £961 3s. 5d. from admission to the shows and meetings, and £2,669 14s. 7d. from hall lettings. The amount received from the armissions to the exhibitions and meetings was smaller than usual, owing to there having been no Temple Show consequent on the holding of the Royal International Horticultural Exhibition, in which the society took a warm interest, and to the wet weather experienced on the occasion of the Holland House Show. The charges on the hall, including ground rent, water, gas, and electric light were £1,517 16s. 1d., the exhibitions and meetings involved an expenditure of £2,345 2s., the cost of the Wisley Gardens was £2,344 14s. 9d., and of the Laboratory at Wisley, £577. The balance on the year's work is £9,194 4s. 1d., or rather more than one-third of the income. Liberal contributions were made to the Lindley Library, which is now under the direct control and management of the Council, and a considerable number of rare works on horticulture were added, among them being Andrews' "Roses," Curtis's "Camellias," and Hooker's "Pomona Londinensis." It is, we observe, intended to publish the Journals kept by Robert Douglas of his travels on behalf of the society through North America in 1824 and the following years, and it is hoped that the MS. may be ready for the press during the current year. Those who are interested in the education of gardeners as a means of improving their status will learn with satisfaction that the Council have been successful in obtaining the power to establish an examination conducted by a Joint Committee of members, appointed by the Board of Agriculture and the Royal Horticultural Society, to determine the recipients of the diploma. This announcement should afford much satisfaction to those gardeners who desire to obtain such distinction as will show that they have full acquaintance with the practice and science of horticulture. The hope is expressed that a Degree in Horticulture may also be established by the University of London, and it well, in that case, be the aim of the Council to make the society's diploma work up towards the University degree.

Another important step onwards has been taken in the decision to establish a Parliamentary Committee, whose work it will be to advise the Council on all questions relating to legislation affecting horticulture. There will be two changes in the constitution of the Council, consequent on the retirement of the Hon. John Boscawen, owing to the great distance at which he resides from London rendering it difficult to attend the meetings with the necessary degree of regularity, and of Mr. William Marshall, who, acting under medical advice, is compelled to relinquish his seat on the Council. The vacancies thus created will be filled by the election of Mr. Arthur W. Sutton and Mr. C. G. A. Nix, both of whom are well known for their commanding ability and for their keen interest in all that relates to the advancement of horticulture.

Mr. David King, the new president of the Scottish Horticultural Association, of whom we give a portrait, is a well-known and much-esteemed member of the Edinburgh nursery and market garden trades, with which he has been closely identified for many years. Mr. King served his apprenticeship at Millfield, near Polmont, and afterwards he served in the gardens at Kinfauns Castle, Gartmore, and Brechin Castle. He commenced business on his own account at Osborne Nursery, Murrayfield, in 1874, and he has specialised in ferns, of which he grows immense quantities for market purposes. He was the first to introduce bowls filled with forced tulips and hyacinths into the Edinburgh flower and fruit market for Christmas decoration, about 35 years ago, and he does a large trade in these articles and in market plants generally. He also does a considerable amount of laying out of grounds, especially of the villa garden class. Previous to his election as President, Mr. King was convener of the Finance Committee of the Scottish Horticultural Association, and he is a member of Council of the Royal Caledonian Horticultural Society. He is also president of the Market Gardeners' Association, which position he has occupied for six years, and he is one of the co-opted members of the Scottish Chamber of Agriculture.

Conference on Dahlias.—The National Dahlia Society, in pursuance of the policy which was initiated three years since, and has proved so highly successful, has arranged to hold a conference this year. This conference will be held at Carr's Restaurant, 264, Strand, W.C., on Friday evening, February 14, commencing at 6.30 p.m. The president, Mr. George Gordon, V.M.H., will preside. The papers that will be read are as follows: "Exhibiting and Judging Dahlias," by Mr. W. C. Wyatt (Messrs. Keynes, Williams, and Co.), Salisbury; "The Future of the Dahlia," by Mr. F. G. Treseder (Messrs. W. Treseder, Lim.), Cardiff; and "Garden Dahlias," by Mr. A. J. Cobb, Duffryn Castle Gardens, Cardiff. All members are cordially invited to attend and join in the discussion which will follow the reading of each paper.

The Late Mr. Champion Jones' Pictures.—An exhibition of the late Mr. Champion Jones' pictures will be held at the Modern Gallery, 61, New Bond Street, W., from the 12th to the 25th inst. The exhibition will comprise water colours and oils of Vancouver, Holland, and England, many of the examples representing the artist at his best. The late Mr. Champion Jones, who was an exhibitor at the Royal Academy, was for many years the artist attached to the staff of the GARDENERS' MAGAZINE, and in that connection his finely-executed drawings of plants and flowers will be familiar to a very large body of our readers.

Damage to Golf Greens is the latest development of suffragist militancy, and if this is not so serious as the raid that has been made upon pillar boxes, it is sufficiently so to justify a strenuous endeavour to put a stop to it. On January 30 it was found that four golf courses in the Birmingham district had been seriously damaged. At King's Norton three greens were much injured, and on each of these the words "Votes for women" had been cut into the turf in large letters, and an acid had been poured into the ground, destroying the grass. At the Walmley course at Erdington, six or seven miles away, six of the greens were damaged. Here the words "Votes for women" were outlined in the grass, and fluid acid sprinkled about. At the Robin Hood (Hall Green) and Edgbaston courses much damage was also done.

Exhibition of Garden Dahlias.

An exhibition of dahlias especially adapted for beautifying the garden and decorative purposes generally will be held conjointly by the Royal Horticultural Society and the National Dahlia Society at the Horticultural Hall on September 23. Two competitive classes will be provided, one for displays of dahlias open to trade growers only, in which the premier award will be a challenge cup of the value of seventy-five guineas, presented by Reginald Cory, Esq., and the other for displays open only to amateurs, in which the Veitch Memorial Medal, presented by the Veitch Memorial Trustees, will be offered as the first prizes. In the first of the two classes the Royal Horticultural Society's medals will be awarded as the second and third prizes, and in the other class the National Dahlia Society's medals will be awarded in a similar manner. In addition R.H.S. medals will be awarded to collections of garden dahlias that have not been shown in the competitive classes, but are of sufficient merit to warrant an award. The awards will be made by judges appointed in equal numbers by the two societies.

Shrubs for Winter Effect.—Mr. George Bunyard, V.M.H., writes, from Maidstone: "An article in the GARDENERS' MAGAZINE of January 25 draws attention to some useful shrubs for winter effect. May I be allowed to extend the list by naming, among the red and brown stems, the forsythias, Raspberry Bath's Perfection, Salix Brityensis, Spiræa Watereri and weigelas. Then there are the green stems of Euonymus europæus, Erica codonodes, Kerria japonica, and Tamarix gallica. In white and grey we have the Silver Birch, Populus alba, and Salix cærulea, while of brighter hue is the bark of the weeping yellow-barked Babylonian willow."

Building in Regent's Park.—The Parks Committee of the London County Council have recommended the Council to pass the following resolution: "That the Council, realising with anxiety the effect of the building operations recently undertaken on Crown lands at Regent's Park, earnestly trusts that upon the expiration of the existing Crown leases the remaining grounds which are now in private possession will be dedicated to the use of the public for general recreation, and asks that effective steps may be taken to prevent at any future time the granting of any fresh leases of the lands in question." In their recommendation the committee direct attention to the fact that with regard to St. John's Lodge and St. Katharine's Lodge, proposals are under consideration for reletting the property until 1973, although the existing leases do not expire until 1916 and 1929 respectively. It therefore considered that no time should be lost in endeavouring to secure for the use of the general public, not only these particular enclosures, but also some of the other enclosures in the park as opportunities arise. Whatever may have been the condition of the surrounding districts when the original leases were granted, the committee consider that it will be generally admitted that, to meet the requirements of the present-day population, every effort should be made, not only to preserve intact such lands as have not been built upon, but also to have them thrown open as part of the park, thereby rendering it of greater utility and benefit to the general community.

Kew Gardeners' Social Gathering.—The sixteenth annual social of the gardeners of the Royal Gardens, Kew, was held at the Boat House last month. The party numbered about a hundred and forty, including a good muster of old Kewites. The programme contained twenty-four dances, and Mr. Symons was M.C. Between the dances songs were rendered by Miss Denny, Messrs. Gardner, Glover, Richli, Southgate, and James, and Mr. C. Harding recited "On Strike."

Wolverhampton Floral Fete.—This year will be the twenty-fifth anniversary of the floral fête which has obtained for Wolverhampton a prominent position among the great industrial centres in which horticulture receives special encouragement. In view of this fact, an endeavour will be made to render the exhibition to be held on July 8, 9, 10, additionally attractive. Among the new classes is one for a display of bedding plants arranged in the form of a flower garden, with flower beds, walks, pergolas, or roses, as the exhibitors may select. The superficial area of the space allotted for each garden will be 30ft. by 20ft. There will also be special classes for carnations and roses.

Improvements in Epping Forest.—According to the annual report of the Epping Forest Committee of the Corporation, they continued last year to improve the forest by removing superfluous and non-indigenous trees with the object of encouraging the growth of the best specimens of forest trees, and they had also opened up further glades so as to make the forest more accessible to the public. Adjoining the northern boundary of the forest there are three small unenclosed strips, and as the owner was about to enclose those strips, the committee purchased them with the object of retaining access from the road to the forest by the general public and the commoners' cattle. The expenditure on the forest last year was £7,016, towards which £2,964 was contributed by the Corporation.

The Guernsey Growers' Association are making strenuous endeavours to improve some of the methods of culture that find favour among the growers of garden produce in the island. They have arranged a series of lectures on the scientific and practical aspects of the cultivation of fruit, tomatoes, and flowers under glass. The association is desirous of extending the knowledge of the most successful methods among the members, in view of the competition of foreign growers in the English markets. While immense quantities of produce of high quality are exported by the Guernsey growers, considerable quantities reach our markets in a condition that shows there is, in the case of some of the producers room for considerable improvement.

THE MADWORTS.

The Madwort family includes some of the most attractive and useful of the spring and early summer-flowering plants. Most of them are of dwarf and neat habit, and, with few exceptions, are good perennials. To fully appreciate the beauty of the free-blooming A. saxatile it must be planted in a good-sized group, hence it is most valuable for the purpose of spring bedding. Single plants, however, growing in the joints of a wall, and hanging down over its face, are very effective and beautiful when in flower. The stronger kinds may be used with advantage planted in groups in the front rows of the herbaceous border, but the smaller-growing species are more at home in the rock garden on sunny ledges.

Generally speaking, all the Madworts will grow in any well-drained soil, and they may be considered as amongst the easiest of plants to raise from seed. Cuttings also afford a ready means of increase, and these may be made from the young shoots two to three inches in length in summer, as soon as they have made sufficient growth after flowering. It is necessary to insert them in sandy loam, and keep them in a close, shady place till they are rooted.

There are many small, dwarf-growing species that are very much alike in habit and in flower, and though they may be desirable, from a collector's point of view, a few of the more distinct kinds will suffice to provide a very attractive display. Some of the best are:

Alyssum alpestre.—This is somewhat prostrate in growth and is found growing on high exposed rocks in the Nicolaithal in Valais a canton of Switzerland. It has a shrubby base and is freely branching, with greyish leaves, and numerous corymbs of rich yellow flowers. This madwort is best adapted for a sunny corner in the rock garden, planted on a ledge or sloping stony bank.

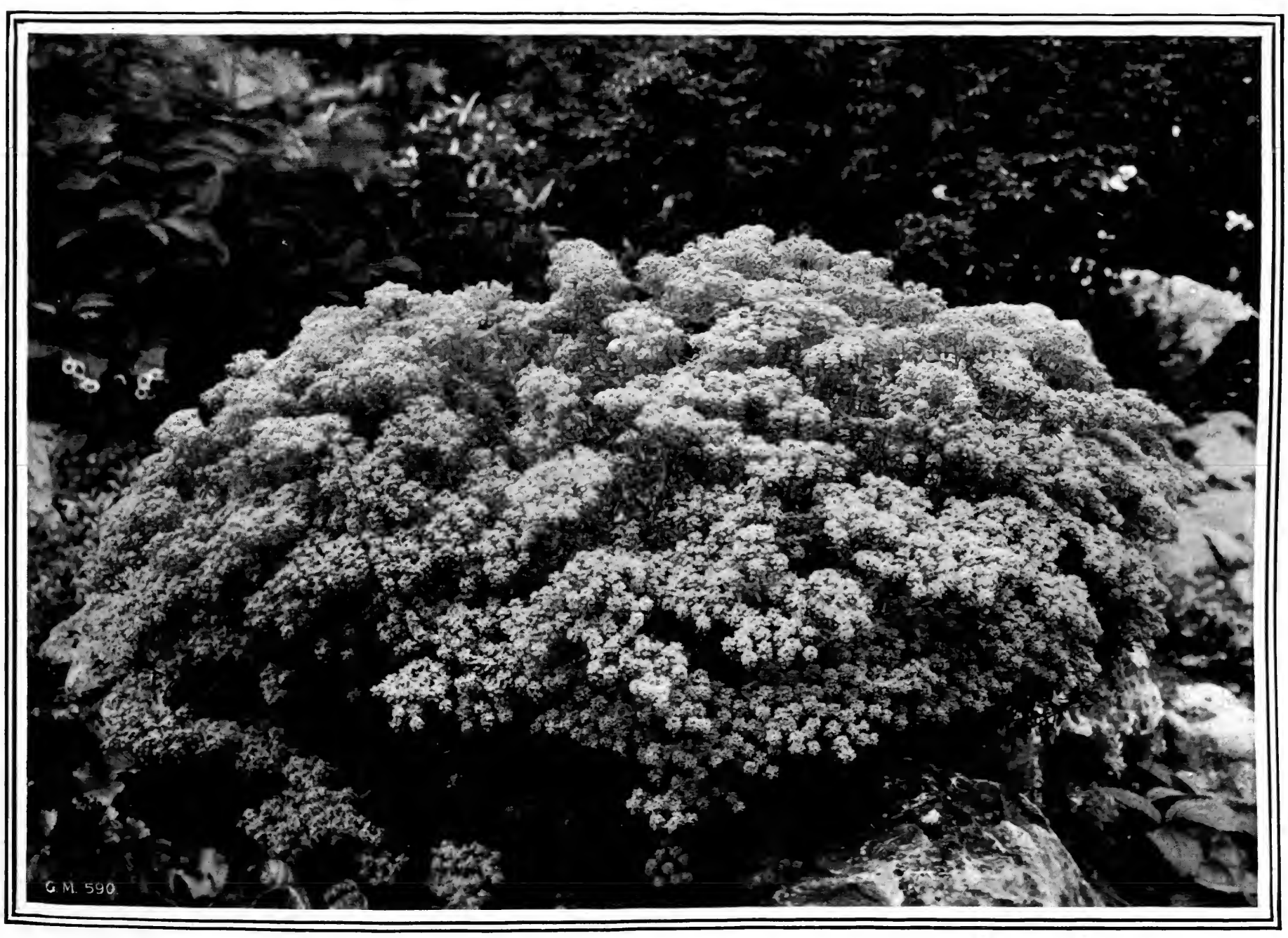
A. argenteum.—Some idea of the very effective appearance of this species may be gathered from the illustration. It makes a bold, bushy plant, from one foot to eighteen inches high, and often two feet or more through, with a shrubby base. The silvery-grey foliage is very attractive even when not surmounted by its corymbs of bright yellow flowers. Large isolated plants form an attractive feature in the rock garden when planted on prominent knolls, and as it is practically evergreen, provides a furnishing for the winter months.

A. saxatile.—Few plants are better known or more valued in the garden than this madwort. Its brilliant flowers, produced in a dense mass, and its dwarf habit of growth, render it particularly useful for the rock garden, or for planting in the crevices of old walls. Its earliness also makes it valuable for other spring decoration. As this species is naturally found growing on the open hills in Southern Europe, it should be planted in positions fully exposed to the sun. Bits of broken limestone or old mortar rubbish may with advantage be mixed with the soil when planting. The lemon-coloured variety, citrinum, is a charming companion for the above, with its masses of pale yellow flowers. It is of the same habit, and quite as hardy, and is very beautiful growing on the face of a wall. There is a dwarf form of this known as var. compactum, or Tom Thumb; it is compact in habit. The double-flowered variety is not so floriferous as the type, but the flowers are large, and rich yellow.

A. spinosum.—A South European species, which forms dense bushes of spiny, woody branches, clothed with small hoary leaves. Planted in the rock garden so that it may grow over a protecting stone, it will make a striking object, growing in a compact hummock about one foot high and two or three feet through. The flowers vary from white to pink, and they are produced freely throughout the summer months. Seeds are produced very freely, and seedlings come up in great numbers round about the old plants.

The best of the smaller species is the sweet-scented A. montanum, only an inch or high, with prostrate branches, hoary leaves, and rich yellow flowers. It is an excellent plant for a sunny bay in the rock garden, and should be planted in very gritty soil, otherwise it damps off in winter.

W. I.



ALYSSUM ARGENTEUM.

A bold-growing and highly attractive madwort, with silvery leaves and bright yellow flowers.

SOME CHOICE ALPINE FLOWERS.

Shortia uniflora grandiflora.

The wonderfully beautiful Shortia galacifolia has a rival of no mean pretensions in its own family, the lovely Shortia uniflora, charming everybody with its delightful foliage of green, passing to a wonderfully good purple in winter, and having exfavoured rival in the plant called Shortia quisite flowers of pink. It, again, has a uniflora grandiflora, the handsome evergreen leaves of which also become purple, and the flowers, which are larger and more ornamental than those of S. uniflora itsself, being of a delightful shade of rose, passing off to pink. This is a charming plant for a cool house, or for one set apart for alpines, but it may also be cultivated in a frame. It is equally at home in the rock garden, where, in a moist spot, rather shaded, and in peat and sand, it will thrive well. It requires little after-attention when in the rock garden, but it must have occasional top-dressings of peat and sand. This shortia is one of the gems, which, although comparatively expensive, are worth many commoner and cheaper plants. Propagation is effected by careful division.

Saxifraga lilacina.

Some day the Royal Horticultural or the National Hardy Plant Society (unless by that time we have a National Saxifrage Society!) will have to take in hand the saxifrages and give us a list of "too much alike varieties." At the present time nurseries and gardens are being flooded with new saxifrages, some of them species, but many of them varieties, differing little from some of their neighbours. Yet there stand out some species which, for many years, are not likely to be bracketed with others as "too much alike," and one of these is the almost new, and very distinct, Saxifraga lilacina, one of the Kabschia set—a set best known to many by such species as S. Burseriana. S. lilacina is very distinct in its colour, which is pretty fairly described by the name. The tint may be called a good lavender-lilac. The plant makes a dense, low group of a pretty silvery colour, bearing on its stems of rather more than an inch high its handsome flowers, which are carried singly on the stems. It is a striking little saxifraga, hailing, I believe, from the Himalayas.

Unfortunately we are yet groping our way with regard to its cultivation, and, probably, a good many plants will be lost in the endeavour to discover its proper diet. Whether it will flourish more happily in the moraine or on a stony rockery is yet undecided, but it seems as if it would thrive in either, although it looks as if it preferred a certain amount of shade to full sun. A compost of loam, grit, some sharp sand, and a little leaf-soil, evidently answers well enough, provided that plenty of stones are among the soil. Some chips nicely tucked in about the plant will help to keep it cool. The cool moraine is recommended by some, and it must be said that this is an excellent situation for most of its class.

Patrinia palmata.

Not many of the patrinias are to be met with in the alpine gardens of to-day, and some of them are not, to say the least, of the most attractive character. They form a small genus, some of which come from Japan, and others from California. They belong to the same natural order as the valerians, and give umbels of small flowers in considerable numbers. P. palmata is among the best and most pleasing of the various species, and is one of the flowers which have been coming in increasing numbers from Japan to give us pleasure in our gardens. It has been seen on a few occasions during the past year, and has been much appreciated. It forms a dwarf plant only a few inches high, having neat, small palmate leaves, and from these rise little stems carrying large umbels of small yellow fragrant flowers.

Like others of the race, P. palmata does not give any special trouble if planted on a sunny rockery, which, although not parched with drought, is yet so freely drained that moisture does not stand about the roots. I am now trying it in a moraine, but it does not require this, and can be cultivated in loam, sand, and grit, with the addition of peat or leaf-soil. Its price is still high, but as it increases rather easily by division or seeds, it should soon be within the reach of the many.

Phyteuma comosum.

It must be many years ago since the writer was attracted to the curious Phyteuma comosum by an illustration in the catalogue of one of the leading firms of alpine plant nurserymen in the kingdom. There was something extremely fascinating in the well-grown plant, in between the rocks, and giving an abundance of its curiously-formed flowers. This was in the days when we had fewer photographic illustrations of alpines, and with added experience one has acquired doubts as to whether this picture was overdrawn or no. Yet the plant was so distinct and so quaint that it had to be purchased. Purchased it was, and flower it did, then when the rains of autumn came the enemy crept on it in the night and only the sorry remains of a once healthy plant remained. "Ichabod," was our lament, for the phyteuma was no more. The enemy was the slug, which a dry summer had prevented from emerging to devour its choice morsels until the rains came. The lesson is that whether the plant be easy to cultivate or not, it must be cherished, and kept safe from the slugs. They will scent it from afar, will flock to it, and regale themselves; and then we are left lamenting.

One wants to put this lesson and warning in the forefront, but still Phyteuma comosum is not difficult in other respects. Pack it among stones, limestone by preference, and if you haven't got that put some old mortar among the soil; give it a well-drained spot in good loam, with some grit in it, and you have every chance of securing its curious, quaintly-shaped flowers of deep, dull blue above its leathery leaves. But, above all things, beware of the slugs!

S. ARNOTT.

Erlangea tomentosa.—Where a greenhouse has to be kept gay at all seasons, this profuse flowering composite of comparatively recent introduction from Central Africa well merits attention. It is of a free branching habit of growth, and the flower heads, which are freely borne in loose corymbs, are of a deep lavender or lilac tint. The general aspect of the plant is that of a coloured eupatorium.—W.

Clerodendron speciosum. — Of the warm-house species of clerodendron that are naturally of a climbing habit, this is one of the most desirable, and for clothing the roof of a stove or intermediate house it can be well recommended. It is of garden origin, the parents being the deep scarlet or bright crimson-coloured Clerodendron splendens, a native of tropical Africa, and the well-known C. Thomsonæ. In C. speciosum the flowers, which are borne in loose corymbs, are very richly coloured, and it is less particular in its requirements than C. splendens.—S. W.

DAPHNES.

The daphnes are among the most delightful early-flowering shrubs of lowly growth. They are not difficult to cultivate; some are suitable for the rock garden, and others for the front of a choice collection of shrubs. Daphne mezereum and D. laureola succeed in ordinary garden soil, but the other kinds should have a compost containing sandy peat, or leaf-soil and sand incorporated. A well-drained position is essential, and when planting it is necessary to press the soil very firmly around the roots, as these shrubs resent a loose rooting medium.

Daphne Blagayana.

This is a charming evergreen that commences to flower early in spring, but this year its fragrant ivory-white blossoms were expanding in January. Everyone does not succeed with this species. It should be given a fairly open position in the rock garden, and planted in loam and sandy peat. It is an advantage to place stones among the branches when they are large enough, as if for layering. This helps to maintain a uniform moisture at the roots during the summer months, and the plants certainly thrive under these conditions.

Daphne cneorum.

In this plant, which is known as the garland flower, we have one of the most beautiful of all the daphnes. Its attractive, rich, rose-pink blossoms are produced during April and May, and sometimes also in the autumn. The dark evergreen foliage forms a good setting for the clusters of bloom at the ends of the growth. The flowers are deliciously scented, and continue in a fresh condition for several weeks. It succeeds under similar conditions to those suggested for D. Blagayana, and is benefited by an occasional top-dressing of compost similar to that in which it is growing.

Daphne mezereum.

This is a popular winter-flowering shrub, and one that succeeds under ordinary conditions in a mixed shrubbery. It commences to produce its fragrant blossoms on the leafless branches at the end of January, and usually continues to flower until April. The purplish-red blossoms literally cover the branches. Under favourable conditions the shrub will attain a height of five feet. There is also a white-flowered form which is worth growing.

Daphne alpina and D. Genkwa.

The first is a deciduous species, with beautiful white flowers, produced during the spring. It is not a vigorous grower but is of branching habit, and sometimes attains a height of two feet. D. Genkwa bears fragrant lilac-coloured blossoms in the spring before the leaves unfold. This species is not quite hardy in cold districts, and should be planted against a wall except in favoured localities. D. striata is a trailing kind, suitable for the rock garden. It bears sweetly-scented rosy-purple blossoms in June and July.

Daphne indica and D. laureola.

Perhaps this is the most tender of all the daphnes, and it is certainly one of the most fragrant. It can be grown out of doors, on walls, near the west coast of Ireland and Scotland, and in similar warm localities. In cold districts it is worth the protection of a greenhouse.

D. laureola is an evergreen species that produces its yellowish-green flowers early in the year, and, in common with some of the other kinds, succeeds well in partial shade. D. pontica is another evergreen, bearing yellowish flowers in April and May, and is quite hardy. J. GARDNER.

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CLEMATIS HERACLEÆFOLIA VAR. DAVIDIANA.

This showy clematis belongs to a small group of late summer and autumn-flowering kinds, which are characterised by a sub-shrubby habit, large, rather coarse, and usually three-parted leaves and small tubular flowers of a bluish colour. Some botanists accept but one species, and include the four or five named kinds as varieties of C. heracleæfolia, whilst others give three sorts specific rank. By the intercrossing of the various kinds a number of hybrids have been raised, some of which are superior to the parents in colour of flowers and floriferousness.

C. heracleæfolia and all its forms are similar, so far as habit is concerned, and all require similar treatment. Growing from 2 to 3ft. in height, the upper half of each young shoot is transformed into a large inflorescence, the small, tubular, bluish flowers being in clusters from short axillary growths and also in panicles from the ends of the branches. After flowering the whole of the portion which has produced flowers dies, therefore it is necessary to prune all the shoots to within a few buds of the base each spring. If desired, the plants can be staked, and the branches kept in an upright position, but a group is more pleasing when the branches are allowed to arrange themselves naturally, as in the accompanying illustration.

Providing good loamy soil is given, no difficulty need be experienced in the cultivation of any member of the group, while propagation may be effected by division of the clumps in spring or by grafting dormant eyes upon strong roots of C. Vitalba.

C. heracleæfolia var. Davidiana is, like the type, a native of China, and one of the most ornamental of the older kinds, the growth being more vigorous and the flowers deeper coloured than is the case with either C. heracleæfolia, or its varieties Hookeri and Stans. The variety Lavellei is, however, more floriferous, and brighter-coloured than Davidiana, and should always be selected when one form only is required.

The various hybrids raised by the late M. Lemoine, of Nancy, are all showy, and include such kinds as Azur, with large panicles of clear blue flowers; Columbine, with very large, violet-coloured blooms; Hybrida, having compact trusses of large pale blue flowers; and Iris, with deep blue flowers, borne in great profusion.

Although none of the kinds grow much more than three feet in height in the open ground, they may be grown considerably taller against a fence or wall, providing care be taken in the pruning to prune no lower than the highest well-developed bud, and to ensure good, deep loamy soil in the first instance, with an occasional surface dressing of well-rotted manure afterwards, for all are rank feeders, and quickly deteriorate if the soil becomes impoverished.

Kew. W. DALLIMORE.

SALPIGLOSSIS.

A bed of these plants, when in full flower, forms one of the most beautiful features in a garden from the early part of July to the middle of September. Experienced cultivators know well how to raise strong examples that will prove satisfactory, but the inexperienced may fail to grow good plants. Although they are not difficult to manage, much care is necessary if the best results are to be secured.

Many batches of plants are spoiled when they are in the seedling stage. If allowed to remain in an over-crowded state too long, or not transplanted while very small, even when they have ample space to grow in, the plants soon begin to flower and the stems harden. Afterwards, it is a difficult matter to get them to grow freely, branch out, and bear large finely-coloured flowers.

The seeds should be sown thinly in pots or pans not later than the middle of March. If placed in a warm structure the seedlings will soon appear, and, in due course, they must be pricked out in boxes 4in. deep. The next move must be to a bed in a cool frame. A fair quantity of sweet leaf-soil and well-rotted manure should be passed through an inch-mesh sieve, and added to the loam in the frame. Use coarse sand with the compost, but also put some on the surface of the bed.

Slugs are very fond of these plants, and must be guarded against, as they will soon destroy tiny specimens. It is important that they be grown sturdily and transplanted with good balls of soil adhering to the roots.

A somewhat sheltered border, with a background of shrubs, but open to the sun and very light, is an ideal position for salpiglossis to blossom in.

GEO. GARNER.

CLEMATIS HERACLEÆFOLIA DAVIDIANA.

A sub-shrubby plant, with an abundance of small, tubular, blue flowers.

Giant Groundsels.—Among what may be regarded as giant members of the great Groundsel family must be included the two Mexican species—Senecio grandifolius and Senecio Petasites, both of which bloom during winter and early spring. Almost a tree in stature, although it will flower freely when but a few feet in height, S. grandifolius has large, coarsely-toothed leaves, and massive, densely-packed heads of yellow flowers. Senecio Petasites is less sturdy in growth, and the flowers are disposed in a loose, terminal panicle. The leaves, too, are lobed, hence it has been given the specific name of S. platanifolius, while S. grandifolius is also known as S. Ghiesbreghti.—W.

GRAPE MRS. PEARSON.

An amber-coloured grape of good appearance and of great excellence is the variety named Mrs. Pearson. It derives its origin from the same parents as Golden Queen, that is to say, it was obtained by crossing Alicante with the small-berried and deliciously-flavoured variety Ferdinand de Lesseps. The latter is the result of crossing Royal Muscadine with the Strawberry Grape, and was raised, like Mrs. Pearson, by Mr. John Pearson, of Chilwell, Notts. Both Mrs. Pearson and Ferdinand de Lesseps have secured a First Class Certificate from the Royal Horticultural Society, the former in 1874, and the latter in 1870.

The variety Mrs. Pearson is not very largely grown, but where it is cultivated it being of robust constitution and vigorous growth. The bunches are large and well-shouldered, and the berries, of roundish, oval form, are about an inch long. When the variety is very well finished there is a pink tinge on the amber skin. Mr. T. Pateman, gardener to C. Cain, Esq., The Node, Welwyn, grows this grape well; and the bunches illustrated represent those he exhibited at the great fruit show held in the Royal Horticultural Hall, Westminster, in October last, and with which he won the first prize in the any "other white" class. Curiously enough, the two other competitors in the class also showed Mrs. Pearson grape, and both of them exhibited clusters of good size and remarkable for rich finish. of good size and remarkable for rich finish.

NOTES FROM SCOTLAND.

The present winter, so far, has not been of a type, in regard to weather, that gardeners may view complacently. Throughout the south-west of Scotland the unusually severe frost in the closing days of November, though of short duration, wrought much harm, and, in some cases, destruction to green crops, broccoli especially suffering very severely, while even such hardy subjects as cabbages, savoys, and Brussels sprouts did not pass unscathed. This was probably due to the immature condition of the vegetable tissues after the almost sunless summer and heavy rainfall last year. Following closely upon this, the excessive rainfall of December precluded scarcely any advance being made with ground work, hence this in general is greatly in arrears, and many garden plots are foul with weeds and grasses that it was almost impossible to keep under control at the customary time and manner.

The New Year commenced more favourably, but on January 11 the greatest snowstorm experienced for nearly twenty years occurred, and, being accompanied by a piercing wind and frost, drifting to an unusual extent took place. The remnant of this storm still (January 28) remains, and wreaths of snow formed in hollows, several feet in thickness have, owing to alternate changes of rain and frost, been rendered so hard upon the surface that one may pass over them with ease and safety.

This of itself would not be a serious matter at this season, but, on the other hand, the damage done to trees and shrubs on many estates, owing to the amount of snow finding a lodgment upon the branches and becoming frozen thereto, thus producing a weight greater than they could bear, is truly appalling. Large and sturdy trees of the cedar tribe, that have successfully withstood the storms of many years are now much broken, and will be sadly disfigured for a long time to come. Many others with more yielding branches had these weighted down to the stems, or the lowermost to the ground line, and although relieved of their unwonted burden they still remain in much the same position, but will doubtless regain their former attitude in due course.

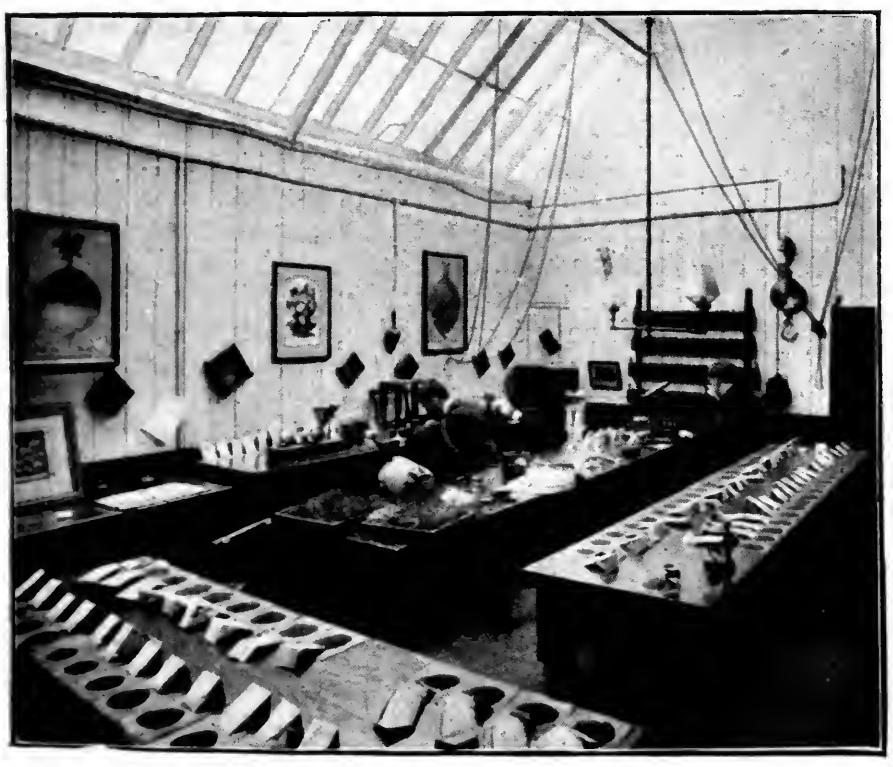
Shrubs of most kinds had at first a most dejected appearance, being opened out on every side, but while some of the more rigid branches are broken, others will probably gradually assume their former positions, so that, in the end, less damage may have accrued to these than was at first anticipated. With a continuance of the present wintry conditions a scarcity of green vegetables in the near future may be expected, as growth for a long time past has been at a standstill. JAMES DAY.

MR. T. PATEMAN'S PRIZE BUNCHES OF MRS. PEARSON GRAPE.
Exhibited at the Royal Horticultural Hall in October, 1912.

Ruellia amœna.—This acanthaceous plant is remarkably free flowering, and, what is more, very brightly coloured. Neat little bushy plants grown in five-inch pots are very useful for various decorative purposes. The flowers are shorter than those of most of the ruellias, and have a particularly inflated tube.—T.

THE SEED INDUSTRY OF THE UNITED KINGDOM.

To the average man who makes his garden a hobby, and who annually spends a few pounds or shillings on seeds, there probably appears to be little of interest to write about under the title of "The Seed Industry of the United Kingdom." The practical gardener knows well enough that conducting a business as a seedsman involves more than putting seeds into packets



A CORNER OF A SEEDMAN'S LABORATORY.

and finding a sale for them by publishing catalogues and advertisements. But it is doubtful whether we fully realise, when we unpack our parcels of seeds, the immense amount of care, skill, and labour that has been expended upon those seeds, or that we give a thought to the vastness and importance of the seed industry in all its ramifications, not only in the warehouses of the leading firms, but on the markets and exchanges, and also on the farms and trial grounds where the seeds are grown and proved.

Even from the point of view of economics the amount of capital invested, and employment entailed, places the seed industry among the important businesses of the country.

Imports.

Much of our seed is, of course, imported, and, according to the returns of the Board of Agriculture, there were imported during the year 1911 2,581,567 lbs. of garden seeds, the value of which amounted to £112,637. In addition to this there were 1,676,049 cwts. of seeds unenumerated, valued at £558,682. Bird seeds are included in the latter class, but there must also be a considerable proportion of flower and other seeds in small consignments which are not deemed of sufficient importance for separate classification. Clover and grass seeds are entered separately, the returns for 1911 being 11,681 tons, costing £550,071. This was the smallest importation of clover and grass seeds for a period of at least eleven years. In 1910 the quantity was 14,349 tons, worth £664,170, while in 1903 the figures were 22,902 tons, representing £1,008,772.

In addition to all this it may be mentioned that a considerable portion of the grain imported is, of course, used for seed, although it is not statistically separated from grain for food. The same may be said of peas and beans, and, to a certain extent of potatoes. Probably in future years, now that a new horticultural department of the Board of Agriculture is in course of formation, more detailed returns will be available, but even the foregoing conveys some idea of the vast quantities of garden and farm seeds that are imported into this country. It may be thought that the sums quoted as being the value of these seeds are extremely low, but it must be remembered that they indicate only first cost in bulk, and, as will be shown later, there is, in addition to carriage, a large amount of labour and expense involved before these seeds can be handed over to the customer. Turning to another Board of Agriculture publication, which deals with the extent of

Home Cultivation,

we learn that "a considerable area is devoted to the growth of crops for seed." Clover, vetches, trefoil, mangolds, turnips, and swedes are mentioned as being cultivated for the purpose on the largest scale. In 1908 nearly 13,700 acres produced 5,400 tons of seeds of these crops alone, the value being £132,000. The report mentions beans, beetroot, broccoli, cabbage, kale, kohl rabi, onions, parsley, parsnips, radish, rape, rye, rye glass, sainfoin, and timothy, all as recorded seed crops, but no figures are given as to the quantity of land they occupy, or of seed harvested. We know well enough, however, that quite a number of firms exist who conduct on very extensive lines the business of seed growers, and in many instances their seed farms occupy from 300 to 500 acres. Again we know many a private estate where the head gardener grows special types and varieties of both flowers and vegetables for seed on contract for the trade, and in this connection it is interesting to note that one of the most successful growers of high-class wheats for seed is a prominent gardener whose name and writings are well known to readers of the GARDENERS' MAGAZINE.

It remains only to remind readers of the extent and importance of the seed potato trade, of the wonderful increase during the past few years in the quantity of home-grown sweet pea seeds produced and sold by specialists, and of the large area of glass-house accommodation that is devoted to the production of seed of cucumbers and tomatoes, as well as of begonias, primulas, cinerarias, and hosts of other flowers, to show that if complete returns were available the seed harvest of this country would represent no mean sum, while its production must provide either the sole or partial means of livelihood for a large number of both male and female workers.

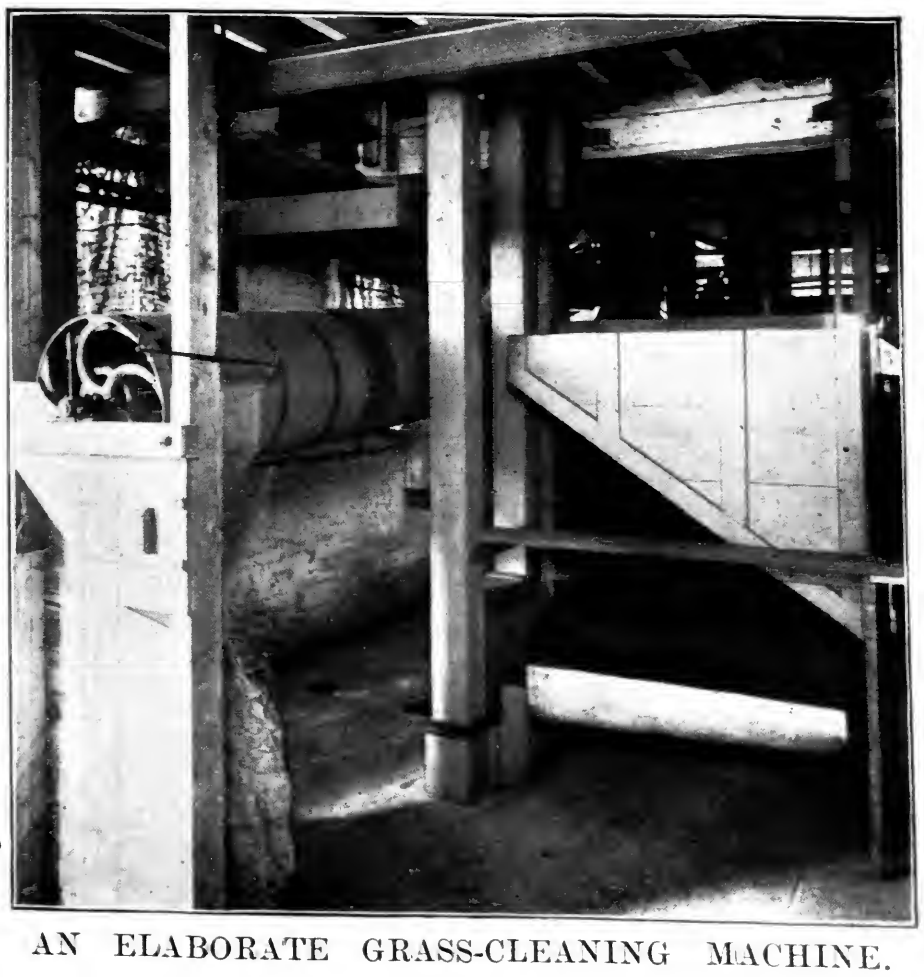
The Warehouse and Laboratory.

Apart, however, from consideration of bulk and extent of production, there is no lack of interest to be found in the contemplation of the seedsman's calling. The interior of a modern seed warehouse consists of much more than drawers and bins, weights, and measures. It has its laboratory, furnished with scientific instruments of varied uses, its testing chamber, and its cleaning room, wherein will be found cleverly designed and constructed machines that accomplish many tasks impossible of achievement by hand and eye. By courtesy of Messrs. Sutton and Sons, Reading, an illustration is given of a corner of their laboratory, where, as is shown, experts are engaged among innumerable samples of seeds that are subjected to careful examination through powerful microscopes, and submitted to experiments with the object of discovering the slightest blemish.

Seed Cleaning.

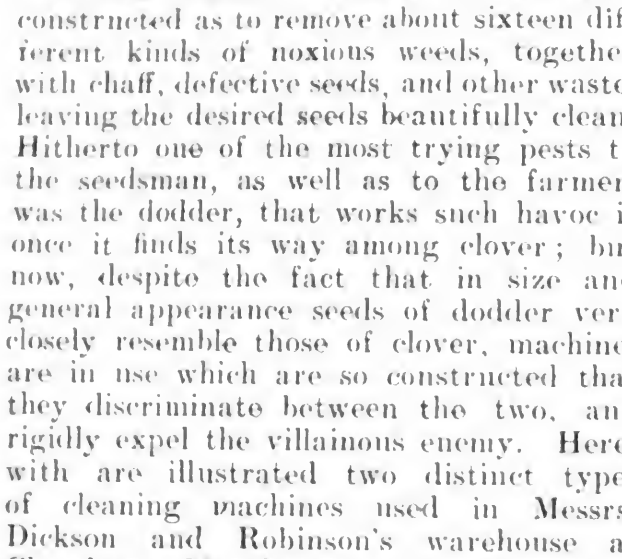
We are accustomed, when we order an ounce of seed, to receive an ounce of seed, unmixed with chaff, dirt, or stalks, but many devices are brought into use to get rid of impurities previous to packeting. It is impossible, when harvesting seeds in bulk, such as corn, clover, peas, and many other crops, to avoid gathering also a considerable quantity of undesirable seeds of weeds, and these must all be extracted before the seed is saleable.

The poet may express in flowing rhyme his admiration of the poppies among the corn; the artist may paint the golden charlock and the downy thistle, but the seedsman must sink capital in wonderful machinery for the purpose of ousting from



AN ELABORATE GRASS-CLEANING MACHINE.

his stock the seeds which would otherwise bedeck many another field, but spoil the farmers' crops. Quite recently was seen at work one of the most up-to-date of these machines in action. This machine was so constructed as to remove about sixteen different kinds of noxious weeds, together with chaff, defective seeds, and other waste, leaving the desired seeds beautifully clean. Hitherto one of the most trying pests to the seedsman, as well as to the farmer, was the dodder, that works such havoc if once it finds its way among clover; but now, despite the fact that in size and general appearance seeds of dodder very closely resemble those of clover, machines are in use which are so constructed that they discriminate between the two, and rigidly expel the villainous enemy. Herewith are illustrated two distinct types of cleaning machines used in Messrs. Dickson and Robinson's warehouse at Cheetham, Manchester. The grass machine is one of the largest and most useful machines yet invented. Its intricate mechanism cannot be shown in a photograph, but suffice it to say that the seed as harvested is fed from a huge hopper on a floor above into the machine, and passes over fine screens, and through the revolving cylinders, ultimately being passed down a shute into bags on the floor beneath absolutely freed from seeds of dock, rib grass, field madder and other extraneous rubbish that may have been present. The other illustration shows a quite different type of machine, which is used for what may be termed hard seeds, such as clover, turnip, rape, etc., whilst mangold,



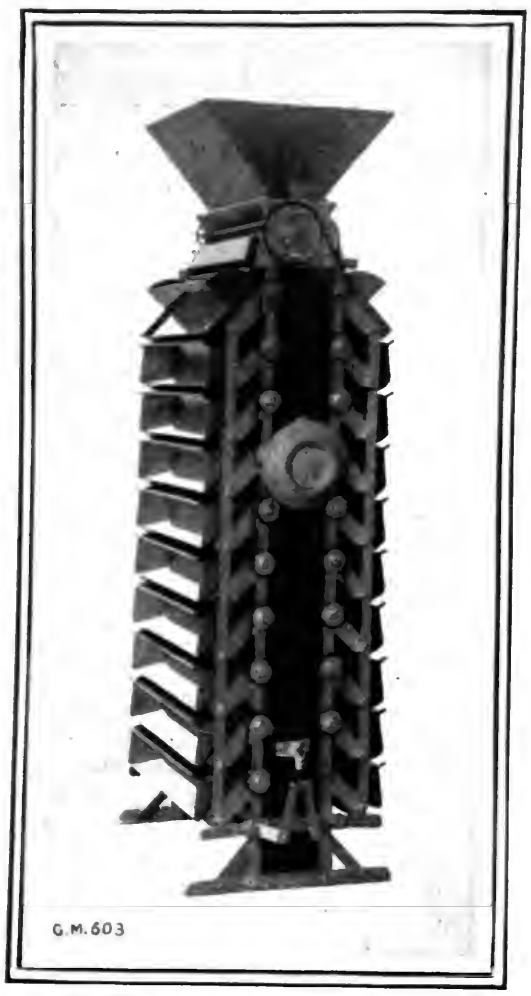
GERMINATED ONION SEEDS.

pea, cabbage, and other seeds necessitate the use of equally clever machinery of various patterns.

It is worthy of note that many seeds of weeds are strictly forbidden admission into our colonies and foreign countries. The Government of Canada have a list of twenty-four weeds which may easily accompany carelessly handled farm seeds, and the importation into the Dominion of farm seeds containing seeds of these weeds is prohibited on pain of heavy penalties. Notwithstanding this fact, our leading growers are able to export to Canada, as well as other countries, considerable quantities of the finest pedigree wheats, barleys, and other grains, the purity of their stocks being unsurpassed.

Testing Seeds.

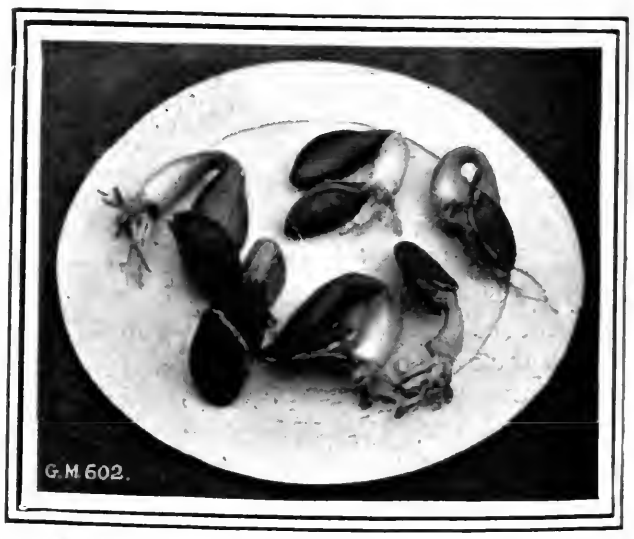
It is, of course, the custom with all the leading firms to test the germinating power of every batch of seed handled. The buyers attached to the large wholesale houses resort to various methods of estimating the worth of the various samples offered them; an experienced man can tell much by aid of eye and hand alone, but in a good many instances it is necessary to seek assistance from microscope, electric light, etc. At



A MODERN SEED CLEANER.

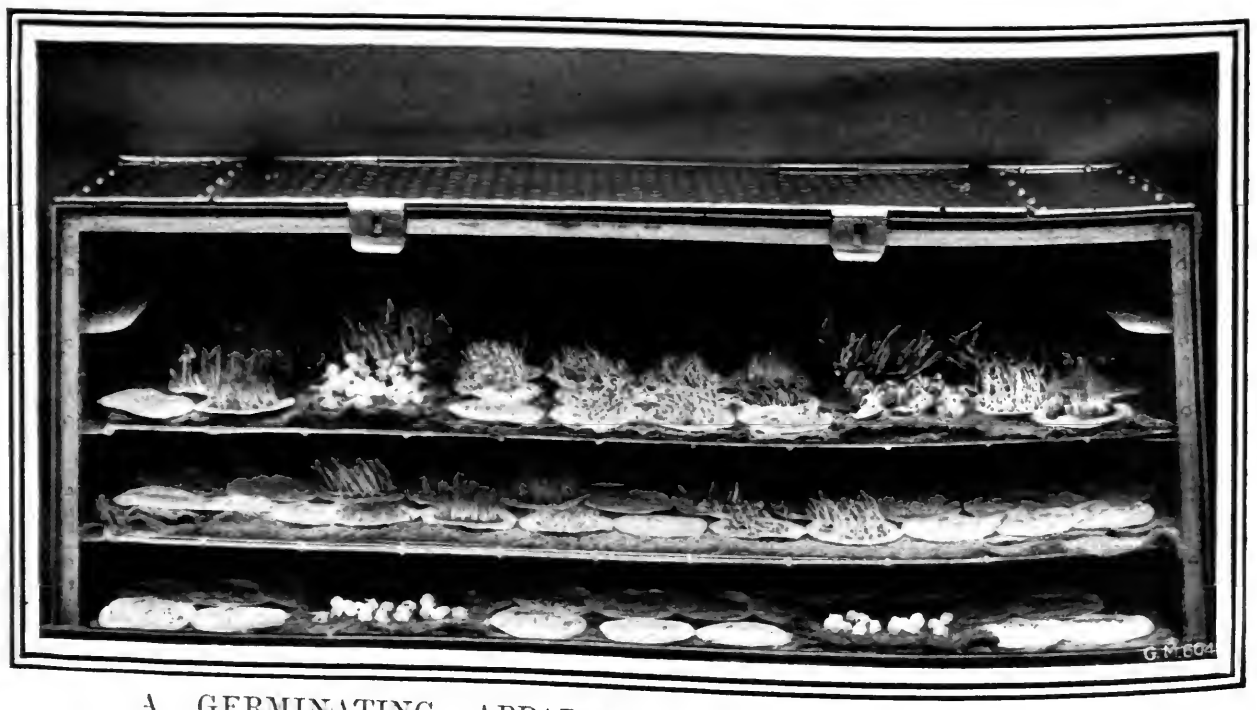
least one of the large firms in this country has installed in a special room a remarkable electric apparatus, which gives nothing short of an artificial daylight. Immediately under the ceiling are a series of large glass tubes. By some mysterious combination of electric current and chemical vapours these tubes can be flooded with a perfect light, so that on the dullest day, or the darkest night, the firm's expert may have all the advantage of clear daylight for the purpose of examining the many samples of clover and other seeds that of necessity pass through his hands. Some day, doubtless, some such system of lighting will become general in our shops and dwellings, if not, indeed, in our streets, but to the enterprise of our seed trade will belong the honour of leading the way in regard to the use of a perfect artificial light, so pure that the slightest variations in colour may be detected. It matters not, however, how certain the most expert buyer may be that his seed is right, there is still a thorough test to be made of its germinating power. Time was, we are sometimes reminded, when seedsmen were not particularly careful as to the age, or soundness, of the seed they sold. We have heard and read how unscrupulous firms, once upon a time, made huge profits by actually buying dead seed at trifling cost to mix with new, with the result, of course, that one might sow thickly, but obtain a very thin crop. To-day, however, and be it known the change is due to the painstaking efforts of seedsmen of repute, we may, if we will but do business with firms having a good reputation, buy our seeds with the confident expectation of obtaining very close upon a hundred per cent. germination.

It is not so many years ago since testing meant simply sowing a pinch of seed in a shallow tray of soil, and watching results when placed in a warm house. Moist flannel soon took the place of the trays of soil, germination thus being hastened, but step by step the methods of testing have been improved, until to-day what may virtually be called seed incubators are in general use in all up-to-date establishments. An illustration given herewith shows one of the most modern seed germinators filled with the samples of seeds on small discs of blotting paper. To Messrs. James Carter and Co., Raynes Park, belong the credit of the improvements in this over older patterns, many of these excellent germinators being in constant use in their large testing room, from whence the illustration was obtained. A definite number of seeds are evenly distributed over the surface of each disc, so that by counting after germination the exact percentage can be ascertained. The tank of water in the base of the incubator is kept at an even temperature by the use of a gas jet or lamp, and by closing the glazed front sufficient moisture to promote rapid

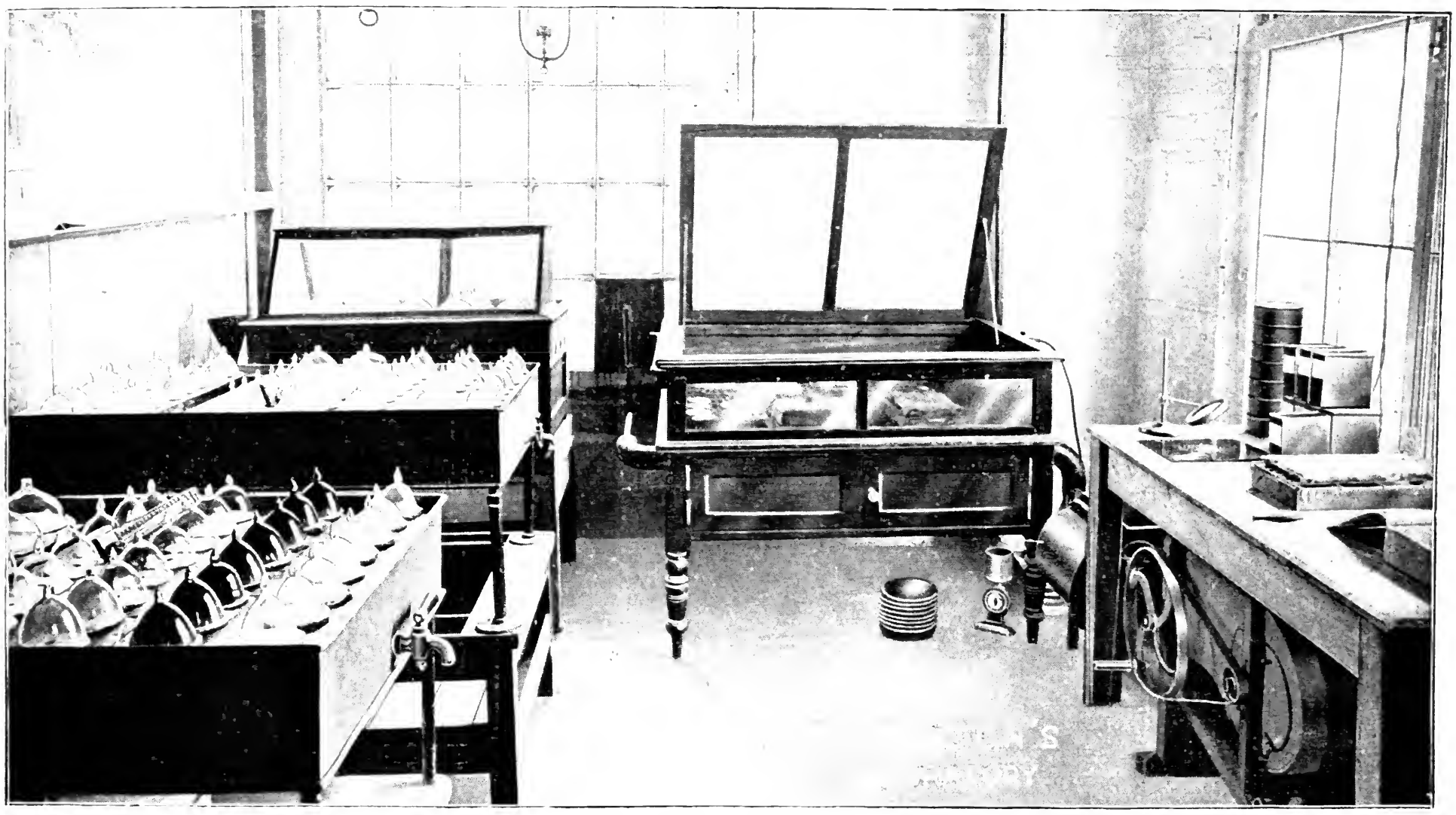


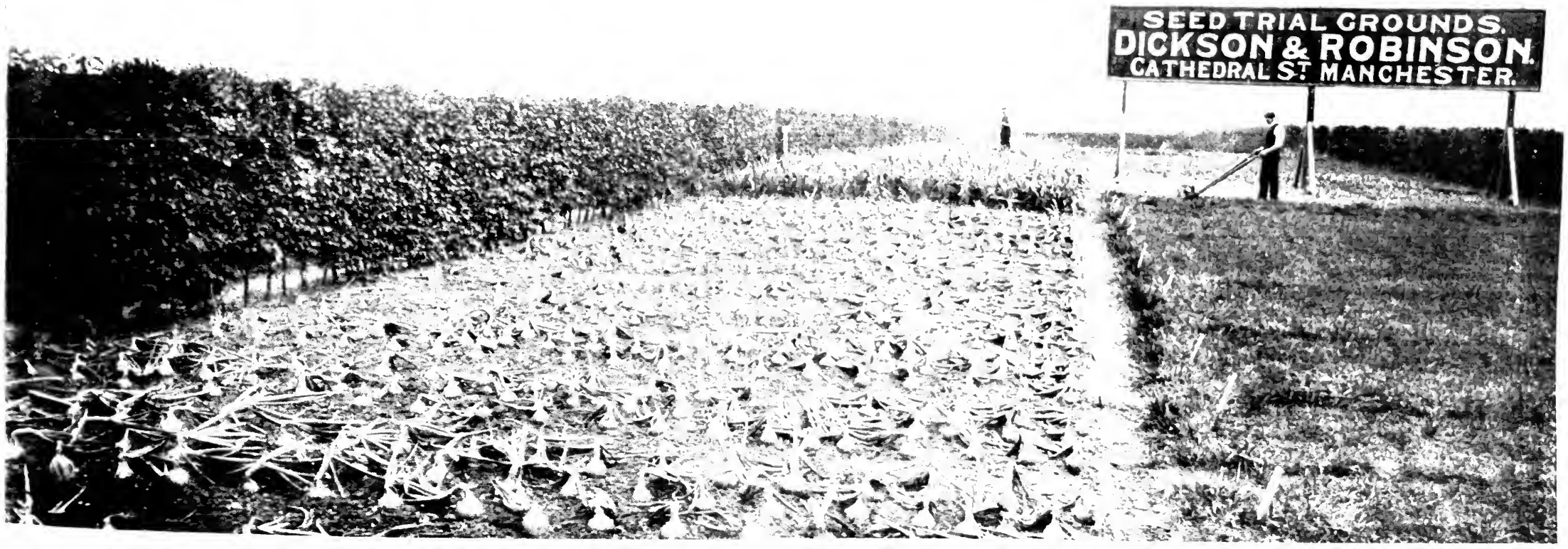
GERMINATED VEGETABLE MARROW SEEDS.

germination is retained. Other illustrations from the same firm show two discs on which are seeds after a day or two's growth, and it will be seen that very few seeds have failed.



A GERMINATING APPARATUS OF EXCELLENT DESIGN.




SEED TRIAL GROUNDS.
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DICKSON & ROBINSON'S SEED WAREHOUSES
19 ROBERT ST CHEETHAM MANCHESTER

BY APPOINTMENT
SEEDSMEN TO HIS MAJESTY THE KING

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HOW CARTERS TESTE

NOW while our business is in full s
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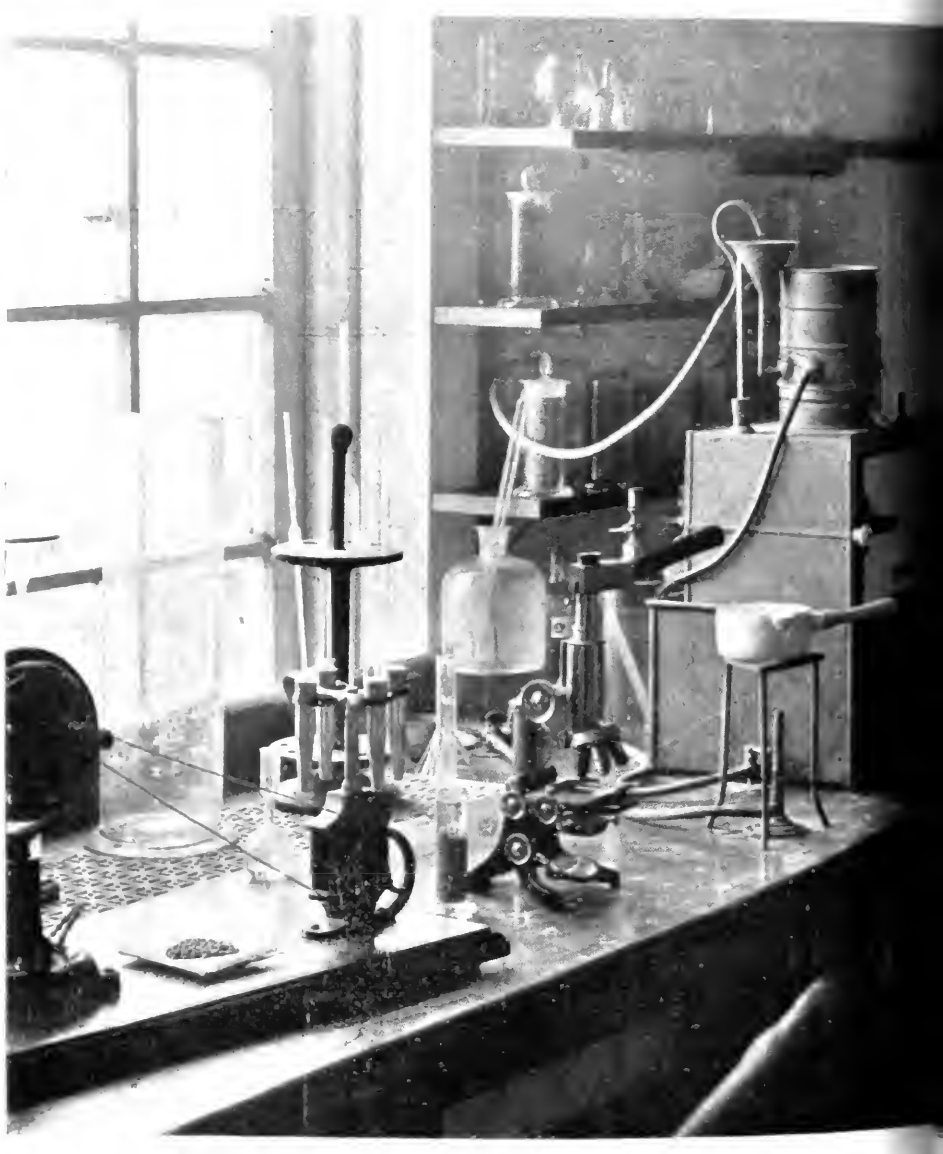
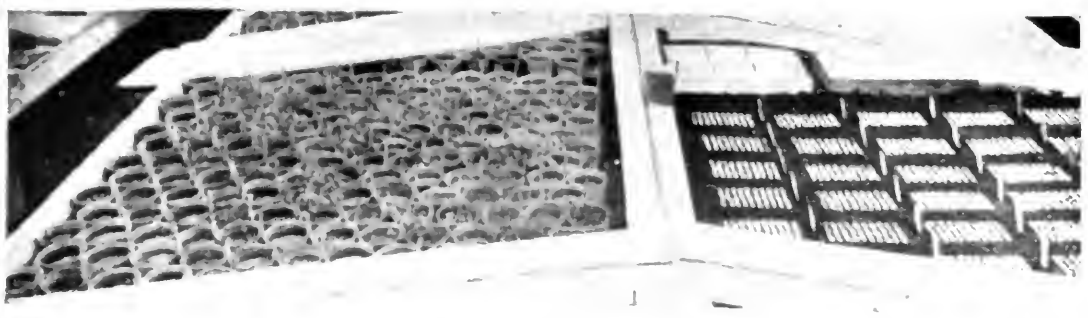
A FIRST TEST.—Germinating on specially prepared paper in our Laboratory.



Scientific instruments in use

Carters Seed-Testers at Raynes Park.



A SECOND TEST.—Garden Peas being germinated in soil, and placed for testing germination on fibre.

Carters Tested Seeds—An actual Photograph taken from the road at Raynes Park

Carters TESTED Seeds
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ALL SEEDS CARRIAGE PAID.

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rounds are looking at their best. . .

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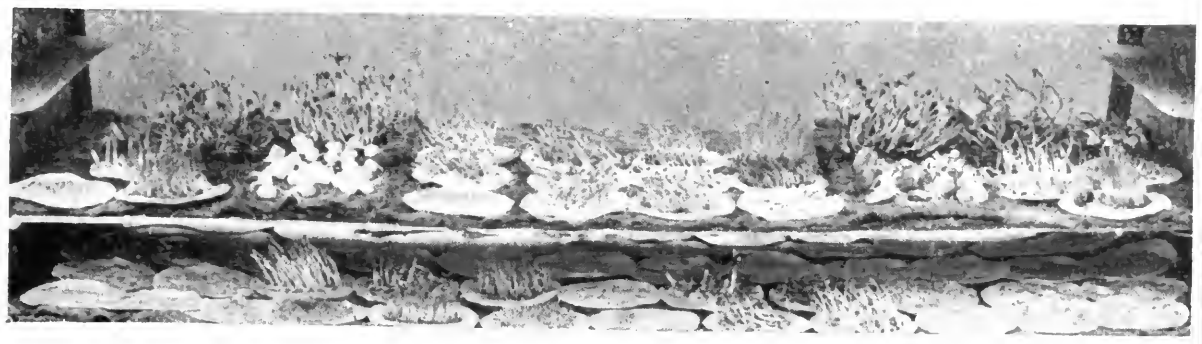

A tray in one of Carters Seed Testers.

A portion of 26,000 labels in our Trial Grounds, recording Carters Tested Seeds to maturity.

Premises, showing some of the Trial Flower Beds and Lawns at
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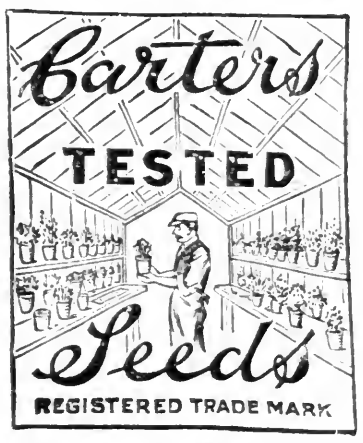
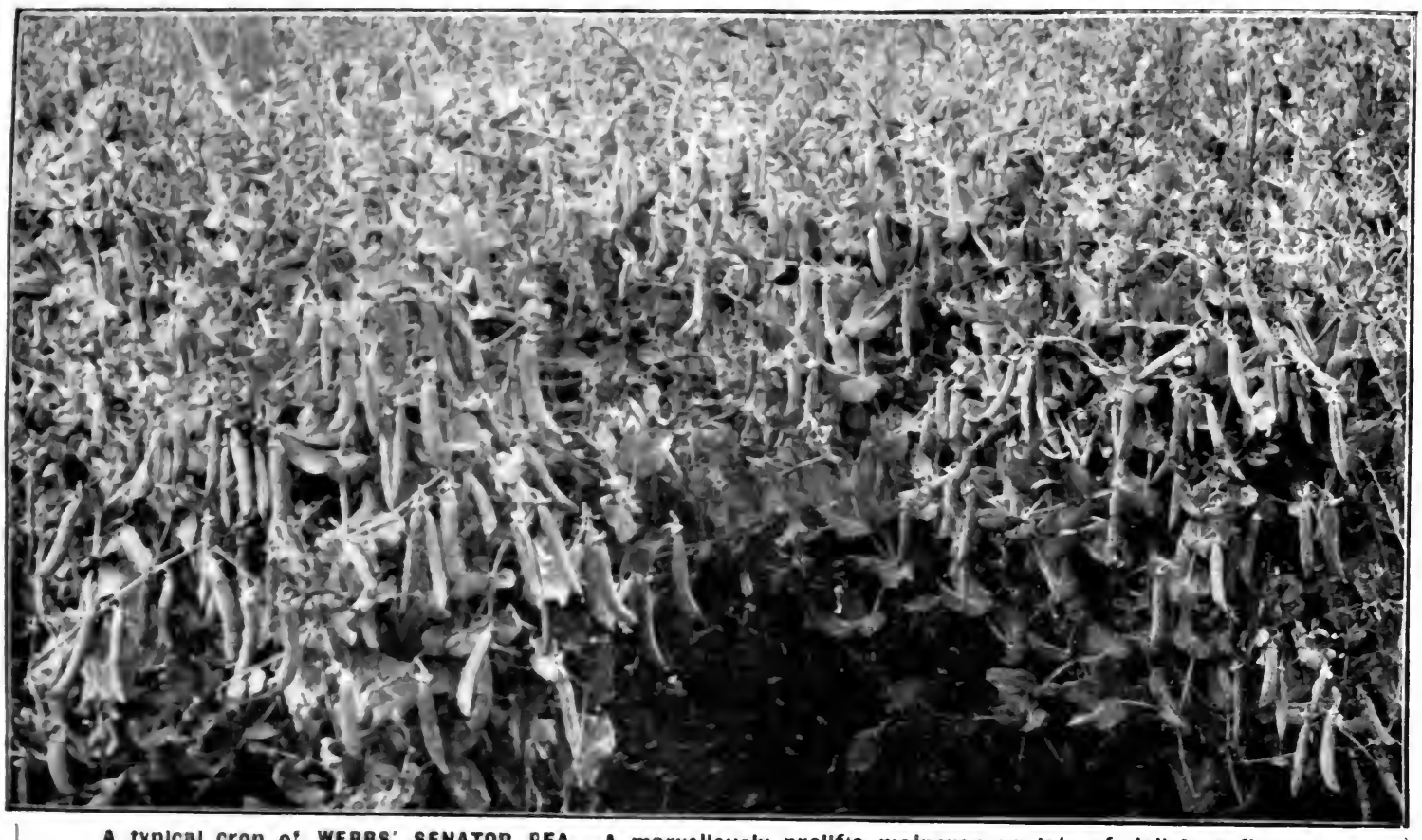


WEBBS' PERFECT PEAS.



A typical crop of WEBBS' SENATOR PEA. A marvellously prolific maincrop variety of delicious flavour.
Awarded R.H.S. First-Class Certificate. **1/9** per pint; **3/-** per quart, post free.
BEST CULINARY PEAS IN 1912.—"Senator gave by far the heaviest crop I have ever seen it carry and that is saying a good deal, for this grand Pea is one of the most prolific varieties I know. It ought to be found in every garden where a big return of high-class Peas is required." C. BLAIR, Preston House Gardens, Linlithgow. (*The Gardener*, Dec. 28, 1912.)

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First Early.
2/- per pint, **3/6** per quart.
MR. A. TUMMEY, Head Gardener to SIR THOMAS BARCLAY, writes:—"Early Favourite is a very heavy cropper of excellent flavour. The best early dwarf pea I have ever grown."

WEBBS' STOURBRIDGE MARROW
Second Early.
2/- per pint, **3/6** per quart.
MR. H. KEEP, of Aldermaston, writes:—"I won First Prize at Reading Show for the third time in succession with Stourbridge Marrow Pea. It was the best row of peas I have ever seen."

WEBBS' NEW "KING GEORGE."
Main Crop.
1/- per packet, **2/6** per pint.
MR. A. R. SEARLE, Head Gardener to THE MARQUIS OF NORTHAMPTON, writes:—"I grew 'King George' Pea for exhibition and it was the finest we had. The pods measured 7¼ inches in length and were well filled."

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2/- per pint, **3/6** per quart.
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TO ENSURE SUCCESS

Only seeds of good pedigree and selection should be entertained. The following are stocks that have been repeatedly selected, tested, and approved, and can be recommended with every confidence.

Harrison's Lord Leicester Pea produces an abundance of exhibition pods, well filled with peas of rich flavour. Height, 4ft. ... ... Per quart, **2 8**
"Your Lord Leicester were a great success."—T. C. HEDGES, Esq.
"I have grown peas for 20 years, but this is the masterpiece."
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Harrisons' Little Wonder Cabbage, for spring sowing. The most perfect and quickest cabbage. See illustration in our Catalogue—free. Per packet, **1/-**
"Your Little Wonder is the quickest growing that I have tried. Planted at the same time as another well-known variety; it was fit to cut at least a fortnight earlier."—Mr. W. GIBSON, Head Gardener to R. W. KAYE, Esq.

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"An excellent type of a first-class cauliflower, producing heads of solid whiteness, capital for the dining table."
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Harrisons' Royal Malta Lettuce. A.M., R.H.S. Quite distinct. Per ounce, **1/6.**
"It is the best I have ever grown. It is quite distinct, large, and crisp. I intend to grow it as my principal crop."
—Mr. THOS. OLDHAM, The Gardens, Stoughton.

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Harrisons' Icicle Radish, delicate flavour, crisp and refreshing; greatly appreciated by all. Per ounce, **4d.**

The above and many others of excellent value are in Harrisons' New Catalogue, which fits the pocket. It is free, and contains cultural directions and many hints of value to the lover of gardening. Orders value 10s. and over, carriage free.

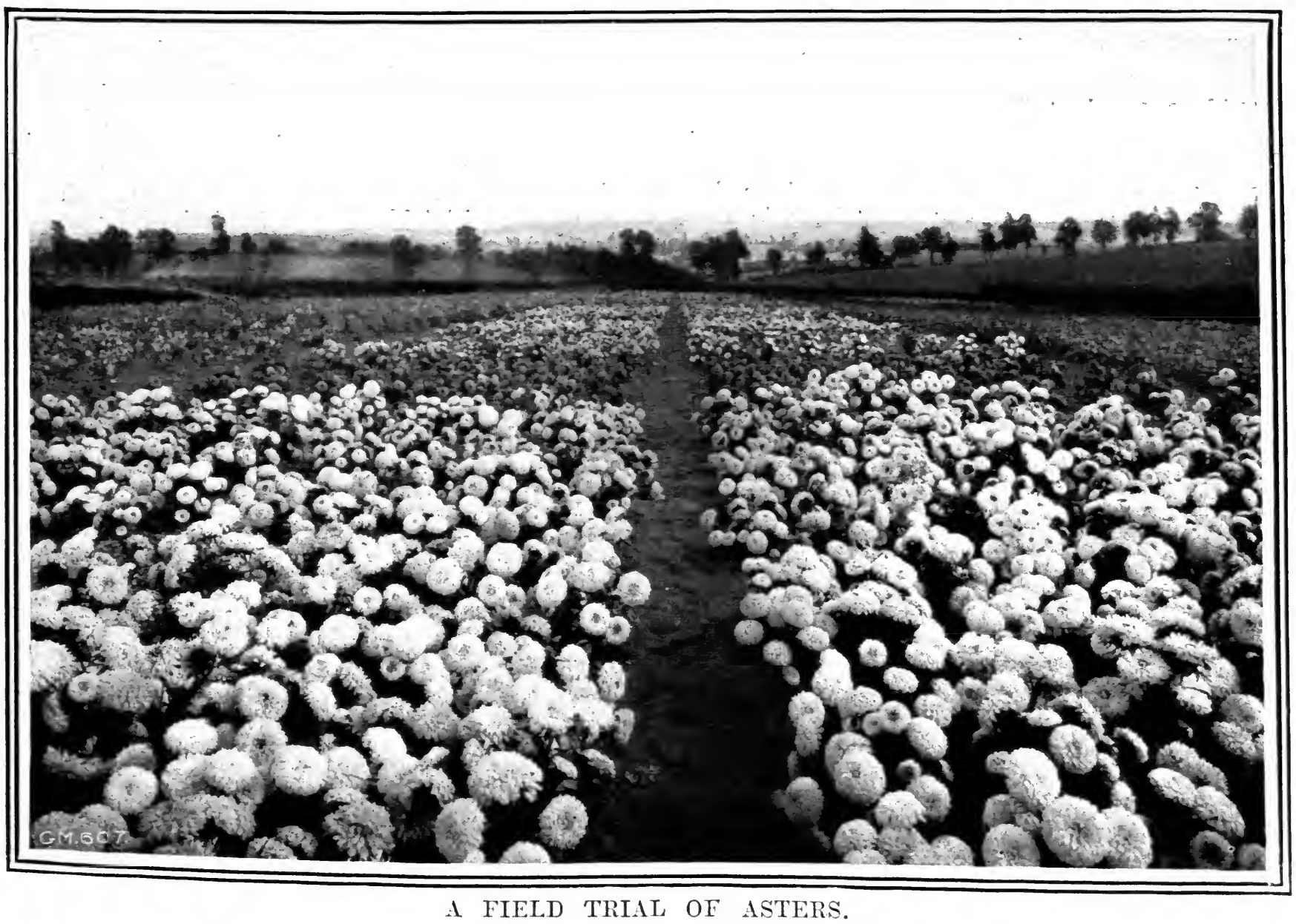
HARRISON & SONS (ESTD. 1764), Royal Midland Seed Warehouse, LEICESTER.

Harking back to seed grain, it is a matter of immense importance that any vestige of fungoid disease or injurious germs shall be detected, and this involves extreme care. It is not sufficient even to examine through a powerful microscope, for, in some cases, the mycelium or the germ is the same colour as the outer skin of the grain. The most interesting method adopted is to place a few grains, with a little distilled water, in a funnel-shapel glass tube. The tubes are fixed to a little apparatus, which, by electric current, is driven by centrifugal force at such a speed that the water is practically dried up, but any germs or spores are left adhering to the glass, and are then detected by the aid of magnifying glasses. Needless to say, samples upon which deleterious germs are found are discarded as unsatisfactory for seed. Other apparatus exist for ascertaining the quality of roots, such as sugar beet, mangolds, or swedes. One machine cuts out a cube from the centre of the root. This cube is placed in a combined still and oven, which first evaporates and then distils all the water from the pulp. It is then possible by analysis to determine the proportion of sugar in a beet, and the feeding value of a mangold or a swede, the object, of course, being to ensure selection of the most valuable to be retained for producing next year's crop of seed.

POLLINATING PRIMULAS.

The Trial Grounds.

The greater part of the work of selection and proving of quality must, of necessity, be done in a more natural way by growing under natural conditions, and the reader may now with advantage be taken to the trial grounds, which are another important feature of a seed grower's or merchant's



A FIELD TRIAL OF ASTERS.

establishment. It is not sufficient to know that one's seeds are clean, nor even that they will grow. It must be determined that the stock is true to name, and fully up to standard of type, strain, or variety. Hence the importance of the trials conducted by experts qualified to decide what is, and what is not, true and genuine. Every gardener is well aware that among plants like does not always produce like. Reversion to type, fertilisation by insects, and other forces are constantly at work to undo what, from Nature's point of view, is the artificial or spurious development in our improved types and strains. We breed an onion, a pea, or a cabbage which, from the cook's or the exhibitor's standpoint, is far in advance of older favourites, but left to itself and simply seeded and sown year after year, it will not long retain its distinctive merits. Even an unfavourable season will work havoc among our choicest flowers and vegetables if extreme care is not exercised, because trying weather punishes the highly-developed specimens more than the rest even of the same batch, because the smaller ones more nearly resemble the original types. The consequence is there is a danger of saving seed from just those specimens that will readily throw back, or revert to the inferior type from which the variety was bred. Hence it is that every seed grower must constantly prove his stocks, weed out every individual that shows the slightest sign of deterioration, and retain for seed only the very best. Some faint idea of the labour entailed by these trials will be gained by a glance at the accompanying illustration, which depicts the trial of asters at Messrs. E. Webb and Sons' trial grounds at Kinver. When it is borne in mind that every subject of which seed is offered is subjected to trial in similar manner to that here shown, and that in the case of the large firms the trial grounds alone cover many acres of ground, one may realise that genuine seed is worth its price.

Passing reference has already been made to

Seed Production under Glass,

and in this department material might be found for a lengthy article. In the case of many subjects, such as primulas, begonias, and others of our favourite greenhouse flowers, each flower is carefully pollinated by hand, for only thus can a satisfactory crop be ensured. The illustration of one of Messrs. Sutton and Sons' houses of primulas portrays men engaged in this delicate operation, which occupies them day by day throughout the whole flowering period. It is to this hand pollination, combined with constant re-selection, that is due the possibility of obtaining true seed of special colours in primulas, gloxinias, cyclamen, etc. The work of the hybridist, too, is worthy of remark. Crossing and intercrossing of species and varieties of all classes of plants is carried on unceasingly with a view to the production of new and improved sorts, that add increased charm to the pursuit of gardening. The novelties we see and admire represent, in most cases, the careful and scientific labour of years, but only those who have themselves been plant breeders know how small is the proportion of that labour that can be shown to the world. Many crosses must be made, and many seedlings raised, but few shall be the gems among them.

The Actual Seed Farming

or production of seeds in bulk is, of course, entirely distinct from the trials to which reference has been made. The conditions most desirable for seed growing are a fairly light, well-drained soil, and a dry atmosphere. The county of Essex has attracted many growers, both soil and climate being particularly well adapted for the purpose. Anyone travelling on the main line of the Great Eastern Railway between London and Ipswich, or, better still, by motor along the roads in Essex and Suffolk, during the summer months will see great fields aglow with a great variety of annuals, and also vegetable crops for seed. Of late years sweet peas have been largely grown for seed in Essex, and this county has also for many years produced a large proportion of the seeds of scarlet runner and kidney beans. In Suffolk and Norfolk also much swede and mangold seed is grown, as well as oats and barley. Lincolnshire and Cambridge, as is well known, are great potato-producing counties, although Scotch and Irish-grown seed potatoes are held in highest esteem. Perthshire and the Lothians are centres of the potato industry, the growers from these districts annually coming down in strong force to Smithfield Show, where buyers of seed potatoes are wont to foregather to inspect the samples and place their season's orders. The moist climate of Ireland militates against the ripening of many seeds, and, consequently, potatoes constitute her chief output in this direction, although a quantity of linseed is produced in connection with the cultivation of flax for the linen industry.

For many years Oxfordshire was famous for onion seed, but, apart from a few private gardens and farms where seed is still grown on contract, the growth of onion seed seems to have drifted away, partly to Leicestershire, and partly to the South of England. The excellent illustration of a field of onions growing for seed, kindly supplied by Messrs. Harrison and Sons, Leicester, shows a remarkably fine crop, and it may be remarked that many an equally productive field of garden peas for seed has been seen in this county. There are well-known seed farms around Wordsley, Worcestershire, and even as far north as Carlisle and Darlington, whilst sweet peas have for many years been extensively grown for seed at Wem, in Shropshire, and in Somerset also a good deal is done in this way. The exact spot likely to be suitable for a seed farm depends, not upon the fertility of the soil, so much as dryness. What is necessary is a short season of rapid growth, resulting in early maturity, for if growth is maintained until late summer there is small chance of ripening a satisfactory crop of seed.

Of the routine work of weighing, measuring, packeting, and packing orders it is unnecessary to write, except to remark that in the case of seeds to be sent to distant lands, especially those that cross the Equator, special precautions have to be taken to ensure safe transit. The seeds are first treated in a heated chamber, in order that moisture, which during transit through tropical climates would set up germination, may be removed. Tinfoil packets and hermetically sealed cases are used to ensure safe transit.

My concluding word is to youths embarking on a horticultural career. It is, in my opinion, highly desirable that anyone whose ambition it is to make his mark in horticulture should spend a year or two in a really good seed establishment, and, notwithstanding the oft-made assertion that horticulture affords meagre return for much study and labour, the belief is held by myself that there is plenty of room and possibilities, especially in this branch of the profession, for men of enterprise and ability. A. J. MACSELF.

A FIELD OF ONIONS PRODUCING A FINE CROP OF SEEDS.

GARRYA ELLIPTICA.

This handsome Californian shrub is parcularly attractive in the dark days of the year, the male plant, with its long greyish-white catkins, being especially effective. Though a native of California, it may be treated as practically a hardy shrub, since it succeeds without protection in bush form as far north as Edinburgh, Stirling, and Kirkcudbright. In the colder districts it is often to be seen trained against a wall, but such protection is quite unnecessary, as it will form a fine and symmetrical shrub in the open ground.

Unfortunately, the mania for training subjects of non-scandent growth to walls has led to many beautiful things in the way of flowering shrubs, that are perfectly capable of enduring our winters in the open, being deprived of the free and natural loveliness that they display when permitted to assume their rightful proportions and habit of growth. However, where there is ample wall space in the colder localities there is no reason why the garrya should not be afforded a portion of the wall surface, as it is a striking subject and quite unique from the usual occupants of walls. When pruning is required this should be taken in hand immediately the flowering is past.

In the south-west it attains large dimensions, sometimes reaching a height of 15ft. and a like diameter. Large bushes, when thickly set with innumerable catkins, many of which are over a foot in length, form in the winter season objects of remarkable beauty and retain their attractiveness for many months. A valuable characteristic of this shrub is that it will accommodate itself to almost every description of soil and environment, and will produce its catkins as freely on a steep bank of rubble that is dust-dry in the summer, as on a level surface of rich, prepared soil, though its growth will naturally not be so vigorous. In partially-shaded positions it will also succeed, and in such may be seen bearing numerous tassels, so that there are few situations for which it is unsuited. For seaside gardens it is also very useful. Even in that death-trap for tender subjects, the mixed shrubbery, it will hold its own better than most things.

Intending planters should not therefore be deterred by any doubt concerning the hardiness of Garrya elliptica from planting it in such positions as they may have at their disposal, for as a decorative, evergreen shrub it is one that, from its hardihood and ornamental qualities, can hold its own with any of the more decorative denizens of the pleasure-ground.

WYNDHAM FITZHERBERT.

Clarkias. — The clarkias, especially Elegans, Scarlet Beauty, Double Salmon, and Delicate Pink, are quite as beautiful, and probably more useful, than the schizanthuses for pot culture. They are valuable for cutting, and are highly esteemed in the dwelling. They require much the same treatment as the schizanthuses, except that they will need "stopping" once or twice to encourage a bushy habit. A light fumigation with a nicotine compound occasionally will keep them clear of aphis.—E. HARRISS.

Cotoneaster rotundifolia.—In the bright colour of its berries and the profusion in which they are borne, this cotoneaster stands in the very front rank of the members of this highly ornamental genus of hardy shrubs. It also possesses another very desirable quality, and that is the berries are far less attractive to birds than some of the others, so that they retain their ornamental feature over a lengthened period. —W.

SOPHRONITIS GRANDIFLORA.

This is a lovely little orchid that resembles a very diminutive cattleya in appearance, and was at one time called Cattleya coccinea. The plant blooms during the winter, and is the finest species of the genus, the flowers lasting six weeks or more in perfection, and are so large, compared with the tiny pseudo-bulbs, that one wonders how these could possibly produce and carry them for so long.

The amount of bloom produced by healthy specimens of this orchid is truly remarkable, and the glowing scarlet colour never fails to excite admiration.

This little epiphyte thrives best in shallow pans or baskets suspended from the roof rafters, and succeeds well under cool treatment. It should be afforded a light position, but never be exposed to bright sunshine. The plants grow freely in a compost consisting of equal parts of osmunda fibre, polypodium fibre, and sphagnum moss, putting in plenty of drainage beneath it, and fixing the roots firmly in the material.

SOPHRONITIS GRANDIFLORA.

A finely-flowered specimen of this handsome scarlet-flowered species in the Westonbirt collection.

Repotting, when necessary, should be done soon after the flowering period, as new roots are then being produced from the partially developed growths. In the matter of watering, especial care is very necessary, as the small, growing roots are easily injured by drought or excess of moisture.

H. G. ALEXANDER.

Westonbirt Gardens.

Propagation of Seakale.—To obtain crowns for next season's supply, it is an advantage to prepare the thongs at an early date. For this purpose select strong and quite clean root thongs, any showing signs of black rot should be burnt. The sets should be six to seven inches long. Cut the top square and the base diagonally, this prevents confusion as to which is the growing end. Tie up in bundles, and stand them upright thickly together in boxes, and work finely-sifted soil amongst them, water them in, and place in a structure where frost is excluded.—W. MESSENGER.

INDIAN AZALEAS.

We have seen several changes in the popularity of different plants within the last twenty years or so, but Indian azaleas are still largely grown. True, the large, stiffly-trained specimens have practically disappeared, and the smaller pyramids are not met with to any great extent. On the other hand, standard plants are a good deal in vogue, not the stiff, formal standards, but plants in which the head is, to a great extent, allowed to assume its natural habit. Most of the plants are, however, as of old, grafted on to stems six to nine inches in height, in which way they form useful specimens for placing in vases and for other like purposes. Of late years quite an extensive business has been done among the small-flowered kinds grown as neat bushy little plants on their own roots and confined to small pots.

A notable feature of the azaleas of the present day is the increased popularity of the different varieties in which the flowers are of some shade of salmon-rose, with a light centre and margin, and for the most part with the edges of the petals crisped. Many of these are of a semi-double character. Among varieties of this class may be mentioned Haerensiana, Sir J. T. D. Llewelyn, President Oswald de Kerchove, Professor Wolters, Schryveriana, and Vervæneana. Two old and for many years popular varieties—Madame Camille Van Langenhove and Madame Van der Cruyssen—are now, comparatively speaking, very little grown. The magenta tinge in the rose-coloured blossoms of the last-named is not at all fashionable.

Of white-flowered kinds, the semi-double Deutsche Perle, for early blooming, and Niobe, for late, still remain about the best. Self scarlets or reds are always in demand, among the best of these being Apollo, Spitfire, and Vuystekeana.

Whatever effect the wet summer of 1912 had on some classes of plants, it would appear to have been particularly favourable for azaleas; at all events, the plants that are being sold in such large numbers are in a very good condition, and well set with flower buds.

W. T.

CAN BLACK CURRANTS BE SAVED?

I ask the above question quite seriously, because, as many other people must have done, I have watched the steady march of the demon mite or big bud for the past twenty years until now it has found its way into every country, every parish, and nearly every garden in the country. I recall the days when big bud was almost unknown, when meetings were held in currant-growing districts to discuss it, and when practical fruit growers put down the swelling of the buds to mild climatic conditions and fondly thought that these abnormal specimens were going to give them good bunches of fruit. That period of ignorance has passed away; there are few growers who do not know to their cost the meaning of the swollen buds, and one thinks with regret of the many acres of once profitable bushes that have been grubbed up and burnt owing to the ravages of the pest in question.

There is no gainsaying the fact that the black currant is a popular fruit, and, on the whole, barring the big bud, it is a lucrative crop to grow, but the time has arrived for looking facts in regard to it straight in the face, and, though I do not wish to take a too pessimistic view, I think there are good grounds for asserting that the future of the black currant as a commercial crop is threatened, and the possibility of it going out of cultivation as such certainly exists. We can see what has been done, how many acres of land, once under black currants, are now devoted to other crops, and the wholesome fear that growers have about planting this fruit, in the first place because they do not know where they can buy clean bushes, and secondly, because even if they were fortunate in this respect, they do not know how long they will remain free from the pest after they have planted them.

And while the big bud has been spreading, spreading, spreading, what has been done in the matter of prevention or eradication? Very little, I am afraid; and while the scientist has been able to render very little assistance to the practical man, the distribution of infested bushes has gone on unchecked, and the puny efforts that have been made to deal with the trouble have led to nothing very definite. Whether the position now is one of locking the stable door after the horse is stolen is an open question, but if there is a possibility of saving the black currant from sheer destruction, surely the time has come to set about it. Money is now being distributed from the Development Fund to assist horticulture. Research stations are being established for dealing with the knotty problems of the fruit-grower: pathologists, mycologists, and other "ists" are being appointed, and let us hope that among them they will be able to discover some practical scheme for eradicating or checking this scourge, and providing means by which growers may plant black currants without fear and trembling.

Are there any means open to that end? I put the question, and add another: Is there any variety of black currant immune from big bud? We are reminded here of varieties that have been sent out with that reputation, Boskoop Giant to wit, which when it first appeared was bought and planted in the hope that it would grow free from big bud, but, of course, in this respect it has proved a hopeless failure. It has been observed that black currants which produce hard red buds do not suffer so badly through mite as those which bear soft green buds, and many of us know old-fashioned black currants growing in cottage gardens where they have stood for years, and a big bud is never seen on them, though bushes of better varieties in point of the size and character of the fruit, planted close at hand, are absolutely infested with the pest Surely it is better to grow a variety that is not so fine if it is proof against big bud, than plant the very best in cultivation if it is practically certain that in a few years the bushes will have to be consigned to the fire heap.

Why not test this point thoroughly, and in order to do it, I am inclined to think that one big central national fruit station, managed, say, under the auspices of the horticultural section of the Board of Agriculture, would be better than giving grants for placing more or less miniature places in different parts of the country, for after all, what may be described as microscopic experiments are not of much commercial value. This problem of the black currant is one of national importance: then why not devote public money to it, by collecting every known variety of black currant and growing them together, not an odd bush or two of each, but in sufficient quantity to prove once and for all which, if any, are proof against the bud mite. These statements that are made to the effect that such and such a variety is not so liable, and another is immune, are not good enough; we want proofs, definite proofs, and these can only be obtained by experiments on a comprehensive scale.

And while varieties were being tested, could not other means be tried on a sufficiently large scale to demonstrate to growers whether or not the big bud can be eradicated and prevented from spreading further? We have had remedies suggested that were of quite an unpractical character, we have others before us that, on the other hand, are thoroughly practical if they are reliable, but few people seem to try them because there seems to be a rooted conviction in the minds of many growers that the case is hopeless, and there is no cure for big bud. Surely the thing might be tested on a big scale by disinterested persons for the benefit of fruit growers as a whole.

A few years ago Professor W. E. Collinge suggested a remedy in the shape of dusting the bushes with lime and sulphur, but one does not see many people using it, and I am afraid, in the matter of fruit pests, that the tendency is to drift from one remedy to another without sticking long enough to any single means of eradication. While the conviction seems to be growing that there is no remedy for big bud we have Messrs. J. R. Pearson and Sons, of Lowdham, Notts, openly stating in their catalogue that it can be easily eradicated by simply spraying the bushes with soft soap and quassia solution. I hold no brief for the Messrs. Pearson, but they are admitted authorities on fruit culture; they have a reputation to lose, but nothing to gain in the matter, as soft soap and quassia is not a proprietary insecticide, and it is not likely that the firm would make the statement in public unless they were prepared to substantiate it. Considering that the solution is about as cheap an insecticide as anyone could get, and that the labour is the only real item of expense, the wonder is, on the face of the evidence, that every black currant grower in the country does not try it. They cannot, of course, be made to do it, but the remedy might be tested at an official experimental station, the results could be published, and if thoroughly satisfactory the question might then be considered of making the spraying of infested black currants compulsory with a view to wiping out the pest.

This is no new idea of Messrs. J. R. Pearson and Sons; they have been at it for years, they are convinced about it, and it is all so simple, for in respect of severe attacks the firm says that the bushes should be sprayed at intervals of a week or ten days from the end of March to the first week in June; even then it may not be possible to kill every mite the first season, but a second season should make the plantation free. It is further advised that after spraying, as recommended above, the bushes should be looked over after the leaves have fallen. Any big buds that may be seen should be picked off, and a top-dressing of manure be given.

There you have the whole thing in a nutshell, and the moment is opportune for mentioning it, because March will soon be here. I need hardly say that any who adopt this simple remedy should give it a fair trial; do it thoroughly and consistently, not spray the bushes twice and forget all about it, but carry out the instructions to the letter.

Perhaps I began this article somewhat pessimistically, but the general state of affairs round about is my excuse for doing so, but if we accept Messrs. Pearson's evidence, and I know of no reason why we should not, then it will be a standing disgrace to the fruit growers of this country, both commercial and amateur, if black currants are allowed to drop further out of cultivation than is the case at present, while there is a simple and available remedy within the reach of everybody. H.

Rhododendron parvifolium.—This hardy rhododendron is related to the better known R. dauricum, and, like that species, it flowers in mid-winter. It is of a dwarf, freely-branched habit of growth, clothed with small pointed leaves; while the flowers, which are of a rosy-purple colour, are borne in compact clusters. Though quite hardy, the expanded blossoms are liable to be cut by sharp frosts, hence it should, if possible, be planted in a sheltered spot.—K.

Tetratheca thymifolia. — The tetrathecas are a very pretty class of free-flowering shrubs, natives of Australia. They are all of a dwarf twiggy habit of growth, and are sometimes known by the generic name of Tremandra. Being what are popularly termed New Holland or hard-wooded plants, they require practically the same treatment as the greenhouse heaths, epacris, and others of this class. The tetrathecas often flower in spring and early summer, and, though this species is in the "Dictionary of Gardening" said to flower in July, it has been in bloom during the whole of the present winter. It forms a dense, bushy, little specimen, about a foot in height, and the small mauve-purple flowers, with dark-coloured anthers, are borne in great profusion.—T.

ANEMONE-FLOWERED CHRYSANTHEMUM.

During the past few years, say, from ten to fifteen, the anemone chrysanthemums have been looked upon more or less in the light of things that are past; this, I presume, being owing to the ever-increasing numbers and the popularity of the single varieties. Within the past two seasons there has been a decided tendency in certain quarters (particularly among the older members of the National Chrysanthemum Society) to try and resuscitate them somewhat, not because they are more beautiful than the singles, but more likely to prevent any section or type of the flower going entirely out of cultivation. For this reason it is commendable, for it must be borne in mind that the anemone-flowered chrysanthemum some twenty years ago was quite popular as an exhibition flower.

I can hardly think that they will ever become so popular again, for the few boards that are occasionally seen at the shows are, as a rule, rough and unfinished, and in such a state there is nothing to recommend them, but, as decorative subjects, there is still hope, and probably room, for them: and, although it is a long time ago now, I have still in my mind some very fine plants grown for decorative purposes, pot plants, not with a few straggly flowers, but from which one could cut a good sheaf of bloom from each plant.

Unfortunately, among this section there were a good many varieties that were of rather an undecided shade of colour, and, as these were not pretty, they very quickly fell into disrepute. A few of the better varieties that I remember were Madame Chas. Leboscqz, yellow; Fleur de Marie, white (fine for decorative purposes); Lady Margaret, white; Descartes, bright crimson; Junon, pink; Thorpe, Jun., yellow; W. W. Astor, pink; Delaware, cream; and Mrs. Harry Eland, lilac. These, if exhibited in good form, say, five or six blooms in a vase similar to the one illustrated, could not fail to be much more attractive than the older method of showing them flat on boards, and in this way they might easily hold their own against some of the singles. The above-mentioned are termed the Japanese anemones from their larger size and longer florets, but the smaller, and, to my mind, more effective Pompon anemone varieties are the ones that are more likely to prove useful, and for table decoration and small vase work generally they provide a very nice change to the more regular-petalled singles and Japanese. Antonius, Emily Rowbottom, and Marie Stuart are three varieties that all lovers of chrysanthemums might grow with advantage.

Kathleen May, introduced by Mr. H. J. Jones some three or four years ago, proved the forerunner of a new type of anemone single, which may become popular. This variety—crimson petals with yellow cushion—is among the best of our late decorative varieties, and, although a somewhat tall grower, it carries a good crop of bloom, which lasts well over Christmas. Following on this we have Godfrey's Perfection, a white variety, much shorter in growth, and for this reason makes a very nice pot plant. A still later introduction is Snow Queen, from Messrs. Cragg, Harrison, and Cragg, and, as its name denotes, it is a most beautiful flower of snowy whiteness which will be in much demand, so that, if our friends are not able to rejuvenate the old type of anemone, there is every likelihood of this newer type finding a place in popular favour.

THOMAS STEVENSON.

IXORA SALICIFOLIA.

One of the most graceful of all ixoras, and one not often met with, is I. salicifolia: its willow-like foliage and free habit of growth should go far to make it a favourite. The greatest recommendation is its beautiful trusses of flower, in colour a soft shade of orange-scarlet. The complaint is sometimes made that the flower trusses of an ixora are too formal, and perhaps in these days of cut flower and floral decoration there is some ground for this complaint, but formality either of habit or flower cannot be urged against the species under notice, for the flowers are much more thinly arranged in the trusses than in any other ixora, and consequently possess much grace, while the habit of the plant is light, as the specific name implies. This species succeeds better when grafted than on its own roots, the best stock being I. Duffi, although both I. coccinea and I. javanica answer the purpose very well; the grafts, as a rule, "take" very easily, and will soon make nice plants.

There is no doubt that Ixora salicifolia requires rather different treatment to the majority of ixoras; like I. Duffi, it grows very freely and quickly, and thus some difficulty is experienced in obtaining flower trusses. It should be kept growing through the autumn and winter months, but for a few weeks during the early part of the spring, commencing at the end of February or the beginning of March, it should be rested, to use a more or less analogous term. It must not be "rested" in the ordinary sense of the term, but must receive just enough water to keep it growing and no more, thus causing the growths to "harden," and to set their flower trusses. Previous to this the growths will have been thinned out, leaving the stronger ones.

This species will not submit to hard pruning, but when the plants have finished flowering the shoots may be shortened back a very little, or in some cases just pinching out the decayed trusses of bloom will be sufficient to induce the plants to "break" and produce new shoots. As is the case with some other ixoras, I. salicifolia prefers a higher temperature than the majority of the species, and it has been found to thrive when treated identically with I. Duffi and I. coccinea, these two being undeniably partial to more heat than the other members of the genus. A winter temperature of 70 degrees, rising in the day to 75 or 80 degrees, will not be too high, while in the summer the night temperature should not fall below 75 degrees with a rise on sunny days to 85 degrees, and even 90 degrees; a still higher temperature will not be detrimental to success.

Cheltenham RALPH E. ARNOLD.

CHRYSANTHEMUM MRS. H. ELAND.

A distinct and beautiful large-flowered anemone, of a pleasing lilac colour.

ANTIRRHINUMS IN 1913.

Horticulturists generally are expecting much from the year 1913. The general idea is that great progress will be made, and progress at a more rapid rate than ever before. The year 1912 was one of all-round progress, with the great International Exhibition as its outstanding feature.

The race for novelties still continues, and many groups of plants have come into greater prominence than ever they have achieved before. This is partly due to the splendid enthusiasm that horticulturists put into their work. The raising of new varieties, the careful selection of stocks, and the pushful advertising of specialities, all show the keen interest that the modern grower takes in his work.

Among popular subjects antirrhinums now rank as one of the foremost groups of plants for garden decoration, and, in my opinion, 1913 will be a great antirrhinum year. Many things point to this. There is the wealth of splendid new varieties which the specialists are offering. There are the coming antirrhinum trials at Wisley. There are the memory pictures of antirrhinum displays in some of the larger gardens during 1911 and 1912, and at some exhibitions. Lastly, there is the prominence which writers are beginning to bestow upon antirrhinum subjects.

From seeds sown in February and March plants can be raised which will flower from June until November. A host of sterling varieties are procurable from the seedsmen, and a careful selection of these will give the finest results. Varieties that are not quite fixed, or which one has but little stock of, can be easily propagated from cuttings. These can be rooted at almost any period, provided one can obtain the necessary soft side growths (not flower growths).

Seedlings raised from seeds sown late in February or quite early in March should be grown steadily for a time in an airy, comparatively cool house, and then hardened in the cold frames. Any coddling or overcrowding militates against success. The question of soil is not a pressing one, but I find that ofttimes the flowering season is prolonged when the antirrhinums are in a heavy retentive soil. Any manuring should be done when digging the ground some time previous to planting. Moderation should be the stern rule, and the use of artificials to "stimulate" growth I have hitherto found quite unnecessary.

It will be borne in mind that antirrhinums are usually divided into three sections, namely, the dwarf, or Tom Thumb varieties, the tall varieties, and the intermediate group, which, coming between the other two, is easily the most valuable of the three for general garden decoration.

Of these Flame is one of the latest comers, a bright orange-scarlet, which will prove very telling as a contrasting colour. Vesuvius is a bright orange, very attractive en masse, a variety with plenty of fire in it. Beacon, which the raisers describe as a cinnabar-scarlet, must also be reckoned with, and should be noted by all who are making large plantings.

Of the whites, The Bride, an absolutely pure snowy white, and Queen of the North, white with a sulphur lip to the blossoms, are about the best in commerce. Northern Lights comes midway between the two, and has an especially good habit.

Pink antirrhinums are a favourite section with me, and many good forms should soon come to light, which will carry them far in public estimation. Several are already in commerce. Venus is good, but belongs to the tall section, making it essentially a back-row plant. Rose Dorée is a soft salmon-rose, a decided acquisition, and Cottage Maid is a pale pink with white throat. Daphne gives a coral-rose shade relieved by white. Newer still is a selection of bushy narrow-foliaged forms, which are very light and graceful in habit. Marjorie, with tiny reddish-green leaves, and hosts of pale pink flowers, is a coming plant. Inspiration gives a lovely shade of rosy-pink, clear and effective. Iris is a shade paler, a soft delicate pink, otherwise very near to Inspiration in growth and foliage.

Some of the carmine and coral-red shades are worthy of note. Brilliant and Carmine Queen are but two out of several, but they are sufficient to show the value attaching to these shades.

Scarlet King, very near to scarlet, as antirrhinum colourings go; and King Alfred, a variety with deep orange and rose blossoms, are rich in hue, and with Defiance complete a trio which lovers of rich colours would do well to note.

Again, among the orange, salmon, and apricot hues, one obtains some warm, brilliant touches of colour which are a delight in the garden, especially when the days are on the wane. Bonfire and Orange King are among the number, both good attractive forms.

Yellows and crimsons we have had galore, and though such old-time colours one cannot omit them from the garden. Selected and perpetuated varieties are readily obtainable, and are usually absolutely true from seed. My list of varieties may seem lengthy, but only a tithe of them are given.

In conclusion I wish to say a word about position. It is usually stated that a sunny position is desirable, but this is not necessary, as the antirrhinums do exceedingly well in shady spots, provided they are not overhung by heavy trees. Try them in moderately good soil on a shady bank. The effect will surprise you, and the blossoms last longer than in full sunshine.

Many old favourites will doubtless be partially displaced this year—the Year of the Antirrhinum. P. S. HAYWARD.

Sweet Cherries.—Good varieties will be found in Elton Heart, Rivers' Early, Napoleon Bigarreau, Kentish Bigarreau, Waterloo Heart, Black Tartarian, May Duke, and Noble. When planting sweet cherries, see that the stations are thoroughly drained, and use good fibrous loam with plenty of lime rubble, burnt earth, and a little sweet, thoroughly decayed manure. Make the foundation on which to set the roots firm, trim the ends of all injured roots, keep the stems a reasonable distance from the walls to allow for swelling, and, after planting is finished, lay a little strawy manure over the roots, but do not nail or prune for a few weeks until the soil has settled.—H. MARKHAM.

ARE COLOUR SCHEMES A SUCCESS?

Advanced ideas regarding the arrangement of plants in such a way as to produce certain colour effects are not always successful, and usefulness is often lost sight of. Besides, Nature, to which we look for all our lessons, avoids the extremes sometimes aimed at, and teaches us to keep, as far as we can, from the mathematical blending of colours now so often advocated. Although this freak of fashion is even applied to trees and shrubs, it is chiefly with herbaceous plants that colour schemes for certain periods are essayed. In no instance have I known of a single success. The reason for this is not difficult to find, as all herbaceous plants cannot be induced to bloom at the same time.

A lady I met some time ago was anxious to secure a great display of bloom in her herbaceous borders during the month of July, but would only have them blended from white through all the colours to red, and then back to white again. The borders were about fifteen feet wide and although there was no difficulty in attaining the desired, but still artificial, effect in the front of the border with violas and other low-growing plants, few things were available for the back rows. In spite of this drawback the borders were planted in accordance with the owner's ideas, and the result was one nobody seemed anxious to copy.

Another colour scheme I saw some years ago, in a border about half the width of the one I have just referred to, proved such a failure in effect, and disappointment in quality of bloom for cutting purposes, that the whole of the plants, to the value of £13, were dug up and put on the rubbish heap. The border was then replanted in groups arranged with regard to colour, size, and time of flowering, so that a succession of bloom was maintained all over the border throughout the summer months. The plants employed in this instance were admirably adapted for supplying cut bloom for house decoration.

Since then my doubts about "colour schemes" being a success have induced me to go far, observe closely, and learn all I could, in order that I might see for myself the effects of various attempts, but so far I have not met with anything I would care to reproduce. I am now convinced that a really fine effect from a blended colour scheme is outside possibility on anything like a large scale, as the plants are not in existence for such a purpose.

The nearest attainment to anything like success was one in which annuals, biennials, and bedding plants formed a large part, and in this case some of the annuals were lost among the taller-growing things, giving the border a rather untidy appearance.

So far as herbaceous plants are concerned, the best effects can only be secured by arranging them in good-sized groups, with the taller-growing ones at the back, and the dwarfer ones at the front, of the border, and in the order of flowering, so that a succession of bloom is equally distributed over the border from early spring till late autumn. PEDESTRIAN.

Eupatorium vernale.—Compared with most of the greenhouse eupatoriums, this is of dwarf habit, hence it is well suited for growing in comparatively small pots. Good bushy examples in pots five or six inches in diameter, are very effective; and, what is more, they retain their beauty a considerable time. Being so easily propagated is another point in its favour.—W. T.

HANDSOME DECORATIVE PLANTS FROM SEED.—II.

Dracænas.

Cordyline (Dracæna) indivisa, one of our most useful green and bronze foliage plants, is of fairly rapid growth, making useful plants within eight or nine months from the time of sowing the seeds. The potting compost should consist of about two parts fibrous loam to one of peat, adding sufficient sharp gritty sand to keep the soil porous. When the plants are growing freely, and the pots becoming filled with roots, an abundance of water should be given. An intermediate or greenhouse temperature will meet their requirements.

Clerodendrons.

Clerodendron fallax is a very pretty and showy stove plant, of dwarf, erect habit, bearing terminal panicles of intense scarlet flowers all through the autumn and early winter months. Seeds should be sown early in the year in well-drained pots or pans containing a light rich soil; plunged in a hotbed, germination quickly follows, but care should be taken to keep the soil uniformly moist during that period, otherwise the seeds will germinate irregularly. Grow the young plants in a brisk heat with plenty of atmospheric moisture, but subsequently they may be gradually inured to a much lower temperature, and be given plenty of air during favourable weather; this treatment—not always followed—will ripen the growths, and the plants will produce much larger spikes of flowers than if given stove treatment the whole season through. After flowering the plants may be rested by withholding regular supplies of water, and by keeping them in a temperature of about 55 degrees until they are again started into growth for use the following season.

Exacums.

Exacum affine is a pretty dwarf greenhouse annual, producing numerous sweet-scented pale blue flowers, the plants remaining in bloom for a very considerable time. Growing singly in three-inch pots, or three plants in a five-inch pot, is the most serviceable method of culture. Over-potting must be scrupulously avoided. The growths may be stopped two or three times during their early stages of growth at each second joint, that is if dwarf and very compact specimens are required.

E. macranthum—a stove biennial—produces flowers considerably larger than E. affine, and of a very deep purple colour, with bright yellow stamens. Seeds of this should be sown as early in the year as possible, using a light rich peaty compost, and afterwards growing the young plants in a brisk moist heat.

The drainage for E. macranthum must be perfect, and the too frequent use of the water-pot avoided—both very essential matters if good healthy specimens are to be grown. A sharp look-out must be kept for insect pests, thrips and red spider especially, for if once the plants become unhealthy from their attacks they quickly succumb.

While the exacums are in flower a lower temperature may be allowed with impunity, so long as they are not over-watered. To have a group of E. macranthum in full bloom is an ample reward for the care necessary to grow it to perfection.

Gerberas.

Gerbera hybrids are plants of easy cultivation, and if grown in pots they make pleasing specimens for the greenhouse or conservatory. In warm localities, growing in a light rich soil, they make excellent plants for the outside borders, and flower freely, but as pot plants they are, in most instances, seen at their best. The plants produce numerous daisy-like flowers, borne on long wiry stalks, well above the foliage, which, by the way, is dwarf. Used as cut flowers they are highly decorative, and produce a light and pleasing effect.

The seeds should be sown in slight heat, and the plants grown in a temperature of about 60 degrees, allowing them plenty of light and sun. To in any way coddle the plants is to court failure, and should on no account be attempted. When fully established in their flowering pots they will withstand a very considerable amount of drought at the roots with impunity, and during the winter—or resting time—little or no water should be given.

Rehmannias.

Rehmannia angulata will flower freely within eight or nine months from the time the seed is sown. This plant is very decorative, and should be grown more frequently than it is, its cultivation being extremely simple. The flowers, rosy-purple in colour, with a yellow throat, spotted with purple, are from three to four inches in diameter, growing on a stem twenty-four to thirty-six inches in height, the latter varying according to the strength of the plant. As soon as the seedlings are in rough leaf ordinary greenhouse treatment may be given them. During the summer months, that is as soon as the plants are placed in their final pots, cool-frame treatment will be all that is necessary, exposing the plants on all favourable occasions to the full sunlight. As the flower spikes advance in growth remove to a cool greenhouse or conservatory.

R. Pink Perfection is a variety producing flowers of a clear bright pink colour, with a paler throat, and by some growers this is preferred to the type.

W. Hedley Warren.

Aston Clinton Gardens, Tring.

DIANTHUS HEDDEWIGI.

This is sometimes spoken of as a species, with the English name of Japanese pink, and sometimes as a variety of Dianthus chinensis (syn. sinensis), the latter being known as the Indian pink. The varieties of both are often classed under the latter term, and for the purposes of these notes we may regard Dianthus Heddewigi in its numerous forms as those most worth growing of this class of pinks. They are near relatives of the carnation (Dianthus caryophyllus) and the sweet william (D. barbatus), and most of the members of the family are plants of the heath, dry meadow, cliff, or alp. The Indian pink, like its relatives just mentioned, will not thrive in a soil which is too rich or too damp, unless accompanied by all the sunshine possible, showing its dislike to excess of moisture and deficiency of sun and air by rotting off near the base, or becoming very straggling and untidy.

These pinks are usually described as hardy annuals, though on dry soils they will sometimes last two or three years if the winters are not too severe. They may be sown in June or in the early spring, according as they are treated as biennials or annuals. In the former case, unless the soil and situation are very favourable, they should be grown in pots and kept in a cold frame or house during the winter, taking care to give plenty of air to prevent them damping off. Planted out in well-cultivated soil in late March or early April, blossom may be obtained early in June, and large clumps will be produced a foot or more in diameter, flowering continuing right through the summer if the dead flowers are picked off occasionally.

The main advantage of treating these pinks as biennials is earlier flowering, but they will not be much later in coming into bloom if seed is sown in gentle heat in February, and the seedlings treated like tender bedding annuals. They should be kept near the glass, and given plenty of air as they are not capable of enduring much coddling, and as soon after the middle of May as weather conditions permit they should be hardened off by being put in a cold house or frame. They may not be thought worth the trouble of potting off, but the results pay for it, the unchecked plants producing finer flowers and making stronger clumps, with less tendency to that straggling and weedy kind of growth which is rather characteristic to these pinks. Sturdiness and compactness of growth are encouraged by the soil being made firm before planting, and for this reason, too, no fresh manure should be added to the soil when the bed for them is prepared. Mortar rubbish, chalk, slaked lime, and basic slag are all good to mix with the soil if it is deficient in lime, or is of a very tenacious nature.

As bedding subjects, either for beds or borders, they are capable of very effective use, and offer considerable scope for the taste of the planter, both in the choice of colour and in the use to which they are put. At the same time, in an adverse season a bed devoted to them may be the one that suffers most, as they not only sustain more damage in rough weather than most things, but, as before mentioned, dampness spoils their habit of growth. Some object to the flatness presented by a bed of Dianthus Heddewigi, and those who do so will find them well adapted for use as a surfacing amongst those of taller growth, not just to fill up bare places amongst a bed of taller plants, or to cover the ground between greedy perennials on the borders, but to form the main part of a bed with tall plants set among them at a fair distance apart.

Some varieties grow a foot and a half high, but a good selection of both single and double forms may be obtained, which in a normal season will not exceed a foot in height. The colours range from white, through pink, salmon, and scarlet, to crimson, maroon, and brown, while some are laced and striped, flaked and mottled. If seed of a distinct colour is bought the grower must be prepared for some sports amongst them, and from seed of double varieties a certain percentage of singles, according to the quality of the seed. Some of the most dwarf varieties make good pot plants, but if cut flowers are desired the taller kinds should be grown. The flower stalks are thin and the flowers very light and graceful, which makes them especially valuable for small glasses on the dinner-table.

Alger Petts.

Salvia azurea grandiflora.—This is a most useful plant for late autumn flowering. Its long spikes of deep blue flowers make a striking contrast amongst chrysanthemums, which predominate in the conservatory during the late autumn months. When there are sufficient cuttings on the old plants (which are at present wintering in cold frames) they may be inserted in 4½in. pots, in a compost of two parts loam and one part leaf-soil, with a liberal sprinkling of coarse sand. Place five or six cuttings in each pot, and when the pots are full of roots shift them into 7in. pots in a rich soil. Some of the old plants may be shaken out and repotted if sufficient new stock cannot be obtained from cuttings.—E. Harriss.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

IMPORTED DENDROBIUMS. — Several species of deciduous dendrobiums have recently been distributed from importations reaching this country through the usual sources. For years I have drawn attention to the desirability of procuring plants of D. Wardianum in particular as early as possible in the season, as this gives them an opportunity of becoming plump and producing their new roots before the season becomes too far advanced. Our usual short summer seasons are not suitable for late importations. Dendrobiums are sun-loving plants, and we are enabled to obtain better results when growth can be so treated that it reaches maturity before the end of September. Once the deciduous dendrobiums lose their normal vigour it often takes a long time before they regain strength but more often than not they deteriorate. I have referred more especially to D. Wardianum above, because for private gardens there is none more useful. It is frequently subjected to the barbarous treatment of having the bulbs cut off at the base, when producing their flowers. This must naturally cause deterioration, because the new growth must depend largely for its sustenance on such bulbs, and one cannot expect to produce even a normal growth the next season. But even with rational treatment it will generally be found that the plants gradually lose some of their vigour after being grown under artificial conditions for a few years.

POTTING.—There are different ways of treating the plants after they reach us, and each may be carried out with equal prospects of success; but the first thing is to go carefully over the plants, cut away all dead and decaying matter about the pseudo-bulbs and roots, and carefully search for any insects pests that may have secreted themselves. After carefully cleaning them the plants may be either potted or placed in pans or baskets; afford plenty of drainage and a small amount of potting material. Place in a moist position in an intermediate house. No water need be given, but a little later the plants may have a slight spraying overhead on bright days. As soon as the new growths advance, and the young roots make their appearance, liberal treatment may be afforded. Some growers prefer, after cleaning the plants, to lay them out on a bed of ashes or sphagnum moss until such new growths appear; others will suspend them with the roots uppermost for a time, and, by syringing on favourable occasions, induce them to start before fixing them in pots. Personally, I believe in potting the plants as soon as they are received.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREEN-HOUSE.

SALVIA SPLENDENS.—Old plants which were placed in a light warm house after flowering should now be furnished with plenty of strong, healthy cuttings. These must now be taken off, and inserted in large 60-sized pots, in a light, sandy compost, placing about four cuttings in each pot. When rooted place them on a shelf near the glass in a moderately warm temperature until they are fit for potting. They may then be potted singly into large 60's, using a compost of loam, leaf-soil, and sand, and given the same position as before. This salvia is very subject to attacks of red-spider, but this can usually be kept in check by syringing them twice a day with tepid rain water. Should this pest obtain a footing dip the plants in an insecticide.

HUMEA ELEGANS.—These must be kept growing in a cool house near to the glass on a cool ash bottom. When the pots are full of roots they must be given their final shift into 8in. pots. Hastening the plants by forcing must not be attempted, as this would cause many of them to fail. Humeas require cool treatment at all times after the seedlings are once established in pots. Pot them fairly firm in a compost of fibrous loam, leaf-soil, lime-rubble, or charcoal, and coarse sand. They must be very carefully watered, and syringing at this stage should not be practised.

HYDRANGEA HORTENSIS. — Plants which were rooted last autumn from strong, well-ripened cuttings may now be started into growth with a reasonable chance of flowering. If they are not already in their flowering pots they must be potted at once; 48's will be large enough to flower them in. They require a fairly rich compost.

PRIMULAS.—Except when these are doing duty in the dwelling, they must be liberally watered with stimulants. With careful treatment they may be encouraged to flower for some time. During bright spells of sunshine the blinds on the house should be lowered.

CYCLAMEN.—Plants which are flowering may be given much the same treatment as primulas. Be careful when applying water not to wet the top of the crowns. Remove dead flowers by pulling them out from the base. Plants which are required for producing seed should be removed to a shelf near the glass. When the seeds are developing plenty of stimulants must be given. Young plants raised from seed in the autumn must be kept growing steadily in a temperature of 60 or 65 degrees. They will be the better if the pots are plunged in ashes or cocoanut-fibre. Apply water carefully and syringe them two or three times a day with tepid rain water.—E. HARRISS, Lockinge Gardens.

HARDY FRUITS.

PEACH AND NECTARINE TREES.—The pruning and training of these may now be taken in hand and pushed forward, so that the work is made complete before the buds become too advanced. In some gardens the branches are removed from the walls entirely for several weeks, so as to retard the buds as much as possible, and the training is left until very late in the season. I like to get all this work finished as early in the present month as the weather will allow. Where large trees have been carefully attended to during the growing season, not much pruning will be required, with the exception of removing shoots that have borne fruits, and are not required for further extension. Aim as far as possible at keeping the walls clothed from the bottom to the top with healthy, well-matured wood. It is not necessary to take down the whole of the trees annually, but a careful examination should be made of all ties and shreds lest any have become too tight to allow of swelling. If the main branches are infested with scale wash them well with a solution of nicotine or some other approved insecticide. Having put the trees in order, give every particle of wood and shoots (some fine morning) a good syringing with soap-suds and sulphur, Abol, or some other safe insecticide, not strong enough to injure the buds. Young and late planted trees may be left for some time to allow the new soil to sink. Any further planting to be done may be successfully carried on till the end of March; but see that the drainage is perfect, and use a sweet, moderately heavy, fibrous loam, with old mortar, charred earth, and a little thoroughly decayed manure added, and keep the main stems about four inches away from the walls to allow for thickening, and do not bury the roots too deeply.

GOOSEBERRIES.—If these have not been already pruned the work should be proceeded with; thin the heads to avoid overcrowding, and to secure good size of the individual berries. Shorten all long growths if required, and spur the inner growths back to a couple of buds. After pruning clear away the pieces, and rake some of the old soil from beneath the bushes, take it away to the rubbish heap, then dress the trees well with lime and soot, and top-dress with sweet loam and manure to encourage strong, fruitful growth and heavy crops of large berries. If birds prove destructive to the buds, place a few light stakes along the side of the beds, and amongst the bushes, and string black cotton from the stakes at different heights.

PROTECTION, ETC.—See that all protecting materials are ready for use, so that everything can be put up and the blossom and buds made safe when frosty weather comes. Apricots are amongst the first fruits to bloom, and should receive early attention, as the buds are frequently damaged before they show signs of bursting open.—H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

RHUBARB.—To maintain a continuous supply it may be necessary to lift and place in the mushroom house or other suitable quarters a batch of rhubarb roots. From now, by covering the crowns with tubs or boxes, and covering these with fermenting material, which should be so composed that a steady, mild heat is maintained, a successional crop will be secured. For further continuation it is a good plan to place ordinary hurdles on either side of the rows, and cover them with bracken or clean straw. A portion of the stock of roots should be replanted each year, and if it be deemed advisable the position of the bed should be altered; the crowns of forced roots can be used for this purpose, failing these lift the required number of stools, and divide them from the beds. The ground should be well manured and trenched; plant the pieces, each with a good bud, four feet apart for such varieties as Champagne, while later and stronger growing sorts should be five feet apart. The Sutton is a very fine variety, and is generally esteemed. If not already done, apply a good coating of well-rotted manure to established plantations and point it in.

PARSNIPS.—Towards the end of the present month a sowing of seed should be made, providing the ground is in a suitable condition. The site selected is usually one previously occupied by celery, and no better quarters may be wished for; if well roughed up as the celery is lifted it will only be necessary to fork over the ground, level inequalities, and work in a good dressing of soot. Sow a small pinch of seed in patches a foot apart, allowing fifteen inches between the rows for the Student type.

MINT, TARRAGON, AND CHIVES.—Continue to lift roots and place them in pots or boxes in gentle heat. If the stock of tarragon is short, by taking cuttings from the stools when about two inches long and inserting them in light, sandy compost in boxes or small 60-size pots, the stock may be readily increased. Afford gentle heat until the cuttings are rooted.

SEAKALE.—Where forcing operations are carried out on open quarters (a method I consider preferable to lifting and placing the roots in heat), care must be exercised that the fermenting materials do not become too hot; it only requires a very gentle heat to excite the crowns into growth. As the cutting proceeds remove the pots to fresh crowns, and cover as before, adding, if necessary, a little fresh material to start fermentation.—W. MESSENGER, Woolverstone Park Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

The meeting held at Vincent Square on Tuesday, was, on the whole, an interesting one. The hall was well filled, and the attendance was good. Forced shrubs were a good feature, and early spring flowers were prominent. Many of the exhibits of hardy plants were, however, monotonous; indeed, one wonders why some of them were brought, as they could not have done any good to the firms they represented. Orchids, carnations, greenhouse plants, apples, and vegetables were all on view. Novelties were fewer than usual, even among the orchids.

FLORAL COMMITTEE.

Messrs. Allwood Brothers, Wivelsfield, Haywards Heath, contributed stands of capital blooms of Mary Allwood, Wivelsfield White, Le Rayonnante, Scarlet Glow, and Mrs. Crook perpetual carnations. A bold group of perpetual carnations from Messrs. William Cutbush and Son, Highgate, was well arranged, the cut flowers being disposed in large vases and stands around a small group of flowering plants in pots. Mrs. L. Mackinnon, White Enchantress, King Manuel (salmon-pink), Mrs. Tatton, and R. F. Felton were the most prominent varieties exhibited.

Perpetual carnations were displayed in quantity by Messrs. Stuart Low and Co., but the exhibit was scarcely so pretty as usual, the foreground being somewhat bare. The most important varieties were Rose Enchantress, St. Nicholas, Cinnabar, Baroness de Brienen, Fairmount, Carola, and Fire Glow. The same firm exhibited fine strains of cyclamen. Mr. C. Engelmann, Saffron Walden, set up a very fine exhibit of perpetual carnations included good flowers of Scarlet asparagus sprays; Sunstar, Mrs. C. W. Ward, Carola, Lady Northcliffe, Elektra, Rosette, and Fanny were finely represented.

Messrs. W. Wells and Co.'s perpetual carnations included good flowers of Scarlet Glow, Triumph, Northport, and Benora. Messrs. Young and Co., Cheltenham, brought up carnations, and their leading varieties were May Day, Mrs. C. W. Ward, Scarlet Glow, Mrs. Greswolde Williams, Duchess of Devonshire, and Hon. Lady Neild.

Mr. H. Burnett brought over some fine carnations from Guernsey, and of exceptional size and colour were the vases of Benora, R. F. Felton, Lady Northcliffe, Marmion, Triumph, Mrs. C. F. Raphael, White Chief, and Scarlet Glow.

Hardy flowers were very largely shown. Messrs. G. and A. Clark, Dover, presented batches of coloured primroses, a few hardy cyclamen, and small junipers, yews, and cupressus, suitable for rock gardens. Messrs. Whitelegg and Page, Chislehurst, brought up a few alpines, scillas, early narcissi, and Iris reticulata. Mr. G. Reuthe, Keston, displayed a collection of saxifragas, Iris reticulata, I. r. Krelagei, early rhododendrons, hepaticas, crocuses, hardy heaths, snowdrops, cyclamens, and many other interesting and beautiful things. Mr. Clarence Elliott, Six Hills Nursery, Stevenage, arranged a little rock garden, with pigmy abies, junipers, and retinosporus, and little colonies of Morisia hypogæa, Saxifraga sancta, S. Burseriana, and Eranthis cilicicus, the latter very pretty.

A very bright exhibit from Mr. Maurice Prichard, Christchurch, contained a very beautiful lot of Primula denticulata, P. d. rosea, and P. d. alba, oriental hellebores, Anemone fulgens, Soldanella alpina, Erica carnea, Saxifraga sancta, S. oppositifolia, etc., etc. Messrs. J. Piper and Son, Bayswater and Barnes, put up a quite substantial rock garden, and filled it with pigmy shrubs, double hepaticas, Morisia hypogæa, Saxifraga scardica, S. Burseriana, Primula Winteri, etc.

A charming arrangement of early spring flowers from Messrs. Barr and Sons, Covent Garden, attracted considerable attention. Associated with a little rockwork the firm had grouped Crocus Imperati, C. Cloth of Silver, C. Korolkowi, C. Sieberi, Cyclamen Coum, C. ibericum, Narcissus cyclamineus, snowdrops, gentians, etc. In pots the same firm displayed a few early daffodils and tulips, and gerbera flowers. Messrs. Wallace and Co., Colchester, had a quite pretty group of choice early flowers, backed by Prunus triloba, and Rhododendron præcox, Iris orchioides cærulea, I. reticulata, I. r. Krelagei, Crocus Susianus, C. Sieberi, C. aureus, C. biflorus, Fritillaria Chitralensis, F. citrina, and Erica mediterranea were a few of the leading subjects displayed.

Messrs. T. S. Ware, Feltham, contributed alpine plants and early flowers, but the most conspicuous feature of their display was the batch of fringed hydrangeas, the varieties Madame Emile Mouillere, and Mdlle. Renee Gaillard being represented by fine heads of bloom.

Messrs. J. Peed and Sons, West Norwood, contributed alpines, and the Wargrave Plant Farm, Lim., The Arcade, Liverpool Street, E.C., made up a little rock garden with a pleasing collection of alpines. Messrs. Thomson and Charman, Bushey, had a small rock garden, and Mr. James Box, Haywards Heath, filled one corner of the hall with a rock garden, furnished with groups of crocuses, primroses, Primula malacoides, P. denticulata, hellebores, Iris reticulata, etc., and a backing of flowering azaleas and spiræas.

A fairly large rock garden exhibit from Messrs. J. Cheal and Sons, Crawley, included a selection of evergreen and flowering shrubs of lowly growth, and colonies of Primula denticulata alba, Gentiana acaulis, Iris reticulata, erythroniums, hepaticas, saxifragas, primroses, etc. Mr. L. R. Russell, Richmond, submitted flowering shrubs in some quantity, showing Indian and mollis azaleas freely, with spiræas, wistarias, lilacs, and pyruses.

Camellias from Messrs. Wm. Paul and Son, Waltham Cross, attracted attention, and the single varieties—Tricolor, Waltham Glory, Mars, Juno, Minerva, and The Swan—were the chief attraction. A dozen or two bushes of the double white-flowered peach filled the centre of the group. Mr. J. Macdonald, Harpenden, showed grasses suitable for lawn making on various soils, and also exhibited lawn grass growing on prepared canvas in such a way that it could be laid down to form a lawn, and provide a good sward in a very short time.

Adiantums, davallias, nephrolepis, and a lovely lot of exquisitely beautiful filmy ferns, with their translucent fronds, were grouped with Polypodium irioides pendulum grandiceps (F.C.C.), selaginellas, etc., by Messrs. H. B. May and Sons, Edmonton. Forced viburnums, mollis azaleas, magnolias, Prunus triloba, choisyas, etc., were displayed by Messrs. W. Cutbush and Son, Highgate, and with these were associated beautiful groups of Iris reticulata, I. r. Krelagei, I. Danfordiæ, hepaticas, saxifragas, hellebores, etc.

Messrs. Rogers and Son, Southampton, had the carmine-red flowered fuchsia Benita on view; the flowers are rather small, but very freely produced. Messrs. H. Cannell and Sons, Swanley, were represented by cinerarias and cyclamens. A beautiful lot of blooms of Richmond roses, of lovely form and colour, were very greatly admired; these were shown by Messrs. J. Mount and Sons, Canterbury.

Coral Pink primula and Coral Pink Star primula, both shown by Messrs. Sutton and Sons, were much admired, as in each case the delicate salmon-pink tinting of the flowers was very charming.

A large and exceptionally bright group of forced flowering shrubs, arranged by Messrs. R. and G. Cuthbert, Southgate, attracted a great deal of attention. The centre was filled with Magnolia speciosa and M. s. alba, flanked by fine masses of orange, yellow, and pink mollis azaleas, standards of Prunus triloba, Forsythia suspensa, wistarias, and lilacs. The latter were freely used, with Pyrus malus atrosanguinea and P. Scheideckeri in dwarf form at either end of the group. Japanese maples, grevillias, and an edging of euryas and ferns lent the necessary greenery to the brilliant colouring of the flowers. Messrs. R. Gill and Sons, Falmouth, brought up a collection of Himalayan rhododendrons the trusses very full and bright; the new Primula Winteri was well shown.

A large group of greenhouse-flowering plants from Messrs. Jas. Veitch and Sons, Chelsea, contained fine batches of Indian azaleas, freesias, cyclamen, the white-flowered Kalanchoe Dyeri, Otaheite oranges, and lily of the valley.

ORCHID COMMITTEE.

From Messrs. Sander and Sons, St. Albans, came Pleurothallis cardiothallis, with anthurium-like leaves, the pale green Gomeza planifolia, Brasso-cattleya Mdme. Jules Hye, Odontioda Bradshawiæ, Cypripedium Priam, C. Minos Youngi, C. Caractacus, the miniature Lælia Lundi, and many other interesting and beautiful orchids. Messrs. Charlesworth and Co., Hayward's Heath, put up a very effective group of orchids, containing fine spikes of Odontoglossum armainvilliersense, O. Lambeauianum, O. percultum, Odontioda Cassiope, O. Bradshawiæ, O. Keighleyense, Phalænopsis Schilleriana, P. Stuartiana, Lælia anceps Sanderiana, and good specimens of Oncidioda Cooksoniæ (A.M.), Brasso-cattleya Queen Alexandra, Cattleya Suzanne Hye, the free-flowering Brasso-lælio-cattleya Cooksoni, L.-c. Bella alba, and B.-c.-l. Joan, rich orange-yellow, with golden throat to the lip.

Messrs. Stuart Low and Co., Enfield, exhibited a large plant of Platyclinus glumacea with its chain-like racemes of silvery-white flowers, a very dark Vanda cærulea, Dendrobium Wardianum, odontiodas, and cypripediums. Odontoglossum Lady Roxburgh, with two branching spikes of graceful, white, purple, and red-brown flowers; another plant of the same hybrid, but with lighter flowers; and Cymbidium Golden Queen (F.C.C.), with greenish-yellow flowers, were all shown by Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate; the three plants were capitally grown.

Messrs. Hassall and Co., Southgate, had a small exhibit of Lælio-cattleya Callistoglossa, L.-c. Orieus, with yellow flowers, the handsome Cattleya Empress Frederick, Cypripedium Venus Orchidhurst var., etc. Calanthe Bryan (eight spikes) and Dendrobium Wardianum formed a background for Spathoglottis Colmani aurea, Cypripedium aureum virginale, C. aureum Surprise, C. Boltoni, and spikes of Phalænopsis Schilleriana, and R. Stuartiana, in the group of orchids from Messrs. J. Cypher and Sons.

The very handsome Odontoglossum ardentissimum Ebor var. (F.C.C.) was finely shown by Mr. Shill, gardener to Baron Bruno Schroder, The Dell, Egham; the spike carried twenty-two flowers and buds, and the blooms were white, rose tinted, and heavily marked with brilliant chocolate-red. Mr. H. Alexander, grower to Lieut.-Colonel Sir George Holford, Westonbirt, Tetbury, Gloucester brought up Cypripedium Constantine, a very large green, white, and rose-coloured flower; Lælio-cattleya Dorothy with buff-pink sepals and petals, and Cymbidium Gottsianum Dawn and C. G. The Pearl, two lovely white varieties of a C. insigne hybrid.

Messrs. Jas. Veitch and Son's group of orchids included Odontoglossum Lambeauianum, the curious brown-lipped Oncidium fuscatum, the pretty small-flowered crimson Odontioda Devossiana, the rare Oncidium anthrocrene, Cypripedium aureum virginale, C. Actæus Langleyense, C. Thomsonianum, and Cattleya Trianæ Cortauldiana—a fine form. J. Gurney Fowler, Esq., Glebelands, South Woodford, exhibited a fine plant of

Cymbidium Jas. Davis (A.M.), with pink flowers; this carried a 4ft. spike and a dozen or so of large blooms. Mr. W. A. Manda, St. Albans, sent up varieties of Cattleya Trianæ, C. labiata, and C. Percivaliana, grouped with Polypodium Mandaianum.

Mr. C. J. Phillips, Sevenoaks, and M. de Barri Crawshay, Sevenoaks, exhibited odontoglossums, and the former gained an A.M. for O. amandum.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. J. Carter and Co., Raynes Park, exhibited potatoes in good style, presenting very clean tubers of Sir John Llewelyn, Carter's Monarch, Carter's Early Favourite, Long Keeper, King Edward VII., Royalty, Emperor, and other varieties. Messrs. Barr and Sons, Covent Garden, had a group of particularly brilliant forms of the coloured kales.

In continuation of their displays of seasonable vegetables, Messrs. Sutton and Sons, Reading, exhibited a very handsome lot of curled and coloured kales, Prizetaker leeks, Tender and True parsnips, Superb Early White broccoli, Early Snowball turnips, chicory, seakale, artichokes, Batavian endive, and some excellent potatoes. Apples in great variety were staged admirably by Messrs. W. Seabrook and Sons, Chelmsford. Newton Wonder, The Queen, Allington Pippin, Beauty of Wilts, Cox's Orange Pippin, Lord Derby, and Bismarck were notably good varieties and represented by baskets of large brilliant fruits.

CERTIFICATES AND AWARDS.

First Class Certificate.—To Polypodium irioides pendulum grandiceps, from Messrs. H. B. May and Sons, Edmonton; to Cymbidium Lady Colman var. Golden Queen, from Sir Jeremiah Colman, Bart. (gardener, Mr. Collier), Gatton Park, Reigate; to Odontoglossum ardentissimum Ebor variety, from Baron Bruno Schroder (gardener, Mr. Shill), The Dell, Egham.

Award of Merit.—To Odontoglossum Amandum, from Mr. C. J. Phillips, Sevenoaks; to Oncidioda Cooksoniæ, from Messrs. Charlesworth and Co., Hayward's Heath; to Cymbidium Jas. Davis, from J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford; to Crocus chrysanthus var. E. A. Bowles, from Messrs. Barr and Sons, Covent Garden.

MEDALS.

Gold.—To Messrs. R. and G. Cuthbert, Southgate, for forced flowering shrubs.

Silver-gilt Flora.—To Messrs. H. B. May and Sons, Edmonton, for filmy ferns, etc.

Silver-gilt Banksian.—To Messrs. James Carter and Sons, Raynes Park, for potatoes.

Silver Flora.—To Mr. H. Burnett, Guernsey, for carnations; to Messrs. Charlesworth and Co., Hayward's Heath, for orchids; to Messrs. W. Cutbush and Son, Highgate, for forced shrubs and carnations; to Messrs. Wm. Paul and Son, Waltham Cross, for camellias; to Mr. L. R. Russell, Richmond, for forced shrubs; to Messrs. Jas. Veitch and Sons, Chelsea, for greenhouse plants.

Silver Knightian.—To Messrs. Sutton and Sons, Reading, for vegetables; to Messrs. W. Seabrook and Sons, Chelmsford, for apples.

Silver Banksian.—To Messrs. Allwood Bros., Hayward's Heath, for carnations; to Messrs. Barr and Sons, Covent Garden, for early flowers; to Messrs. Cheal and Sons, Crawley, for rock garden; to Mr. C. Elliott, Stevenage, for rock plants; to Mr. C. Engelmann, Saffron Walden, for carnations; to Messrs. S. Low and Co., Enfield, one for orchids and one for carnations, etc.; to Mr. J. Macdonald, Harpenden, for grasses; to Messrs. J. Piper and Sons, Barnes, for hardy plants; to Mr. Maurice Prichard, Christchurch, for hardy flowers; to Mr. G. Renthe, Keston, for rhododendron, etc.; to Mr. Jas. Veitch and Sons, for orchids; to Messrs. J. Cypher and Sons, Cheltenham; for orchids; to Messrs. Mansell and Hatcher, Leeds, for orchids; to Mr. W. A. Manda, St. Albans, for orchids.

Bronze Banksian.—To Messrs. Hassall and Co., Southgate, for orchids; to Messrs. G. and A. Clark, Dover, for hardy flowers; to Wargrave Plant Farm, Lim., Liverpool Street, for alpines.

National Chrysanthemum Society.

Under the presidency of Sir Albert K. Rollit, the annual general meeting of the above society was held in Essex Hall, Essex Street, Strand, at 7 p.m. on Monday, February 3.

There was a moderate attendance of members.

After the usual preliminaries, the President moved the adoption of the report and balance-sheet, as printed and circulated. In doing so, he referred to the promising state of affairs in the society, and spoke highly of the splendid trade exhibits at the November show; of the success of the conference, and the consequent literature which the society is now issuing. The society took its part in connection with the great International Horticultural Exhibition, through its many members. In financial matters the society was now in a good position, and this, the President considered, was a good index of progress. Forty new members were added in 1912, and there were good hopes that more than this number would be added during the year 1913. Mr. T. Bevan seconded the motion, and this was adopted without further comment.

REPORT OF THE COMMITTEE FOR THE YEAR 1912.

The Executive Committee have pleasure in submitting to the members their annual report for the year 1912, a year which has been notable for the progress made in every branch of the society's work.

Sir Albert Rollit, D.C.L., LL.D., was unanimously re-elected president at the annual meeting held in February last. The president was unfortunately prevented from atteding the annual dinner in consequence of indisposition, but he has nevertheless continued his many activities in furtherance of the general work and reputation of the society. The president is using his best endeavours towards obtaining new members, and would like to feel that he is being more generally supported in this direction by other members of the society.

The Publications Committee have arranged for a detailed description of the grand autumn show to be published in the "Transactions" of the society, which will be issued in the early spring, and it is therefore unnecessary to dwell in further detail on the matter in this report.

The annual conference was held at Essex Hall, on November 20, when Dr. Russell gave a lecture, illustrated by lime-light views, on "Soil Sterilisation." By arrangement with some of the leading growers Dr. Russell was able to study the effects of partial soil sterilisation on various chrysanthemum plants, and the results were exhibited at the conference, and partly formed the text for a lecture which was certainly one of the most interesting which has been delivered before this society.

Nine meetings of the Floral Committee were held during the year, when 249 new varieties were considered, as compared with 227 during the previous year. The following awards were made, viz.: 48 First Class Certificates, 18 Commendations, and 4 Awards for Colour.

The table given below sets forth the sections to which First Class Certificates have been awarded during the past five years. The absence of the decorative section in 1912 is due to the fact that under the new classification decorative varieties are not treated as a separate section in themselves, but are allocated to their proper places in the Japanese, Incurved, or Single sections.

	1908.	1909.	1910.	1911.	1912.
Japanese	23	8	19	8	27
Japanese Incurved	—	—	—	—	2
Incurved	3	3	2	2	3
Singles	13	7	12	21	16
Decorative	8	8	21	7	—
Total	47	26	54	38	48

CLASSIFICATION.

The report of the Floral Committee in connection with the new classification was published in the 1911 "Transactions," but it does not appear to have attracted as much attention as was anticipated. Members are requested to make themselves fully acquainted with the new classification, which will assist materially in preventing the confusion which was arising under the old system.

At a special meeting of the Floral Committee held on December 16 the question of granting special market certificates was considered, and after a full discussion it was decided to issue special certificates to varieties which were particularly suitable for market purposes.

At the same meeting it was decided to charge in future a registration fee of 1s. for every variety entered for consideration by the Floral Committee. The Floral Committee are anxious that every good novelty should come under their notice, but they feel it necessary to take some steps to prevent the staging of varieties which are unworthy of consideration and which only serve to waste time.

At the Royal International Horticultural Exhibition held in May last there were only two entries in the class for chrysanthemums, and the society's special gold medal was awarded to Messrs. W. Wells and Co., Lim., of Merstham.

It will be remembered that in the last annual report attention was drawn to the fact that certain types of chrysanthemums did not appear to be receiving the attention they deserved. As a result of this clause in the last report increased attention was paid to these varieties, and the displays which appeared at the 1912 shows were amongst the best that have been seen in the past few years. Attention is again drawn to the fact that special prizes are being offered this year for seedling plants of pompon, anemone pompon, and anemone chrysanthemums.

Your committee desire to express once more their sincere gratitude to the donors of special prizes. During the year a further sum of £25 was placed to the reserve fund which now amounts to £75. The position must be considered very satisfactory having regard to the fact that the society has carried out a very full programme during the past year, in addition to publishing a special volume of "Transactions."

The elections then followed, and Sir Albert Rollit was heartily re-elected as president on the motion of Messrs. Bevan and C. Harman Payne. Mr. John Green was re-elected treasurer; Mr. Thomas Bevan as chairman; Mr. E. F. Hawes, as vice-chairman; Mr. C. Harman Payne, as foreign corresponding secretary; and Mr. Richard A. Witty as general secretary. Mr. C. Harman Payne said that he had now been corresponding secretary for twenty-six years. Mons. Georges Truffaut was very heartily elected as honorary foreign member.

Without the bother of a ballot Messrs. H. A. Farmer, W. Howe, F. W. Ladds, J. B. Linford, J. W. Moorman, J. Rogers, J. I. Simpson, E. F. Such, W. Wells, jun., J. H. Witty, R. W. Leach, and H. Hyatt were elected members of committee.

A very hearty vote of thanks to the president brought the pleasant proceedings to a close within half an hour.

Horticultural Club.

At the annual meeting of this club, held at the Hotel Windsor on Tuesday afternoon, February 4, and presided over by Sir Frank Crisp, Bart., a most encouraging report was presented of the year's work. This showed that the lectures had been well attended, and that membership had doubled during the past two years, and now stood at 192. The financial position of the club is excellent, and a balance of about £170 is carried forward. Reference was made to the generosity of Sir Frank Crisp in providing a cup for the International Horticultural Exhibition; and Sir Harry and Lady Veitch were thanked for their kindness on the occasion of the annual outing.

Thanks were accorded the officers of the society, and these, with the committee were re-elected, and special thanks were given to Mr. R. Hooper Pearson for his services as hon. secretary

At half-past six the annual dinner was held at the Hotel Windsor, and the large dining hall was requisitioned for the occasion owing to the record attendance. Sir Frank Crisp presided, and there were about 110 members and ladies present, including Sir Harry and Lady Veitch, Sir Daniel Morris, and Sir Pieter and Lady Bam.

The programme was a long one, and the musical part of it was arranged and provided by the President. There were the usual loyal toasts and "The Horticultural Club" was proposed by Mr. W. A. Bilney, who reviewed the work of the club, spoke of the honours the King had conferred upon Sir Frank Crisp and Sir Harry J. Veitch, and said that the club had secured a larger room in the Hotel Windsor, and that a billiard table had been provided by the generosity of the President. Ladies had attended the meetings and dinners during the year, and he wondered whether ladies might not be admitted to membership. The President acknowledged this toast, and made kindly reference to the work of Sir Harry Veitch, the treasurer; and Mr. R. Hooper Pearson, the hon. secetary.

The Club took advantage of this occasion to invite the Rev. W. Wilks as its guest; Mr. Wilks will next week have completed twenty-five years of service as secretary of the Royal Horticultural Society. Sir Harry J. Veitch proposed "The Rev. W. Wilks," and in doing so spoke of his long connection with him, of the great services Mr. Wilks had rendered to horticulture, of his zeal and organising ability, and of the phenomenal advances of the R.H.S. from 1,100 members in 1888 to 13,000 members in 1913. The Club wished to show its appreciation of Mr. Wilks' services, and did so by asking him to be present as the guest of the evening. The Rev. W. Wilks was very heartily received, and said that his many friends on the Horticultural Press had not permitted him to be unaware of the fact that there was a proposal on foot to honour him on the conclusion of 25 years' service as secretary of the R.H.S. He reminded those present of the noble work done in the past on behalf of the society, of the splendid work of the present council, and expressed a hope that those who would succeed them might be imbued with the same spirit of devotion to the cause of horticulture. He claimed but a small part in the phenomenal success of the R.H.S., but he was glad to remember that Sir Trevor Lawrence, as president, and Sir Daniel Morris as treasurer, had stood with him in the Society's dark days. He was induced to accept nomination as secretary at a meeting of the Horticultural Club held at an hotel in Covent Garden in 1887, therefore it was not altogether out of place that he should be present at the Club meeting twenty-five years later. Only once, said Mr. Wilks, had there been any division in the Council during those twenty-five years, and it was because of its unity and devotion that the Society had progressed so wonderfully.

The Rev. J. H. Pemberton proposed "The Visitors," and to this toast Sir Daniel Morris responded, and was able to add some interesting points to those already given of Sir Harry Veitch and the Rev. W. Wilks. He said that probably Mr. Wilks had an even wider reputation as the raiser of the Shirley poppies, than as secretary of the R.H.S. Mr. Rogers, who is at the head of the new Department of Horticulture of the Board of Agriculture, also responded, and said he was glad to be brought into touch with so many leading horticulturists, and he hoped that twenty-five years hence the head of the Department would be able to look back on as fine a record of good work as that of the R.H.S. Sir Pieter Bam also responded with a breezy imperialistic speech.

Sir Frank Crisp cut out the toast of "The President," moved a vote of thanks to Messrs. J. Veitch and Sons for so beautifully decorating the tables, and humorously thanked Mr. H. B. May (who should have proposed his health) for the kind words he would have said, thus bringing a very pleasant evening to a close soon after ten o'clock.

ROYAL HORTICULTURAL SOCIETY'S REPORT.

The report that will be submitted by the Council of the Royal Horticultural Society to the annual meeting on Tuesday next is somewhat fuller than usual, and contains much that is of interest. The following extracts are especially deserving of attention:

Wisley Rock Garden and Alpine House.

The planting of the rock garden is proceeding as rapidly as possible, having regard to the desirability of the plants used. It is exceedingly easy to cover a rock garden in a few months with what may be called, more or less, "floral weeds," but such plants will, in twelve months, smother their smaller, slower-growing, and more valuable brethren, so that to obtain a well-planted rock garden it is of all things necessary to have patience, and hasten slowly.

During the past year an Alpine Plant House has been erected above the rock garden, chiefly for the purpose of growing those rock plants to perfection which blossom too early to withstand our wet winters and spring frosts. In this house Fellows will be able to see such plants in flower from February onwards.

Nomenclature of Cape Pelargoniums.

The work of naming and collating the many synonyms of the Cape or Scented-leaved Pelargoniums sent to Wisley for that purpose has been carefully pursued, the task having been entrusted to Mr. John Fraser, of Kew. The list will appear as soon as possible in the "Journal," but it will be necessary to continue the work in 1913, and those having collections are requested to send cuttings to Wisley in February, if they have not already done so, that they may be grown for comparison of both plant and name with those already examined, and their true names established.

Douglas' Journal.

In the early part of the year an application was received from the Department of Agriculture of the United States Government, requesting the loan of the journals kept by Robert Douglas of his travels on behalf of the society through North America in 1824 and the following years, together with permission to publish them if the Department thought fit. Whilst greatly desiring to comply with the request of the U.S.A. Government, which has done so much for horticulture all the world over, the Council hesitated to risk the consignment of the manuscript to such a distance, especially as it has always ranked with those rare and valuable books which are never allowed to be taken out of the library. It was therefore thought better that the society should itself publish this valuable and interesting journal. The secretary was accordingly requested to undertake the task of editing it and preparing it for the press. The work is unavoidably a long one as the writing is often very indistinct, and has faded in places, and it has also been found necessary to refer the identification and nomenclature of villages, rivers, etc., to the U.S.A. Department of Agriculture, but it is hoped that it may be ready for press during the coming year.

Money Deposit with Entries of Exhibitors.

On several occasions great inconvenience has been experienced, especially at the great May and July shows, owing to exhibitors applying for and obtaining an allotment of space, and at the last moment failing to utilise it, thus causing not only unsightly gaps in the staging, but making exhibitors, who have not obtained all the space they desired, think that they have been unduly and unnecessarily curtailed. In order to check this asking for space which they cannot properly fill, all exhibitors at the two great shows at Chelsea and Holland House will in future have to deposit £1 with their application for each space, which deposit will be returned in full if the space allotted is filled to the satisfaction of the Council, but will be forfeited absolutely if the space is not filled, or if in the opinion of the Council the space is not adequately filled.

Primula Conference.

A Primula Conference has been arranged for April 16, 1913, when Sir John Llewelyn, Bart., will occupy the chair. The papers to be read are as follows:

"Himalayan Primulas," by Mr. Craib, of Kew.

"Europæan Hybrids in Nature," by Mr. Reginal Farrer.

"Primulas from a Garden Point of View," by Miss Jekyll.

"Chinese Species of Primula," by Professor Bayley Balfour, F.R.S.

"Europæan Primulas," by Dr. John McWatt.

Diploma in Horticulture.

The committee appointed to consider the desirability of establishing a Diploma in Horticulture have held several meetings during the year, and have consulted a large body of persons whose opinion was considered of value, and have reported that it is desirable to establish such a diploma.

The Council, therefore, at once approached the President of the Board of Agriculture and Horticulture, the Rt. Hon. Walter Runciman, M.P., who most kindly met the committee, and, after hearing their views, promised, after due time for consideration, to communicate with the Council on the subject. The promised communication was promptly sent—it empowers the society to establish an examination, conducted by a joint committee of members appointed by the Board and the society, to determine the recipients of the diploma, which will bear the words "National Diploma in Horticulture, awarded by the Royal Horticultural Society, under a Scheme approved by the Board of Agriculture." The society has consented to bear the expense (over and above the amount received for fees) attaching to this long-needed proof of ability in the art of gardening.

It is hoped that a Degree in Horticulture may also be established by the University of London, and it will in that case be the aim of the Council to make the society's diploma work up towards the University degree.

Parliamentary Committee.

A feeling has been steadily growing amongst horticulturists that their interests require more careful watching with regard to Parliamentary and departmental action than is possible for the Council, which is so fully occupied with the society's more immediate business. It has therefore been decided to establish a Parliamentary Committee whose work it shall be to advise the Council of the society of opportunities—

1. For using the great influence of the society, either in initiating legislation in favour of horticulture, or for influencing measures in any way affecting horticulture, which may at any time be introduced into Parliament; and

2. For informing the Department of Agriculture and Horticulture of the views, and wishes, and wants of horticulturists; and

3. For co-operating with the Department in any useful and desirable movements.

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OBITUARY.

MR. ALFRED TATE.

The announcement of the death of Mr. Alfred Tate, which occurred under tragic circumstances at his residence, Downside, on the 29th ult., will be received with deep regret by all who had the pleasure of his acquaintance, and particularly by the National Rose Society, of which he had long been a vice-president. In the early part of January last Mr. Tate underwent an operation for cancer in his throat. This was quite successful, and he appeared to be making good progress towards complete recovery, although at times he was much depressed. Mr. Tate had shown remarkable fortitude throughout his illness, but it would appear that the depression had reached a very acute stage on the morning of the date above-mentioned when he committed suicide. Much sympathy is being felt throughout the district of which Leatherhead is the centre with Mrs. Tate and the other members of the family in their bereavement, and in this sympathy our readers will, with ourselves, share.

THE LATE MR. ALFRED TATE.

The second son of the late Sir Henry Tate, whose contributions to the art treasures of London are well known, Mr. Tate entered upon the possession of the Downside estate about twenty-three years ago, at which time the gardens enjoyed considerable fame for their orchids. On taking up his residence, Mr. Tate evinced his strong affection for roses by entering on their cultivation on an extensive scale, and within a comparatively short period became widely known as one of the most enthusiastic and successful amateur rosarians. The rose garden at Downside has an area of about four acres, and may be regarded as a veritable triumph of art over nature. It is certainly the finest garden of its kind in the United Kingdom, and has probably no superior in any part of the world. Possessing a genial temperament and generous in permitting others interested in roses to freely participate in the enjoyment of his wonderfully beautiful garden, he was held in the highest estimation, and by none more so than those with whom he had been so long associated in the management of the affairs of the National Rose Society. Mr. Tate was a regular exhibitor at the exhibitions of the last-named society and those of other of the leading rose societies, and invariably occupied a high positon on the prize list, more especially with garden roses. His collections of these were remarkable alike for the high quality of the blooms and the taste evinced in staging. Mr. Tate was hardly less appreciative of the charms of hardy herbaceous plants, beautiful trees and shrubs, carnations, and water lilies than of roses, and the collections which he formed during his residence at Downside are great and attractive features of the beautiful gardens.

Mr. Tate was a generous supporter of the varions movements in Leatherhead that had for their object the welfare of the inhabitants of the town, and was highly esteemed by his neighbours.

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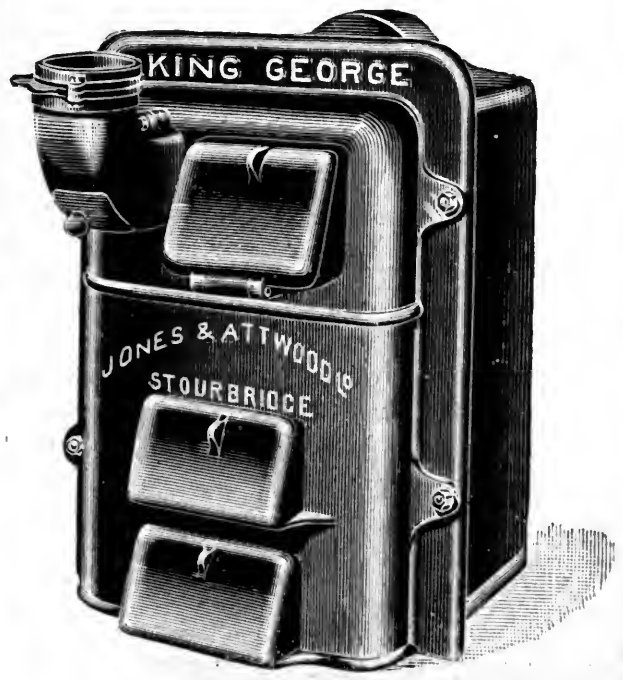

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ANSWERS TO CORRESPONDENTS.

CYANIDING FOR MEALY BUG.—D. M., Yorks: I should be greatly obliged if you will inform me whether the fumes of the cyanide of potassium will kill growing plants. I have a vinery which is badly infested with mealy bug, and growing up the walls are heliotropes, ferns, scented pelargoniums, etc., which cannot be removed. If there is any fear of these being killed by cyanide, I should be glad to learn of another method of destroying mealy bug.—If the plants are dormant, i.e., if the house is a quite cool one, and the foliage of the wall plants is dry, cyaniding should do no harm if properly carried out. Apart from cyaniding, the business of cleaning such a house and freeing it from mealy bug is a serious one. A safe insecticide should be used on the vines, after the removal of loose bark. The plants on the wall should be severely pruned and thoroughly cleansed by syringing and sponging with a nicotine preparation. After pruning, and before using the insecticide, thoroughly scrub the house with hot water and soap, treating roof, sides, glass, and staging alike. Then tackle the vines and tie them up; next dealing with the plants on the wall, releasing all of them from their supports. Remove the surface soil from the borders, hot lime-wash all wall surfaces, tie the plants into position, and top-dress the borders with sweet, new soil. There must be no half measures about the cleaning process, and with so many evergreen plants on the wall the entire removal of mealy bug will be no easy matter.

GREEN SWEET PEA.—M. S., Purley: Is there such a thing as a green sweet pea, and if there is will you please tell me its name? —There is no sweet pea with green flowers; we remember one that was white with a wedge of green colour on the standard, but it could not be fixed.

MUSCAT VINES.—V., Birmingham: I am planting a vinery with fine canes of Muscat of Alexandria, but, as this variety does not produce pollen very freely, I am wondering whether it would not be better to include a vine of some variety that bears pollen freely; there is really room for six vines. What would be a good variety? Do you think if I obtained extra strong canes in pots, and planted them out now I should be able to let them carry one bunch each this year, without injury? The vinery has an indoor border, 3ft. deep.—There is no difficulty in obtaining a good set of berries on bunches of Muscat of Alexandria, if the conditions are right at flowering time; tapping the rods during the flowering period, in the morning, or dusting the flower bunches with a rabbit's tail, will distribute the pollen. There is really no need for one vine of another variety. Cannon Hall is a shy setting variety, but Muscat of Alexandria is commonly grown by itself in a house. Plant the vines at once, plant firmly, removing the old soil first, and spreading out the roots in the border, in layers, as horizontally as possible. Cut back the rods to a point where, when growth commences, the foliage will at once come under the influence of abundant light. If there is a front wall, cut back to about two eyes above the level of the wall plate. To lay the foundation of a fruitful, long-lived vine, you must forego fruit for the present year.

NAMES OF PLANTS.

E. R., Walkley.—1, Calceolaria Burbidgei; 2, Jasminum nudiflorum.

H. S. P., Coventry.—1, Viburnum Tinus; 2, a buddleia, probably B. variabilis.

Name Missing. — 1, Odontoglossum grande; 2, Vreisia Duvaliana; 3, please send when in flower.

B. C. J., Repton.—1, Mahonia aquifolia; 2, Cupressus macrocarpa lutea; 3, Retinospora obtusa aurea; 4, Pinus excelsa.

W. E. C., Guildford. — 1, Cypripedium Leeanum; 2, Ada aurantiaca; 3, Cœlogyne cristata; 4, Dendrobium Wardianum.

GARDENING ENGAGEMENTS.

Mr. H. Buckenham, who has had abundant practice at home and abroad, under the late Mr. Nesfield and Mr. W. B. Thomas, has been engaged as landscape expert by Messrs. John Waterer and Sons, Lim., Bagshot, Surrey.

Mr. Draper, of Knowsley Hall Gardens, has been appointed to the charge of Lady Smyth's garden at Bower Ashton, Bristol, in succession to Mr. H. Noble, who is retiring after twenty years' service, owing to ill-health.

Mr. R. T. Law, of the alpine department at Lowther Castle gardens, has been appointed gardener to Miss A. Smith, Rhine Hill, Stratford-on-Avon.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. JANUARY 26 TO FEBRUARY 1.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 26—Sunday	1 18	29	29	42	28
,, 27—Monday	3 6	34	34	42	30
,, 28—Tuesday	—	39	39	45	34
,, 29—Wednesday	—	42	42	45	39
,, 30—Thursday	—	41	41	51	41
,, 31—Friday	6 24	37	34	42	37
Feb. 1—Saturday	—	40	39	43	35
Means	(total) 10 48	37	36	44	34

DATE. 1913. JANUARY 26 TO FEBRUARY 1.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Jan. 26—Sunday	—	42	43	44	18
,, 27—Monday	—	39	41	44	25
,, 28—Tuesday	0·19	39	41	44	28
,, 29—Wednesday	0·04	41	41	44	38
,, 30—Thursday	0·24	42	41	44	39
,, 31—Friday	—	43	42	44	31
Feb. 1—Saturday	0·21	40	42	44	28
Means	(total) 0·68	41	41	44	29

FORTHCOMING ENGAGEMENTS

MONDAY, February 10.—United Horticultural Benefit and Provident Society.

TUESDAY, February 11.—Royal Horticultural Society's Annual Meeting, at the Royal Horticultural Hall, at 2.30 p.m.

National Vegetable Society's Annual Meeting, at Royal Horticultural Hall.

WEDNESDAY, February 12.—Croydon Gardeners' Society, Annual Dinner at the Greyhound Hotel, Croydon, at 7.30 p.m.

FRIDAY, February 14.—Finchley Chrysanthemum Society's Annual Meeting.

MONDAY, February 17.—National Chrysanthemum Society; Floral Committee's Annual Dinner, Carr's Restaurant, W.C.

TUESDAY, February 18.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Some Flowers of Eastern and Central Africa," by Miss Mason; Scientific Committee, at 4 o'clock.

WEDNESDAY, February 19.—North of England Horticultural Society's Annual Meeting and Exhibition at Leeds.

THURSDAY, February 20.—Linnean Society meets.

FRIDAY, February 28.—Beckenham Horticultural Society, Lecture.

CATALOGUES RECEIVED.

WM. PAUL and SON, WALTHAM CROSS.—This list contains a rigid selection of the best kinds of flower and vegetable seeds, and a speciality is made of collections at fixed prices.

J. R. PEARSON and SONS, LOWDHAM. — This descriptive list of seeds is finely illustrated; sweet peas are an important feature, and cultural notes are very much to the point.

DANIELS BROS., NORWICH.—A most comprehensive catalogue, dealing with vegetable and flower seeds, fruit trees, roses, trees and shrubs, liliums, water plants, border flower, dahlias, bedding plants, etc.

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VOL. LVI.—No. 3,094. SATURDAY, FEBRUARY 15, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Gardening Charities.

In reporting with some degree of fulness the proceedings at the annual meetings, which have been held within the past few weeks, of the two great charitable institutions that are specially associated with horticulture. we have been able to place our readers in possession of the facts essential to their forming a proper estimate of what is being done by the gardening community and those interested therewith in the cause of charity. These facts should be of interest to the gardener, the nurseryman, and the amateur whose means enable him to indulge to the full his taste for gardening, for it is only by a study of them that it is possible to determine whether all that can reasonably be expected is being done in the cause of the aged gardeners and their widows, and of the orphans of those who fall out of the ranks at a comparatively early age. It is certainly desirable that an endeavour should be made from time to time to obtain clear views upon this important point, for unless this is done there may be a tendency on one side to give way to apathy, and on the other to express, without due consideration, an opinion that the members of this or that section of horticulturists have failed to so fully recognise their responsibilities in this matter as could be desired. The study of the facts that are to be found in the record of the proceedings at the annual meetings will be useful also, because of the information gained with regard to the varied ways in which considerable sums may be obtained without very strenuous endeavour or a heavy tax being placed upon the resources of the individual. As we read in the annual report of the Gardeners' Royal Benevolent Institution that during the 74 years which have elapsed since its foundation the large sum of £142,000 has been disbursed in pensions to gardeners no longer able to pursue their avocations, and the widows of gardeners, we are filled with admiration of the generosity evinced by all classes of horticulturists during this long period. While appreciating to the full what has been accomplished in the past, we are highly gratified, as, must be all who are concerned with the welfare of those engaged in horticultural pursuits, by the proofs that at no period in its history has this institution received more substantial assistance than it is receiving at the present time. During the past year the sum of £4,413 was expended in pensions, £225 15s. in gratuities to candidates waiting for election who had been subscribers, and £212 18s. 4d. in gratuities to those awaiting election who had not been subscribers, making a total of £4,852 8s. 10d. Notwithstanding the generous support the institution is receiving at the present time, the income falls considerably short of the necessities of the case, as proved by the fact that after placing 25 candidates on the funds, 42 remained to bear the disappointment inseparable from having to wait another year at least betore they can obtain the assistance they so greatly need. The report of the annual meeting of the Royal Gardeners' Orphan Fund, which appears in another part of this issue, is not less interesting than that of the older charity, because of the evidence it affords of the excellent work that is being done in the cause of the fatherless. By an interesting coincidence, both charities placed 25 candidates on their funds, but fortunately the list of the Royal Gardeners' Orphan Fund was exhausted, and all concerned rendered happy thereby. During the past year the sum of £1,796 10s. was disbursed in allowances to children, making with the amounts previously paid to the little pensioners and candidates a total of £26,542. There is no occasion to dwell upon the great assistance these allowances have been to the mothers or other guardians of the children, for that will be readily understood. But it is a matter of considerable importance to constantly keep in the view the fact that both charities are remarkable for economy of management, presenting in this respect a striking contrast to the charities that undertake responsibilities for the accommodation of their pensioners, whether young or old, in buildings under their own control. Taking into consideration the fact that it has been possible for the two charities to distribute in pensions and allowances £6,648 in the past year, there is no justification for indulging other than in a strong sense of gratitude for the generosity of those who are actively interested in horticulture. It is truly a large sum, but so long as it remains insufficient to enable the charities, or either one of them, to meet the demands that are made upon their resources, an endeavour should be made to augment the annual amount. The best means of support are annual subscriptions, because of their comparative freedom from fluctuations; and in the case of gardeners and many of those engaged in commercial horticulture, there is a distinct advantage in their subscribing to the Gardeners' Royal Benevolent Institution, inasmuch as, should they need its aid, they will have a number of votes, proportionate to their subscriptions, placed at their disposal. It is not every gardener or departmental foreman in a commercial establishment who can afford an annual subscription, and therefore it is essential that it should be generally known that there are other ways by which the gardening charities can be assisted. The aid that horticultural societies and gardeners' mutual improvement societies are able to render is as yet but imperfectly understood, otherwise they would contribute more liberally to the funds of the charities than has yet been the case. Horticultural societies might help by providing a flower stall at their exhibitions, and the other societies might have a collecting box on the table at their meetings, and in many

MR. W. G. BRAZIER,
The new Secretary of the Shropshire Horticultural Society.

districts arrange concerts. Many societies by adopting one of these methods are able to contribute to the funds of one or other of the charities from £5 to £10 annually without a tax being imposed upon any of their members. The opening of gardens once a year at a small charge for admission, might also be more freely exploited as a means of augmenting the funds of the charities. It is not sufficient to open the gardens and provide collecting-boxes, because of the economical habits evinced by many of the visitors on such occasions. Neither should the plate be allowed to take the place of a stated charge for admission to concerts, for the financial results are seldom satisfactory. We refer thus briefly to the two gardening charities for the purpose of calling attention to the splendid work they have accomplished, and showing how all who are concerned with horticulture may participate in the pleasure of strengthening them.

Mr. W. G. Brazier, whose portrait we have much pleasure in presenting to our readers this week, is the recently-appointed secretary of the Shropshire Horticultural Society. He will be known by sight, if not by name, to a very large number of our readers, because he has been on duty in the secretarial tent at the Shrewsbury fêtes for over a score of years. No man could well be better equipped for taking up the arduous duties from which Messrs. Admitt and Naunton lately retired, for Mr. Brazier has been in the employ of these gentlemen for over a quarter of a century. He has a wide and first-hand knowledge of those many details so necessary to the advertisement and management of the Shrewsbury Floral Fête. It is no light task which Mr. Brazier has undertaken, but we feel sure he will maintain "the traditions of the elders," and, if possible, add to the interest, dignity, and extent of the great Salopian function. He will have the cordial good wishes of all who have met him, and of all who have the pleasure of acquaintance with those able gentlemen who founded, and then did so much to make a brilliant success of, the Shrewsbury Show.

The Gordon-Lennox Challenge Cup for Hardy Flowers.—This cup, value 50 guineas, presented to the Royal Horticultural Society by Lady Algernon Gordon-Lennox, is offered by the Council for competition by amateurs at the Holland House Show on July 1, 1913, for a collection of hardy perennial and biennial border plants, including bulbs, tubers, and rhizomes; quite dwarf shrubby plants, such as certain ericas, helianthemums, pentstemons, and dianthus are eligible, but any half-hardy plants which, like dahlias, in most places require starting under glass or with gentle heat, are excluded absolutely. The winner will hold the cup for one year, subject to a sufficient insurance against loss, and a written guarantee to return it in good condition, or, failing this, to refund the sum of £55. On return of the cup in good condition, the Council will present the holder with a small memorial cup of similar design. The object of this competition is to draw attention to the most desirable hardy border flowers (exclusive of annuals, roses, and flowering shrubs), though certain very dwarf-growing shrubby plants, like the old clove carnation, for example, may be included in the term "hardy border plants" for the object of this competition. The same exhibitor may only win the cup once in three years, but should the winner of the previous year be again considered first, the Council will bestow a special award. The decision of the Council is final, and the cup may be altogether withheld at their discretion. The Council will not award this high distinction unless satisfied and assured that the exhibit is, in the main, due to the work and capability of the exhibitor or his employees; on this point the Council may consult any expert not eligible to win the cup, and may reserve decision till the third day.

Proposed Winter Garden for Edinburgh.—At the recent meeting of the Edinburgh Town Council, the question of erecting a winter garden was, on the initiative of Councillor M'Michael, discussed, and its further consideration was remitted to a sub-committee. At the same meeting the sum of £25 was contributed to the prizes that will be offered by the Scottish Horticultural Association at its annual exhibition in November next.

The Chelsea Show.—Plans have been issued by the Royal Horticultural Society of the grounds of the Royal Hospital, Chelsea, and the great tent, showing the provisional arrangements for the exhibition to be held in May next, and these should prove useful to exhibitors in the selection of positions. From the general plan it is seen that the area devoted to the exhibition occupies the whole of the grounds between the avenue of lime trees and the central walk in which the obelisk has a place. The great tent, in which the whole of the exhibits requiring shelter will be arranged, has four spans, and should afford ample space both for the accommodation of the plants and the visitors. The stages for orchids flank the central avenue, and on the eastern side the exhibits will be arranged in irregular groups, while on the western side there will be six rows of tables. Space will be provided for rock gardens, groups of hardy trees and shrubs, and sundries in the open air.

Suffragist Attack on the Orchids at Kew.—An outrage of a peculiarly vicious and wanton character occurred at Kew in the early hours of Saturday, February 8. At five a.m. the stoker found over thirty panes of glass had been smashed in two of the orchid houses, pots broken, and many orchids pulled out of their pots and thrown to the floor. Pots, plants flowers, and glass were in a confused heap. It is reported that a piece of paper carrying the inscription "Votes for women" and a small handbag were found in one of the houses, hence there is reason to suspect that the outrage was committed by Suffragists, and probably by women. It would not be a very difficult matter for anyone to hide themselves in Kew Gardens at night at this time of the year, nor would it be a very serious undertaking to enter the gardens by way of the Old Deer Park, but hitherto these beautiful gardens have been peculiarly exempt from trouble at the hands of disaffected persons, or pilferers. An attack on plants is about as cowardly and cruel as one upon domestic animals, or those in captivity. The extent of the damage done to the orchids has not transpired, but, had the night been very cold and frosty, the damage would have been very serious. The orchid collection at Kew is not so valuable commercially as some collections; that is to say, it does not contain numbers of costly hybrids and varieties, such as fanciers delight in, but it is exceptionally rich in species sent home from all parts of the tropics, and many of the plants, though of little worth at an auction sale, and not notable for their great beauty, are practically priceless, because of their rarity and scientific interest. The British public is very loyal to Kew, and, though over a million people may pass through in one year, the damage done is infinitesimal, and usually due to ignorance rather than wilfulness. Had the outrage been committed, say, on the Saturday afternoon, the culprit or culprits, would, we are certain, have received short shrift at the hands of the many visitors. We may add that prompt means were taken to minimise the damage done, and by the time visitors arrived on Saturday, the glass had been repaired, and there was nothing beyond the closing of the houses to indicate that anything untoward had happened.

Trials at Wisley, 1913-14.—These trials will comprise: Fruits—Berry-bearing fruits other than strawberries, raspberries, gooseberries, and currants, and autumn-fruiting strawberries. Flowers—Antirrhinums, aquilegias, pyrethrums, gaillardias, violas, and bearded iris. Vegetable—Peas, early mid-season potatoes, tomatoes (inside and out), and turnips. The trial of violas was last year so successful, particularly in the late spring and early summer, that it has been suggested (and the Council have accepted the suggestion) that the trial should be continued in 1913 with a special view to the date of the flowering of the various varieties.

Chrysanthemums at Cardiff.—Mr. W. W. Pettigrew, the parks superintendent, reported to the Cardiff Parks Committee at their recent meeting that during the first few seasons of the chrysanthemum display in Roath Park an average of 10,000 to 12,000 visitors attended to witness it, but last year only about 5,000 people attended. He suggested, therefore, that the expense and trouble of cultivating large blooms were not justified, and that the cultivation be confined to decorative varieties, which could be grown at about half the cost. This suggestion was adopted by the committee.

The "United" and the Insurance Act.—The advantages the United Horticultural Benefit and Provident Society is able to give its members, as compared with those obtainable from societies that are open to all classes of the community, are so great that every gardener in the United Kingdom should be a member. Unfortunately, this is not possible owing to age-limit and other causes, but it is possible for all young gardeners to join, and those who neglect their opportunities incur a serious responsibility. The rates of sick pay have, from the first, been on a liberal scale, and, under the new arrangements consequent on the society becoming an "approved" society under the Insurance Act, they are still more so. In several respects, the "United" differs materially from the ordinary friendly societies, but the most important is unquestionably the annual allocation of the surplus to the accounts of the individual members. As gardeners on the whole enjoy better health than do the majority of those engaged in other industrial pursuits, the demand upon the sick fund is less, and the annual allocations form a considerable sum in the course of several years, as proved by the payments that are made to members, or their relatives, from time to time. We have on several occasions called attention to this feature, and we are induced to again remind those who are eligible for election of the fact that, by joining the society, they are able to make some provision for old age, as well as for periods of ill-health. Quite recently two members who were over 60 years of age were able to draw the interest on their deposit accounts, and one member was able to draw his deposit amounting to the substantial sum of £26 14s. 2d. Useful as these sums undoubtedly proved to the several members, they appear

small as compared with the amount of the accumulated profit standing to the credit of a member who had reached three-score years and ten, and had presumably been long a member. In this case the sum was £161 7s. 7d., and the member has drawn upon it to the extent of £61 7s. 7d. Had he been a member of a general friendly society for the same period he would not have had a deposit account, even to the extent of a penny. A mere statement of these facts should be sufficient to show that the approved society which all who are engaged in gardening should join, is the United Horticultural Benefit and Provident Society. The secretary is Mr. A. C. Hill, 35, Alexandra Road, West Kensington Park, S.W.

Manchester Royal Botanical and Horticultural Society.—In their report for the past year the Council of this society state that the anxiety with regard to the future of the gardens at Old Trafford, which was felt in the early part of 1912, has disappeared. They have been able to secure tenants for the gardens until March, 1915, at an annual rent of £2,000, and there is a possibility of a longer lease being entered on before or after that date. They record with much pleasure the fact that the indebtedness of the society is gradually disappearing, the total being now £3,757 17s. 5d., the mortgage having been reduced during the year by £2,000. The Council announce their intention of holding three exhibitions during 1913, the seasons in which they will be held being spring, summer, and autumn. To ensure a full measure of success in carrying out these exhibitions, the co-operation of ladies and gentlemen resident in and around Manchester is invited as subscribers and exhibitors. It is pointed out that the society has no income from annual subscriptions, and stated that an effort will be made to obtain the support of the flower-loving public so that the shows may be self-supporting, and that the work of the society may be extended for the benefit of the people resident in the district of which Manchester is the centre.

Autumn Flower Show at Dumfries.—Owing to financial and other reasons the Dumfries and Galloway Horticultural Society has ceased operations, and it has been proposed to form a new society for the purpose of holding an autumn show in Dumfries. At a meeting held on February 1 the proposal was heartily supported, and the holding of a show was unanimously agreed to. A provisional committee was then appointed, and there is every prospect of the society being firmly established.

Meeting of the British Association. — The arrangements for the meeting of the British Association at Birmingham are making satisfactory progress, and more than two-thirds of the sum of £6,000 required for carrying them out in a manner worthy of the city has been already promised. The meeting will commence on Wednesday, September 10, when the usual business meeting will be held, and will be followed by a presidential address by Sir William White, K.C.B. On Thursday, September 11, the sectional meetings will commence. There will be excursions on the Saturday to Coventry, Kenilworth, Shrewsbury, Stratford, and Warwick, and, in addition to these, special excursions will be arranged for archæologists, botanists, geologists, and geographers. The new features will include a series of citizens' lectures, which will be given each evening during the period over which the meeting extends, except that of the opening day and the Sunday.

SOME CHOICE CLEMATIS.

Few hardy plants of scandent habit are more effective in the garden during their season of flowering than the large-flowered clematis, which are so numerous as to afford a wide range for selection. Provided they can be maintained in a robust state of health, they quickly clothe pillars and arches, and rapidly extend over considerable areas of trellis and wall, and produce their attractively-coloured flowers in such profusion as to produce a delightful display. Unfortunately, it is not always possible to maintain them in so healthy a state as one could wish, owing to the insidious attacks of eelworms, which are so destructive in their effects on those forms of vegetable life that are vulnerable to their attacks.

Probably much might be done to improve matters by avoiding the use of animal manures in their cultivation, and enriching the soil with some of the many excellent artificial fertilisers that are available. By preparing the stations with sweet, fibrous loam, and giving a liberal dressing of lime to the soil, much will be done in the direction of obviating the risk of serious injury from eelworm attacks. As in the case of the Traveller's Joy, and other indigenous species which may in various parts of the country be seen luxuriating on chalk banks, the garden hybrids are lime-loving plants. Therefore liberal proportions of lime, chalk, or lime rubble should be incorporated with the soil previous to planting, and a moderate top-dressing be applied annually, preferably late in winter or early in spring.

This is a suitable time for planting clematis, and the following varieties will form an excellent selection: Admiration, rich salmon-pink; Alba magna, a fine pure white variety; Beauty of Worcester, a medium-sized and finely-formed flower of a blue-violet hue; Duchess of Edinburgh, a charming, fragrant, double white variety; Elsa Späth, purple violet; Fairy Queen, flesh colour, with a pink band down the middle of each petal; Henryi, pure white, one of the finest of the white clematis; Jackmani superba, rich violet-purple; Lord Neville, rich blue; Lucie Lemoine, double white, very fine; Madame Baron Veillard, pale lilac, suffused with rose; Madame Jules Corevon, deep red; Mrs. G. Jackman, white with cream-coloured band in each petal; President, a beautiful claret colour; Queen Alexandra, delicate lavender; and Ville de Lyon, bright red crimson

CLEMATIS MRS. G. JACKMAN.

A good specimen of this beautiful white variety on the terrace wall in the Nuneham Park Gardens.

RECENT ADVANCES IN HORTICULTURE.

Mr. David King, the newly-elected president of the Scottish Horticultural Association, devoted his inaugural address to a consideration of some of the more important advances that have been made in horticulture within recent years.

In his opening remarks, he expressed the opinion that it might with truth be said that recent advances in horticulture in this country had been more along scientific lines than in practical horticulture. The excellence of practical horticulture in Great Britain has always stood very high, and it is difficult to say whether, in the purely practical aspect, we are much further advanced than we were half a century ago. Certainly there has been a great improvement in most of the appliances, and in recent years scientists have let a flood of light in upon many of what were obscure phenomena to the practical man. We have had new races of plants produced, and we have had varieties of fruits and vegetables raised which give heavier yields; but when all is said, considering the materials, and the appliances, which gardeners had to work with then, it is doubtful if there has been so great an advance in the practice as appears on the surface. On the contrary, the old gardeners, without technical education of any kind, except what they could gather by reading and intercommunication with their fellows, could produce crops, making allowance for the differences in the kinds of fruits and vegetables grown then, which would compare favourably with those grown to-day.

Soil Knowledge.

In no department of scientific horticulture, perhaps, has so great an advance been made as in our knowledge of the soil and the use of manures. It is only within comparatively recent years that we have come to realise that the soil is not the dead, inert substance we formerly supposed it to be, and this has completely revolutionised many of our ideas both as regards the working and the manuring of it. We now know that the soil teems with life, and we know that life can exist only in the upper layers of the soil. We know, too, that some of these minute organisms are beneficial, and that certain of them are injurious, and this knowledge of their properties and their mode of life has given us the key to failures in the past where it seemed that success should have been certain. This knowledge enables us to see where we were wrong when, in our practice of trenching ground, we killed the organisms by putting the soil they inhabited in the bottom of the trench, away from the influence of the air, and bringing the sterile soil in the lowest depths to the surface, there to remain until it had had time to be brought into a state fit for their habitation, and thereby we wasted time. That is one instance out of many where science has come to the aid of the practical man, and has demonstrated to him that he was wrong. It has also come to his aid in connection with the application of manures to the soil, and now the farmer and the gardener know well why, when potatoes are heavily dosed with farmyard manure alone, stems and leaves only are produced at the expense of tubers; and why heavy dressings of lime, by killing out the soil bacteria, do more harm than good, and can only be beneficial, as in the case of the trenching referred to, after the soil has again become fit for habitation by these organisms.

One of the most recent, and, from some points of view, probably the most interesting of experiments in connection with soil, especially soil used in the cultivation of plants under glass, is "soil sterilisation." We are familiar with the old process of "baking soil," and, of course, this kind of sterilisation is not new. But scientific sterilisation is a very different matter. Here the object is not to kill all life in the soil, but only to kill off those organisms which are injurious to plant life, so that the beneficial ones may have free scope to multiply and render the soil fertile, again. It seems that the beneficial organisms cannot live, or, at any rate, cannot perform their functions, in an acid soil, and that all such soils require to be neutralised before they can be made fit for healthy plant growth.

Mendelism.

Perhaps the most important of recent discoveries in scientific horticulture is that of Mendel's Law of Inheritance. While it does not upset the old notion that "like begets like," it has completely revolutionised our ideas about the breeding of both plants and animals, and it enables us to understand phenomena which previously were unintelligible to us. Now we know why the old, haphazard method of fixing varieties of plants produced by crossing was so tedious and troublesome. Now we know that numbers of cross-bred plants which were discarded as useless before the discovery of this law were discarded simply because the breeders did not understand the outward evidences of its existence. It required a Mendel to interpret these things, and possibly not one in a hundred of the scientists of his time would have been able to do so. In fact, even the celebrated botanist, Carl Naegeli, did not seem to understand Mendel's results after they were obtained. That wonderful law tells us that, when we cross two plants in order to blend or mix two desirable characters, though what we desire may be entirely absent in the first family, nevertheless the factors are there, and most assuredly will appear in the next family. No factor, though it may disappear for the nonce, is ever lost, and breeders of both plants and animals, provided their stocks are pure, may now make their crosses and be quite certain of the results. And not only this, for with a knowledge of this law they are saved all the trouble and loss of time involved in the old haphazard methods of fixing, which are now superseded by a method at once scientific and simple. Even on the human race itself, it is impossible to say what the influence of this wonderful law may be, and possibly it may yet be shown that much of the present-day social legislation is framed on wrong lines altogether. In fact, the science of Genetics is one of the most important subjects with which biologists have to deal at the present time.

Decorative and Rock Gardening.

As regards decorative gardening, there has been quite a revolution in recent years. The advent of so many fine decorative roses, the great improvement in such flowers as the antirrhinum, the sweet pea, and many other hardy subjects, and, more than anything else, perhaps, the greatly increased favour which hardy plants generally now enjoy with a large and increasing number of people, have brought about a great change in this kind of gardening. There is a growing tendency to a less formal style, although the formal garden is by no means a thing of the past. Bulbs for spring bedding and naturalising in wild gardens are being more and more used, and beautiful-flowered trees and shrubs have now a place in decorative gardening which they never had before. In fact, the whole tendency is in the direction of hardy subjects of various kinds, and the whole style of the garden is undergoing a corresponding change. Nor is it to be wondered at that this interest in hardy plants has taken such a hold on people, for the saving in glass-house accommodation is very considerable, to say nothing of the fuel and labour that are saved. And there is another advantage in the use of herbaceous and other hardy subjects in that they give a succession of bloom from early spring to late autumn, whereas tender subjects like geraniums and other summer-bedding things only last a few months.

Rock or alpine gardening, too, is becoming more popular, and the fine displays of these gardens at the great International Horticultural Exhibition held in London in May last showed that the experts are not neglecting this branch of the subject. Then there is wild or semi-wild gardening, which gives great scope for the introduction of novel features, and which is also becoming very popular with some people. In fact, the chief charm of these hardy subjects—trees, shrubs, and herbaceous plants—lies in the fact that they can be used in such a variety of ways, and they give so little trouble.

New Plants.

The last decade or so has witnessed the introduction from North China of a large number of new plants, many of which will no doubt be valuable accessions to the stock of hardy plants for the decoration of gardens; but as most of the regions of the globe have now been explored, we cannot hope for such a supply of new plants in the future as we have enjoyed in the past, and, for decorative subjects, at any rate, by and bye we shall have to rely almost entirely on the hybridists to supply our wants. This, however, we need have no fear about, for what they have done in the past for the rose, the rhododendron, and azalea, the carnation, orchids, and many other things, they will do for other subjects which are likely to be of use in horticulture in the future.

Improved Races and Varieties.

Leaving out hardy annuals like the sweet pea and some others among the non-shrubby decorative subjects, none, perhaps, has made such a great advance in popular favour in recent years as the perpetual-flowering carnation. The evolution of this flower has been phenomenal, and the varieties nowadays are very fine indeed, and its qualities as a cut flower have given it such a lead over the border carnation that the altter will probably have to take a lower position in the future. Another plant in which great improvement had been effected in recent years is the tuberous-rooted begonia, but it is doubtful if, as a bedding plant, it will supplant the pelargonium, unless, perhaps, in mild, moist localities, which suit its requirements best.

In the case of old favourites like the rose, sweet pea, chysanthemum, dahlia, gladiolus, etc., the hybridists have also been busy, and many new varieties of these are constantly making their appearance; in fact, there is no finality anywhere, and almost every year there is some new break or some new race appearing. But like tastes in gardening, there have been great changes here, too, and the great aim now seems to be to produce decorative varieties in preference to varieties which are chiefly, if not only, useful on the exhibition table. In the case of the chrysanthemum, the growing of big blooms for exhibition purposes seems to have reached its limit, and a reaction in favour of the decorative varieties, including the singles, seems inevitable. It is the same with the dahlia. How often now do we see the old show dahlia at our flower shows? Its place has been taken by the cactus, collarette, and other useful kinds—decorative kinds—and it is the same with many other genera. And this change in taste in gardening is not to be regretted, for the simplicity and ease with which many of these hardy plants can be grown will do more, perhaps, than anything else to make decorative gardening more popular amongst the masses of the people; and if ever the Garden City idea takes root in this country, as no doubt it will in time, this wealth of decorative plants will be one of its greatest assets.

(To be continued.)

Honour to Messrs. Adnitt and Naunton. — In recognition of their twenty-eight years of excellent service as joint honorary secretaries of the Shrewsbury Show, the Council of the Royal Horticultural Society have appointed Mr. H. W. Adnitt and Mr. W. W. Naunton honorary life Fellows of the society.

NEW PLANTS AND FLOWERS.

CROCUS CHRYSANTHUS E. A. BOWLES.

A very beautiful crocus, raised by Mr. Van Tubergen, and named after Mr. E. A. Bowles, who is one of the leading authorities on crocuses. The flowers are rich yellow, of fine form and substance, and on the outer surface the lower half of each segment is beautifully marked with rich reddish brown. A fine, free, vigorous crocus. A.M., R.H.S., February 4. Messrs. Barr and Sons, Covent Garden.

ODONTOGLOSSUM ARDENTISSIMUM EBOR.

A splendid form with large, shapely flowers. The white ground-colour is tinted with rose, and heavily and regularly blotched and spotted with bright chocolate-red. The specimen exhibited carried twenty-two flowers and buds on a superb spike. F.C.C., R.H.S., February 4. Baron Bruno Schröder (gardener, Mr. Shill), The Dell, Egham.

POLYPODIUM IRIOIDES PENDULUM GRANDICEPS.

A variety imported from Queensland. The fronds are freely divided at the apex, and consequently depend somewhat, but in a large plant this pendulous habit becomes strongly marked, the fronds hanging down like those of Platycerium biforme, and a yard or so long. It promises to be an easily-grown warm house fern, capable of making a large specimen. F.C.C., R.H.S., February 4. Messrs. H. B. May and Sons, Edmonton.

CYMBIDIUM LADY COLMAN, VAR. GOLDEN QUEEN.

A very effective form of the hybrid between C. eburneo-Lowianum and C. Tracyanum. It has large flowers of a bright greenish yellow, with faint lines or rosy dots. The lip is yellow, white, and brown. F.C.C., R.H.S., February 4. Sir Jeremiah Colman, Bart. (gardener, Mr. J. Collier), Gatton Park, Reigate.

ONCIDIODA COOKSONÆ.

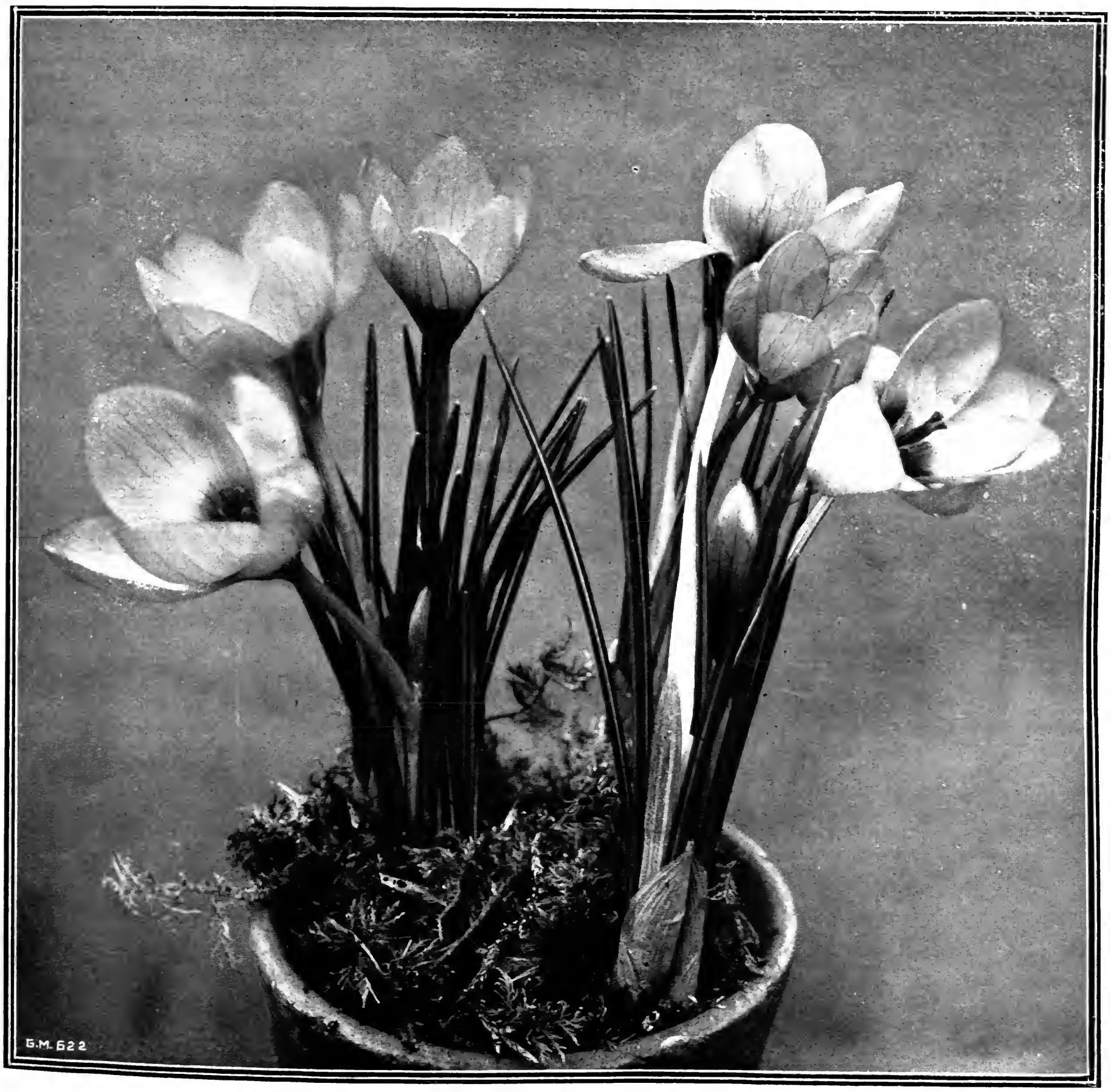
A very striking and novel hybrid between Cochlioda Noezliana and the well-known Oncidium macranthum. In growth and length of spike the influence of the last-named orchid is very much in evidence, but the cochlioda has modified the flowers and given them a rich red colouring, though there are yellow tips to the petals. A.M., R.H.S., February 4. Messrs. Charlesworth and Co., Haywards Heath.

CYMBIDIUM J. DAVIS.

This has an erect spike, rising nearly five feet high, and bearing numerous flowers of fair size at its apex. It is the result of crossing C. Schröderiana with C. insigne, the influence of the latter being very much in evidence. The flowers are buff-pink with reddish brown lines, and the white lip has red-brown markings. A.M., R.H.S., February 4. J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford.

ODONTOGLOSSUM AMANDUM.

A shapely hybrid with white flowers that are marked with a few rich red-purple blotches and spots. The parents are O. Pescatorei and O. Wilckeanum. A.M., R.H.S., February 4. C. J. Phillips, Esq. (gardener, Mr. Bucknell), The Glebe, Sevenoaks.



CROCUS CHRYSANTHUS E. A. BOWLES.

A beautiful golden-flowered crocus, with broad segments that are finely coloured at the base, on the outside, with bright brown. A.M., R.H.S., February 4, Messrs. Barr and Sons, Covent Garden.

THE CONSERVATORY IN FEBRUARY.

During most of the month of January the gap caused by the passing of the chrysanthemums causes many gardeners no little anxiety. It has been especially so this year when the very late-flowering chrysanthemums have not altogether fulfilled expectations. It is interesting, but disappointing, to speculate on the reasons which caused the latest varieties to be merely late in their blooming, instead of very late, in a season when many of the earlier varieties matured later than usual. The remedy seems to be to grow the latest batch in rather more varieties in the hope that another season there will be sufficient plants in flower during the first half of January at the least.

But with the beginning of February the number of shrubs and plants which may be forced into bloom greatly increases each week, and will lessen the decorator's anxieties. Perhaps the greatest difficulty at this season is to obtain roof plants in bloom. With the pillars of the conservatory there is not so much difficulty; these may be attractively clothed with such plants as the deliciously fragrant Luculia gratissima, which will soon have finished its period of usefulness; and the strong-growing fibrous-rooted begonias, of which B. Luzerna, which bears spotted leaves and large trusses of bright pink flowers, B. Haageana var. Drosti, B. gracilis, and B. fuschioides may be instanced.

One of the best roof plants now obtainable is Tibouchina semi-decandra, which has produced its rich purple-blue flowers for a considerable time, and shows no signs of ceasing. No more striking floral combination than these rich-coloured, velvety blooms overhanging a score or so of plants of Jacobina chrystostephanas can be easily imagined. The yellow-tipped, glowing orange flowers of the Jacobina, strikingly beautiful as they are, gain distinction from the association. Other seasonable roof plants are Abutilon insigne, A. Golden Fleece, A. Boule de Neige, and Lantana salviæfolia (syn. L. delicatissima). To gain the maximum effect the lantana should be loosely trained, so that the pale lilac flowers hang over a group of some white blossom. The Abutilon insigne alone would not arrest the attention of the lover of gorgeous colours, but there is, nevertheless, a deal of beauty in the widely-expanded reddish flowers, which are suitable for acting as a foil to the rich yellows or orange-scarlets of other plants, and the flowers of the abutilon improve on acquaintance.

The great change in the method of arrangement of the plants in the conservatory synchronised with the decay of carpet bedding and ribbon borders in the flower garden. The then fashion in the conservatory very nearly approached the style of the ribbon borders, except that the rows of plants were not composed entirely of distinct sorts. While one deprecates the departed style of arranging the plants of each species or variety at regular intervals, as far as circumstances and plants permit, and looks more favourably upon the present-day system of grouping, we must not overlook the fact that, unless employed with skill and taste, this becomes a crude and inartistic arrangement, savouring much of the advertisement poster. A show house, containing batches of plants arranged slavishly in their kinds and often in their colours, with a few evergreen subjects interspersed at intervals, may possibly possess the virtue of originality, but it would owe any attraction it possessed to the meretricious grace of crude colour mass, and would have no more real beauty than the vases of sweet pea blooms one sees at the summer flower shows, which are examples of colour massing pure and simple, the beauty of form being entirely hidden.

A more artistic method of plant arrangement would be to still group the different kinds of plants which are in flower, but, as is the case with many of the forced shrubs—the cytisuses, staphyleas, deutzias, and Buddleia asiatica, for instance—and plants such as the Lindenbergia grandiflora, recently illustrated in the GARDENERS' MAGAZINE, Begonia Gloire de Sceaux, and many epacris, to name only a few now in flower, unless they possess graceful habit or plenty of foliage they should not be grouped alone. An occasional batch of very floriferous Begonia Winter Cheer, or B. Gloire de Lorraine, when suitably placed, have decided colour values, and often would be very artistic, but it is the repetition of these types, triumphs of cultural skill though they be, which appears crude and monotonous. Daintier and more artistic combinations may be obtained by grouping in association two classes of plants, whilh have flowers of distinct colours.

The method advocated has its difficulties, and requires for its successful adoption unfailing taste in the blending of colours and forms of foliage. Otherwise the decorator will steer clear of the rocks of crude colour only to come to grief in the shoals of discords. The use of scarlet flowers with the yellows, for instance, must be sparingly practised, and the various difficult shades of colour are often best either kept separate or associated with white. The most generally successful combinations are yellow or pink, red and pink, lemon-yellow and pale heliotrope, and in a good light yellow and white.

The arrangement of the forced bulbs present certain difficulties when it is wished to break away from the patches of scarlet tulips, of yellow narcissus, or of white lily of the valley. The companion plant must be of comparatively low stature and of moderate delicacy of foliage or the bulbous plants will either be dwarfed or hidden. In these instances, little bushes of the beautiful Acacia Baileyana, with a profusion of golden flowers, or of A. ovata, may be thinly interspersed amongst either the lily of the valley or the scarlet tulips with equal propriety. Polygala myrtifolia grandiflora, which bears carmine-rose coloured, pea-like flowers in graceful quantities, is another useful shrubby plant, which may be associated either with white or yellow. Buddleia officinalis, Jasminum primulinum, and Coronilla glauca are three very free-flowering shrubs, which may be obtained for the February decoration of the conservatory without any difficulty.

The forcing of herbaceous plants in a few kinds has long been practised in order to add variety to the conservatory, and lately certain annual plants have been pressed into service with excellent results, and in this direction we shall probably find many more plants which may be similarly utilised. Of the herbaceous plants, the spiræas, Dielytra spectabilis, and Solomon's seal are the most generally used for flowering at this season, but they might well be supplemented by Doronicum plantagineum excelsum, aquilegia hybrids, and the trolliuses, and other kinds will readily suggest themselves. But it will be found that it is the herbaceous perennials with tuberous and fleshy roots which are the most amenable to this gentle forcing.

CECIL AUBREY.

PEAR PLANTATIONS.

In plantations and alongside walks most of the best pears are grown in the form of bushes and pyramids. It is not everyone who has the conveniences for growing pears as cordons or trained trees on walls, and a few remarks on the general treatment of trees so grown may be of some value and assistance to many of my readers. It will be understood that these remarks or notes apply to the cultivation of pears in those districts where it is possible to grow the trees and ripen the fruits with a reasonable amount of success. In many parts of the kingdom climatic and other unsuitable conditions make it a precarious venture to plant pears in open quarters.

Soils and Situations.

Soil and situation are all-important factors to be considered; heavy, retentive soils are unsuitable to the requirements of the pear, and where it is necessary to plant trees in soil of this character, means must be taken to make it more in accordance with the requirements of the roots. The desirable conditions are a free root run devoid of stagnant moisture, and in dealing with heavy soils it is necessary to drain, trench, and add such materials as will add to the lightening and porosity of the staple. Possibly this may appear unnecessary trouble and expense, but if the best results are desired the initial outlay will well repay itself. Good, sandy loam of a fair depth, overlaying a well-drained subsoil, suits the pear admirably. In a soil of this class, bush trees on the quince stock are the most profitable, both for quality and quantity of the fruits. Should, however, the soil be of a very light and porous nature, trees on the quince will, unless well mulched and watered, become stunted in growth after being planted a few years. In such cases it is advisable to have trees worked on the pear stock. Possibly growth may be too vigorous, but by judicious root-pruning this evil may be corrected, and once the trees become fruitful there will be slight danger of undue vigour in growth occurring.

Regulation of Growth.

The tree I prefer is one that might be termed a bush cordon—that is, a tree with several main branches standing well apart from each other, and treated in the way of pruning as an ordinary cordon. By this method the maximum of light and air is admitted to all parts of the tree, and consequently the fruits are of good size and quality, and, further, the free admission of sun and air thoroughly matures growth and materially assists the formation of fruit spurs. The management, or I might say mismanagement, of pear trees growing in the open is often deplorable.

One often hears the complaint, "My trees grow freely, but I fail to have any fruit." Many such cases have come under my notice, and the trouble is usually due to two causes—faulty pruning and neglect of the roots. Many of these trees are a perfect thicket of growth, light and air is

quite shut out, and under such circumstances it is not to be wondered at that the fruit is conspicuous by its absence. By removing from half to two-thirds of this excessive growth, and if upon examination the roots require restriction, resort to root-pruning to counterbalance the action of the growths cut out, the balance of the tree will be restored, growth will be restricted within reasonable limits, the wood will be well ripened, and blossom buds will be freely formed in due order.

Pruning of the branches and of the roots are important details, and the limits of these notes will not permit an exhaustive explanation, but it occurs to me that if common sense and less rule-of-thumb methods of procedure were introduced into the management of fruit trees, the results would provide far better and higher returns than are so often obtained nowadays.

Varieties of Merit.

The selection of varieties is a very important matter. In the first place, certain varieties will do well in one district, and probably in an adjoining neighbourhood fail to give good crops, and the fruits will be of inferior quality. This is a difficult matter to explain, but the fact remains. Again, there are certain varieties which succeed practically everywhere where the conditions are at all favourable to the growth of pears. In selecting varieties for planting it is advisable to ascertain which varieties are best adapted for the particular district. More or less unknown varieties should be tried before planting them in large numbers. It is most necessary in growing pears to meet an extended demand that a goodly number of varieties should be selected. The uncertainty both as to cropping and premature ripening of the fruits is well known, and unless a certain amount of overlapping occurs, there is a likelihood of a shortage of ripe fruits—probably when most needed.

Some of the old varieties of merit have been pushed to one side by later introductions having fruit of large size and high colour, but in some instances lacking the rich flavour of the smaller fruits of those old favourites. For a display on the dinner table, large, handsome fruits are desirable; but for eating, medium-sized fruits are preferable. The following are well tried and suitable for bush culture, viz.: *Beurre Giffard, *Souv. du Congrès, *Williams' Bon Chretien, *Beurre d'Amanlis, Triomphe de Vienne, *Madame Treyv, *Louise Bonne of Jersey, *Durondeau, Comte de Lamy, *Emile d'Heyst, Marie Louise, *Beurre Hardy, Beurre Diel, *Beurre Superfin, *Doyenne du Comice, Glou Morceau, Winter Nelis, *Josephine de Malines, President Barabe, *Bergamotte d'Esperen, Beurre Easter, Duchess de Bordeaux, and *Oliver de Serres. The varieties marked thus (*) will in themselves provide fruits over an extended season, and are good in every way. As I have previously mentioned, it is possible that in certain districts some of the varieties not "starred" may be equally as good, if not better, than those "starred."

Thinning Flower Buds.

Many trees fail to set their fruits owing to the excessive amount of blossom which is allowed to develop, exhausting the energies of the tree in this direction instead of their being devoted to the embryo fruits. Some form so many flower buds, that unless the greater portion of them are removed, the possibilities of a crop are very remote. I believe that if the practice of more or less thinning down of the flowering buds was more generally recognised, there would be crops of fruit in the place of partial or entire failure as so often happens.

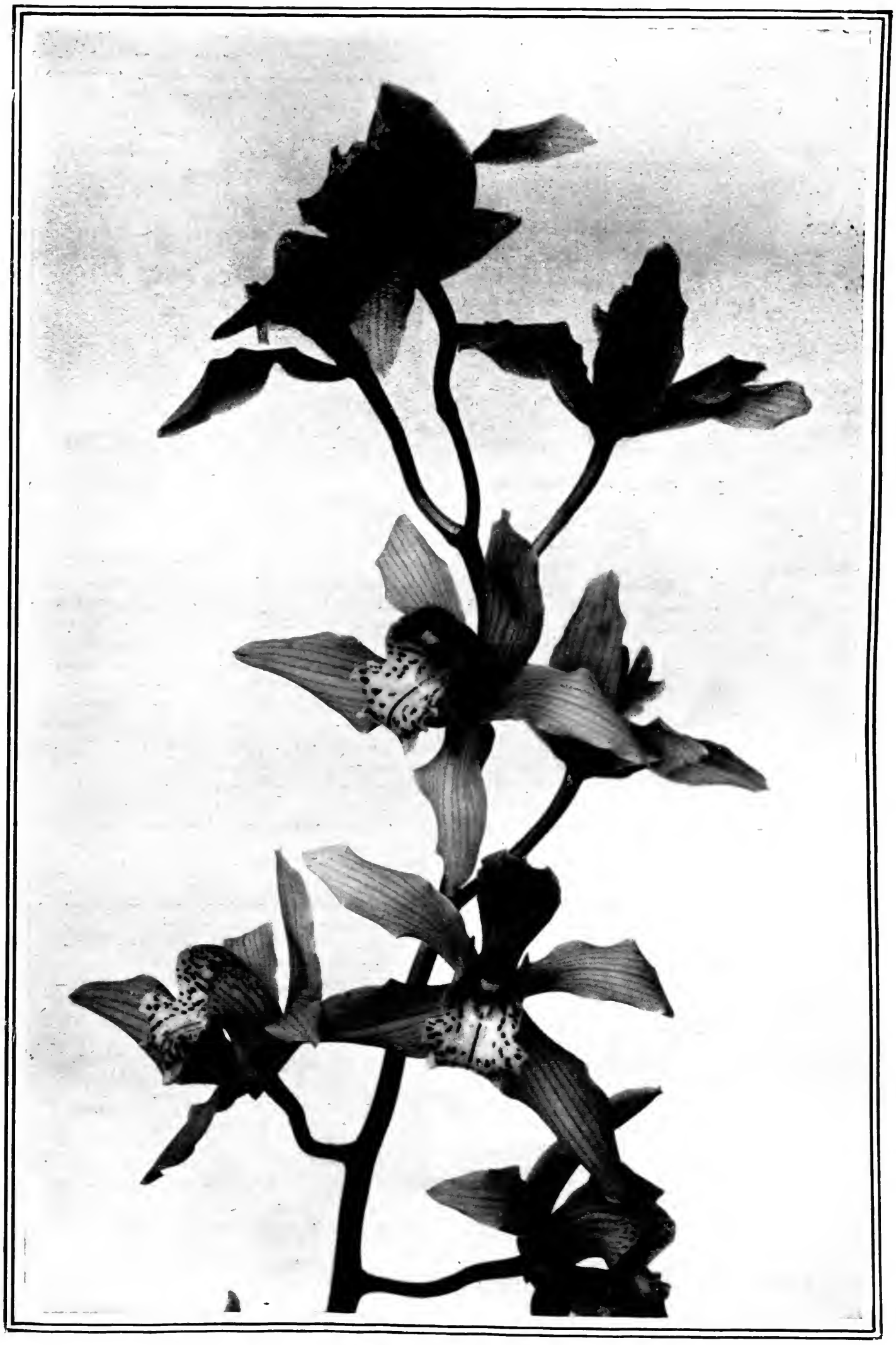
The pear is not so susceptible to diseases and insect pests as some of the hardy fruits, nevertheless it is essential to keep the trees clean and to attack any fungoid or insect pest which may show itself. Healthy trees, like healthy human beings, are seldom troubled with disease, and when trouble in this manner does occur, it may safely be inferred that something is amiss with the general health of the tree, and a searching examination should be made for the source of the trouble. W. MESSENGER.

Woolverstone Park Gardens.

CLERODENDRON FRAGRANS

If someone would take this deliciously-scented species in hand, and induce it to lengthen and broaden its corymb of flowers, so that the plant would boldly advertise itself instead of waiting to be discovered, what a desirable warm greenhouse plant it would be! The white flowers are of good size, and sufficiently numerous, but their unfortunate habit of remaining tightly congested at the apex of the plant, nestling between the large handsome leaves, effectually prevents it from becoming popular. One's ideal of the plant would be that of the habit of Clerodendron fallax. These remarks also apply to the double-flowered variety, in which the blossoms are equally fragrant and are flushed with pink.

CECIL AUBREY.



CYMBIDIUM J. DAVIS.

An elegant hybrid bearing a very tall, erect spike of buff-pink flowers, which are lined with reddish-brown. A.M., R.H.S., February 4. J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford.

SPRAYING FRUIT TREES.

In the bulletin on apple orcharding issued by the Ontario Department of Agriculture, full directions are given for the suppression of insect pests, and the prevention of fungoid diseases, as for soil preparation, planting, etc. The cultivation of apples has attained to a high state of development in the province, and it being a point of some practical importance to know something of the procedure of fruit growers in our Colonies we reproduce the short chapter on spraying, which is as follows:

While spraying is not a panacea for all the ills of the fruit grower, it is absolutely necessary to the production of fruit free from blemishes, and to the vigour of the tree for protection against insects and fungous diseases. To be of any value the mixtures applied should be of proper strength, applied at the correct time, and the work thoroughly done. Until quite recently it was believed that trees should just have a misty covering. Too much stress was laid on this claim with the result that the work was not thorough and results were not uniform, and often very discouraging. The trees must be thoroughly sprayed—every part completely covered.

A steady high pressure is indispensable to accomplish good results, not only from an economical point of view, but for efficiency. A pressure of from 100 to 150 pounds should be used, and this is most easily obtained and maintained with a gasoline or some other power machine. Hand pumps of the double acting kind can give a pressure of 100 to 125 pounds, but unless the operator is closely watched this pressure will not be continued for any length of time. A 2½ horse-power gasoline engine with two lines of hose can discharge from 1,000 to 1,500 gallons per day, depending upon the convenience of tanks and water. The amount of spray required per tree varies considerably. Five or six gallons per tree is a fair estimate, although in very large trees the amount will be more. Of course, in a season of a short crop a less amount may be applied for coddling moth; and trees devoid of bloom may be left until the others are done, and then as time permits these may be sprayed to effectually protect the foliage from the attacks of injurious insects and fungi.

The wind is seldom too strong for spraying. In fact, a stiff breeze is preferable in that it carries the spray into the tree. Spray with the wind and do as much of the tree as possible. Spraying three-quarters of the tree with one wind is possible. One side of the tree can be sprayed as it is approached. For large trees it will be found convenient to stop again directly opposite, and then complete the other side at the third stop. Medium-sized trees can be covered by stopping only twice. Spray as much of the tree as possible with one application, for the wind may not be favourable when it is necessary to complete the work by spraying the other side of the tree.

Spray Outfits.

For orchards up to ten acres a double-acting hand pump will answer the purpose. These may be secured with complete outfit, including 150 gallon tank for from 60 to 80 dollars. Good pumps of this kind are very popular with the smaller fruit growers, and have the advantage of being constructed for connection with an engine if desired. Barrel pumps are still quite popular and serve their purpose very well for small home orchards. For orchards of 10 acres and over one or more power machines will be found indispensable. A good gasoline engine will pay for itself in a couple of years by the labour saved and in efficiency of work, besides being of great use for pumping water or sawing wood when not used at spraying time.

Since high pressure is necessary for good results, the quality of the fittings, such as rods, hose, and nozzles, should be of the best. Use nothing but the strongest kind of hose, and have an extra supply on hand, together with plenty of brass hose couplings. Two lines of hose are necessary in almost all cases, one for the man on the ground and another for a man on the tower. Of course, in young orchards, the tower may be dispensed with and the spraying done from the top of the tank. For the tower man a hose 10 to 12 feet long and a rod 8 feet long are best; for the man on the ground 25 to 35 feet of hose and a 10-feet rod.

The most widely-used nozzles are probably of the "Friend" type, particularly for the lime sulphur spray. Brass elbows which set the nozzle at an angle are particularly recommended while spraying for codling moth, where it is necessary to direct the spray downward into the fruit clusters.

Considering these points in successful spraying of large orchards it is apparent that the first essential in a pump is its ability to maintain a pressure of not less than 150 pounds with two lines of hose and four large nozzles. Only pumps that are high grade in every other respect can maintain this pressure.

Spray Mixtures.

Lime sulphur is now the most important and widely-used spray. There are four forms in which it can be had: (a) commercial, (b) home-boiled, (c) home-made concentrated, (d) self-boiled. The commercial form is manufactured by several firms, and sold in barrels containing 40 or more gallons, which should be diluted to a standard ascertained by an hydrometer. This mixture, while it is somewhat more expensive than the home-boiled wash, has found favour with the grower who does not wish to make it himself. The use of home-boiled spray is being extended, specially since the home-made concentrated mixture has been devised. The mixture is easily made and the boiling outfit is inexpensive. A very efficient and simple device is made as follows:

Make a tightly-jointed box of 1½in. boards or 2in. plank, 3ft. wide 6ft. long, and 15 or 18in. deep. The bottom should be made of heavy sheet iron closely nailed and extending about an inch beyond the edges. This is placed upon a cement, stone, or brick foundation, high enough to permit of a good fire being kindled beneath. A chimney of some kind is placed at one end to create a good draught. This cooker will boil a barrel of the mixture very quickly, owing to its large heating surface. It will be necessary to make a cover of boards running lengthwise, with a space between the two centreboards for stirring. Insert a faucet at the most convenient corner, slightly above the bottom, to prevent sediment from escaping.

How to Make the Wash.

The formulæ generally used for the ordinary home-boiled mixture are 15lb. sulphur, 20lb. lime, 40 gallons water, and 18lb. sulphur, 20lb. lime, 40 gallons water. Fill the receptacle about half-full of water. While this is boiling make the sulphur into a paste by gradually adding water and stirring. Measure out the lime, add it to the boiling water, and while slaking vigorously, add the sulphur. If the boiling is so vigorous as to splash over add a little cold water, or in the case of steam plants, turn off the steam. It is particularly necessary that boiling be vigorous, but if the barrel or box be filled too full a great loss of material will occur. It is well to keep the receptacle covered with an old sack or boards. To obtain good results and render the greatest proportion of the sulphur into solution, it is necessary to boil for from 45 to 60 minutes, and stir constantly. As soon as the boiling is done, either hot or cold water should be added to make up to 40 gallons, and the solution strained through a fine wire screen. The mixture is much better applied hot. In case the mixture has unavoidably been allowed to stand until next day, it should be reboiled to dissolve any crystals that have formed.

Concentrated lime sulphur is made by increasing the amount of lime and sulphur in solution. The advantages of the concentrated wash are that large quantities can be made at one time, and that it can be stored for long periods by excluding the air. A small quantity of mineral oil added will float over the surface, thereby rendering it air-tight. The fact that this concentrated wash will keep has induced a great many growers to manufacture it, especially in view of the fact that it can be made early in the spring before the rush of other work is on.

The methods of procedure are similar to the preparation of the ordinary spray. The proportions used are 1 part lime to 2 parts sulphur. The common formula is 50 pounds best lime, 100lb. flour or flowers of sulphur made up to about 40 or 45 gallons. Sometimes the ingredients are used in the proportion of 60 to 112, or 65 to 125. So it is seen that they vary somewhat. A very convenient way is to use one bag of sulphur (112lb.) and 1 bus. of lime (70lb.). This does away with the trouble of weighing and the extra handling necessary.

To about 10 gallons of boiling water add the lime. While this is slaking make the sulphur into a paste, and carefully break up all lumps. If this is neglected a considerable portion of this sulphur will remain in the sediment. While slaking is going on add this sulphur paste, stir constantly, and then add enough boiling water to make up the 40 or 45 gallons when completed. Colour tests are not reliable. From 45 to 60 minutes' boiling will be sufficient.

When good materials are used and cooking carefully done, very little sediment will remain. If any considerable amount of sludge is left it should be washed, and this water used in the preparation of the next batch.

Rules for Diluting before Spraying if a Specific Gravity Hydrometer is Used.

Put the hydrometer in the clear liquid when it is cool and the sediment has settled. Note the reading. Suppose this is 1,240 sp. gr. The proper strength for use before the buds burst is 1030. To determine how much water is required to dilute a wash reading 1240 to get a strength of 1030, divide the first three figures to the right of the 1 by 30, that is 240 divided by 30=8. This means that each gallon of the wash may be diluted with water to make 8 gallons of the strength of 1030.

For use on apples and pears just before the blossoms burst, the proper strength is about 1009. To get this strength from a wash reading 1240, divide in the same way the first three figures to the right of the 1 by 9, that is 240 divided by 9=26⅔. This means that each gallon of such a wash for this application may be diluted with water to 26⅔ or 27 gallons.

For the application just after the blossoms have fallen, and for any sub-equent applications, if any are given, a strength of about 1008 is satisfactory. To get this we proceed in the same way as above, and divide the 240 by 8, which gives us 30, thus indicating that for this application each gallon may be diluted to 30. In brief the rule is: Take the reading of the wash and divide the three figures to the right by 30 for the first application; by 9 for the second, and by 8 for the third; and dilute each gallon with water to the number thus obtained in each case

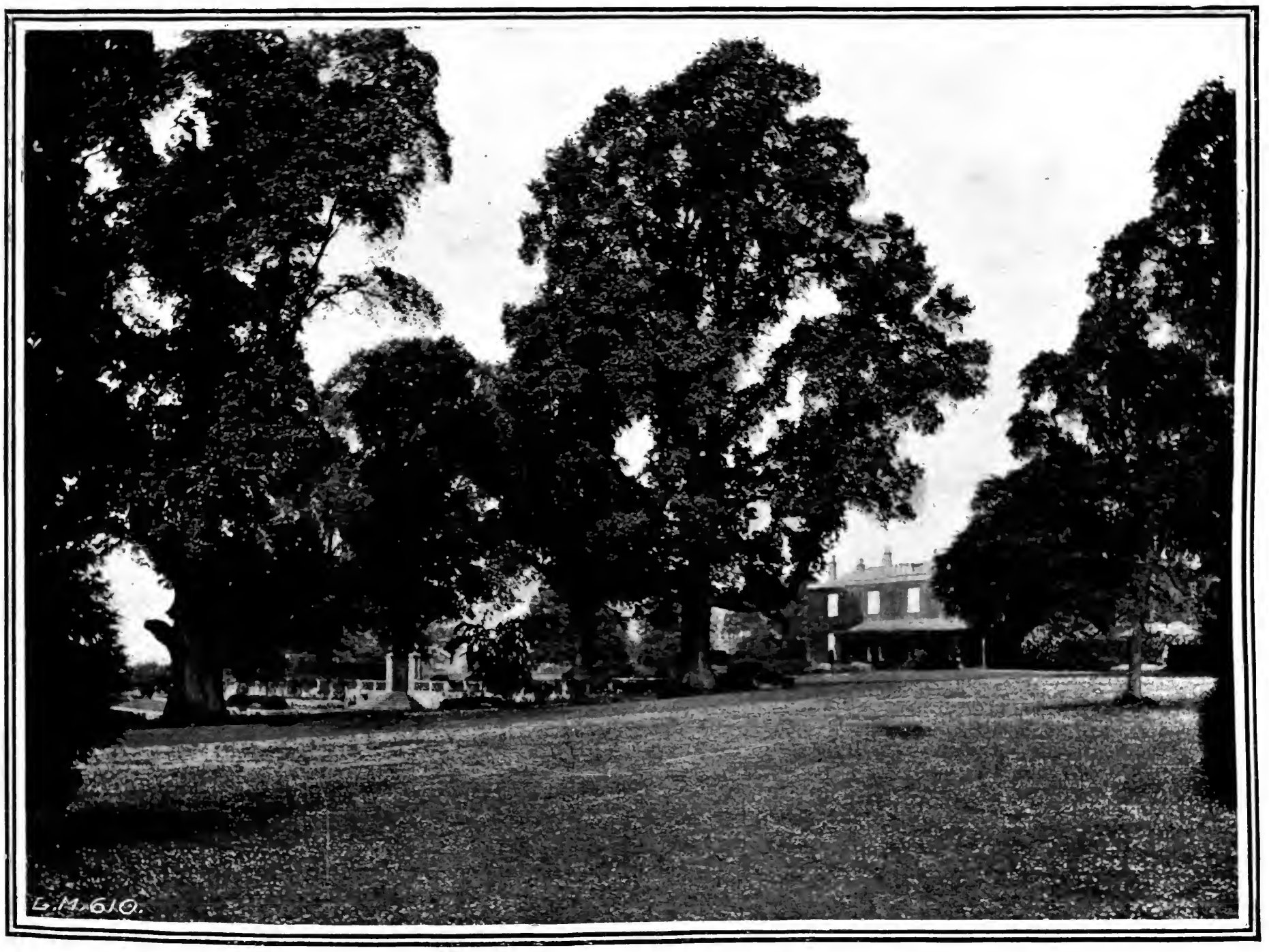
HARTPURY HOUSE.

Throughout the broad county of Gloucester the name of Gordon-Canning is a household word, and, while it is safe to say that the West Country possesses no sportsman more keen than the squire of Hartpury, it is equally true of Mrs. Gordon-Canning that no lady in the district is fonder of her garden. This does not imply that the squire has no interest in the garden, for, on the other hand, he has, but his tastes have a utilitarian bent, as he is keen on fruit, whereas his wife finds her pleasure mostly in flowers, of which Hartpury can boast a varied and choice collection. Old-fashioned garden flowers in general, and perhaps lavender in particular, appeal very strongly to Mrs. Gordon-Canning, but she possesses that faculty which has not been given to many lovers of this class of flowers, i.e., good taste to know just where to put them in a garden where the ancient and the modern, so to speak, are intermingled with each other.

Hartpury.

But where is Hartpury, did I hear someone ask? Just four or five miles distant from the grey old towers of Gloucester Cathedral, and pleasantly situated above the lowlands of the Severn Valley. Hartpury has little to boast of historically, and the red-brick house, which is not architecturally striking, occupies the site of an agricultural habitation, which over a century ago was known as the Three Ashes farm. The outlook from Hartpury House, however, is different to what it used to be, and the only relic of the old farmstead that remains is an antiquated feeding crib for cattle which has been thatched to preserve it, and it stands in the stable yard as a connecting link with other days. The story goes that, in the days before Hartpury House was built, nearly the whole of the village was under the plough, and grew corn, but so much have methods of farming changed that most of the land is grass, and from the mansion one looks out over verdant pastures studded here and there with fine timber trees. In the style of its farming Hartpury has merely changed, but in another particular it has gone back, for the residents of the parish can no longer boast of the orchards, for which at one time it was famous. Like every other parish in the Vale of Severn, Hartpury, of course, has its orchards, but the glory of many of them has departed, and a few old relics of trees here and there that have defied the ravages of time mark different sites "where once an orchard smiled."

Credit belongs to Mr. and Mrs. Gordon-Canning for many improvements that have been made in the gardens at Hartpury, and I hesitate to say whether it is the most attractive in the spring, the summer or the autumn; while even in the winter there is much that is interesting to any lover of ornamental trees and shrubs. Up to within five or six years ago the garden stopped abruptly in front of the house, and was divided by a fence from the pasture land beyond, but the happy idea was conceived of making a garden here in Old English style, and looking at it now one fails to realise that it is really a modern addition, so delightfully does it seem to be blended in with the whole surroundings. It is not everybody, by the way, who conceives the idea of making a new garden in order to provide work for the unemployed, but this was Mr. and Mrs. Gordon-Canning's way of looking at it, and, what is more, many of the men, not being quite of navvy build in point of physique, were regaled with Bovril to stimulate their efforts, and to this day the memory of the Bovril at Hartpury is not forgotten. Mr. H. Prentice, the head gardener, who is always busy, by the way, was particularly active when the new garden was being formed, and probably his staff of unskilled labour gave him some trouble, but it is to his credit to say that from the time the work was completed in October, the lawns were sown down and the planting finished by April.



ANCIENT TREES AT HARTPURY HOUSE.
With glimpse of Mansion and Flower Garden beyond.

Flower and Rose Gardens.

Referring still to this feature, you approach the new garden by a flight of steps from the terrace, and the old-world appearance of the whole is enhanced by the flagged walks and the quaint little plants that grow in the crevices between the stones. Any suspicion of monotony is relieved by beds of dwarf azaleas, andromedas in variety, kalmias, Berberis Wilsonæ,

daphnes, and so forth, and the clumps of golden yew, now becoming well established, are a feature in themselves. The retaining walls of grey stone are a nursery of interest, for there you may see Escallonia montevidensis, which grows well and flowers beautifully, Escallonia Ingrami, Desfontainea spinosa, Jasminum primulinum, Chimonanthus fragrans, Elæagnus japonica aureo-media, Euonymus radicans argenteo-variegata, Rapheolepis ovata, and many other choice plants, along with the old-fashioned rosemary. Growing out of the walls are clumps of Aubrietia Dr. Mules, Cerastiums tomentosum, grandiflorum, arvense, and others, Dianthus fragrans, and numerous plants besides, while the lower part of the wall is furnished with Cotoneaster horizontalis, which in the autumn season is a picture of beauty. There are bulbs in the borders with Iris beds also of Mrs. Gordon-Canning's favourite lavender, as well as groups of the charming China and polyantha varieties.

Yew Gardens.

Another of Hartpury's own features is the yew garden, where you have a charming view of the Malvern Hills, and the sombre evergreen hedges enclose interior beds furnished with Andromedas floribunda, japonica, speciosa, calycina, racemosa, and others, Ghent and Mollis azaleas single and double, pernettyas, kalmias, Ericas arborea, carnea, and mediterranea, Rhododendrons præcox, Cunningham's White, Wilsonianum, and others, with roses and herbaceous plants. A rhododendron bed outside is furnished with the best varieties grown to give a colour effect, and this is flanked with specimen hollies in variety that are kept in form by the use of the visitor does not know about their names and habits Mr. Prentice can tell him. Just to mention a few of the deciduous order. There is a fine collection of acers, including A. tartaricum, lovely in the autumn; A. platanoides, A. striatum, A. dissectum roseo-marginatum, A. atropurpureum, and others. Amelanchier canadensis is lovely in spring and autumn, and Amygdalus communis fruits well at Hartpury. Most of the berberis are represented, as well as Clerodendrons trichotomum and arborescens purpurea. Enonymus europæus grows freely in the gardens and adjoining woods, and charming in their seasons are Exochorda grandiflora, Forsythias suspensa and viridissima, Kolreuterias frutescens and paniculata, the latter being beautiful in the autumn; Magnolia conspicua, a fine specimen; nuttalias, philadelphuses, potentillas, prunuses, Rhus copallina, and

FLOWER GARDEN, HARTPURY HOUSE.
Embellished with beds of Mollis Azaleas, Rhododendrons, Violas, etc.

reticulata, and a fine plant of Carpenteria californica grows under the terrace wall, which in turn is furnished with roses, clematises, Akebia quinata, and Ozothamnus rosmarinifolius, which, through the summer, is covered with its white flowers. There are pillars covered with Dorothy Perkins rose, Clematis Jackmani superba, and American Pillar rose, which is a great favourite, and at the west end of the lower terrace walk you come suddenly upon a quaint little lily pond, in which there is a choice collection of nymphæas.

The rose garden is near to and directly in front of the mansion, and is connected with the terrace by a paved walk, where dainty plants grow out from between the stones and seem to enjoy the privilege of being allowed to do so. The rose garden contains a comprehensive collection of summer and autumn-flowering varieties, and knife in April. Further on, you see a bold clump of Retinospora filifera, and further still several fine oaks, which have held more than one fox in days gone by, and under the shade of which many a tea party has been held in Mr. Gordon-Canning's nursery days. Yellow daffodils nod their heads about here in the spring, a bed of golden hollies takes your attention, and the walk leads you on to a semi-wild garden, where, amongst a host of other things, you see beds of Penzance briars, clumps of Pyrus floribunda, flowering cherries, with some beds of Iris germanica, day lilies, berberis in variety, Lonicera fragrans in full bloom at Christmas and deliciously sweet, and all kinds of other interesting plants.

Choice Shrubs.

I speak correctly when I say that the shrubberies at Hartpury are filled with choice and beautiful things, and what the others, ribes, spiræas, staphyleas, viburnums, etc.

For the lover of evergreen shrubs there is much to interest, including arbutus in variety, Benthamia fragifera, which fruits freely, buddleias, ceanothuses, cotoneasters, daphnes, Euonymus japonica, and E. radicans, argenteo-variegata. There are Garryas elliptica and macrophylla, Genistas præcox, hispanica, and others, with Hypericum calycinum, which is largely used for ground work. Several varieties of myrtus are represented, along with olearias, Osmanthus ilicifolius purpurea, a lovely shrub; Phillyreas Vilmoriniana and latifolia, Pæonias fruticosa, leptospermums, rhamnuses, skimmias, and a number of varieties of veronica, including several of the New Zealand forms, which stand the winter outside. These are but a few, but they give an idea of the

wealth of evergreen shrubs in the Hartpury gardens.

Lavender and Herbaceous Borders.

To reach the kitchen garden from the mansion you pass along a broad walk, passing on the way the wall of the stables, on which you notice some very large fig trees, annually giving good crops of fruit, and are much prized by Mr. and Mrs. Gordon-Canning. A grand old Wistaria sinensis has wandered far on the wall, and a Banksian rose hard by is a pretty sight at the end of May. You notice good plants of Romneya Coulteri as you pass along, and a herbaceous border filled with conspicuous clumps of choice plants. In order to reach the kitchen garden you must cross a drive, and through an iron gate, leaving the Queen Charlotte walk, with its green grass and wide border of lavender on each side, fronted with grey-foliage plants. Here, again, you see evidence of Mrs. Gordon-Canning's passion for lavender, for wherever it can be employed effectually it is planted with other grey-foliaged plants. Alterations here have made the gardens much bigger, and a new feature has been introduced in the shape of posts with festooned chains of roses and beds and borders which, in the seasons of the flowers, are gay with white violas, May-flowering tulips, Emperor William viola, antirrhinums, pentstemons, with double arabis, forget-me-nots, and tulips for spring effect. As you leave this latest addition to a beautiful garden through an iron gate into the vegetable and fruit department, you retain a memory of lavender through seeing a tablet on the wall on which the following lines are inscribed:

"Lavender sweet, your soft grey flowers,
Bring to our memory rest from cares;
Bid us hope that the sunlight hours,
May throw shadows of love in the coming years."

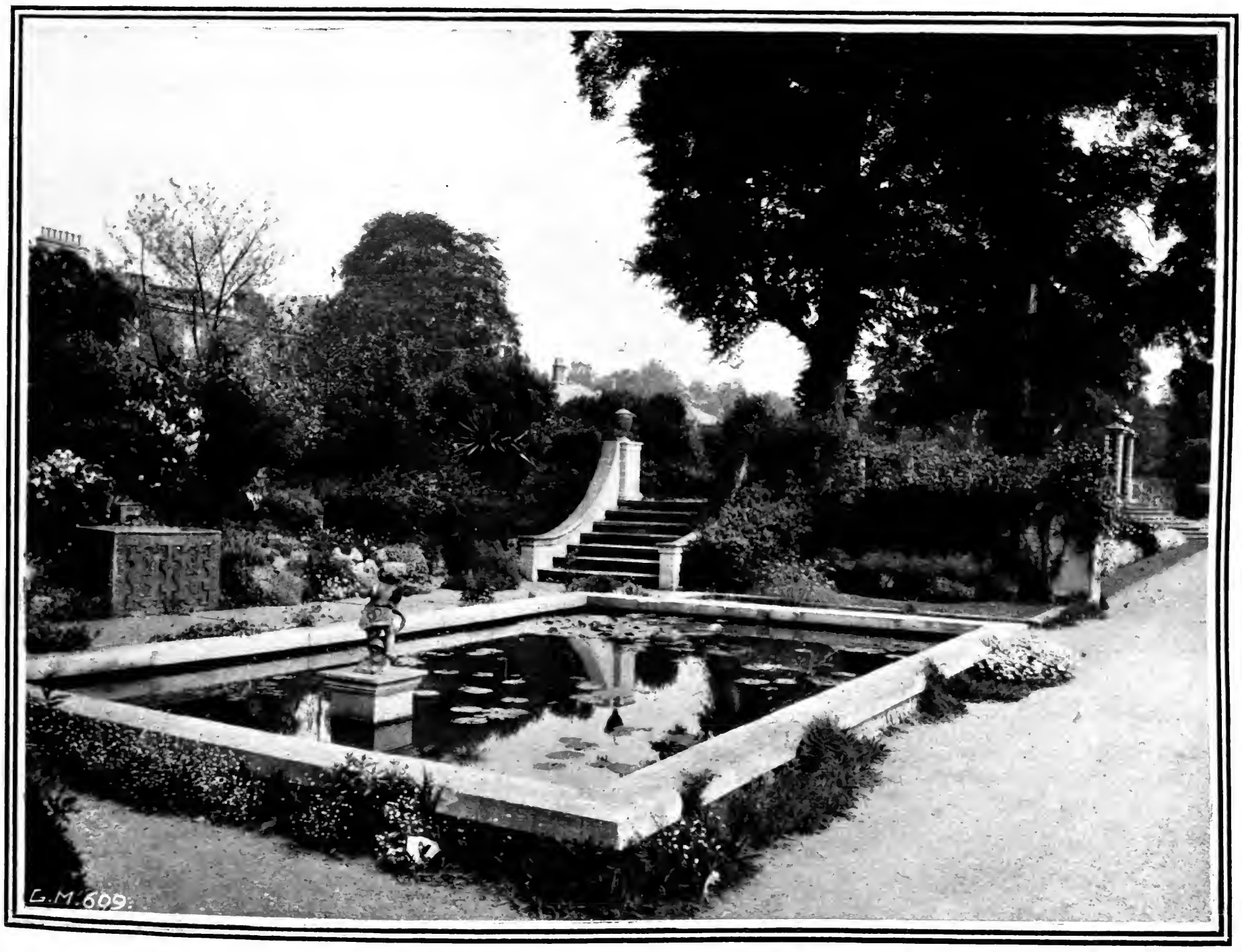
Fruit and Kitchen Gardens.

Inside the enclosure, where fruit and vegetables are grown, the glass structures are located, and perhaps the chief feature here is the up-to-date collection of perpetual-flowering carnations, and the plants are grown remarkably well, for the carnations is one of Mrs. Gordon-Canning's favourite flowers. Another is the violet, and in their season frames near at hand are filled with plants that never fail to bloom freely. There are plant-houses and forcing pits, vineries and peach houses to provide the needs of the establishment, and in final reference to flowers let me add that Mr. Prentice is no mean expert in the culture of sweet peas. In short, the head gardener at Hartpury is an all-round man, and how he manages to keep the household supplied with vegetables from the comparatively small kitchen garden at his disposal is best known to himself; but he does it, and manages to get a few specimens for winning prizes with at the shows as well.

Gardener and employer have co-operated in getting together a choice collection of apples and pears, which are mostly grown as cordons, three of each variety, and a continuous arch of this type of tree over one of the walks is not only effective but productive. Pyramid and bush trees surround the vegetable quarters, and the idea seems to have been to put a fruit tree wherever there was room for one. In the show arena Hartpury is not unknown, for on three occasions Mr. Prentice has won the champion silver cup for the highest number of points gained at the Gloucester Root, Fruit, and Grain Society, and last autumn he exhibited a very creditable display of apples and pears at one of the R.H.S. meetings at Vincent Square.

It only remains to be said that Mr. and Mrs. Gordon-Canning, whose charming es- the West Country, think also of the welfare of their workpeople and those about them, for a cricket club is maintained on the estate, with tea for the players on match days; a reading-room is provided for the use of the villagers, and many other acts of generosity might be recorded. In short, the whole atmosphere of Hartpury is suggestive of a mutual understanding and good feeling between employer and employed and landlord and tenant.

G. H. HOLLINGWORTH.



VIEW IN WATER GARDEN, HARTPURY HOUSE.

Ripening Strawberries.—As the forced fruits change colour remove the plants to a lower temperature, discontinue liquid manure, and give air freely. Plants which are swelling their fruits may be given a night temperature of 60 to 65 degrees; liquid manure, weak guano water and soot water, are all useful at this stage. Later plants in bloom should be kept as near 55 degrees as possible. Go over the blooms each day with a brush to fertilise them, and remove all unnecessary flower spikes, and weak blooms from the trusses as early as possible. Thin the fruits to about nine on each plant, and syringe well underneath and above the foliage to prevent red spider. The present is a good time for those who have little or no convenience for very early forcing to introduce the first batch of plants where they can be kept near the glass. as they will now soon respond and grow freely.—F. JORDAN.

YOUNG DAHLIA PLANTS.

Many dahlia tubers will soon be placed in boxes, or on borders in warm houses, in order to force them on for the production of young shoots for use as cuttings in due course.

Very often the crowns of the old plants which have been stored in cellars and similar places, in leaf-soil, are covered with mildew or mould, and I have seen such produce cuttings which have decayed soon after being inserted, no matter how careful the treatment was.

Tubers stored in clean sand never gave any trouble, the crowns being clean, and the young shoots growing from them formed roots readily. The matter of storing, including position, material for covering, and the risks from fungus, forms a subject on which many of us would like to be enlightened. Experienced cultivators know how to treat the old tubers and the young cuttings from them, so as to secure the best results in the flower garden. But the inexperienced cultivator often unduly forces his plants early in the season, and then he has rows or clumps of weakly, leggy specimens to deal with at planting-out time.

When in the gardens at Lathom House, Ormskirk, under that competent gardener, Mr. James Hathaway, I remember the splendid specimen dahlias which he planted in the centres of some large beds in the flower garden. Only one plant was put out in each bed, and show, cactus, pompon, and single-flowered sections were represented, but every specimen was very bushy, well shaped, and flowered more freely than any I have ever seen elsewhere.

The plants were brought on very slowly, and not subjected to much heat in their early stages of growth. Nearly all cuttings were rooted on a mild hotbed under a low frame.

If the tubers are placed in boxes, covered with a sandy soil, and put on shelves under the roof glass, the resultant shoots will be much stronger, and, in every way, better than those from tubers placed on the borders of newly-started vineries or peach houses.

I am also in favour of inserting one cutting in a deep, narrow pot, rather than five or six in a large pot. The new roots are very fleshy and tender, and when propagated singly in small pots the young plants can be repotted or otherwise dealt with without disturbing the roots. Dahlias deserve to be more grown in large borders than they are in many gardens. The foliage forms a good background to other plants. G. B.

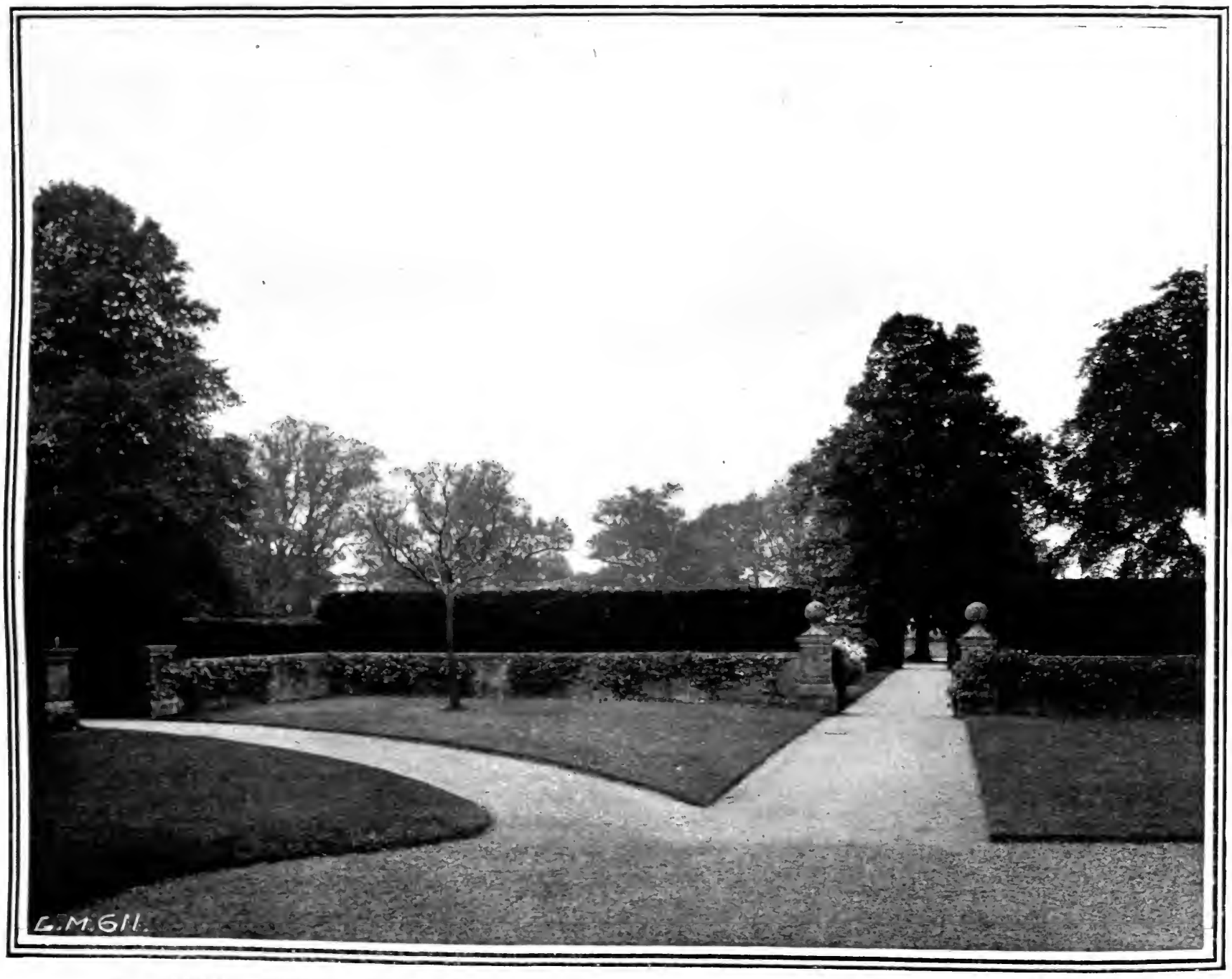
Cestrum Smithi.—The different forms of habrothamnus are now included in the genus Cestrum, although they formerly were, and still are, kept distinct by some. A well-known species is C. elegans, a plant of loose, vigorous growth, and well suited for clothing the pillars or walls of the greenhouse. The flowers of this are purplish-red Another species, namely C. aurantiacum, has orange-coloured blossoms, while in a very desirable garden variety, C. Newelli, they are of a bright crimson colour. C. Smithi, which is also of garden origin, has soft-coloured flowers, and is therefore quite distinct from the others. It is less vigorous than those named above. All grow well in ordinary potting compost, and are but little troubled by insect pests.—K.

BRIDGESIA SPICATA.

In many gardens there are bare walls, or bare places on them, facing north, north-west, or north-east, and, of course, some persons find it a difficult matter to satisfactorily cover these places with suitable plants. Ivies will soon furnish walls in such positions, but many of us do not like to use them if we can obtain other kinds of plants which will serve the purpose equally well.

I was, a few years ago, buying some climbing plants from a well-known nurseryman, and he turned to me, and said, "Why don't you plant some bridgesias on that long north wall?" and added some words of commendation. I did not, at that time, know this plant, but his advice was taken, and several planted. I was astonished at the progress they made. The leaves are deep green, thick and leathery, but not very large; they are set rather closely together and lie rather flat to the wall. The branches, which are numerous, cling to the wall just like ivy; indeed, better than some varieties of ivy, and, altogether, the effect is very pleasing.

Some of the plants did not have much light, as they were grown under the spreading branches of some oak trees, but the leaves retained their freshness. Very little attention is needed in the way of training and pruning—less than is required in the case of ivy. I found that it was best to plant specimens that were young and healthy and growing in pots; some old mortar rubble, added to the border soil, was very beneficial to them. Only old specimens need any manurial surface dressings. B.



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CULTIVATION OF LEEKS.

There is little doubt that the cultivation of the leek is becoming more popular in England year by year, more particularly the growing of large individual specimens for exhibition, not only by professional, but also by amateur gardeners. The Leek (Allium porrum) was introduced into this country from Switzerland about the middle of the sixteenth century; it is one of the hardiest of cultivated vegetables, which fact is probably largely responsible for its popularity in the colder districts of Scotland and Wales, a popularity which is, therefore, not solely due to the great partiality exhibited by the inhabitants of these countries for vegetable soups. Scotchmen in particular are well acquainted with the method of distilling a savoury soup by boiling an old hen and thickening the broth with leeks and kale. The leek—although classed as a perennial—attains its required proportions as a vegetable in the first year of its growth, and, like the onion, it exhibits a tendency to produce its seed in the first year when early sowings are made that year or during the previous autumn.

As a cooked vegetable I would give preference to the leek over the onion, as it has a mild palatable flavour, and produces less of the distasteful odour which affects the breath after partaking of onions, even in a cooked form. As a vegetable to be eaten in a raw, or uncooked, state, the onion will always hold its own with a certain class of the community, particularly those who favour strong salads.

Soil Requirements.

Leeks will grow in almost any kind of soil, but not to the same degree of strength. In the gardens attached to many of our large unions, or workhouses, extensive areas are devoted to the cultivation of leeks, but here they rarely receive more than ordinary cultivation; the usual practice is to manure and dig in autumn, fork over in spring, afterwards planting out somewhat thickly the plants which have been raised from seed sown in a sheltered border late in the previous autumn, planting being completed by drawing up the soil towards the stems with the hoe. The cultivation of the exhibition leek is quite another matter, and requires skill and judgment, although the elaborate preparations usually advised for onions need not be given. To grow exhibition or well-blanched leeks they must be consigned to a trench similar to that advocated for celery; when one mentions a "trench" it must not be understood that a deep trench is essential. As with celery, serious mistakes are too often made by removing the top spit of soil, working in a quantity of fresh manure with the subsoil, and planting therein the young leek seedlings; the result of this practice is that their growth is restricted. The depth of the trench will entirely depend upon the nature of the subsoil—its fertility and power of retaining moisture. In an old, well-trenched kitchen garden which I visited I measured some trenches in which leeks were growing, and found them to be two feet deep; this was exceptional. While answering their purpose, I have nevertheless successfully grown excellent leeks in trenches six inches deep. This was in a piece of ground adjoining a river where the water level was within eighteen inches from the surface. While being a gross feeder, the leek prefers a well-decomposed or fermented manure to one that is in a raw state, as freshly-made farmyard manure; a liberal dressing of such manure should be incorporated with the soil in the bottom of the trench.

Sowings and Planting.

It is not a wise practice to sow all the seed too early, as frequently seed sown early in January will result in an undue proportion of plants running to seed. Main crop sowings may be made in boxes under glass throughout February and March. Before planting see that the plants have been well hardened off otherwise they will not retain their erect position when planted out, in consequence of which their growth will be arrested. It is important that the roots of the seedling leek are firmly embedded in the weathered soil, and before planting it is always well to rake a little of this into the trench. The trench need not be more than eighteen inches wide for a single row of leeks, and two feet where it is thought preferable to grow a double row. The leeks should be planted about three inches deep, and about one foot apart, taking care to spread out the roots; as these are very long and numerous they should be taken out of the boxes with as much soil as possible attached to them. If the soil in the trench is of a loose and porous character it should be well trodden before the operation of planting is proceeded with.

Blanching.

As the object of the cultivator is to secure long and proportionally stout blanched stems, this can only be acquired by adopting some artificial means of blanching. I have been able to perform this by means of a stout brown-paper collar placed round each plant; the paper tubes used for enclosing plans, or for like purposes, are admirable, and can be cut down to a convenient length. The leaves must always be allowed freedom, and as the stem becomes gradually drawn up, so must the collar be raised, and the soil drawn around the base of the plant. By the middle of July the plants will be fully blanched, after which the stem will increase in thickness. One season I tried blanching a row similar to the method adopted for celery, but was not successful in securing so long a stem as was possible when the collar was used; also when the plants were dug up considerably more washing was necessary. A point in favour of the earth-blanched leeks was that of colour, which was infinitely whiter than those blanched with the paper; this may not, however, be the experience of other growers.

Liquid Manures.

The crop must receive other sources of nourishment besides that provided from the soil, and this is best supplied to it in the form of manurial stimulants. Having an unlimited supply of liquid manure or drainings from stable, cowshed, and piggeries at my disposal, I can find no better form of liquid manure than this when properly diluted with at least five parts of rain water; this may advantageously be applied twice a week during the growing season, except when heavy rains are frequent. Often some of the strongest plants will throw up their flower spike towards the close of the season, and this should be pinched out immediately it appears.

The General Crop.

Very useful crops of leeks can be grown on well-manured soil by dibbling the plants out in shallow and narrow furrows eight to twelve inches apart, and six inches from plant to plant. Planted thinly no vegetable presents a more skeleton-like appearance in the rows; they look as though they will not occupy the space allotted to them to advantage. Plant out the seedlings when the ground is moist, using an iron-shod dibber with which to make a hole deep enough to allow the roots to go straight down to admit of the plants being buried up to their collars, or to the base of the leaves. Finally the soil should be pressed down around the stems and over the roots, and a watering given if the soil is dry. After cultivation consists of frequent stirrings of the ground between the plants, later drawing it up around them on each side of the row. The leek is very serviceable for winter use if dug up and stored in dry soil; during the winters, in which green vegetables suffer severely from frost, leeks thus preserved are invaluable.

Of varieties, Ayton Castle Giant, Lyon Selected, Prizetaker, Royal Favourite, and Musselburgh Improved, are all worthy of cultivation. J. C. N.

APONOGETON DISTACHYON

This charming water flower is an almost continuous bloomer. In the south-west it has been noted in blossom in ten out of the twelve months, and expanded flowers might doubtless have been discovered during the two remaining months. Naturally the plants in question were growing under varied conditions and localities, and in some cases were bearing but a solitary open blossom, while in others they were white, with hawthorn-scented bloom. One valuable property of this Cape Pond Weed is that it will succeed in far deeper water than will nymphæas, for in some of the beautiful South African rivers in the forest region of Zitzikama and Knysna it may be seen growing in pools fully 10ft. deep. Here, on the clear brown water the floating, white blossoms and lance-shaped leaves are thrown into charming relief, though they have, perhaps, to yield the palm of loveliness to the blue water lilies that blossom in the shallower reaches of the same rivers. The manner in which the plant propagates itself by its floating seeds is very interesting, and is another instance of the infinite solicitude of Nature for the reproduction of her flowers. Aponogeton distachyon is quite hardy in the South of England, and is seldom, if ever, injured by the frost. WYNDHAM FITZHERBERT.

Primula Kewensis.—It is strange that after being wanting in fertility for so long seeds of this beautiful primula can now be readily procured. This has led to its greatly extended cultivation, for, as a winter-flowering plant it is now much appreciated. The variety farinosa is quite distinct by reason of its mealy character.—S. W.

Cyrtanthus lutescens. — This, the first of the small-growing cyrtanthi to unfold its blossoms, forms a very pretty feature in the greenhouse; that is, where several bulbs are growing in one pot or deep pan. The flower scape, which reaches a height of about fifteen inches, is terminated by an umbel of pale yellow blossoms, curved-tubular in shape, and about two inches long. Others of this section are C. McKeni, white; C. angustifolias, light red; and C. McOwani, of a deeper hue, as well as some garden forms classed under the head of C. intermedius. All these cyrtanthi are easily grown, and their flowering period is not limited to any one period of the year, though the largest number of blossoms are borne during the late winter and spring months. —T.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CYMBIDIUMS.—The different species and the many hybrids now in cultivation have made cymbidiums not only attractive, but exceedingly useful, for cultivation generally in gardens. There certainly are no orchids more serviceable in cool ferneries and conservatories; not only are the flowers attractive and in most cases exceedingly durable, but the foliage when the plants are out of flower is usually elegant. C. Tracyanum, C. Mastersi, and C. Winneanum will have recently flowered, and, as new roots will be found to be active, any repotting necessary may be attended to at this period. We find the plants do well in a compost of equal portions of fibrous yellow loam, peat, and sphagnum moss, with sufficient sand, broken crocks, or charcoal, added to render the compost porous. Press the compost moderately firm, and water as soon as repotting is completed. Protect the plants from strong light for a few weeks, and if the outside conditions are favourable spray them overhead; be careful not to over-water at first, but after the plants have become rooted into the fresh compost more liberal treatment may be given. Most of the species and hybrids will be developing their flower scapes, and these must now have abundance of root moisture, and should not, under any consideration, be permitted to become dry. In fact, thoroughly established plants should at all seasons be afforded an ample supply of root moisture. With the exception, perhaps, of C. eburneam, the whole of the cymbidiums may be grown in a cool intermediate house, where the normal temperature in winter is about 55 degrees. C. eburneum requires slightly warmer conditions, and should at all seasons have ample atmospheric moisture.

SOPHRONITIS GRANDIFLORA. — During the past week importations of this beautiful winter-flowering orchid have been distributed, and, although it may be somewhat outclassed in point of size by the hybrids that have been derived from it, none of its offspring can be compared to it in vigorous constitution, brilliance, and free-flowering characteristics. There is nothing more cheery in our houses than well-grown plants, freely flowering in the depth of winter. They are best grown several together in shallow pans, so that they may be suspended near the roof glass; see that the pans are well drained, and use a compost of peat, osmunda fibre and chopped sphagnum moss, pressed moderately firm. Established plants that require repotting are best attended to immediately they pass out of flower. The flowers are produced with the advancing growth and the new roots make their appearance almost immediately after the plants finish flowering. They do best in the cool intermediate temperature.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

DRACÆNAS.—These should have been kept somewhat drier at the roots during winter, or probably some of the roots will be found in a decayed condition, and the lower foliage consequently lost. Leggy plants may be used for propagation by ringing, similarly to crotons. Useful plants may be repotted, a good drainage being essential, and a suitable compost consists of two parts peat to one of fibrous loam, with plenty of sand. Use the syringe whenever the weather permits to maintain a moist atmosphere. They may also be propagated by inserting pieces of the stem containing several eyes, or by inserting the tuberous roots taken from those potted in pans containing a sandy soil, plunging them in the propagating frame until growing freely.

APHELANDRA ROEZLI.—This is a very pretty winter-flowering stove plant. To obtain bushy plants it is necessary, after flowering, to remove the flower spikes, and when growth commences reduce the old ball, potting up in a mixture of two parts light, fibrous loam to one part each of peat and sand. Syringe occasionally, but water carefully until well rooted, when, if necessary they may be shifted into larger pots. It may be propagated by means of cuttings taken from the young growths, or by seeds; one-year seedlings in small pots make useful plants, each carrying one spike of orange-scarlet flowers.

FRANCISEAS.—These are very pretty stove evergreen, flowering shrubs. After flowering the plants, which will grow to a large size, should be placed in a stove temperature, syringed frequently, and kept moist at the root. When growth commences necessary repotting or top-dressing may receive attention. When growing freely they should be pinched occasionally to secure nice shapely examples, and when growth is finished, place them in cooler quarters, and give rather less water until required to flower, when they may again be transferred to a warmer house. Cuttings of the young wood with a slight heel will root readily.

STOVE CLIMBERS.—Where the rafters or trellisings in the stove are covered with climbing plants, growth will now be fairly active, and from the first good growths, just sufficient to cover the space, should be selected, removing superfluous and weakly growth at once. This applies especially to such plants as stephanotis, ipomæas, dipladenias, Hexacentris mysorensis (Thunbergia), and Cissus discolor. Where mealy bug or scale exists, especial care must be taken to keep the plants clean, or they will necessarily be robbed of their health and beauty. H. PRIME, Hatfield House Gardens.

THE FLOWER GARDEN.

SEEDS of many subjects which are used for the flower garden during the summer months should now be sown. Among these are lobelias, antirrhinums, nicotianas, salvias, ageratums, pyrethrum, salpiglossis, petunias, verbenas, fibrous-rooted begonias, etc. These should be sown thinly in pans or shallow boxes, and afterwards placed in a house or pit where a temperature of 50 to 55 degrees is maintained; here germination will quickly take place, providing due attention is given to watering and shading, the latter a most important matter in raising seeds successfully, but one not often fully regarded by inexperienced and careless hands. Soil containing the seeds should be kept moist during the period of germination, and also well shaded in bright weather; pieces of glass laid over the pans and boxes check evaporation, and support the paper or other material used for shading purposes. As soon as the seedlings appear they should be given a light position near the glass, and be kept a trifle dry to prevent damping; if damping is detected the seedlings in the affected pan should be immediately pricked out, as this course is usually effective in checking the trouble.

DAHLIAS.—Where the practice of raising dahlias annually for planting out is adopted, preparations must be now made to obtain cuttings. The old roots which have been stored away since autumn should be examined; cut away any decaying parts, and afterwards box or pot the plants. These will soon throw up growths suitable for cuttings, if placed in a warm house and kept moist. To prevent the growths becoming unduly drawn and spindly give them as much light as possible. Look over the stools every few days when growth is active, taking off the cuttings with a heel, inserting them singly in small pots, and placing them in a propagating pit, having a moderate temperature, where they will soon take root. When well rooted the young plants must be potted into 48-sized pots, and in these they will be of a useful size for planting out at the end of May. Salvia patens can also be successfully treated in the same manner whenever it is desirable to increase the stock of this useful bedding plant.

LAWNS will now require renewed attention; the wet, mild weather experienced so far through the present winter has been exceptionally favourable to the growth of moss and weeds amongst the grass, and steps must be taken to eradicate these. A good raking with a fine-toothed iron rake will remove a great deal of the moss, and this process should be followed up with a good top-dressing of wood ashes and soot, which will encourage a healthy growth of grass and prove detrimental to the moss. Weeds can be removed by grubbing, and this method is the most satisfactory one when dealing with deep-rooting kinds. Lawn sand is effective in getting rid of small weeds if applied during warm, dry weather later in the season.—T. B. FIELD, Wych Cross Place Gardens.

FRUITS UNDER GLASS.

FIGS.—Pot trees that have been subjected to a steady bottom heat of 75 to 80 degrees will, in most cases, have fully developed their foliage, and the embryo fruits should be swelling freely. As the days lengthen we can reckon on more sunlight, and more moisture may be afforded in the shape of damping and syringing. To prevent fruit dropping, see that the trees are never allowed to feel the pinch of dryness at the roots. From healthy trees remove all superfluous and ill-shaped fruits before the flowers open, as by this means dropping of fruits is reduced to a minimum. Pinch the shoots at the fourth or fifth leaf to guard against overcrowding. Planted-out trees should, as far as possible, be grown on the extension system, and the superfluous wood removed in the winter. As soon as the fruits begin to swell increase the night temperature to 65 or 68 degrees, allowing a day temperature of 85 degrees or more with sunheat. Liberal supplies of liquid and artificial manures may be given to pot trees, and those in shallow borders, but guard against encouraging gross growth, which is not conducive to fruit production. Keep later trees quiet for another month.

EARLY VINES.—The recent severe weather with cold easterly winds has made it necessary to bestow extra care and attention in the ventilation of early vineries. A little air should, however, be admitted early in the day and at night if possible, in order to encourage a strong, healthy growth, and to carry off excessive moisture. Liberally feed, and take advantage of bright days to forward the crops of pot vines, as well as early permanent vines, but do not insist on too high a night temperature during cold nights; be content with 63 to 65 degrees, and give 5 degrees more in mild weather.

MIDSEASON VINES.—Disbud these as soon as they become ready, and keep the shoots clear of the glass, but do not trouble about getting the shoots into position, as later, when the vines are in flower, they may be tied down without much fear of injury. Remove all surplus bunches, and thin all free-setting varieties as soon as possible; attend to stopping and pinching, always bearing in mind that good, healthy leaves are preferable to lateral growths. Close later houses which contain mixed varieties, to obtain ripe grapes during July and August.

YOUNG VINES.—There is still time to put in vine eyes where young vines will be required for planting in June or July, after the present crop is cleared. Select buds from wood that is firm and well ripened.—F. JORDAN, Warter Priory Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

The annual general meeting of this society was held at the Royal Horticultural Hall on Tuesday, February 11, at 3 p.m. There was a good attendance, and the President, Sir Trevor Lawrence, presided. Among those present we noticed Sir Harry J. Veitch, Sir Albert Rollit, Sir J. T. D. Llewelyn, Messrs. J. Gurney Fowler, E. A. Bowles, J. Hudson, V.M.H., A. W. Sutton, V.M.H., H. B. May, V.M.H., G. Gordon, V.M.H., Owen Thomas, V.M.H., N. N. Sherwood, V.M.H., W. A. Bilney, C. E. Shea, F. Herbert Chapman, J. Green, C. Fielder, C. Nix, R. H. Pearson, W. B. Cranfield, C. H. Curtis, W. Wood, T. Bevan, R. J. Frogbrooke, J. H. Dick, F. W. Harvey, E. Burgess, etc.

The notice convening the meeting having been read, the minutes of the previous annual general meeting were also read and signed. Thirty-six new Fellows were elected.

The President said that the annual report and balance-sheet had been in the hands of the Fellows some time, and so would be taken as read. In making a few comments he referred to the splendid International Horticultural Exhibition at Chelsea in May last, and the visit of their Majesties the King and Queen on that auspicious occasion. It was gratifying to know that the great exhibition was a financial success, and the gardening charities would benefit greatly as a consequence. His reference to the honour of knighthood conferred upon Sir Harry J. Veitch was loudly applauded.

Sir Trevor pointed out that the establishment of a diploma in horticulture marked a great step in the advancement of the art of gardening, and in the work of the society. The scheme for such a diploma had been approved by the Board of Agriculture. This recognition of horticulture at the instance of Mr. Walter Runciman was, the President considered, a distinct move in the right direction. He also pointed out that the University of London had under consideration the subject of a Degree in Horticulture.

Kindly reference was made to the absence, through illness, of Mr. Wm. Marshall, V.M.H., and the President stated that there were three vacancies in the list of Victoria Medallists, and these were to be filled by the appointment of Mr. Jas. Whitton, Superintendent of the Glasgow Public Parks; Mr. W. H. Divers, of Belvoir Castle Gardens; and the Rev. W. Wilks, the society's secretary. Sir Trevor then made special reference to the invaluable services rendered the society by the Rev. W. Wilks, who had now completed 25 years' service as secretary. A fund had been raised (£500 already contributed) to show some recognition of these admirable services. It was proposed to have a portrait of Mr. Wilks painted and hung in the council room; a substantial cheque would be handed him in due course, and a beautiful large solid silver salver was then handed to Mr. Wilks amid great applause.

Sir Trevor then spoke of his twenty-nine years' service as president of the society, and said it had been one of the greatest pleasures of his life to be so long associated with gardeners and gardening. He had now arrived at more than four-score years of age, and he felt that it was time a younger man should fill the office. He wished to retire as soon as the council had obtained a successor. Sir Trevor paid a high tribute to the splendid services rendered to the society by the members of council, the excellence of the society's officers, and the work of the many expert members of the various committees.

In seconding the motion for the adoption of the report and balance-sheet, Mr. J. Gurney Fowler (treasurer) reviewed the finances of the society, and there was a round of applause when he said the profits for the year were over £9,000. A considerable sum had been invested, and a good amount had been spent on books for the Lindley Library, and for binding books that needed that attention.

No one offered any comments, everybody appearing to be highly satisfied with the progress made. The motion was put and carried.

The Rev. W. Wilks, V.M.H., said it was difficult for him to express his feelings of thanks and gratitude for the many kindnesses he was receiving, and, indeed, had received, during the whole of his connection with the society. He was proud to know that no single society had made such progress as theirs, a phenomenal progress due to development of a love for hardy flowers, a change of policy on the part of the society, from pleasure to practical horticulture, and to the splendid work of their devoted president, and a council that was united in its efforts to advance horticulture—and only once during the past twenty-five years had there been the slightest antagonism among its members. Year by year the society had paid increased attention to scientific horticulture; they had a well-equipped school of horticulture at Wisley, and now their efforts had been recognised by Government, and, in conjunction with the Board of Agriculture, a diploma of horticulture had been established, and this he considered would make a great, and not yet fully understandable, difference to the position of horticulture in the United Kingdom. He expressed his thanks for the silver salver presented to him by the President, for the promised cheque, and especially for the high honour of the Victoria Medal of Honour in Horticulture.

The officers and council were declared elected in accordance with the notice in the annual report. Great regret was expressed at the absence of Lieut.-Colonel Sir George Holford, who had sustained a rather severe accident in the hunting field, and the meeting then concluded with a vote of thanks to the President for presiding, moved by Sir John T. D. Llewelyn, Bart., and seconded by Mr. A. W. Sutton.

SCIENTIFIC COMMITTEE.—February 4.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Messrs. R. H. Curtis, A. Rolfe, W. Hales, G. Wilson, A. Worsley, G. Massee, Sir H. J. Veitch, and F. J. Chittenden (hon. sec.).

LÆLIA LUNDI (Reich. and Warm).—Mr. R. A. Rolfe exhibited, on behalf of Messrs. Sander, a plant of this dwarf Brazilian species, remarking that it is allied to L. Regnelli, but is easily separated by its habit of flowering on the undeveloped growth, a character which it shares with Cattleya Walkeriana. The leaves are narrow and fleshy, and the flowers solitary, pale lilac with a veined blotch on the front lobe of the lip. It is quite unlike any other lælia in cultivation. Its history is given in the "Orchid Review" (xviii., p. 62).

ONCIDIODA COOKSONIANA.—The Orchid Committee referred the plant of Oncidioda Cooksoniana to this committee. It had been exhibited by Messrs. Charlesworth. The cross is a rather curious one between Cochlioda Noezliana and Oncidium macranthum, and the hybrid has something of the long raceme of its pollen parent, while the flowers are larger than the seed parent and somewhat different in colour. It was first raised by Mr. N. C. Cookson. A Botanical Certificate was unanimously recommended to the plant.

CROCUS BIFLORUS WELDENI.—Mr. Bowles showed a seedling from Messrs. Barr of this form with a distinct sulphur tinge. He found that seedlings of chrysanthus and biflorus ran into one another so as to render it impossible to regard these as anything but forms of a single species, as, indeed, Herbert had regarded them, grouping them under the name of C. annulatus. C. chrysanthus gave blue seedlings similar to those of C. biflorus in colour.

BITTER PIT IN PEAR.—Some pears were shown with brown spots in flesh, similar to those frequently seen in apples. This spotting is not the product of the attack of any specific organism, but is due to some derangement in the normal development of the fruit. Mr. Massee recognised the spotting of the pear flesh as of similar origin.

Scottish Horticultural Association.

The monthly meeting of this association was held at 5, St. Andrew Square, Edinburgh, on February 4. There was an attendance of 95 members.

Mr. Massie, the retiring president, occupied the chair at the commencement of the proceedings, and, after the formal business of the evening had been transacted, introduced his successor in the office, Mr. David King, who thereupon took the chair and delivered his inaugural address, taking as his subject, "Recent Advances in Horticulture." In his introductory remarks Mr. King referred to the general policy which he thought ought to be pursued in the current year. As they were all aware, in the two years of his predecessor's occupancy of the presidential chair, very considerable changes, for the most part due to his initiative, were brought about. Now he thought it would be inadvisable to make any more drastic changes for the present. In fact, he thought little more change would be necessary for some time to come. He thought the aim should be to work upon the foundation already laid, and develop the plan of operations which had been so well set out. But, at the same time, there must be no relaxing of effort; there must be no faltering. He would do his best, but that was not enough. The members of the association must also do their part. Everyone could do something in his or her own way, and if, for example, every member were to bring in even one new member yearly, what a difference it would make! This was surely not beyond the powers of anyone, and he trusted that no effort would be spared to increase the membership as much as possible, for unless this was done prosperity could not be continued.

Reference was made to the discussions at the meetings. It had been repeatedly urged that the younger members of the association should take a larger share in these discussions, but there seems still to be great diffidence amongst them. Mr. King hoped they would shake this off, and take their proper part in these discussions. It had been decided to have an evening for papers by juniors in the current session, for which he would be very pleased to continue the prizes offered in the two past sessions. He proposed to offer a gold medal for the first prize paper, and book prizes to the two which rank next in merit. On the motion of Mr. John Phillips, Mr. King received a very cordial vote of thanks.

The exhibits were: Collection of tulips, including the variety Coronation, from Mr. King; hybrids of Primula obconica, from Mr. D. W. Thomson, Edinburgh; newer varieties of perpetual-flowering carnations, and Phœnix Roebelini, said to be the best palm for ordinary dwelling-house decoration, from Messrs. Todd and Co., Edinburgh; flowers of Pyrus japonica, Galanthus Elwesi, and G. nivalis fl. pl., and Helleborus niger maximus, H. orientalis Albin Otto, H. abschasicus grandiflorus, and H. caucasicus purpurescens major, all from the open air, from Mr. C. Comfort, Broomfield, Davidson's Mains; and Richardia africana, from Miss Burton, Polton. There was also exhibited an improved tool for sampling soil, planting potatoes, bulbs, etc., from Mr. John Mack, Edinburgh.

At the meeting on March 4 a paper will be read on "Dry-wall Gardening," by Mr. Thomas Smith, Coombe Court Gardens, Kingston-on-Thames.

Royal Gardeners' Orphan Fund.

The annual meeting and election of this beneficent fund was held at Simpson's Restaurant, 100, Strand, W.C., on February 7, 1913. Mr. H. B. May, V.M.H., presided, and proceedings commenced a few minutes after 3 p.m. The necessary preliminaries were soon disposed of, and then the report for 1912 was read.

REPORT OF THE COMMITTEE FOR 1912.

The general tenor of the report on the operations of the Fund during the past year which the committee has to present to the subscribers, is again of a satisfactory character, inasmuch as the contributions from all sources show a slight increase. This is the more gratifying because the increase is due to a larger measure of support in the form of annual subscriptions. In common with most other institutions which make their annual appeals in May, the Fund severely felt the effects of the national appeal then being made on behalf of the widows and orphans of the victims of the awful "Titanic" disaster, but the position was happily retrieved later by contributions from other sources. The expenditure side of the accounts again shows an increase in the amount disbursed in weekly allowances to the children, while an appreciable reduction in the working expenses has been brought about, without adversely affecting the efficiency of the management.

The number of children receiving the full benefits of the Fund at the commencement of the year was one hundred and seventeen, and twenty-eight candidates waiting for election—all in sore need of assistance—were in receipt of compassionate allowances. Of this number eighteen were elected to receive the full allowance at the annual meeting, and grants in aid were subsequently made to the twenty-five candidates who are appealing for election at this meeting. During the year twelve children ceased to receive aid from the Fund, and nineteen children — the greatest number that the committee can prudently see their way to provide for—will be elected on February 7. The total amount disbursed in allowances during the year was £1,796 10s., bringing up the amount distributed under this heading to the grand total of over £26,542.

The annual Festival, held on May 8, under the genial and extremely sympathetic presidency of Sir Edwin Durning Lawrence, Bart., again proved a most enjoyable function, a large company being present, including all the well-known supporters of the Fund and many visitors. The collection amounted to nearly £1,000, and the chairman munificently headed the list with one hundred guineas. Mr. Sherwood and his sons again showed their keen interest in the welfare of the Fund by contributing one hundred pounds; while Messrs. Sutton and Sons also contributed a most generous donation. Your committee desires to express their deep gratitude to Sir Edwin Durning Lawrence for the valuable services he has rendered to the Fund, and has pleasure in inviting the subscribers to add his name to the list of vice-presidents.

The committee acknowledges with much gratification the receipt of the sum of £266 16s. 4d., the proceeds of a collection made to perpetuate the memory of the late Mr. Peter Barr. Your committee greatly rejoices that a lasting memorial of this distinguished horticulturist—known the world over as the Daffodil King—should be associated with the Royal Gardeners' Orphan Fund, which he helped so materially to establish, being a member of the original committee.

The receipt of a legacy of £100, left to the Fund by the late Mrs. Ann Pollett, widow of Mr. Henry Montague Pollett, founder of the old-established horticultural printing business of Messrs. H. M. Pollett and Co., and for some years a much respected vice-president of the Fund, is also gratefully acknowledged.

The warmest thanks of the committee are again most heartily accorded to the stewards at the annual dinner; to the honorary local secretaries—and especially Mr. Carver, Mr. Neve, and Mr. Rowe—whose kindly efforts to increase the list of annual subscribers have been most successful; and to the committees of the Altrincham Gardeners' Association, the Bradford Chrysanthemum Society, the Reading Gardeners' Association, the Chislehurst Gardeners' Society, the Sevenoaks Gardeners' and West Kent Chrysanthemum Society, the Tonbridge Gardeners' and Amateurs' Society, the Leeds Professional Gardeners' Club, and the Spen Valley Gardeners' Society, who, by means of concerts and other forms of entertainment, and the sale of flowers at exhibitions, have rendered the Fund most valuable help. The committee would greatly rejoice if other local committees would give a thought to the needs of the Fund and render it some assistance by similar means. They would also specially commend the objects of the Fund and the valuable work it is doing to the members of Gardeners' Improvement Societies, who, by means of card collections among themselves, could render most valuable assistance.

With very sincere regret your committee deplores the loss by death during the year of a greater number than usual of valued friends and constant supporters of the Fund. In its early days the Fund received substantial help from the late Mr. Herbert J. Adams, one of the oldest of the Vice-Presidents; and from first to last it has had no more constant advocate of its claims to support than the late Mr. Alexander Dean.

The committee desires most cordially to thank the auditors, Mr. P. Rudolph Barr and Mr. Frank Reader, for their exhaustive examination of the accounts now presented. Mr. Barr is the retiring auditor, and the committee has special pleasure in recognising the value of his past services by recommending him to the subscribers for re-election.

CASH STATEMENT FOR 1912.

RECEIPTS.

To Subscriptions	£427	10	6
,, Donations	140	6	0
,, Receipts from Annual Dinner	925	16	7
,, Legacy: Mrs. Ann Pollett	100	0	0
,, "Peter Barr Memorial"	266	16	4
,, Advertisements in List of Subscribers	27	13	0
,, Dividends on Stock and Interest on Deposit	381	13	4
,, Income Tax returned	6	16	9
	£2,276	12	6
,, Balance last Account	870	15	8
	£3,147	8	2

EXPENDITURE.

By Allowances to Orphans	£1,621	5	0
,, Grants in Aid	149	5	0
,, "Emma Sherwood Memorial"	13	0	0
,, "Maybud Campbell Grant"	13	0	0
,, Secretary's Salary	200	0	0
,, Printing and Posting List of Subscribers	41	19	1
,, Rent, Insurance, Firing, Lighting, etc.	46	15	7
,, Printing and Stationery	47	19	6
,, Advertising	8	9	0
,, Annual General and Committee Meetings	23	16	2
,, Postages	27	14	0
,, Bank Charges	3	17	0
,, Petty Cash: Sundries	4	11	2
,, Balances. Cash at Bank	494	18	8
Cash on Deposit	450	0	0
Cash in hand	0	18	0
	£3,147	8	2

NOTE.—Investments—

3 per cent. London and County Consolidated Stock	£7,240	15	10
3 per cent. Canada Stock	2,000	0	0
L. and N.-W. Railway 4 per cent. Preference Stock	340	0	0
Great Indian Peninsula Railway Guaranteed 3 per cent. Stock	514	0	0
2½ per cent. Consols	1,100	0	0
"Thomson Memorial Trust"—			
East Indian Railway B Annuity of £14, cost	430	11	0
"Emma Sherwood Memorial"—			
Metropolitan Water (B) 3 per cent. Stock	516	15	11
"Maybud Campbell Grant"—			
Metropolitan Railway 3½ per cent. Preference Stock	391	0	0

Having inspected the securities and examined the books and vouchers supplied to us, we hereby certify the above account to be correct.

P. RUDOLPH BARR, FRANK READER, } Auditors.

January 13, 1913.

Mr. May moved the adoption of the annual report, and expressed his pleasure at being able to state that annual subscriptions had increased, expenditure had slightly decreased, and the amounts dispensed to orphans on the funds, and also grants in aid, especially when the children were being launched into working life, was larger than ever. The Festival dinner was a pleasant and satisfactory function. Over £250 had been received from the Barr Memorial Fund, and a legacy from the late Mrs. Pollett had added materially to the funds. Not a few friends had been lost to the Fund, notably Mr. H. Adams and Mr. Alex. Dean, who had died since the previous annual general meeting. Mr. Bates seconded the motion, and it was put and carried.

Thanks were accorded to Sir E. Durning-Lawrence for presiding at the Festival dinner, and he was elected a vice-president on the motion of Mr. G. Gordon and Mr. R. Cuthbert. Mr. Edward Sherwood was very heartily re-elected as treasurer on the motion of Mr. Howe and Mr. R. Hooper Pearson. Mr. Barr was re-elected auditor on the motion of Mr. Pearce and Mr. Wallace. Messrs. A. R. Allan, W. H. Cutbush, G. Gordon, D. Ingamells, J. F. McLeod, R. H. Pearson, H. A. Wright, and Mr. Metcalfe, were elected members of committee, the latter filling the vacancy caused by the retirement of Mr. E. Rochford; Mr. Gregory and Mr. Lyne were their sponsors.

Mr. B. Wynne's re-election as secretary was carried on the motion of the Chairman and Mr. Ingamells. Messrs. Bates, Cutbush, Howe, Ingamells, Cuthbert, and Moorman were elected scrutineers of the ballot, and the meeting was then adjourned for the declaration of the poll.

There were about two dozen members present at the earlier part of the proceedings.

On the reassembling of the meeting after the adjournment, the scrutineers presented their report on the result of the ballot, which stated that the following candidates had received the largest number of votes, namely, Edna M. May, Eric A. Lindekvist, Bertha B. Mason, Dorothy M. Mitchell, Wallace Titheridge, Ivy I. Appleford, Sylvia D. Collins, Grace E. Cronchman, Jessie L. Deadman, Elizabeth M. Dodd, Wilfred E. Goff, Margaret E. Jennings, Sarah J. Lee, Ethel E. Miller, Percy G. Peerless, Ida E. Piper, Margaret Riley, Margaret D. Steptoe, and Marion D. A. Woollett. The Chairman having declared that these candidates had been duly elected to the benefits of the Fund. Sir Harry Veitch, V.M.H., expressed the hope that it might be possible to place the unsuccessful candidates on the fund. The Chairman said the committee would not raise any objection to this being done, and Sir Harry Veitch accordingly proposed that the six unsuccessful candidates be elected. This motion, having been seconded by Mr. Moorman, was submitted to the meeting, and was carried unanimously. The customary votes of thanks to the scrutineers and chairman brought the proceedings to a close.

In the evening the members and friends of the fund, to the number of about thirty, dined together at "Simpson's" under the presidency of Mr. H. B. May, and spent a pleasant evening.

National Vegetable Society.

Under the presidency of Mr. Owen Thomas, V.M.H., the annual meeting of this society was held at the R.H.S. Hall, Westminster, on Tuesday, February 11, at 2.30 p.m. Those present were Messrs. O. Thomas, V.M.H., G. Gordon, V.M.H., H. J. Wright, F. W. Harvey, J. Harrison Dick, E. Burgess, Whipaine Nutting, R. Pinches, W. Giles, C. H. Curtis, and E. Quick.

Following the minutes of the previous meeting, the annual report was read by the hon. secretary. This reviewed the work during 1912, referred to the excellent series of trials of vegetables held by the society, the splendid exhibition held at Watford, the fine efforts made to extend vegetable culture by the late Mr. Alex. Dean, and concluded with an expression of thanks to the secretary and treasurer, and regrets that, owing to the lack of support on the part of the general

public, the committee had no option but to wind up the society. The income for the year left a balance of £4, but later donations brought up the balance to £8 11s. 1d.

Mr. Owen Thomas moved the adoption of the report, and said that the society had done a great deal to show the general public the great variety and excellence of British-grown vegetables. The society had at least done one good thing, i.e., by its institution it had forced the Royal Horticultural Society to take a greater interest in vegetable culture, and establish an annual exhibition, which he hoped would prove a continued success. Mr. G. Gordon seconded the motion, and it was passed regretfully. The treasurer's statement was presented and accepted, and the meeting voted the small balance to the hon. secretary by way of honorarium for his admirable services. Mr. Quick expressed his thanks, and regretted that there seemed no other course than to bring the society to an end. Thanks were accorded to the hon. treasurer, Mr. H. J. Wright; to the auditors, Messrs. Pinches and Wilson; to the committee, and to the chairman for presiding. So, for the present at least, the National Vegetable Society finishes its labours.

Royal Scottish Arboricultural Society.

The annual business meeting of this society was held in the Queen's Hall, No. 5, Queen Street, Edinburgh, on February 7. Sir John Stirling Maxwell, the president, was in the chair, and there was an attendance of sixty members.

The report by the Council stated that, although considerable progress had been made in the course of the year, in some respects the results had been disappointing. A further concession as regards death duties on woodlands had been made by the Budget of last year, and now, on the death of an owner, the value of the timber is added to his other estate for the purpose of ascertaining the rate of duty, but the duty is charged on the timber when cut, at the same rate as it is charged on his other estate. It was also stated that, in order to convince the people of the Western Highlands, among whom considerable opposition and prejudice against forestry existed, the Council had appointed a committee to consider the subject with a view to convincing them that, instead of being antagonistic to their interests, forestry would prove a great boon to them. As regarded the Department of Forestry, which Lord Pentland had promised as an integral part of the administration of the new Board of Agriculture for Scotland, Mr. M'Kinnon Wood had been reminded of his predecessor's promise, and, as a result of representations to the Board, they had since advertised for an estate suitable for a State demonstration forest, but so far as was known, no estate had yet been acquired, and nothing further had been made public regarding the progress of the scheme.

In moving the adoption of the report, the Chairman said that during the last three years they had made less progress than he hoped, but they had made a good deal. Each year they had passed through a different phase, and he observed that with each new phase the progress became slower. First, the society had to choose a line for the development of sylviculture, and it fell to him to embody their ideas in a memorandum; and he desired to record the fact that their policy had not only been arrived at unanimously, but it had never varied. Since there was no one else to do it, they made an attempt themselves to tackle some of the difficulties of afforestation, and then a long and wearisome correspondence led to the appointment of a committee by the Secretary for Scotland to consider the policy they had laid before him. Then came the appointment of the Board of Agriculture, including a Department of Forestry, followed by the appointment of an Advisory Committee, and at this point his narrative ceased. He left it to Mr. Sutherland, whom they welcomed as the head of the Department for Forestry for Scotland, to take up the tale.

Mr. Sutherland stated that since the Board of Agriculture came into existence ten months ago, many matters other than forestry had demanded immediate attention, but in connection with forestry it had been decided to make a representation to the Development Commissioners of the urgent necessity for advisory and research officers for Scotland The Board also felt that progress might be made in the direction of a general survey of Scotland, showing the areas in which sylviculture was practicable, and a start in this direction had been made. Quite recently, too, the Board had been able to arrange for the testing of forest tree seeds for germination, and samples sent to the Secretary of the Board would be tested free of charge.

A discussion was afterwards initiated by Mr. Sydney Gammell, of Drumtochty, on the relationship of forestry to agriculture and other industries; in this a number of the members took part.

The financial statement showed that the funds of the society at December 31 last stood at £1,809 8s. 2d., and that there was a balance of income over expenditure for the year of £136 18s. 10d.

Captain Stirling, of Keir, was elected president for 1913, and Sir Andrew Agnew and Mr. Stewart Fothringham, of Murthly, were elected to the vacant vice-presidencies. Dr. Borthwick was elected honorary editor of the "Transactions," in succession to the late Colonel Bailey.

Chester Paxton Society.

Under the chairmanship of Mr. A. W. Armstrong, the opening meeting of the new session was held at the Grosvenor Museum, when Professor Robert Newstead delivered a most interesting lecture, entitled "Notes on the Flora of Nyassaland." The lecture was illustrated by splendid lantern slides from the professor's own photographs.

In his opening remarks the lecturer said he would deal with the flora very broadly, as, in consequence of it being the dry season of the year (which was Nature's resting season) during his three months' residence in Nyassaland (British Central Africa) there was not an over-abundance of plants. He thought, however, that before dealing with his subject proper, some remarks and illustrations on the journey, and its objects, the country and its inhabitants, would be acceptable to the audience. By the aid of maps shown on the screen, the lecturer described the geographical positions of the chief points of interest and explained the outward and homeward routes, pointing out the Rivers Zambesi and Shire, on the banks of which the camp of the expedition was pitched. Other slides showed the native means of travelling by rickshaw, porters carrying baggage, Sleeping Sickness camp on banks of River Shire, dining hut, the erection of the building by natives, women plastering walls, complete structure with verandah, and Dr. Davey with three of the native "boys," Newstead's Museum and Hospital, native gardener at work, and the two native servants, cook and table boy. The lecturer explained that there was an abundance of fresh fruit and vegetables, and he mentioned limes, tomatoes, and potatoes from the mountains. Other slides showed the cooking apparatus, etc.

Coming to the flora the lecturer said he would treat of the plants and trees under three divisions—First, the aquatic plants of the river; secondly, plants of the plain country; and, thirdly, those of the forest. The first picture showed the edge of the river covered thickly with a network of plants, termed "Sudd," among which were water calthrops and the cabbage plant. Other pictures showed Egyptian broad-leaved grass, acacias and palms, enormous ant-hills, which were common over all the country; sausage trees, so named on account of the resemblance of the fruit to sausages; Adenium multiflora, a plant without a leaf, but with a thick, fleshy succulent stem; an old ebony tree; "Women's Tongues," so called by the natives on account of the noise produced by the seeds when the wind blows. The lecturer pointed out where the pupa of the tse-tse fly was found, and explained that the situation was all low forest, and known to all Englishmen as "bush country"; later he showed where the pupa of the insect responsible for sleeping sickness was discovered. In concluding this portion of the lecture, Professor Newstead remarked that the flora of West Africa was much richer than that of Central Africa; but nevertheless, he had not seen anything abroad which would compare with our own native heather or gorse in flower. (Applause.) The remaining portion of the lecture was a rapid description of the avifauna of the country, as specimens were thrown upon the screen.

In the course of a few well-chosen remarks, Mr. Edward Porritt, Christleton Grange, a vice-president of the society, proposed a hearty vote of thanks to Professor Newstead. This was seconded by Mr. G. P. Miln, who said Cestrians were proud of the fact that Professor Newstead and the late Dr. Dutton (a native of the old city) had both been successful pioneers in scientific research work in the wilds of Africa and other places. This vote of thanks was put to the meeting and carried with acclamation.

Norwich Horticultural Society.

There was a goodly muster of local horticulturists at the annual meeting of this society, which was held in the Guildhall, Norwich, under the presidency of F. H. Barclay, Esq.

After the minutes of the last annual meeting had been read and other preliminaries disposed of, the Hon. Secretary (Mr. C. E. Pilling) presented the annual report, of which the following is an abstract: The society has had a successful year under the presidency of Major D. G. L'Estrange Astley, who has done so much during his year of office to increase the membership and also the welfare of the society by attending the shows and committee meetings, for which the committee wish to express their sincere thanks, and also to congratulate him on his success as an exhibitor at the Rose Show. The credit balance has been increased from £72 to £141 8s. 3d., and it will be remembered that last year, under the presidency of Mr. F. H. Barclay, the subscription list amounted to £219 18s., being a record, 89 new members having been obtained. That amount has been exceeded this year, the subscriptions now amounting to £233 11s. 6d., and 37 new members having been obtained, making a total of 497, as compared with 368 in 1910. This is very satisfactory, as it cannot be too forcibly impressed upon those interested in horticulture that the society can only be placed in a secure financial position by an increased membership. The committee much regret that Mr. Joseph Powley, the assistant secretary at the shows, has found it necessary to resign by reason of his advanced age. The Rose Show will be held on Wednesday and Thursday, June 25 and 26, a week earlier than usual, to avoid clashing with the great London show. Moreover, the expenses are not much increased by the second day. The appointment (on the suggestion of Mr. George Davison) of a sub-committee of experts to award the certificates of merit and medals of the Royal Horticultural Society has given much satisfaction.

The statement of accounts showed that the society had at the commencement of the year a balance of £72; subscriptions amounted to £233 11s. 6d.; receipts at Spring Show, £52 10s. 10d., Rose Show £142 13s. 11d., Chrysanthemum Show £260 5s., donations, etc., £60 2s. 6d., interest £10 6s. 4d., a total of £839 10s. 1d. After paying all expenses there remained a balance of £141 8s. 3d.

Mr. J. E. T. Pollard, in moving the adoption of the report and statement of accounts, said it was the most satisfactory report and statement that had been submitted for several years. Two records were made during the year. The first was the largest amount of subscriptions ever received. The

previous record was in the year 1834, so they had to go a very long way back to find anything like it. In that year there were 716 subscribers, and the amount received was only £201 16s. The other record was made on the third day of the Chrysanthemum Show, when over £60 was taken at the gate. Both of those records were very gratifying to the society, particularly the large increase in the amount of subscriptions.

The Bishop of Norwich was elected president for the year; Mr. E. G. Barclay was re-elected treasurer, and Mr. Pilling re-elected hon. secretary. The following retiring members of the committee were re-elected: Mr. H. H. Back, Rev. J. Fellowes, Mr. F. H. Barclay, Dr. Osbourne, Colonel Petre, Mr. W. Allan, and Mr. F. Hanson. Major Astley and Mr. Enderby were elected to fill the two vacancies on the committee.

The following show dates were announced: Spring Show, St. Andrew's Hall, April 24; Rose Show, June 25 and 26; and Chrysanthemum Show, November 20, 21, and 22.

Reading Gardeners' Association.

At the first regular meeting of the present session there was almost a record attendance of members, the president occupying the chair. The occasion was the visit of Mr. Thos. Stevenson, The Gardens, Woburn Place, Addlestone, the well-known sweet pea expert.

Mr. Stevenson prefaced his remarks by stating that he had no intention of going into the history of the sweet pea; the history of the flower as we know it did not extend back for a longer period than twenty years. His paper was entitled "The Cultivation of Sweet Peas," and to his subject he intended to adhere. The lecturer remarked it had been said that sweet peas could be grown on any soil, and with that statement he quite agreed. He had not yet seen soil that with careful and generous treatment would not produce, at any rate, peas of really decent quality. Mr. Stevenson then gave exhaustive advice as to the preparation of the ground and cultural details both with regard to autumn and spring sowing. He was an advocate of autumn sowing himself, but if it were not possible to sow the seeds before the middle of October, the better plan to adopt would be to defer the operation until the first week in February. Sweet peas would be found to come into flower more quickly on light soil, but they would bloom for a longer period on heavy land. Perhaps the best soil for sweet peas was something between a light and heavy soil, and which might be described as a fairly rich, porous loam with a free drainage. Mr. Stevenson gave at length his opinion of the dread "streak," with advice as to combating it.

The sterilisation of the soil, position for planting out, watering, feeding, use of special sweet pea manures, enemies and pests, growing under glass, and many other features were all thoroughly dealt with by Mr. Stevenson, who brought his remarks to a close by giving the names of twenty-four varieties "he would not like to be without."

In the discussion following the paper, Mr. Stevenson gave further evidence of his wide knowledge in the cultivation of the most popular of annual flowers.

Mr. W. T. Townsend, formerly head gardener at Sandhurst Lodge, Berks (late Sir William Farrer), and one of the oldest members and supporters of the association, was unanimously elected a life member of the society.

His son, Mr. F. Townsend, head gardener to the vice-president, staged a really superexcellent group of Primula obconica, which was unanimously awarded by the judges a Certificate for skill in cultivation. Mr. H. G. Cox (Messrs. Sutton and Sons) exhibited some wonderful autumn-grown vegetables, an example of the proper manner in which to preserve carrots, beet, etc., for winter use.

Several new members were elected.

ANSWERS TO CORRESPONDENTS.

HOLMES' MEMORIAL CHALLENGE CUPS.—J. A. M., London: Can you tell me the nominal value of one of the Holmes' Memorial Cups?—We believe the nominal value of a Holmes' Memorial Cup is £50.

SCABIOSA CAUCASICA.—W. B., Doncaster: I find some difficulty in producing perfect flowers of Scabiosa caucasica, and should therefore be glad if you would tell me whether the plant needs any special treatment.—Good garden soil and a sunny position will suit Scabiosa caucasica. The plant is in no sense faddy, and if your flowers come imperfect it may be that the soil is poor, that earwigs or other pests are troublesome, or that you have been unfortunate enough to obtain a very poor form of the species. We have a cypripedium that every year produces blooms in which the pouch, or lip, has a big indentation on one side, instead of a regular inflation, but, while the plant is kept as a curiosity, we do not condemn the species. Now and again a plant will develop some unpleasant character, and if good treatment will not bring it into proper form, then get rid of it and obtain plants from a stock that is known to be perfect.

CYPRIPEDIUM SEEDLING.—C. B. W., Lichfield: I enclose a bloom of cypripedium, and shall be glad if you will give me your opinion of it. The variety was raised in these gardens.—The seedling is evidently a form of C. Leeanum, a hybrid produced by crossing C. insigne with C. Spicerianum. For winter flowering this is a most useful orchid as it is free-flowering and easily grown. Your variety is a moderately good one, but has not such a broad dorsal sepal as is found in the best forms.

PELARGONIUMS FOR EXHIBITION.—G. B., Colwyn: Very many thanks for answering my previous questions. I now take advantage of your kind offer of further help. The pelargoniums in question are zonal varieties, and I require them for exhibition during July, chiefly at the beginning of the month. I have about fifty old plants in 6in. pots, and also a lot of cuttings which were rooted last August, and are now in 3in. pots. Plants in 6in. pots are, I believe, required for exhibition purposes. What I really want to know now is when to stop pinching the shoots and removing flower spikes, so as to secure a good display by the show time? If you can help me in this matter I shall be very greatly obliged.—You have good material to work with. Reduce the soil about the roots of the best of the old plants, and pot them into the smallest-sized pot that will conveniently hold them, and as soon as new roots have taken hold of the soil pot again, using rich, substantial soil. Encourage the younger plants by every possible means, remembering, however, that long sappy growths are not likely to be of much value. Pinching or stopping should cease six or seven weeks previous to the date of exhibition.

PLANTS DYING IN A CREOSOTED GREENHOUSE.—P. W., Norwood Park: I had a lean-to greenhouse built last September, measuring 19ft. in length, 8ft. wide, and 9ft. high, facing south. The whole of the house was painted inside and out with creosote. The plants and cuttings are dying: as soon as the young shoots appear, they wither up and die, as if burned. I should mention the fact that the plants seem to be much worse since we commenced heating. My gardener cannot assign any reason for the trouble, so we come to you for help.—The fumes from the creosote are responsible for the damage. We remember two instances in the south-east of London where begonias, pelargoniums, etc., planted out for the summer, were either killed off wholesale, or rendered unsightly by the fumes from creosoted wood paving laid down in front of the garden. It is most unfortunate that you had the woodwork creosoted instead of painted with good lead paint. How long it will be before the house is suitable for plant cultivation we cannot say, as there is so little experience to go upon. We know, in one instance, where the interior staging and the floor trellises were built with creosoted timber, the plants were killed, and it was not until all the woodwork so treated had been removed that the house was usable for plant cultivation. It occurs to us that, if the woodwork would take paint, then the house might be rendered useful in a few weeks if given two or three coats of first-class white paint; we simply offer this as a suggestion. If we can obtain any special information likely to prove useful in this matter we will communicate with you.

MALMAISON CARNATIONS.—C. H., Aberdare: Please tell me to whom we owe the Malmaison carnations, and where did this class originate?—How, when, or by whom the first Malmaison carnation originated we do not know, but it was evidently raised in France, and writers generally concede that Souvenir de la Malmaison, one of the earliest forms, was thus named in honour of Malmaison, the residence of the Empress Josephine, and where she had a garden. This is a red variety, and Old Blush, possibly the oldest, is blush coloured, and Princess of Wales, deep pink. For a long time these were the only Malmaison carnations in cultivation, but the late Mr. Martin R. Smith, of Hayes, turned his attention to these flowers, as well as to border carnations, and

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Nowhere else in England may these ingenious machines be seen. They are the only eighty-four in the country. Come and see them at work.

Each operative has absolute control of her machine. She may run it at varying speeds, and may stop it at any point in an instant. She may even regulate the flow of peas; she may have six in a row or sixty, or may have the travelling "platform" almost covered. The advantages of this facility of control are obvious: no two samples of peas are precisely alike; the machine must be run at lowest speed with a scantily covered platform for some crops of peas, whilst the more perfect crops may need but little picking, and can therefore be passed through quickly.

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6ft. ,, 4ft. ,,		2	5	0
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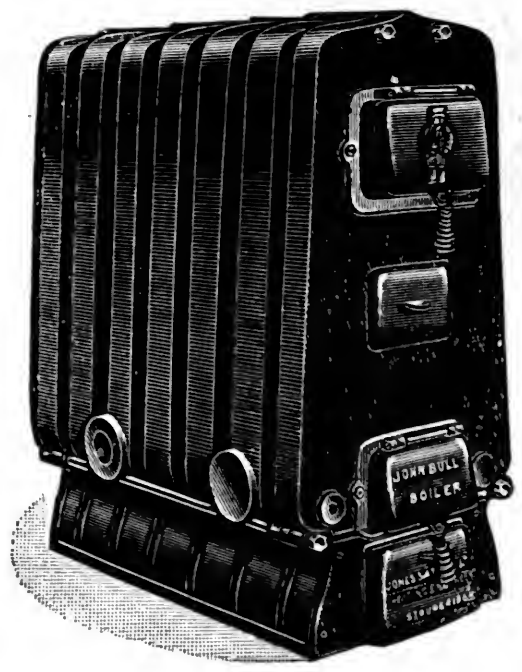

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raised a goodly number of handsome varieties, giving a wide range of colour. He even produced a yellow variety named Yeller Gal. At present there are between seventy and a hundred varieties of Malmaison carnations, but the old blush and pink sorts still retain their popularity.

QUALITY OF LOAM.—A. W., Notts: Is the turf, of which I send a sample, good material for potting purposes? I have some like it stacked for use in the coming season. What proportion of other materials, such as manure, leaf-soil, ashes from the garden heap, sand, etc., would you advise to use with it to make up a good general compost for potting, for tomatoes and for chrysanthemums? I do not use large quantities. Do you consider the turf has a fair amount of fibre in it?—The loam is of moderate quality, and would have been greatly improved had some manure been placed between the layers when the stack was made. It contains a moderate amount of fibre, but would hardly pass as first-class fibrous loam. For general potting, two parts of leaf-mould, one of old manure, and one of sand should be used to every five parts of loam, with the addition of a little wood ashes. For the tomatoes one part of ashes from burnt garden refuse to every four parts of loam would suffice, and the addition of a small proportion of road grit would improve matters. Tomatoes should be fed freely when they commence to fruit, not before. For chrysanthemums use five parts of loam, one of sand, one of ashes, and one of old manure, adding a pint of bone-meal to every bushel.

NAMES OF PLANTS.

C. A., Bournemouth.—1, Crocus chrysanthus; 2, C. Sieberi; 3, Iris reticulata Krelagei.

E. W., Liverpool.—1, Azalea amœna obtusa; 2, Cœlogyne Massangeana; 3, Oncidium (formerly Cyrtochilum) maculatum.

H. R. F., Andover.—1, Sparmannia africana; 2, Pelargonium denticulatum; 3, P. Lady Plymouth; 4, Rhododendron præcox.

R. H. H., Notts.—The azalea is A. amœna var. obtusa. The wood we do not recognise, but will endeavour to have it identified. Send us leaves and flowers in due course.

F. F. W., Launceston.—1, Prunus Pissardi; 2, Dendrobium Wardeanum—a very good form; 3, Cypripedium Spicerianum; 4, Dracæna Goldieana; 5, Nepenthes Mastersiana; 6, send when in flower.

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Flowers are abundant for the time of year, and the variety is very large. Business is quite brisk.

		s.	d.		s.	d.
Acacia	per bun.	0	6	to	1	0
Anemones	per doz. bun.	2	6		3	0
Arums	per doz.	2	0		3	0
Adiantum cuneatum	per doz. bun.	4	0		6	0
Asparagus plumosus	per doz. bun.	8	0		16	0
,, Sprengeri	per doz. bun.	8	0		12	0
Azalea	per doz. bun.	4	0		5	0
Bouvardia	per doz. bun.	5	0		8	0
Camellias	per doz.	1	6		2	6
Carnations	per doz.	1	6		3	0
,,	per doz. bun.	10	0		18	0
,, Malmaison	per doz.	10	0		15	0
Cattleyas	per doz.	9	0		15	0
Chrysanthemums	per doz. bun.	8	0		12	0
,,	per doz. blooms	1	6		4	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz.	2	0		3	0
Daffodils	per doz. bun.	2	6		6	0
Eucharis	per doz.	2	0		3	0
Freesias	per doz. bun.	2	0		3	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	3	0		5	0
Lapageria	per doz.	2	0		2	6
Lilium auratum	per bun.	2	0		5	0
,, speciosum	per doz.	2	0		2	6
,, longiflorum	per doz.	2	0		3	0
Lily of the Valley	per doz. bun.	6	0		15	0
Marguerites	per doz. bun.	2	6		4	0
Mignonette	per doz. bun.	3	0		5	0
Odontoglossums	per doz. blms.	3	0		5	0
Pelargoniums	per doz. bun.	4	0		8	6
Poinsettias	per doz.	9	0		10	0
Roman Hyacinths	per doz. bun.	10	0		15	0
Roses	per doz.	2	6		8	0
Smilax	per doz. trails	2	0		3	0
Spiræa	per doz. bun.	5	0		8	0
Tuberoses	per doz.	0	6		0	9
Tulips	per doz. bun.	6	0		15	0
Violets	per doz. bun.	2	6		5	0

OBITUARY.

MR. HENRY J. PEARSON.

We have received with regret information of the death of Mr. Henry J. Pearson, of Bramcote, Notts, which took place on Saturday, the 8th inst., at Assiut, Egypt, where he had gone for the benefit of his health. To the general body of horticulturists Mr. Pearson was best known as the head of the firm of Messrs. Foster and Pearson, horticultural builders and engineers, of Beeston, Notts, and will be remembered for the excellent work he did as a member of the Council of the Royal Horticultural Society, on which he had a seat for some years. To the world at large he was, perhaps, best known as an ornithologist of the highest eminence. For a long series of years Mr. Pearson devoted his leisure to the study of birds having their homes in northern regions, and paid numerous visits to the countries within the Arctic Circle in search of rare birds. In these expeditions he achieved so high a degree of success as to enable him to form one of the finest collections of Arctic birds and eggs in this country. Mr. Pearson was the author of two works on the birds of Northern Europe, which are much esteemed by ornithologists who give attention to the birds with which they deal.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. FEBRUARY 2 TO FEBRUARY 8.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 2—Sunday	0 18	37	35	49	33
,, 3—Monday	0 24	48	46	52	37
,, 4—Tuesday	1 24	48	44	53	47
,, 5—Wednesday	—	46	44	47	46
,, 6—Thursday	—	46	46	51	41
,, 7—Friday	—	48	47	53	46
,, 8—Saturday	5 24	41	39	49	40
	(total)				
Means	8 0	45	43	50	41

DATE. 1913. FEBRUARY 2 TO FEBRUARY 8.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Feb. 2—Sunday	0·10	39	41	44	27
,, 3—Monday	—	41	41	44	34
,, 4 Tuesday	—	43	42	44	41
,, 5—Wednesday	—	44	42	44	39
,, 6—Thursday	0·02	43	43	44	31
,, 7 Friday	0·14	44	43	44	39
,, 8 Saturday	0·01	44	43	44	33
	(total)				
Means	0·27	42	42	44	35

FORTHCOMING ENGAGEMENTS.

MONDAY, February 17.—National Chrysanthemum Society; Floral Committee's Annual Dinner, Carr's Restaurant, W.C.

TUESDAY, February 18.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Some Flowers of Eastern and Central Africa," by Miss Mason; Scientific Committee, at 4 o'clock.

WEDNESDAY, February 19.—North of England Horticultural Society's Annual Meeting and Exhibition at Leeds.

THURSDAY, February 20.—Linnean Society meets.

FRIDAY, February 28.—Beckenham Horticultural Society, Lecture.

CATALOGUES RECEIVED.

FISHER, SON, and SIBRAY, LIM., HANDSWORTH, SHEFFIELD.—A goodly list of select vegetable and flower seeds, including the best novelties. Tools and sundries are well set out.

DICKSONS, CHESTER.—The arrangement, descriptions, and pricing of the items in this catalogue are most commendable; the work concludes with a capital list of garden implements and sundries.

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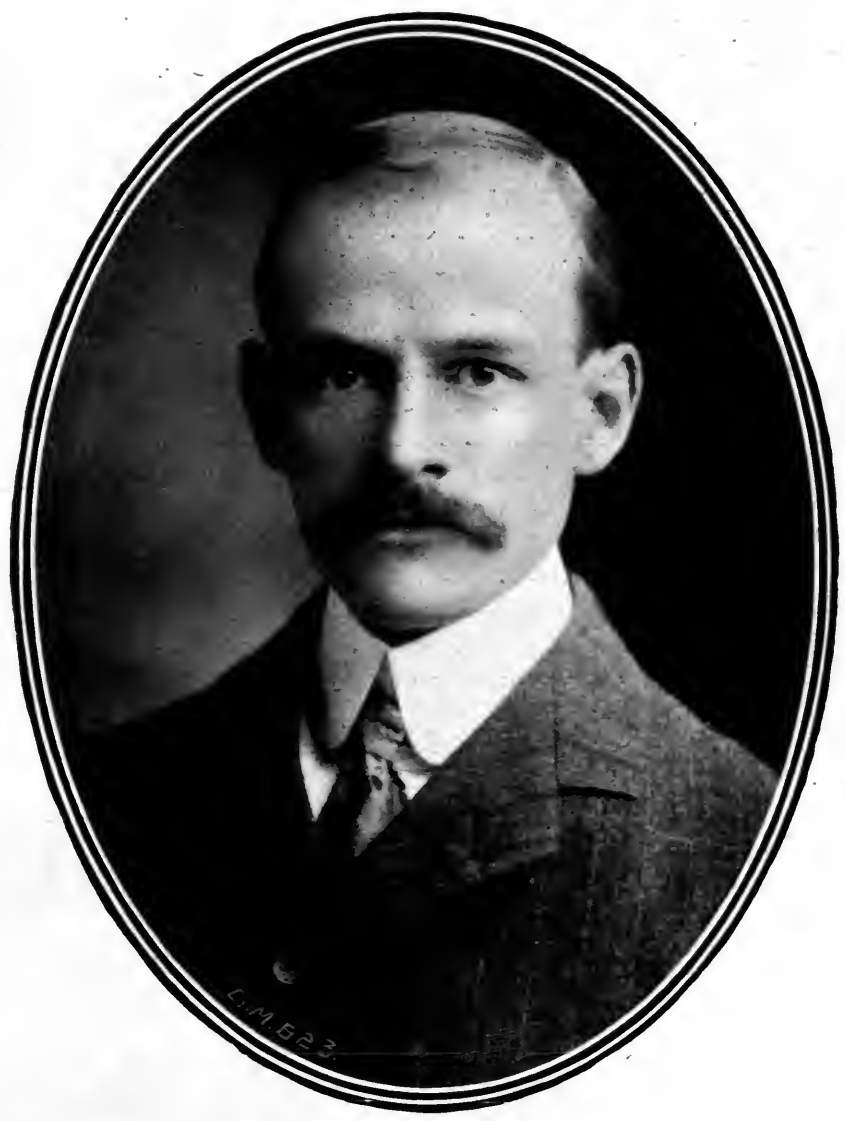
VOL. LVI.—No. 3,095. SATURDAY, FEBRUARY 22, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Dahlia Cult.

The conference on dahlias that was held in London the other evening, was of considerable importance as evidence of the quickening of interest in these distinct and attractive flowers that has followed the adoption by the National Dahlia Society of a policy possessing greater breadth and more vigour than the course of procedure which for so long was considered all sufficient. The attendance may not have been so large as the enthusiastic admirer of the dahlia could have wished, but it was more than sufficient to show that the interest in the flower is at the present time considerable, and it may be mentioned that every member of the conference was keenly interested in the several subjects that had been arranged for discussion. The programme was a good one, for not only were the several subjects in the hands of experts of the highest eminence, but they were so varied as to appeal more or less directly to all who were present. Both the exhibition and garden side of the dahlia received consideration, and, as will be seen by the report which appears on another page, the conference opened with a paper on exhibiting and judging the show and fancy varieties which for so long a period predominated at the autumn exhibitions. The newer types, and especially the cactus section, have proved such formidable rivals as to bring about a material decline in their popularity, and a considerable decrease in their cultivation. Yet they are still highly appreciated by many who grow dahlias for competitive purposes, and they invariably form a good feature at the shows where liberal provision is made for these flowers. It may, perhaps, be thought by some that, as these two sections no longer form the chief features of dahlia shows, the manner in which the blooms are staged and judged is a matter of secondary importance. So far from this being the case, it is desirable that close attention should be given to the manner in which they are presented to public notice, and to the procedure by which their relative merits are determined, for any falling away in the quality of the blooms in exhibition stands may at the present time do them irremediable damage. The charms of the blooms of the show and fancy dahlias consist in their perfection of form and the full development of their respective colours, and, as a consequence thereof, ill-shapen, rough, and indifferently-coloured blooms will repel rather than attract the visitors to the exhibitions, whether they are well acquainted with dahlias, or know but little about them. We may, indeed, expect them to suffer in precisely the same manner as the incurved chrysanthemum has suffered since it was displaced from its high estate by the Japanese type. The suggestion made by Mr. Wyatt, who is well known as one of the leading authorities on these flowers, that a code of judging should be prepared and published by the National Dahlia Society for the guidance of exhibitors and judges, has much to recommend it; and as the officers of the society stated in the course of the discussion that they were in full accord with Mr. Wyatt, there is justification for the belief that the preparation of a code will be taken in hand in due course. The papers by Mr. Cobb and Mr. Treseder, both of whom are resident in South Wales, dealt with the garden aspect of the dahlia from different points of view, and, as in the case of that read by Mr. Wyatt, were of a high order of merit. Mr. Treseder dealt with the future of the dahlia, and, in passing under review the several classes, we gathered that in his opinion this depended in a large degree upon the cultivation of varieties that have been proved to possess much value for decorative purposes, both in the garden and in the house. Mr. Cobb's paper was of special value from the fact that it contained numerous selections of garden dahlias, based on the results obtained in the remarkably beautiful and extensive dahlia garden at Duffryn, of which he has charge. This is by far the largest garden wholly devoted to dahlias in this country, and possibly any other, and its interest and attractions may be gathered from the fact that 2,000 plants are annually utilised in filling the beds and borders within its boundaries. This year Mr. Reginald Cory, the owner of Duffryn, who is a keen horticulturist, with a strong predilection for dahlias, will, with the co-operation of the Royal Horticultural Society and the National Dahlia Society, have a trial of garden dahlias on a most comprehensive scale, and under conditions that should ensure results of immense value to cultivators. A letter from Mr. Cory was read at the conference, inviting raisers and others, in a position to assist, to co-operate with him in making the trial as complete and conclusive as possible, and the response by the leading raisers and cultivators present was, we are pleased to state, most gratifying. Special reference was made by Mr. Cory in his letter to the importance of those who contribute new and other varieties for trial, sending the plants early enough for them to be shifted into pots having a diameter of six or more inches a month or so before the time arrives for transferring them to their quarters in the garden. At Duffryn strong plants are regarded as essential to the production of a really satisfactory display of flowers, and the 2,000 plants annually grown for beautifying the garden are well established in pots not less than six inches in diameter when they are consigned to their summer quarters. As the result of this practice, the garden is gay with flowers from the early part of July until the growth is cut down by the frost, instead of the beds being for the most part masses of greenery until the month of August is well advanced. The



MR. PERCY CRAGG.

practice which has been adopted with so much success at Duffryn, has been recommended in these pages on more than one occasion, and adopted by many of our readers. The changes in public taste have had their influence upon the fortunes of the dahlia, and the mistake of selecting exhibition varieties for the production of colour effects in the garden have injuriously affected them; but the extension of dahlia culture has probably been most seriously hindered by the practice of treating the plants in the same way as zonal pelargoniums and some other tender bedders are usually treated. Plants that are kept in pots not exceeding three inches in diameter, from the time they are removed from the cutting pots until they are planted out, seldom attain to so high a state of development as those which have the advantage of a shift into pots with a diameter of six inches, and of a substantial compost, and they are a month or so later in coming into bloom, the latter being a point of some importance, having regard to the shortness of the period over which the English summer extends. Not unfrequently an objection is raised to the adoption of the practice here referred to because of the size to which the plants attain when grown under generous conditions during preparatory stage, and the difficulty of providing room for them under glass. We appreciate the difficulty that is frequently experienced during the spring months in providing the accommodation required for the stocks of tender bedders, but great as it may be, in many gardens it does not sustain the objection referred to. One dozen strong plants is worth six dozen weakly ones, and therefore the only satisfactory course is to estimate the space that will be available, and grow as many plants as it will accommodate when they are well developed. Another point of importance to which special reference was made in the course of the discussion was the necessity for selecting varieties adapted to the purpose for which they are specially required. This should be obvious, but evidently it is not so to all, and we, therefore, reiterate the advice previously given in these pages that those who purpose exhibiting should grow varieties producing blooms of the highest possible quality, and in selecting varieties for garden decoration, the habit of the plant and freedom of flowering should have first consideration.

Mr. Percy A. Cragg, of Messrs. Cragg, Harrison, and Cragg, Merivale Nurseries, Heston, near Hounslow, is, even among advanced and successful market growers, considered to be one of the smartest men in the profession. Always studious and a great seeker after truth among those principles that underlie practice, Mr. Cragg has most happily combined scientific knowledge with practical work of great extent. Soil composition, the uses and values of manures, soil sterilisation, and rigid selection of stock plants for propagation, are all matters which Mr. Cragg has studied with advantage to his business. He literally grows his own soil for the immense number of chrysanthemums he cultivates, and in the preparation of the soil for potting he aims at skilful mixing that will obviate the need of feeding. Mr. Cragg says he started gardening at the age of seven, with a penny packet of seeds and two panes of glass. Now he controls several acres of glass houses, and is in the very front rank of cultivators of chrysanthemums, tomatoes, mushrooms, ferns, miniature cacti, smilax, aralias, and ornamental asparagus. For three years Mr. Cragg was with Mr. Edmund Rockford at Mill Lane, and for one year at the new nursery at Stanstead. After that he spent a year at Mr. Beckwith's nursery, and a summer with Mr. J. Sweet at Whetstone. He started at Heston in 1896. Mr. Cragg is widely read, a most interesting conversationalist, and he finds recreation in hockey and tennis. In the National Chrysanthemum Society he has done excellent work as a member of the General and Floral Committees; and he has contributed excellent papers to the various conferences, freely telling of successes achieved and errors to be avoided.

The Abnormal Winter Season. The blossoming of many shrubs and plants before their usual season has been recorded in these pages, "but," writes Mr. George Bunyard, "the most remarkable thing I have noted this winter is that April broccoli were here and there heading in at Christmas, in our nurseries at Maidstone. In a long lifetime I have never observed such precocity before."

Presentation to Mr. W. H. Massie.—A few days ago Mr. David King, the new president of the Scottish Horticultural Association, entertained the Council to dinner at the Royal British Hotel, Edinburgh. There were over thirty present, and a very pleasant evening was spent. Mr. King presented Mr. W. H. Massie with a handsome solid silver rose bowl, subscribed for by the Council as a token of appreciation of Mr. Massie's services as president during 1911 and 1912.

Exhibition of Garden Dahlias.—We have received the following communication from the Royal Horticultural Society relating to the exhibition of garden dahlias, to be held September 23: The object of this competition is not so much to attract the finest cut blooms as seen on the show stand, for such flowers may, when growing on the plant, be almost invisible, and therefore are no contribution to the decoration of the garden, whatever they may be for cutting. The object is to discover the most decorative garden dahlias, that is, those varieties which add most to the beauty of the garden, and, as is well known, not a few of the most glorious dahlia flowers add nothing to the aspect of the garden, as they are hidden beneath the foliage. They may be excellent to grow in the kitchen garden to cut for house decoration, but they are useless for the ornamentation of the pleasure garden. Class A; Amateurs: Decorative garden dahlias. Any section except show dahlias, which are excluded. 12ft. run of 3ft. tabling, not exceeding 8ft. in height. First prize, silver cup, to which will be added the Veitch Memorial Medal. The Council will make other awards according to merit. Class B; Open: Decorative garden dahlias. Any section except show dahlias, which are excluded. 25ft. run of 3ft. tabling, not exceeding 8ft. in height. First prize, 70 guinea challenge cup, presented to the R.H.S. by Reginald Cory, Esq. The Council will make other awards according to merit. The winner will hold the cup for one year, subject to a sufficient insurance against loss, and to a guarantee to return it in good condition, or, failing this, to refund to the R.H.S. the sum of 75 guineas. On the return of the cup the Council will present the holder with a small cup of similar design. The same exhibitor may only win the cup once in three years, but, should the winner of the previous year be again considered first, the Council will bestow a special award. The decision of the Council is final, and the cup may be altogether withheld at their discretion. The Council will not award this high distinction unless satisfied and assured that the exhibit is, in the main, due to the work and capability of the exhibitor or his employees. On this point the Council may consult any expert not eligible to win the cup.

Sunshine and Rain at Glasgow in January.—According to observations made at the Glasgow Observatory in January, the mean daily temperature was below the normal on nineteen days, but, owing to the extreme mildness of the first ten days of the month, the mean temperature for the whole month, 38.6, was only a tenth of a degree below the average for January in the last forty-five years. Ground frost was registered on fourteen nights, the lowest record being 17.9 degrees, or 14 degrees of frost. Snow fell on five days, and on the 13th was lying nearly three inches deep. The total rainfall for the month, 3.44 inches, is 0.23 inch below the average for January since 1868. The number of days with rain was nineteen, or one day below the average. Bright sunshine was recorded on four days, and the total number of hours for the whole month was seven. This is the lowest record of sunshine for January in the last thirty-three years.

Proposed Hooker Memorial Lecture.—Presiding at the fortnightly meeting of the Linnean Society, Professor E. B. Poulton, F.R.S., stated that the Council of the Linnean Society have had under consideration the application of the bequest of £100 left to the society by the late Sir Joseph Hooker. They feel that the Fellows of the society would not desire this legacy to be applied to the ordinary purposes of the society, but that they would wish it to be used for some memorial of the illustrious donor in connection with the society. Such a memorial would be peculiarly appropriate, since the late Sir Joseph Hooker was for nearly seventy years one of the strongest supporters of the society, taking the keenest interest in its work. The Council have agreed that the most suitable memorial would be an adequately endowed Sir Joseph Hooker Lecture, to be delivered every second, third, or fourth year, and to be published by the society. They propose that the lecture be on some subject especially associated with the name of Sir Joseph Hooker, and that the lecturer be appointed by the Council, not necessarily from among the Fellows of the society. They suggest that the generous bequest of £100 should form the nucleus of a fund to be raised for the purpose of carrying this proposal into effect. The Council are gratified to know that their proposal meets with the warm approval of Lady Hooker. The Council consider that a total sum of not less than £600 should be obtained and appeal to the Fellows of the Linnean Society and others to contribute.

The Ghent Quinquennial.—The opening of the Ghent International exhibition will coincide with the famous Ghent Floralies, or Quinquennial, that periodically brings many thousands of visitors to the old capital of the Courts of Flanders. This exhibition will be held in the great palace of glass situated in the centre of the Universal Exhibition Park, and the area available for the display of the plants invited by the schedule will be about 24,000 square yards, and the structures provided for orchids and other tropical plants have an area of about 6,000 square yards. It is intended that the palace of azaleas shall form a special feature. The jury will comprise some 300 members selected from the leading horticulturists in all parts of the world. The Gardeners' Company, of which Mr. G. R. Blades is Master, are sending a deputation to Ghent,

which will visit Bruges and other places in Belgium that are celebrated for horticulture.

Richmond Horticultural Society.—Mr. George Cave, K.C., M.P., has been appointed chairman of the committee of the Richmond Horticultural Society, in succession to Sir Thomas Skewes-Cox.

Crocuses at Hampton Court. The gardens of Hampton Court Palace are now gay with the flowers of the crocuses that bloom in spring, and the thousands of bloom that bespangle the grass contiguous to the lime tree avenue produce a charming effect. Purple, white, and yellow varieties are all well represented, and blooming about a month in advance of the period at which their flowers usually contribute to the charm of the garden.

Mr. A. R. Blanchard, of Stone Easton, was successful in winning the silver challenge cup presented by Mr. J. Thatcher, the president of the Midsomer Norton Gardeners' Association, at the commencement of the season of 1911-12, to be awarded to the exhibitor obtaining the highest number of marks at the monthly meeting. Mr. Blanchard obtained 50 points, and the cup was handed to him by the donor at the society's meeting for the current month.

Abies bracteata at Bury Hill.—From Mr. Graysmark, who has charge of the gardens of Bury Hill, Dorking, the residence of Robert Barclay, Esq., we have received cone-bearing specimens of the interesting and handsome silver fir known as Abies bracteata. The specific name of the species is derived from the great length of the light brown bracts, which give to the cone a distinct and attractive appearance. This species is a native of Santa Lucia, South California, and was discovered by David Douglas during his mission to that region in 1830-32 on behalf of the Royal Horticultural Society. He was, however, unable to collect seeds. In 1846 Theodore Hartweg, who also was employed by the Royal Horticultural Society, visited South California for the purpose of obtaining seeds of this and other coniferous trees, but he found the cones had been so seriously damaged by frost that they had not attained full development, and was unable to collect seeds. Visiting South California in 1852-3, in the interests of Messrs. James Veitch and Sons, William Lobb was more successful, and succeeded, with some difficulty, in collecting a supply of seeds. These reached England in 1853, and, as mentioned in Veitch's "Manual of Coniferæ," all the oldest trees now growing in Europe originated from them. During the next thirty years, according to this work, the attempts to obtain further supplies of seed failed, but since then small quantities have been collected. Although distinct in character, and very beautiful when grown under the conditions favourable to its full development, this fine silver fir has not been largely planted, owing to it not being quite hardy in the less-favoured districts of the United Kingdom, and to the supposition that it is more tender than is really the case. It is quite hardy in the south and west of England, and in several parts of Ireland and Scotland, and there is a moderate number of finely-developed trees ranging between forty and sixty feet in height, one of these being in the gardens of Orton Hall, Peterborough, although the district in which these gardens are situated is not very favourable to arborescent vegetation other than that possessing a hardy constitution. The trees are slow in reaching the cone-bearing stage, and the specimen in the gardens of Bury Hill is now bearing cones for the first time.

CROCUS KATHLEEN PARLOW.

Flowers white, with faint line of purple along the centre of each inner segment. A.M., R.H.S., February 18. Messrs. Cartwright and Goodwin, Kidderminster.

GARDEN DAHLIAS.

The following is the text of the paper read by Mr. A. J. Cobb, of Duffryn Gardens, at the conference held by the National Dahlia Society on the 14th inst.:

I think I cannot do better than give at the commencement of my paper what is, in my opinion, the definition of a garden dahlia. I take it to be one which combines freedom of flowering with the flowers poised on long stiff stems, well above the foliage. Providing these conditions are fulfilled, they may be drawn from any of the now numerous sections, and, thanks to the enterprise of many raisers, both at home and abroad, we now have a wide range both in type and varieties to choose from. I hope the many lovers of the cactus section will forgive me when I say that their favourites do not meet these requirements. I should not like to see the decline of the beautiful cactus; they are exquisite both in form and colour, but I have yet to see, with about two or three exceptions, any cactus variety that can compare with many others I will name for garden decoration.

To exemplify their great drawback I may mention that it was my privilege to see last season a fairly large collection grown principally for exhibition, and what did I see? Not a floral display, but a wonderful sight of Nature's setting colour, green. The flowers must have been playing hide and seek among the foliage. No; they are not typical garden flowers, but purely flowers for the florist and exhibitor; but the mention of the last word, what does it imply?

Probably, one may say that for every one who exhibits, be it dahlias, roses, sweet peas, or what not, there are fifty who grow for the pleasure of seeing them in the garden. The exceptions I have in my mind are Miss Willmott and Penguin; the former is quite an acquisition to the garden, having flowers of a clear orange, freely produced, and most gracefully balanced, while the latter throws its pale gold flowers well above the foliage. We tried many of these so-called decorative cactus at Duffryn, but they are far from satisfactory. We shall retain them, but in a place quite apart from other types.

To raisers, however, I would appeal not to relax their efforts, for if they can succeed in producing some rich colours of the Miss Willmott type of growth, they will have earned the thanks of many garden enthusiasts.

The old show and fancy section must also come under the ban of unsuitability; some few varieties might pass muster, but as a whole they are not advisable. Nevertheless, they are fine old flowers, and a few will be grown with the cactus.

We will turn to the other side of the picture.

The pæony-flowered dahlia, the one-time much-abused pæony. It is now, I am glad to say, fast gaining friends. Why it has taken so long passes my comprehension, for anything more beautiful than a bold display of selected varieties I cannot imagine.

I think that those prejudiced against them can never have seen a good collection growing. Another thing, it was somewhat of a surprise to find how few people have really seen them in the garden. People of all classes, gardeners, nurserymen's travellers, and the general public, all expressing their astonishment at the wonderful sight produced from our collection of over 100 varieties of this class.

The flowers have been termed garish; certainly there are bright colours, but what is the aim in a flower garden but brightness?

Some of the more showy sorts are represented in Holman Hunt, Geisha, Liberty, Duke Henry, and Countess of Lonsdale—but are they not beautiful? Again, are there not colours and tints of extreme softness and delicacy? In fact, I question if any flower known to horticulture gives such a range. Some of the more tall and robust growers may be too powerful for small gardens, which is, I believe, an objection sometimes levelled against them; but there are plenty of good varieties of medium height and vigour. A little later I will give a dozen suitable for this purpose.

As to a selection of the best sorts generally, the numbers are so large and constantly being added to, that it is very difficult indeed to advise. I wonder if something could be done in the way of classifying the pæony section. It is not an easy matter, I admit, but say anyone has decided to grow a hundred plants or upwards, it is almost a hopeless task wading through the descriptive lists, and still more difficult to plant so that the best possible effect may be obtained, and no glaring colour mistakes made. If the society could issue such a list, I think it would be of much assistance, or failing that, I would suggest that the trade who specialise in this section would, in addition to their catalogued alphabetical list, divide up the colours as far as possible. There would not be much difficulty with the self colours, but the shading, suffusing, tinting, splashing, and streaking, described in others, does, I admit, at first sight, appear somewhat of a Chinese puzzle. To solve that problem some particular variety may be taken as a standard, and group others similar around it. They would, of course, vary a little, but that would not matter if the colours blended.

This is the principle we are working on at Duffryn, and I give it feeling, however, that it is of necessity far from complete, as it only comprises selections from those we grew last year. I know there are many others highly spoken of, notably Tettenhall Scarlet, Mrs. Digby Burdett, Cæsar, Mrs. J. B. Riding, etc., which I am anxiously looking forward to seeing.

Commencing with the whites, we placed ours in this order—Mrs. T. A. Weston, Mrs. T. G. Baker, Lady Paget, and Connie Humphreys. Strangely enough, the first-named is not listed as pure white, but if we have the true variety, it came pure white with us, and was a lovely flower. Connie Humphreys has a pale yellow centre, but is too good to leave out. Yellow King Leopold, Codsall Gem, and Hon. Mrs. W. Forbes, all these are well known, and I should place King Leopold among the best half-dozen in the whole pæony section.

Pink.—Countess Grey, Harrismith, Mrs. W. E. Whineray, and Queen Emma. Many of the pinks have a faint suffusion of yellow.

Deep Rose.—Ladysmith.

Scarlet.—Liberty and Lullingstone. These are fine, but there may be others unknown to me.

Crimson.—Holman Hunt, Duke Henry, Peru, Antagonist, and Leveller. In this section we have a grand assortment, but Holman Hunt stands out first as faultless.

Apricot Suffused Rose.—This commences a class more difficult to deal with; there are Lady Norman, Mafeking, Merveille, and Bloemfontein, but I take Lady Norman as an ideal plant and flower, and the others are closely allied to it in colour.

Scarlet and Gold.—Geisha, Lady Saville, W. H. Morter, Faust. This is a telling class, with Geisha a grand flower.

Carmine Rose.—Countess of Lonsdale, Mrs. E. G. Wythes, and Careless. These comprise three of the finest.

Bright Rose, shaded Yellow and White.—Mrs. Geoffrey le M. Mander, Mrs. R. Cooke, Viscountess Wolverhampton, The Tatler. This is a class around which endless varieties may be grouped.

Yellowish Salmon, Apricot, and Buff.—Lady Cleeve, Mrs. A. Mackellar, Romolo Piazzani, Bronze Gem, Col. Cody, and Sunset. A lovely group. There are probably more varieties on these shades than any other.

Very Pale Pink, suffused Rose.—Mrs. Kerr, Fanny, Dr. Van Gorkom, and Miss Watson. This is a delicate and pretty class, and give us a good intermediary between white and pink.

Large as it is there are many extremely beautiful varieties left out of this list. I will end my remarks on the section by giving a good dozen for medium or small gardens: Connie Humphreys, Bloemfontein, Warrior, Codsall Gem, W. H. Morter, Col. Cody, Sunset, The Tatler, Mrs. Kerr, Countess Grey, Marginata, and Lullingstone.

We will now briefly consider the claims of the "Decorative Section."

It will not be necessary for me to dwell very long on these, for I feel it will be like treading a beaten track. I do not know when Souv. de Gustave Douzon was introduced, but one naturally turns to this good old variety as the champion of the section. I well remember the first time I saw it, and as it was quite the largest dahlia I had seen, it left an impression on my mind. The way it holds its huge scarlet blooms up is very fine, and a mass of these make a display not readily forgotten. The Mahdi attracted much attention with us, the blooms are very large, and the colour, yellow ground with carmine markings, and the habit good. We were particularly pleased with several of the medium size type, and were I asked to name my favourite it would unhesitatingly be Loveliness. Whoever named it had no difficulty, as the flowers suggested its name. The blooms are perfectly formed and of a lovely pink colour.

A variety which appealed strongly to many owing to its unique tubular-shaped petals was Grand Duke Alexis. Some others which pleased us were Le Colosse, Yellow Colosse, Princess Juliana, Delice, Jeanne Charmet, Queen Mary, Mons. Capron, and Source de Feu. Among the smaller decoratives I would particularly mention Glare of the Garden, and its orange form; both are intensely free bloomers and gems of any garden, growing from 2½ft. to 3ft. tall. Another we cannot leave out is Sea Shell, a variety growing about 4ft. high, and smothered with its delicate blooms.

"The Collarettes" must now come under review.

This is the type par excellence for everybody. I say this because they are ideal for small gardens, and equally so for large. I think all dahlias show to better advantage if a garden large or small can be set apart for them, but where this is impossible the collarettes are not too large for beds or herbaceous borders, where, perhaps, some varieties of the pæony and giant decoratives would dwarf the other subjects. Although different sorts vary in habit, all that were grown here comply with my idea of a garden dahlia, and on the assumption that they are all good, one may add the newer introductions noted at last season's shows with every confidence.

Of the two types, round flowered and star-like, I prefer the former, though the latter are very dainty. A selection of the best varieties again represents a problem. Some of our best last year were Holyrood, Maurice Rivoire, Exposition de Lyons, Souv. de Bernardeau, Grand Papa Charmet, Diomede, and Souv. de Chabanne, of the round flowered type, and Queen Mary, Diadem, Leitstern, and Goldstern of the star-like. All these are far too good to discard for any of the newer ones. Souv. de Chabanne has the drawback of being about the latest to come into bloom—the second week in August with us, but has probably the longest and stiffest flower stems of all, plenty being quite two feet, and a splendid yellow bloom. The stems of Souv. de Bernardeau and Diomede are a little longer than most, but all are good. The latter we found last fully a fortnight in water. In addition to those named, I noted the following at last year's shows as being very fine: Antwerpia, Buckingham, Balmoral, Hon. Vicary Gibbs, Prince John, Princess Louise, Prince Charlie, Frogmore, The Czar, Albert Maumene, Ideal, Madame Gygax, and Queen Bess. When we remember that this section has only been before the English public about three years, I think the advance made during that time is sufficient proof that the future looks very bright, and in a few years I should not be surprised if it is a rarity to find a garden without them. I don't know whether they have reached hall mark, but I cannot see where they can be much improved. In any case raisers must see to it that the habit is not sacrificed or away goes their value for the garden.

(To be continued.)

CYPRIPEDIUM IDINA.

The great idea of the cypripedium raiser of to-day is to obtain a flower with an enormous dorsal sepal. His idea finds expression readily, but often, alas! he secures what he set out to get, but with it comes a want of proportion in the flower as a whole, while the question of colouring seems to be worthy of small consideration. In Cypripedium Idina, however, a finely and well-proportioned flower has been produced, one that appeals to the florist, and does not offend the lover of species or primary hybrids. The large Cypripedium insigne Harefield Hall is one parent of this newcomer, and C. Countess of Carnarvon is the second parent. The illustration herewith shows how strong is the influence of the first-named. The rounded white dorsal sepal, with its pale green base and centre, is a fine feature that is rendered the more attractive by the numerous light mauve-purple spots. In the petals and broad labellum the colouring is green, shaded with brown, each part being finely burnished.

It will be noticed, too, that the ventral sepal is considerably developed, a characteristic noticeable in a number of recent productions. Whether the time will come when we shall have cypripediums with each sepal fully developed and similarly coloured, each petal greatly broadened, and the labellum almost suppressed, is an interesting surmise. Anyhow, we must wait and see, but the tendencies are in these directions, except that the pouched labellum shows little signs of diminution.

Cypripedium Idina, exhibited by Messrs. James Veitch and Sons, Chelsea, at the Royal Horticultural Hall, Westminster, on Tuesday, December 17, last, gained an Award of Merit on that occasion.

EARLY DAHLIAS.

An accusation commonly laid against the dahlia is that its flowering season is so short, for it is generally at its best in the middle of September, and a single night's frost in early October may carry off the entire plants. Under such circumstances the dahlia's life is a very brief one. I often think the tiny little plants one sees planted in early June must have a great struggle to flower even by September, yet it is wonderful what they will do in such a short period.

To ensure a long season of flowering the cultivator has two cardinal points to bear in mind. In the first case he will find that plants grown from pot roots flower earlier than those from rooted cuttings, and where the plants are required for beds or garden effect they will be the best. Pot roots, so-called, are small tubers that have been grown in their small pots all the previous season. In the autumn they are turned out of their pots for storage. This is the type of plant that is always exported, but it will be found that for early-flowering purposes they are unsurpassed. They should be purchased at the present time, and started in a warm greenhouse, and in a week or two the buds will be pushing at the base of the old stem. Many will start with two or three buds, and the grower must decide how many of these shoots he will allow to develop. In the case of decorative cactus dahlias only two buds should be allowed to break into growth, and the same remark applies equally to the decorative sections, while the singles, pompons, and collarettes may be allowed to grow quite naturally.

It is a mistake to hurry the plants in too much heat. A gradual development is required. If the plants are grown sturdily they should be ready to place in cold frames early in April, where they can be protected from frost, but air should be admitted on all favourable occasions.

The second cardinal point is, perhaps, if anything, more important than the first. It is never to allow the plants to become root-bound from the time they are started until planted out for the summer. A plant that becomes pot-bound is checked to such an extent that it is a slow process persuading it to grow away freely again, for as soon as the roots are cramped for room the stems quickly harden, which is certainly all against the well-being of the plant. The dahlia has to grow so much in a short space of time that, if it is checked, either by being root-bound or through lack of moisture at the roots, it rarely becomes a success.

Briefly then, the grower who starts his pot tubers at the latter end of February must see that they are potted as they require it, right up to the time they are planted out, and, I might add, if they are grown chiefly in cold frames this is not such a heavy task as it appears on paper. Keep them as sturdy as possible, but guard against frost, then, by the end of May or beginning of June, one has plants to be proud of, that make a show at once, that will withstand the onslaught of slugs, and give satisfaction later by early and free flowering.

As most flower lovers are aware, the dahlia as a decorative garden plant will be very much to the fore during the coming summer and autumn, not only in our public parks and gardens, but at exhibitions, where an effort will be made to popularise the dahlia for this purpose, not to the detriment of the exhibition varieties, but to draw attenton to the dahlia's unrivalled beauty as an autumn-flowering subject.

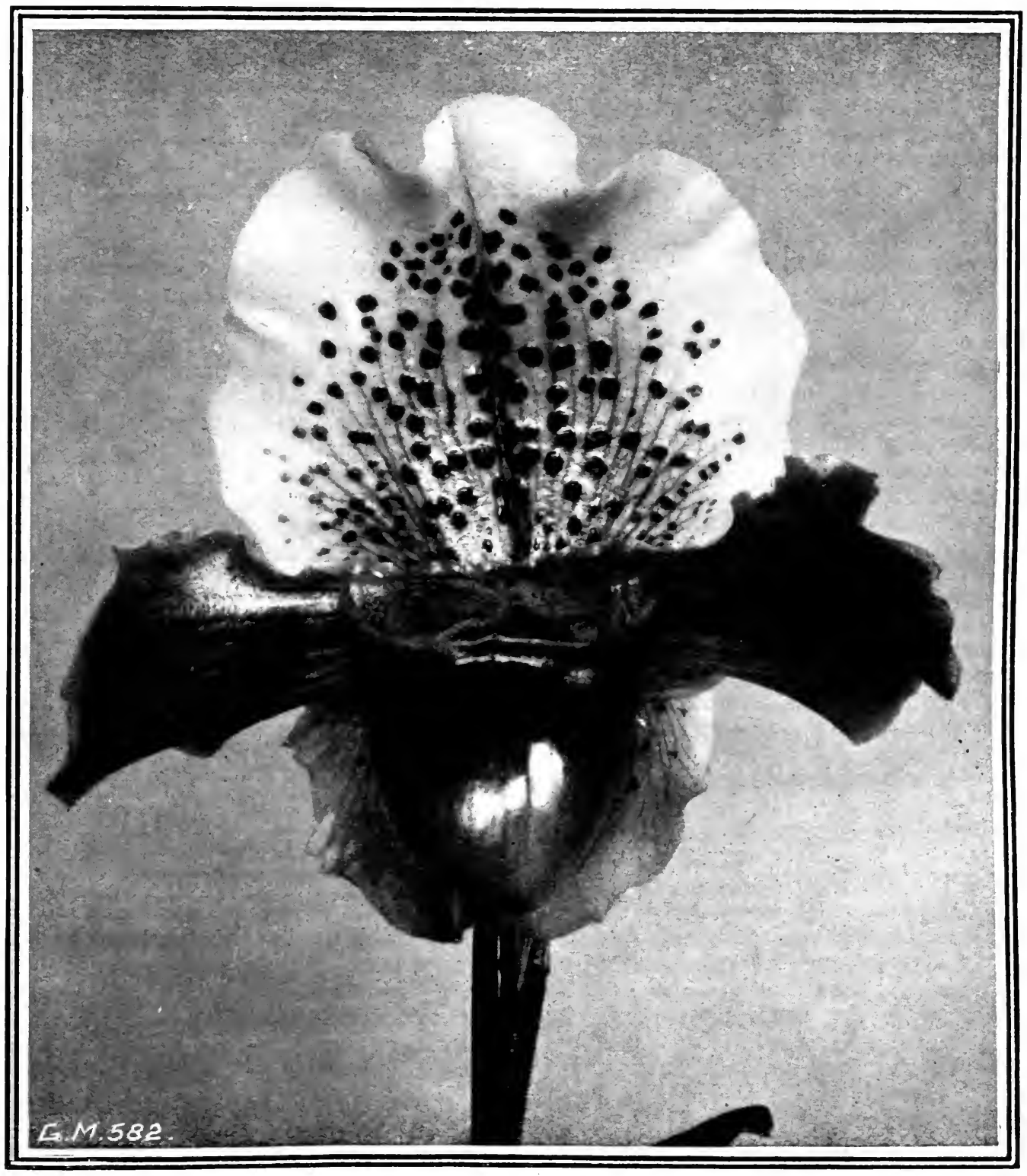
J. B. RIDING.

CROTONS.

There are now so many desirable flowering plants that crotons, or codiæums, are probably less generally grown than formerly; however, they are very desirable fine foliage plants, and should find a place in all gardens where it is possible to grow them. Plants may now be selected and carefully potted, using a compost of two parts loam to one of peat, with a fair addition of sand. The remainder may be used for propagation, which may be effected either by means of cuttings inserted singly in small pots and plunged in a propagating case where a good bottom heat is maintained, or by means of ringing, or notching, under a joint at which it is desired to form roots, and binding round firmly a good handful of moss containing a very sandy compost. When this method, which is probably the better one, is adopted, the moss must be kept constantly moist by means of the syringe until roots are showing through, then the top may be entirely removed from the plant and potted, placing it in a close frame in the stove until established. Crotons delight in plenty of heat, moisture, and full sunshine.

H. PRIME.

Hatfield House Gardens.



CYPRIPEDIUM IDINA.

Flowers white, green, and brown, with mauve-purple spots. A.M., R.H.S., December 17, 1912. Messrs. Jas. Veitch and Sons, Chelsea.

EXPRESS GRAPE CULTURE IN POTS.

The grape vine cannot be forced very early for several years in succession without showing signs of distress, both in vigour and fertility, and for this reason the method of fruiting it in pots has advantages. The gains are chiefly derived from the fact that it is comparatively easy to keep up a regular supply of very early grapes, by annually forcing fresh sets of pot vines, than to do so by periodically preparing permanently planted vines for the purpose. For producing fresh, ripe fruit in March, April, or May, it is, therefore, advisable to grow pot vines, and the best varieties for the purpose are Black Hamburgh and Foster's Seedling, the supply to follow being from permanently-planted vines of similar varieties, and Madresfield Court, Buckland Sweetwater, etc., their roots being confined to inside borders.

For many years, while in charge of the gardens at Cardiff Castle, the late Mr. Pettigrew was a very successful grower of vines in pots, and Mr. Farmer, the present chief of the Castle Gardens, is an equally skilful cultivator. Many growers make use of "cut backs" for fruiting—i.e., they grow canes from "eyes" one season, and after they are thoroughly matured cut them down to a basal bud, from which they secure a stronger rod. By this means it takes two years to produce fruiting plants. At Cardiff, however, this method is considered, and proved to be, a waste of time and labour, and there canes are grown from eyes in one season, that each yield the following year from twelve to sixteen bunches of excellent grapes, averaging from 1½lb. to 2lb. each. It has occurred to me that some brief notes on the methods adopted may be interesting.

The first step taken is to prepare eyes from thoroughly matured wood, and plant them singly in three-inch pots in the ordinary manner, fine loam, mixed with leaf-soil and silver sand, being used as compost. Early in January the pots are plunged in a bottom heat of about 70 deg., the night temperature of the house being 60 deg., and that for the day 70 deg. from fire heat, with the usual rises from sun heat. As soon as free root action has taken place, and about four inches of top growth made, the plants are shifted into 5in. pots, carefully staked, and placed well up to the glass upon a bed. With careful attention to ventilating, watering, syringing, etc., the plants make satisfactory progress, and a shift into 8in. pots is given once it is found to be necessary, at which time larger stakes are used as supports. The next and final potting into 12in. pots is made as soon as the plants have again well filled the soil with roots, and in attending to it special care is taken to secure efficient drainage, and properly firm the compost. As this work proceeds the plants are arranged near the glass upon a front stage, and trained to a roof trellis. Side growths are kept regularly stopped at one leaf, and the leading ones carefully secured, and allowed to extend until the vines are 13ft. in length before they are stopped.

Throughout the whole season of growth no pains are spared to ultimately secure strong, short-jointed, and thoroughly matured rods, and that this satisfactory state of things has for many years past been secured, has been evidenced by the splendid crops yearly produced. Early in September the canes are sufficiently ripened to be placed outdoors, and here a sunny, sheltered position is found for them where they have their rods secured horizontally near to the ground to stakes. As soon as their leaves fall they are pruned, the rods being left to 10ft. or 12ft. in length, according to their strength.

A long span-roofed house is devoted to the vines during their fruiting year, in which the pots are plunged (for the purpose of the more easily keeping the roots moist) in narrow borders, placed near the glass on each side, the rods being trained near the roof upon trellises. During both the growing and fruiting seasons Mr. Farmer is particularly careful that his vines are not permitted to suffer from lack of proper nourishment; indeed, the results obtained would certainly not be forthcoming if any cultural neglect took place. The manures employed are clarified liquids from the cow byre, and Clay's and Thomson's, and for the convenience of applying them during the fruiting year, bands of turf are placed round the rims of the pots.

The ingredients of the compost used for potting purposes were not ascertained, but it may be remarked that a mistake in this respect can scarcely be made if one formed of three parts of sound fibrous loam, and one part of crushed mortar rubble, and flaky leaf-soil, or pulverised horse manure, in equal parts, with a dash each of bone-meal and wood ashes added, is made use of. This for the large pots particularly should be used in a reasonably rough condition. The varieties thus fruited at Cardiff are Black Hamburgh, Foster's Seedling, Madresfield Court, Appley Towers, Black Morocco, Alnwick Seedling, Alicante, and the best-flavoured, perhaps, of all grapes, Grizzly Frontignan.

T. COOMBER.

The Hendre Gardens.

SWEET PEA NOTES.

The mild, sunless winter has not been an ideal one for many subjects cultivated under glass, and amongst other things that have appeared to suffer are the autumn-sown sweet peas. At the time of writing, February 6, the plants are not quite in as hardy a condition as one would like to see them, and there is not quite the same disposition for them to break away at the base as I have noticed in some seasons.

There is, however, plenty of time for a week or two of severe frost before the end of the month, and such weather would probably have a steadying effect upon the plants, making the leading growth somewhat harder, and thus induce the plant to give good strong shoots from the base; these latter we consider quite necessary, not only for the production of good blooms in due time, but to secure the necessary number of shoots. If the plants do not break from the base by the end of the month it might be advisable to take out the extreme point of the leading shoot, though this is a practice which I am not in favour of in a general way, but there are exceptions to every rule.

I have so often given advice in respect to the treatment of the plants that it seems unnecessary to repeat it, but the importance of giving the young sweet peas all the light and air possible is so great that I feel I must emphasise the point even at the risk of being thought superfluous.

Plants raised from seed sown in the open ground, notwithstanding the wet, are looking well; in fact, some of the big growers assure me their stock never looked better, and for the sake of these latter I hope we may not have sufficient frost to injure the plants. Where the soil is of a very light nature a little drawn up with a hoe on each side of the plants will do much to protect them in the event of a severe frost, and though this would not prevent the tops being frozen, it would possibly preserve the roots and part of the stem, which would soon break into growth again under more favourable conditions.

On heavier soils the chances of bringing them through the winter successfully are not so great, but, providing they have a good root hold, and the freezing is not too severe, they will come away again, and certainly they should not be ploughed or dug in until they have had a chance of making a fresh start.

The germination of seeds in the autumn was not so good as I have found it in some seasons, and not nearly so good as in 1911. In many instances it has been necessary to sow again to make good the deficiencies, so those growers who rely on spring sowing would be well advised to sow rather more than they require of the smaller-seeded varieties, and so save themselves considerable anxiety later on. The advisability of chipping some of the harder and black-seeded varieties was rather forcibly brought to my notice a short time ago. Thinking the seed would not be quite so ripe this season owing to the wet late summer and autumn, and being pressed for time, seeds of several varieties that I usually made a practice of chipping were sown without it. Owing to structural alterations to frames, etc., the plants were not thoroughly examined for over two months after sowing, and it was found that some five or six varieties had not germinated 5 per cent. The seeds were searched for, and found as hard as at the time of sowing, although the soil was kept fairly moist (I should say these were 1911 seeds). On chipping these seeds, and placing the pots in a little warmth, most of them germinated under a week, and practically every one germinated in about a fortnight.

Peas for flowering under glass should now be ready for their flowering pots, or for planting out in the houses if they are to be flowered in this way, and where there is plenty of head room there is not the slightest doubt as to this being far and away the best system, as the extra quality in the flowers, and the extra length of time, they will give good long-stemmed blooms, must make them much more remunerative. Well cultivated and manured soil is just as necessary under glass as out of doors, and before planting the soil should be made moderately firm to ensure a very steady growth at the outset, as under glass the ground does not get beaten down again by the weather, hence the necessity for treading it a little.

A good watering in should be given immediately after planting if the soil is at all dry, but after this very little more water will be required for some time, though as the days grow longer and brighter, a damping overhead will greatly benefit them; but a fairly hardy, cool treatment is absolutely essential in the early stages if the plants are to be flowered before they attain an unreasonable height.

THOMAS STEVENSON.

THE ROYAL NURSERIES, WALTHAM CROSS.

For fully half a century the extensive nurseries that were formed at Waltham Cross by the late Mr. William Paul have enjoyed a fame that is world-wide as a home of the rose in its diversity of form and colour. The traditions of Messrs. William Paul and Son and the splendid work that is at the present time being accomplished, under the direction of Mr. Arthur W. Paul, in the development of roses fully justify the high estimation in which the firm is held by all classes of rosarians. Here have been raised large numbers of varieties, high in quality and of surpassing beauty; and here are grown in their hundreds of thousands, and with a high degree of success all roses of merit, without reference to the place or country of their origin. Necessarily, the varieties raised by the firm occupy large areas, for their qualities obtain for them a high degree of popularity, and consequently a large demand, but all would appear to be regarded with a similar degree of favour and grown in numbers proportionate to their merits. As one walks through the vast quarters devoted to roses, enjoying the distinctive charms of the many hundreds of varieties growing therein, and taking note of the splendid development of the plants, there is no difficulty in understanding why the nurseries should have become famous at home and abroad in connection with the cult of the rose.

The roses unquestionably fully deserve the high position that has by common consent been assigned them in association with the activities of the firm, but they do not by any means exhaust the great features of the nurseries. Take away the acres of roses, and there would be a great blank, but the removal of their dominant influence would bring into relief the collections of trees and shrubs that, by reason of their charm of habit, leafage, or flowers, are of special value for beautifying the garden and deserving of a considerable degree of attention. The value of ornamental trees and shrubs have long been recognised at Waltham Cross, and the writer remembers with pleasure the two lectures on them that were given by the late Mr. William Paul, one at the Horticultural Congress at Oxford in 1870 and the other at Birmingham two years later. He remembers also making the acquaintance at Waltham Cross for the first time of a considerable number of the most beautiful kinds that some thirty years ago were practically unknown to the general body of planters, being then seldom seen beyond the boundaries of botanic gardens and a few of the leading trade establishments, where, as in the case of these nurseries, special attention was given to trees and shrubs. One of the broad walks which intersects the nurseries is flanked on either side by moderate-sized specimens of large numbers of the finest kinds, and a leisurely examination of these, note-book in hand, during the summer season, would afford much pleasure to those interested in arborescent and ligneous vegetation, and have considerable educational value.

Not less important are the big areas occupied by fruit trees, which, on the rather strong soil, make free yet firm short-jointed growth, and produce fibrous roots with such remarkable freedom as to admit of their being transplanted without receiving an appreciable check. All kinds of fruit in cultivation are represented, as are all the forms in which the several kinds are grown, and their condition leaves no doubt upon the mind as to their having had the advantage of skilful manipulation. These points have been mentioned because in this relatively brief reference to the activities at Waltham Cross, it will not be possible to do much beyond passing under review the more noteworthy of the roses that have been raised by the firm. Without some such intimation the impression may be unintentionally given that the nurseries are almost exclusively devoted to roses instead of containing, as is the case, collections on a large scale of the more important classes of fruit trees, ornamental trees and shrubs, and hardy plants.

Roses.

In the examination of a list of the roses that have been raised and distributed by the firm during the past fifty years, one is impressed by the staying powers of a considerable proportion of the varieties. This point is of interest as showing that from the first the firm fully appreciated the importance of roses having a good constitution and blooming freely, as well as producing flowers of high quality. That it was regarded as essential to differentiate between roses required for exhibition and for garden decoration is made sufficiently evident by the following extract from the catalogue of roses issued in 1884: "It should be borne in mind that the exhibition roses, which are constantly before the public, in print, and at the flower shows are not always the best for garden ornamentation, or for the general purposes of house decoration, as such varieties often bloom

ROSE OPHELIA.

A beautiful hybrid tea, raised and introduced by Messrs. William Paul and Son. The flowers are of large size, and the colour salmon-flesh shaded rose.

more sparingly, and require a costly and troublesome system of management. The exhibitor is tolerably safe in picking his varieties from the stands at the exhibitions, as the grower of pot roses only will attain his object by selecting from pot plants; but the grower for all ordinary purposes of decoration will assuredly do better if he chose his kinds from under his eye in the open ground. Whether forming a new collection or adding to an old one, it is a good investment of both time and money to make a visit of inspection to the grounds of some one or more of the principal rose growers when the roses are in full bloom."

In turning to the last year's edition of the catalogue of the National Rose Society, it is found that of the Waltham Cross roses seventeen have a place in the selected list. These comprise Beauty of Waltham and Pride of Waltham, two excellent hybrid perpetuals, the first distributed in 1861, and the second in 1881; Fairy Queen, Hugo Roller, Medea, Morning Glow, and Sulphurea, five beautiful free-flowering tea-scented varieties; Beatrice, Earl of Warwick, Margaret, Waltham Climber No. 3, and Warrior, four hybrid teas of much value for the garden; Waltham Rambler, a charming multiflora, with rose-pink flowers; and last, but by no means the least, the wondrous hybrid briar, Juliet, which, by its distinct and effective colour and rich fragrance, startled rose lovers when it first made its appearance in public, and has continued to enjoy the popularity to which it attained on becoming known.

The four new roses distributed last year fully maintained the high standard characteristic of the firm's productions, and have already taken a prominent position in the estimation of rosarians and in their gardens also. Three of these are hybrid teas, two being of much value for forcing, and one is of great merit for exhibition, while all three are excellent roses for the garden. Taking them in alphabetical order, Mrs. Charles Hunter is a beautiful variety, with bold, finely-formed flowers of a brilliant rose-red colour when fully developed; the petals being large and handsome, and the stems long and carry the blooms erect. It is an excellent rose for pot culture under glass, and for the supply of cut flowers grown in the open. Nerissa has large flowers of superb form, the colour being cream-yellow, shaded with white at the margins of the petals and suffused peach colour in the centre; it should be highly popular for the distinct shade of colour it affords. In the garden it is highly effective. Ophelia is remarkable for its large, finely-formed flowers and the length of stem, ths latter characteristic greatly enhancing its merits for decorative purposes. The growth is vigorous, and, like Mrs. Charles Hunter, it is admirably adapted for forcing. The fourth of the new roses of last year is a dwarf polyantha, known as Coronet, and especially deserving of notice for its distinctness. The flowers are borne in large trusses, and are yellow, suffused with rose, and useful for decorative purposes in a cut state. The variety is also very effective in the garden.

Prominent among the roses that were introduced by Messrs. W. Paul and Son in 1911, are Florence Haswell Veitch and Frances Charteris Seton, two superb additions to the hybrid teas. The first-named has so vigorous a growh as to give it a first place amongst pillar and wall roses, and to render it suitable for culture in bush form. The flowers are of large size, moderately full, and rich scarlet, shaded with black. They have also the merit of being delightfully fragrant and produced freely and continuously. The second is remarkable for the large size, superb form, and the sweet perfume of its flowers. The colour is an effective shade of rose-red. Lady Downe, which also belongs to the year 1911, is regarded with much favour by those who appreciate buff-yellow roses, and deservedly so. The flowers are large, of excellent form, and borne on long, erect stalks. The colour is buff, rich yellow in the centre in the earlier stages of development, passing to pale yellow. It is a useful rose for both the garden and forcing.

The beautiful rose Bianca, of which an illustration is given herewith, is a notable addition to the list of hybrid teas. It is one of the many fine varieties raised by the firm, and will be distributed early in July next. The well-formed flowers are cream-white, tinted peach colour, and the buds are long and pointed. As a bedding and decorative rose it should attain a high degree of popularity, for it is vigorous in growth, free and continuous in flowering, and a good forcing variety.

Camellias.

For a long series of years camellias have constituted a great and highly interesting feature at Waltham Cross, and they have lost none of their attractions to those who appreciate beautiful flowers, irrespective of the influence of those who are unduly swayed by fashion. This outstanding feature is of exceptional interest from the fact that when camellias were banished from the majority of trade establishments and private gardens, Messrs. W. Paul and Son strengthened rather than reduced their collection, and the huge span-roof structure in which it is housed has annually been a source of delight to those who retained their appreciation of these beautiful shrubs. For a time the demand for camellias was unquestionably small, but it never died out, and for some years past there has been a distinct revival. The demand, however, has not been so great for cultivation under glass as for planting in the open, but it is probable that they will be more in request for glass culture when the beautiful semi-double and single varieties that have been introduced within recent years have become well-known. A goodly number of these have been raised from seed in the nurseries, while others have been introduced from Japan, and the varieties other than those with double flowers now form a large and attractive group.

Chief among the semi-double and single varieties, of which note was made a few days since were Adelina Patti, a beautiful single variety, the flowers soft salmon-pink, with white edge to petals; Waltham Glory, a single variety, bearing scarlet flowers, and having a fine habit; Apollo, semi-double, brilliant orange-scarlet, equal in effectiveness to Camellia reticulata, but a much better grower; Mars, semi-double, somewhat similar to the last-named, but the petals are a trifle reflexed; Vesta, single, scarlet, good; Juno, single, the flowers of medium size, pure white, occasionally flaked with rose, and produced with great freedom, the habit is remarkably good; Alba simplex, single, pure white, a charming variety; Minerva, single, bright rose-pink, free in flowering, and with fine habit; Novelty, single, white, freely flaked with rose; The Swan, single, the flowers white, with prominent clusters of cream-yellow anthers, and exquisitely beautiful, the flower-buds are long, and the habit of the plant good; Donckelaari, a well-known semi-double variety, with brilliant rose-red flowers, spotted and flaked with white, still occupies a prominent position in its class, and Lady Mackinnon is a distinct Japanese variety, with single flowers, the colour bright scarlet, occasionally blotched with white.

Very attractive as usual were Lavinia Maggi, one of the most beautiful of the double flaked flowers; Manera, a double variety, with finely-formed flowers of a rich orange hue, distinct and effective; Gilesi, a rich red flower, with anemone centre, and very attractive; Augustina superba, a double flower of an exquisite shade of pink; and Madame Ambroise Verschaffelt, a beautiful double blush-coloured flower, with pink markings.

Hollies.

The collection of hollies is extensive, and the splendidly developed specimens that flank the avenue, which extends the whole length of the nurseries, is especially deserving of study because of the opportunities they afford the planter for becoming acquainted with the habit of the leading kinds when full grown. As the time for planting these shrubs is at hand, brief notes on a few of the best can hardly fail to be useful. Silver Queen was made note of as one of the best of those with silvery variegation, being free in growth and bright in colour; Scotch Gold, a free-growing form of fine habit, rich in colour, and thriving under divers conditions; Gold King, a variegated form of Hodgkin's Holly, distinct, bright in colour, and very handsome; Handsworth Silver, a very fine holly, with silvery variegation, ranking next to Silver Queen in merit; Aureum pictum, one of the best of the Milkmaid hollies, which are less desirable than many of the other forms; Hendersoni is a green-leaved form, remarkable for the freedom with which it produces its berries even in unfavourable years; Myrtifolium is a charming small-leaved holly, useful for shrubbery borders of limited dimensions; Crenata is another desirable green form, with small leaves and moderate in growth; Balearica is an excellent green-leaved holly for southern towns, but it is rather too tender for the north; Walthamensis is a very distinct golden holly of moderate stature, the leaves broadly margined with gold, and in some instances are wholly of a golden hue; for small shrubberies it is especially useful because of its neatness and rich colouring.

G.

NOTES FROM KEW.

Forced Shrubs.

As might be expected at this season the different hardy shrubs that have been forced prematurely into bloom form a prominent feature of the floral display in the greenhouse. The Temperate House, too, is greatly brightened by a judicious use of flowering shrubs, most of which, despite the forebodings over the weather experienced last summer, are blooming with unwonted freedom. Pyrus floribunda, with its deeper-tinted variety atrosanguinea, as well as the allied Pyrus Scheideckeri, are unusually fine.

Azaleas of the mollis section, too, are freely represented, those of a warm orange or terra-cotta tints being always admired. Apart from any other consideration, the compact root system of this azalea enables it, when lifted in the autumn and carefully potted, to be gently forced without any risk. Prunus triloba, one of the finest of all shrubs for forcing, is freely represented, the long slender shoots being wreathed for some distance with pink rosette-like blossoms. Of shrubby spiræas the pretty white-flowered S. confusa or media is well-known, but two others not so generally employed may be seen at Kew. They are S. arguta, one of the earliest to flower in the open ground, and S. prunifolia flore plena, whose dark-coloured branches are wreathed with small double pure white blossoms. The rich golden, rose-like flowers of Kerria japonica flore plena impart quite a distinct tone of colour, as also do the pendulous racemes of Wistaria sinensis, which, from the manner in which the flowers are borne, is seen to the best advantage when grown as a standard. Of lilacs the variety Marie Legrange still holds its own as the best single white for forcing, while of the same tint the double Madame Lemoine is very fine. Whether in the open ground or under glass Charles 10th is a very desirable coloured kind. In the cherry family, Cerasus J. H. Veitch, with its large pink-tinged blossoms, is very showy.

Acacia hastulata.

This greenhouse acacia, which is also known as Acacia cordata, is a very distinct species, and withal well suited for growing in small pots. Its style of growth is some-

what after the manner of an epacris, that is to say, it pushes up long shoots of a partially upright habit and furnished with tiny triangular closely-packed leaves. The flowers, which are borne in the axils of the leaves, are of a pale straw colour, and so numerous that when at their best the leaves are almost hidden. It is about twenty years since this acacia was first taken in hand by some of our nurserymen, and turned out in the shape of neat, freely-flowered, bushy specimens.

Begonia Gloire de Sceaux.

This is a grand decorative begonia, and a group in the greenhouse shows it to considerable advantage. The plants, given space for their development, are more or less of a pyramidal shape, the large massive bronzy-tinted leaves being very attractive. In addition to this the rose-coloured blossoms are bright and cheerful. This begonia was first sent out about twenty-five years ago, at which time it was reported as a cross between B. socrotrana and B. subpeltata, but since then doubts have been expressed as to its origin. It is, however, a grand decorative begonia, coming in as it does at a time when many of the socotrana hybrids are on the wane.

Chorizemas.

A group of these free-flowering, hard-wooded plants forms a very pleasing feature in the greenhouse, in which structure they will flower throughout the winter and early spring months. The small brightly-coloured pea-shaped flowers, disposed in loose racemes, have a very pleasing effect. They are less particular in their cultural requirements than some other subjects of a hard-wooded character.

Grevilleas.

A good-sized bush of Grevillea linearis is planted out in a bed in the greenhouse. The leaves are long and narrow, with silvery undersides, while the flowers, which are freely borne in clusters, are white. As with many other grevilleas the long-curved style forms a notable feature of the inflorescence. Two species in the Temperate House also merit recognition, namely, Grevillea ornithopoda and G. punicea. The last-named, a compact bush, has blossoms of a light red and yellow colour, while G. ornithopoda is very distinct in habit, foliage, and in flower. The leaves, from whence the specific name is derived, are narrow at the base and widen out towards the apex, where they are divided into three, very suggestive of the claws on a bird's foot. The flowers are white and very slender. Trained up to a tall pillar the exceedingly graceful habit of the plant is seen to advantage, as the slender shoots hang down for a considerable distance.

Clerodendron splendens.

This climbing species from tropical Africa forms a very bright feature in the T range, where, trained to one of the rafters, it has been flowering for a long time. The flowers borne in loose cymes, are of a deep scarlet or bright crimson colour. It is an old species, but is by no means so generally met with as its merits deserve.

Begonia manicata.

Though the individual flowers of this Mexican species of begonia are but small, they are so numerous as to make a good display, and that, too, when many of the others are past. In the T range it is just now in good condition. This species forms a short sturdy stem, clothed with large handsome-lobed leaves of a bright shining green colour. The erect flower scape, which well overtops the foliage, is terminated by a branching panicle of light pink blossoms. There are two varieties notable for foliage distinctions, namely, aureo maculata, in which the leaves are blotched with gold; and cristata, whose leaves are crisped at the edge like some of the kales.

Columnea glabra major.

A specimen of this charming gesnerad forms a very bright and attractive feature in the T range. It forms a freely-branched shub a couple of feet or so in height, the shoots being clothed with small, ovate, hairy leaves, while the flowers in shape suggest those of the nearly allied genus œschynanthus. These are, however, natives of the warmer regions of the old world, while the columneas occur in the Western Hemisphere. That herewith referred to is a native of the mountainous districts of Costa Rica, where it occurs principally as an epiphyte. The flowers are about three inches in length and of an orange-scarlet colour.

Rhododendron cornubia.

A flowering example of this Rhododendron in the Temperate House shows it to be one of the best of the bright-coloured Himalayan hybrids. It was, as implied by the name, raised in Cornwall, the parents being the Himalayan R. arboreum and the hybrid R. Shilsoni. The flowers of cornubia are of a bright scarlet crimson colour. It was the only rhododendron to be given an Award of Merit by the Royal Horticultural Society last year.

Cytisus proliferus.

A large specimen of this member of the broom family, getting well on for 20ft. in height, is now flowering freely in the Himalayan portion of the Temperate House. It is a native of Teneriffe, and in the favoured parts of these islands will thrive out of doors, but, as a rule, it requires protection. The shoots are long and vigorous, and well clothed with silky leaves, while the flowers, which are freely borne from the leaf axils, are white. Being of a loose, rambling nature, this cytisus needs support, the specimen at Kew being trained to one of the pillars which uphold the structure. The "Dictionary of Gardening" gives the date of its introduction as 1779, but the same authority is greatly in error in giving its height as 2ft. to 4ft.

K.

ROSE BIANCA.

A charming hybrid tea, raised and introduced by Messrs. William Paul and Son. The flowers are cream-white, tinted peach colour.

SOME DWARF CAMPANULAS.

Under the above title it is not intended to include those species, like C. cerisia and others, which require special treatment, but only those dwarf and free-growing kinds that prove so valuable for furnishing the rock garden and border. The Bellflower family is such a large and varied one that a most interesting garden could be made entirely confined to the members of this genus alone. The flowering time extends over a long period, so that an effective display might be obtained from spring until well into the autumn months. In habit the species vary to a great extent, from tiny plants like C. cerisia, only an inch or so high, to giants like C. lactiflora, which in favourable situations attain a height of 8ft. or more. Those species and varieties mentioned below are a few of the more easily-grown and decorative plants suitable for many situations in the rock garden.

C. Portenschlagiana.

This charming little Dalmatian campanula, which is here illustrated, is burdened with a cumbrous name, but it certainly is one of the most useful of the smaller-growing members of a family that plays a prominent part in furnishing our rock gardens. Of free-spreading habit, in half-hardy or even in sunny positions, this Bellflower will soon cover a good space with its stoloniferous stems, which love to ramble amongst moisture-holding rocks or stones. In such positions it will produce masses of rich violet flowers from June onwards through the summer months. This species has often been confounded with the Italian C. garganica, quite a distinct species, with wide, open flowers. It is also known under the more acceptable name of C. muralis, and varies a good deal in the size of its bells. The Bavarian form bears the largest flowers, and is also very vigorous in habit; it is known either as var. bavarica or var. major.

When planting C. Portenschlagiana should be provided with a gritty compost of loamy soil, to which should be added some broken limestone. It does not appear to ripen seeds; at least, I have never seen any yet. However, it may be propagated readily by means of division in autumn or spring, or cuttings in summer. It is a native of Dalmatia, and found on rocks and walls.

C. carpatica.

The Carpathian Bellflower is deservedly one of the most popular garden plants; it is so easily grown and so very floriferous. The type forms a neat tuft of stems and foliage, with fair-sized blue flowers on stems about nine inches high. In gardens there are numerous beautiful varieties, some with very large flowers. They vary considerably when raised from seed, so that forms may be multiplied indefinitely. Some of the most distinct are: White Star, with large white flowers; pelviformis, with flat, saucer-shaped flowers of a pale blue colour; Riverslea, very large, somewhat flat flowers of a deep blue shade; and turbinata, similar to the last, with rich blue flowers of large size, and a dwarf compact habit. Many others have been offered in catalogues, but they are more or less similar to the above, environment and conditions under which they are grown making a considerable difference.

C. garganica.

A very dwarf plant is the Italian Bellflower, forming tufts of dark green, shining foliage, only two inches high. These are covered from May to July with numerous wide open, starlike flowers of a pretty blue-lilac shade. It is a good perennial, and quite hardy, although often suffering from too much damp in winter if not provided with copious drainage. Like the Dalmatian Bellflower, it is an excellent subject for walls, planted between the loose stones. C. garganica grows on Mount Gargans in the fissures of rocks and old walls, in full sun. It seems to be strictly limited to this locality, not having been recorded elsewhere, although its closely-allied species, C. Portenschlagiana, is found on the other side of the Adriatic some hundred miles away.

C. garganica var. hirsuta is an attractive form, with very hairy foliage, and is still more impatient of damp than the type. It should always be planted in the fissures of vertical rocks. The white form of the latter is a pretty companion.

C. pulla.

C. pulla, from the Alps of Austria, is a beautiful little tufted species, forming a regular turf by means of its numerous

CAMPANULA PORTENSCHLAGIANA.
A beautiful plant for the rock garden or border; it bears violet flowers.

stolons. It enjoys a porous soil, rich in humus, mixed with small granite chippings. Spreading rapidly it is one of the campanulas that repay for replanting, as all the stronger growths are found on the outside of the patch, the centre portion becoming weak and exhausted. The large, deep violet, drooping flowers are produced singly on stems during the summer months, and are very attractive in a partly-shaded position in the rock garden.

In cultivation there is a stronger-growing plant closely allied to this species, which is known as C. pulloides, and is evidently the result of a cross with C. carpatica. C. G. F. Wilson, in both forms, with green or yellowish foliage, is also the result of the same cross. Both forms are very dwarf, free growing, and floriferous.

C. pusilla.

One of the prettiest and most popular kinds is this charming little bellflower, which is found over a wide stretch of the Alps. It is usually met with in calcareous regions, growing in mountain debris and glacial moraines at altitudes varying from 1,000 feet to 6,000 feet. In places it forms large turf-like carpets, covered during the whole of the summer with its drooping flowers of blue or lilac. One of the easiest of campanulas to grow either in the rock garden or border, it is certainly a most decorative and useful plant. Gritty, but rich soil should be provided when planting, and although it will do in full sun, it is more partial to a semi-shady position.

A pretty variety is the pure white form, C. pusilla var. alba, and recently another has been distributed under the name of Miss E. Willmott. The latter, however, is only a selected form of the well-known C. pusilla var. pallida, which has long been grown in gardens.

Other Kinds.

In addition to the above there are many other dwarf-growing species which are quite easy to grow. There is C. Allioni, from the Alps of Dauphiny and Piedmont, which only needs a very gritty soil. Its large violet bells are very handsome, growing singly on short stems, and it spreads rapidly by means of stolons. The Bearded Bellflower, C. barbata, is also well worth a place, planted in a non-calcareous soil. From the Caucasus we have recently received several welcome additions to this family, among which are C. Raddeana, a low-growing plant with large blue flowers, and C. imeretina, a plant in the way of C. sibirica, but more compact in habit. Another species from this region is C. bellidifolia, which is somewhat like C. Stevensi. As they both hail from the Caucasus they are possibly forms of one species. A useful later-flowering and beautiful plant is C. Stansfieldi, which may be described as a glorified C. Waldsteiniana. It is of dwarf compact habit, with rich violet-coloured flowers in autumn.

W. IRVING.

Kew.

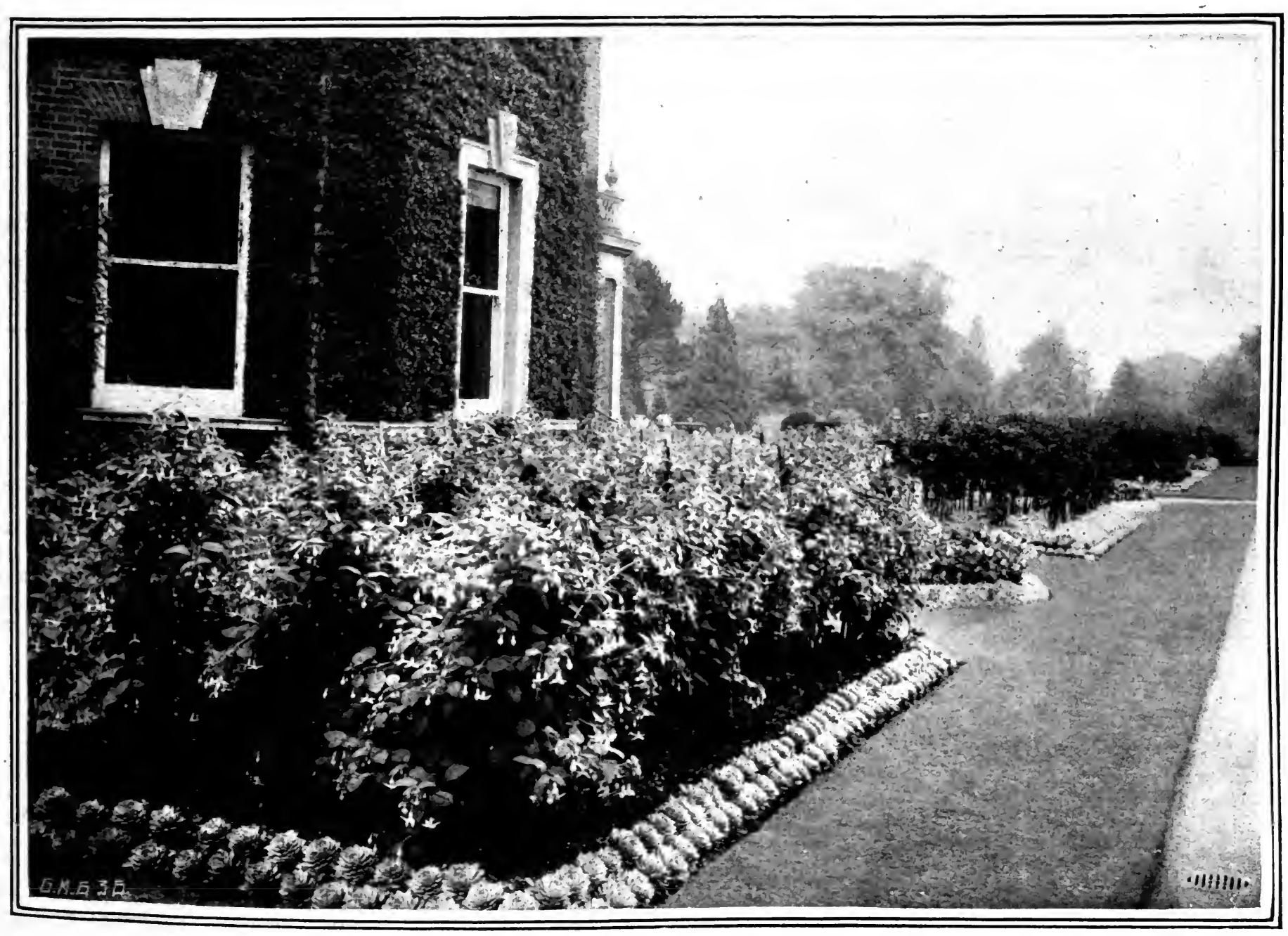
Cucumbers.—Great care and attention is necessary to maintain an unbroken supply of cucumbers at this season. The plants require to be lightly cropped, thinly trained, and moderately top-dressed with warm compost whenever the roots appear on the surface, and otherwise encouraged by occasional waterings with warm, weak liquid manure. Fresh seeds should be sown at once in small pots, which should be plunged in a hotbed of 80 degrees, placing them later near the glass in a temperature of 68 degrees. Prepare for the reception of these plants by cleansing the pits and preparing the materials for fresh beds, repeating the above temperature, and maintaining a generally humid atmosphere by frequent dampings of the path and beds.—F. JORDAN.

BEDDING FUCHSIAS.

The present-day style of summer bedding is vastly different to what was practised twenty years ago, and, naturally, a different class of plants has been brought into being. Illustrations of what I refer to have quite recently appeared in the pages of GARDENERS' MAGAZINE, as well as previously, with notes upon subjects especially suitable. But my remarks hereunder refer particularly to fuchsias.

There are several reasons why fuchsias are so valuable for summer bedding, and I will mention a few. Present-day arrangements do not stop at evenly arranging plants of one height as formerly, but it is now customary to use standard plants of varying heights over a base of some plant, flowering or foliage, eminently adapted for carpeting the soil. For these standards various plants are brought into use, and while fuchsias cannot be used entirely for the purpose, their diversity of flower and foliage enables them to play a prominent part. For freedom of flowering they are unsurpassed, and may be relied upon to provide a continuous feast of flowers until autumn frost puts an end to the general scheme. Here, again, they score over the many other and somewhat less tender subjects, because they are indifferent to the climatic conditions, and the flowers are not hidden by superfluous foliage in moist seasons.

Fuchsias for bedding, as standards, are easily and quickly grown from cuttings, and even when a stock is already established for the purpose, I would recommend each year raising a few young plants, so that the oldest may be dispensed with, and younger and more vigorous ones of uniform size take their place. These are easily rooted in the autumn, and kept gradually growing during the winter in a warm greenhouse temperature, and shifted on as



FUCHSIAS IN THE FLOWER GARDEN AT ALDENHAM HOUSE.

required, they will make nice plants. Fuchsias are not very exacting, and when they have done duty in the flower beds, if they have been plunged in their pots, they should be lifted, have the roots trimmed off as near the pot as possible, be pruned back to the hard wood, and stood during the winter months in a cool frost-proof shed or pit. If the plants were turned out of their pots at planting time, then put them into the smallest receptacles possible, making them quite firm at the root after considerably reducing the ball; if at all dry, give a thorough watering. They will need but little water until the buds begin to move next spring, when they should be kept a little warmer, and also be syringed freely on bright days. They must not be allowed to crowd one another at the time, or the plants will suffer, and as the days lengthen air must be more freely admitted and the plants gradually hardened, making quite sure before they are finally placed out of doors that they will receive no harm.

The following varieties are those which we grow here, and include, I think, most of those best suited for the purpose, though I have no doubt there are others of equal merit. Some of these fuchsias are to all intents hardy, but, excepting in very favoured localities, it would not be wise to leave them out of doors throughout the winter months.

Brilliant is a splendid variety for bedding, having double flowers, with reflexed sepals of a rich deep red, the corolla violet, shaded with red. Ballet Girl is another double-flowering variety with immense flowers of great substance; the sepals are bright red, corolla white; a beautiful and most effective variety, and a splendid bedder. Jubilee Queen is a single variety somewhat resembling Lye's Own, with white sepals and tube, and deep red corolla. F. Coffe has a red tube and sepals, and blue centre; it is a splendid variety for bedding. Wave of Life is a most attractive variety, possessing golden foliage, which renders it the more conspicuous, when blended with other suitable subjects. The flowers are single, freely produced, and the tube and sepals are a pleasing red shade, with a blue corolla. Lye's Own is a single fuchsia with white tube and sepals, and red corolla. Madame Cornelison, an old variety, has a white corolla and carmine sepals, and is yet one of the best.

Audenkenan H. Henkel, which we, to save time, call Henry Henkel, is one of the best, with salmon-red flowers. Thalia is another variety belonging to the same section as the last. Coralle, a most attractive variety, and one that has been admired here as much as any, is free flowering, with blooms of a beautiful shade of coral-red, and particularly handsome foliage. Gottingen is another variety with salmon-red flowers, and Mary has coral-red flowers and distinct foliage.

The above five varieties of hybrid fuchsias are each excellent, and may be bedded with the best possible effect. They flower with remarkable freedom, and form quite a feature when massed together in a bed by themselves, or interspersed with other plants; and, in addition to their strikingly handsome flowers, the foliage is most attractive, giving numerous green and bronze shades.

EDWIN BECKETT.

Aldenham House Gardens.

Early Turnips.—A sowing should be made on a mild hotbed. Early Long Frame or White Forcing will be found suitable varieties for this purpose. Turnip seed germinates very quickly, and care must be taken that the young seedlings are afforded air before they become drawn in growth; thin out the plants at any early stage.—W. MESSENGER.

AMONG THE ROSES IN FEBRUARY.

February is one of the most important and busy times among roses under glass, and the future result of almost all early forced plants depends, in a great measure, upon their present treatment. There are few subjects so difficult to bring into first-class order as roses that have not had the benefit of correct treatment during the first part of their new growth.

Roses Under Glass.

A few hints upon potting and pruning have already been given, and by the end of the month all the plants should be in active growth if the blooms are to be of real service. The only instance in which I would keep roses back as much as possible is when they are in unheated structures. Unless we can retard these somewhat it is by no means an easy matter to keep the tender young foliage safe from a spell of cold or very dull weather, without any aid in the way of artificial heat. It is when the dampness of early morning hangs upon the foliage for a long time that much of the damage is done, and at the risk of having the atmosphere a little colder than seems desirable, I would use the ventilators carefully, with the object of dispersing this chilly dampness as soon as possible.

Great care in watering, never giving water except when quite necessary, and then early in the day, will do much towards checking this early-morning moisture, which often hangs upon the foliage like very heavy dew in unheated rose houses. I do not think we can pay too much attention to a rather dry night atmosphere, and it is an undoubted fact that more cold can be borne by the plants when dry than when there is a tendency to excessive moisture. In conveniently heated houses also I would advise a somewhat drier morning atmosphere than many maintain. We can easily have moisture when needed, and it is not as though the foliage had to fortify itself against a parching summer day's heat.

So many instances have come before me where the check to growth could be plainly traced to the resort to extremes in the matter of liquid and other stimulants, in fumigation, and in the use of too strong an insecticide, that I need make no excuse for again warning against these extreme measures. It is such a folly to hopelessly harm the growth and its prospect of future blossoms, simply by using too stringent measures to destroy a few insect pests. If properly watched for these latter will be discovered as soon as they put in an appearance, and if tackled promptly no great strength of insecticide is necessary. At this dull time of the year I am a staunch advocate of weak fumigations, which should be used in conjunction with the syringe as soon as possible on the following morning.

Pruning.

It is very early to mention pruning, but the plants are so forward in some instances that I would like to say a word against undue haste because of this. Instead of an inducement towards an earlier use of the knife, it should make us all the more reluctant to prune. Some few of the older varieties, also the Scotch and Rugosa sections, may, perhaps, receive a little pruning, but these need scarcely any. On the other hand, to cut away wood because the tips of these growths are precocious does not accomplish any desirable end. In fact, it is apt to encourage just what we do not want, viz., too early development of the more valuable basal buds that are our chief asset in the production of good blooms. At present these top growths and buds, that are breaking so freely, really act as a safety valve to this all too early flow of sap, and leave the lower buds far more dormant than would otherwise be the case.

In all sheltered positions the more evergreen sections and varieties of roses have not ceased growing all through the winter, and, doubtless, this will account for the great impatience of many frends to have their roses pruned soon. Nor is there the waste some of them apparently think, for in almost all cases we should be cutting away the wood carrying these abnormal growths in the ordinary course of pruning, whether they are active now or not. I shall keep my knife shut up all through this month. There is one exception, however, and that is where long rods of climbers are to be secured to walls, fences, or buildings. Here we can do no harm, the main point being to secure the long rods of growth made during the previous summer and autumn, and I would certainly proceed with this work as suitable weather allows.

Planting Rose-stocks.

At the close of last month's notes upon outdoor roses I mentioned the early spring planting of dwarf stocks. Why we plant now, instead of autumn, is to avoid the risk of severe frost upon the stems of rooted dwarf stocks made from cuttings. We must remember that these cuttings have been buried in the soil from the previous autumn, and all through winter and summer; therefore, to expose soft bark that has existed under such softening and tender conditions to the trials of winter does not seem reasonable; and all the more so because they are already rooted, and do not need the same opportunity to do so as in the case of standard briar stocks from the hedgerows. This is why we keep back the cutting stocks, whether these be from the briar, Manetti, De la Grifferaie, or any of the polyanthas used for that purpose, and plant them after the severest part of the winter has, in all probability, passed. On the other hand, seedling briars do not run the same risk of injury at the crown, but even then I prefer waiting for a more settled soil, and until the dangers of winter are over, and such troubles as hares and rabbits have something more attactive to occupy their attention. I have often seen beds of autumn-planted stocks seriously injured by winter frosts and the visits of rodents, which are often very frequent during periods of severe weather.

Plant with some little thought as to the class of growth to be worked upon the stocks. Three small beds at differing distances apart is much the best method. For instance, stocks nine inches apart in the row, and rows eighteen to twenty-four inches from each other; a second bed twelve inches from stock to stock, and rows two feet apart; and a third bed three feet from row to row, with the stocks a foot or a little more apart, will afford a good choice for the various heights and growth of the varieties. Always plant dwarf stocks as shallow as possible, to afford greater facility in putting the rose buds closer upon the crown of their roots. The fuller treatment of pruning may safely wait until next month, when I hope to be able to deal with it.

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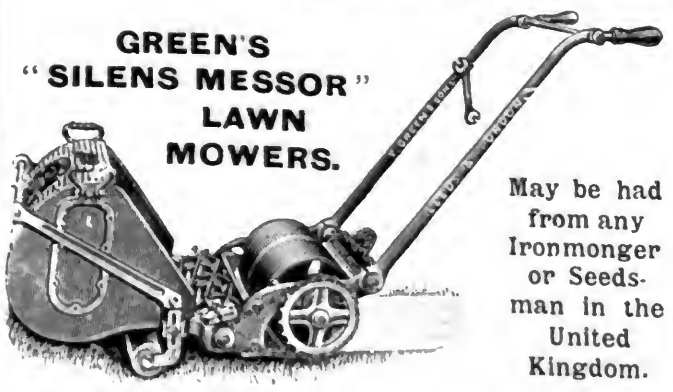

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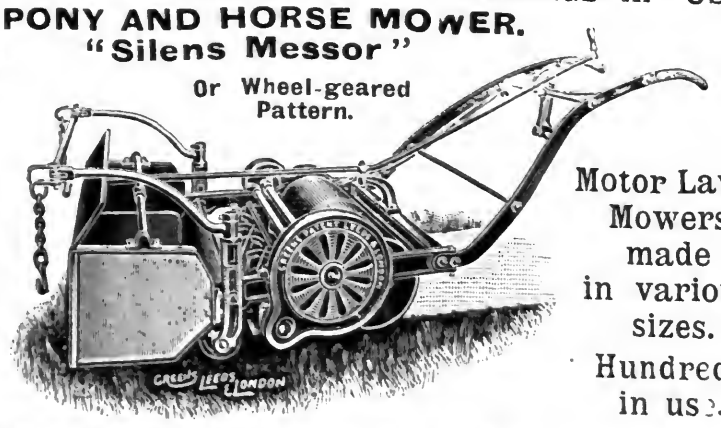

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RECENT ADVANCES IN HORTICULTURE.

(Continued from page 112.)

Commercial Horticulture.

In the domain of commercial horticulture there have also been many changes and many important developments in recent years, but the general tendency in this branch of horticulture is specialisation. One grower specialises in, say, ferns; another takes up, say, roses; another, chrysanthemums; another, carnations; another, orchids, and so on, for it is only by specialising that the best results can be obtained. Ferns are now grown commercially for house decoration by the million, and it would be very difficult to even guess at the number sent out yearly from commercial establishments in the case of roses, carnations, and chrysanthemums. The forcing of bulbs and other plants for commercial purposes has now become a very large industry, and the area covered by glass structures for forcing and other purposes has increased at an enormous rate in recent years. In comparatively recent years the opposite process of retarding has made great progress, and by these two processes, forcing and retarding, it is possible to have certain plants in flower almost at any time of the year.

In commercial horticulture competition is keen, but if the cutting of prices has hit some hard, it has at the same time had the effect of raising the quality of the article, and it is only by producing a better article that competition can be successfully met. In some lines foreign competition has made great headway, and, in the case of articles which require a somewhat better climate than ours, probably this will always be so; but where better climatic conditions are not necessary, provided he enjoys something like equal terms as regards the cost of production, the British grower ought to be able to compete successfully with foreign or Colonial produce.

French Gardening.

Another branch of commercial horticulture which has received some attention lately in this country is what is known as "French gardening." It is too early to say yet whether it has come to stay or not, but it has a special interest for those who are engaged in the growing of vegetables for market, as it enables them to produce certain kinds at times of the year when they are not obtainable by ordinary methods of cultivation. But the initial cost, as well as the annual outlay, must be heavy, so that it would require to yield a very good return to be sufficiently attractive as a commercial concern.

Fruit Growing.

As an industry, fruit growing in this country has not made so much progress as some of the other branches of commercial horticulture, and for this there may be reasons, climatic and economic, but there does not seem to be any drawback to it otherwise. Of course, when we come to fruits which require to be grown under glass, the case is different, the cost of production probably being too great to enable growers to compete successfully with cheap foreign and Colonial produce in the open market; but when we come to hardy fruit, like apples, there seems no reason why we should not be able to do so. No doubt, we have yet a great deal to learn regarding the grading and packing of fruit for market, and there is no doubt that it is their splendid methods of handling fruit which have given the Canadian and other fruit growers such a strong hold on our markets. It therefore behoves us to do our best to improve not only our methods of growing, but also our methods of dealing with the fruit after it is grown in order that we may be able to cope with the foreign and Colonial article.

Implements and Appliances.

As regards horticultural appliances, there is always some advance being made, though several of the commonest implements, like the spade, hoe, and rake, are practically the same as they were fifty years ago. In hot-house building, material has been lightened, with the result that the houses are better adapted to the purposes of plant-growing than were the heavily-timbered structures erected about the beginning of the last half-century. In one respect, however, little change has been brought about in recent years, and that is in the method of heating plant houses. Boilers innumerable have, no doubt, been put on the market, each claiming to have some superiority over all others, but here the change ends. Heating by low-pressure hot water circulation is practically universal, and it seems to meet all requirements; and, however much apparatuses may differ from each other in detail, the principle is the same in all of them. There is one aspect of the matter, however, to which the attention of inventors may be directed, and that is to the method of heating the water. The petrol engine has made aviation and other modes of locomotion possible, and it is not surely beyond the bounds of possibility that some simple method of using oil fuel of some sort may yet take the place of coal in horticultural and such like heating, and that the grimy stoke-hole and the smoky chimney may some day be a thing of the past.

Among implements, probably the greatest advance has been made in connection with the lawn mower, and this again the petrol engine has made possible. The motor lawn mower has come to stay, and where extensive mowing operations are necessary, it is a great advance over the horse-drawn machine. The advent of the lawn mower sounded the death-knell of the scythe, and with its passing there also disappeared the art of mowing, an accomplishment of which every young gardener was proud fifty years ago.

Diseases and Pests.

Great progress has been made in our knowledge of the diseases and pests which attack our plants and crops, and of the means of exterminating them. Much useful information regarding these matters is now disseminated by the Board of Agriculture by means of leaflets, which are supplied free of charge, and no gardener need therefore want for information regarding the commoner diseases and pests, at any rate. In the methods of fighting both diseases and pests, also, inventors have come to the aid of the horticulturist, and spraying appliances of the most up-to-date description are now to be had everywhere. In fact, with our knowledge of the diseases and pests and their ways, the effective means at our command in the way of insecticides and the various kinds of apparatus for applying them, we ought to be in a position, one would almost imagine, to exterminate anything and everything in the shape of plant enemies, insect and fungoid alike. But it would almost seem that the more we wage war on some of them, the more formidable do some of the others become, and this just reminds us that by destroying the balance of nature we sometimes bring incalculable mischief on our heads. It therefore requires both knowledge and discrimination in dealing with matters of this sort.

Literature and the Press.

In no way has there been a greater advance in recent times in horticulture than in the literature of the subject, and in this, as in the practice of horticulture itself the general tendency is towards specialisation. Since the days of Loudon and McIntosh, the number of works on general gardening has been comparatively small, but in recent years work on special subjects have been produced in bewildering profusion; in fact, it is difficult to make a selection from them. And the price at which they are produced is marvellously low compared with what used to be the case. I will only give one illustration of such books, viz., the "Every Day Gardening" series, published by an Edinburgh firm, which contains volumes on almost any class of plants. And the same remarks apply to the gardening Press, which, thanks to the wonderful development in photographic and other printing processes, is now profusely illustrated with all that is best and latest in horticulture, and at a price which brings it within the reach of all. Our leading gardening papers are not equalled by any other gardening papers in the world.

(To be continued.)

EXAMINATION OF PARKS EMPLOYEES.

The Royal Horticultural Society's eighth examination of employees in public parks was held on January 6, and, as previously, the examination was partly viva voce and partly written, occupying three hours and twenty minutes. It was held at the society's hall in Vincent Square, Westminster. Thirty-four candidates entered, and of these 10 secured places in the first class, 14 in the second, and 6 in the third, leaving 4 who failed to satisfy the minimum requirements.

The examiners report that the answers in the viva voce section were, generally, above the average, but the written answers show no very marked improvement on those of past years. Some of the candidates were weak in a knowledge of the functions of roots and leaves. The question on the drainage of heavy soils, was well answered, but that on the manuring of lawns and of different types of land, and the action of lime upon soils and plant foods, required a more scientific knowledge, and was not well answered. The study of artificial manures is important, and candidates should familiarise themselves with their use, especially as an adjunct to farmyard manure, and also of the quantities of each to be used.

There was a surprising ignorance concerning the utility of bastard trenching, and of the labour required for a specified area; and it was not a little disappointing to find only the oldest and commonest trees and shrubs mentioned, whereas so many excellent new varieties are now to be found in public parks. Five candidates omitted to answer the obligatory question, for which omission a certain number of marks was deducted.

The impression left upon the minds of the examiners, after the papers were marked, was that the information given showed but a fragmentary knowledge, uncertain and lacking conviction, instead of an exhaustive mastership of the subjects of the questions. Public parks gardeners are urged to recognise the value to themselves of a full and complete information, and of the knowledge born of the practical application of such information in their work. This is not to be gained by a month or two's book-reading before the examination, but by continued and persevering application to work and study and observation throughout the twelve months.

The attention of the first-class candidates is called to the society's general examination, which it is hoped they will prepare for, as inviting a higher standard of gardening ability.

CLASS I.

1. J. F. Goaman, North Finchley.
2. W. Power, Victoria Park, and G. J. Rule, Wandsworth Common.
4. H. W. Mouser, Waterlow Park.
5. T. F. Gilbert, East Dulwich.
6. W. Cooper, Underhill Road, S.E., and J. F. Lee, Wisley, Surrey.
8. H. Dorrell, East Dulwich, and F. Rowling, Sydenham.
10. G. Miller, East Dulwich.

CLASS II.

1. T. Cooper, East Finchley.
2. J. Coombes, Forest Hill, and G. G. Olliver, East Dulwich.
4. E. J. Stewart, Highgate.
5. J. Curl, Loughboro' Junction.
6. P. Church, Finsbury Park.
7. W. Poyser, Harringay; R. Streatfield, Upper Sydenham; and J. W. Webb, Battersea.
10. H. Cotton, Camberwell.
11. A. R. Roach, Stamford Hill.
12. C. Cruse, East Dulwich.
13. C. F. Tree, Limehouse.
14. F. Cobbold, Dulwich.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

THE COOL HOUSE.—Among the odontoglossums we find the bulk of the plants in their most active state of growth. Some will have completed their pseudo-bulbs, and will have their flower scapes in various stages of development; these require constant watching to protect them from slugs, thrips, and other insect pests. It is a difficult matter to keep slugs in check, and the safest plan is to lay lettuce leaves, small portions of bran or brewers' grains about the stages, so that the pests may be caught with the aid of a light at night, and destroyed. Pieces of cotton wool twisted round the base of the spikes forms a barrier which is not easily surmounted, but does not altogether protect the flower scapes from attack. After a practically sunless summer and unfavourable winter conditions, the pseudo-bulbs will be sappy. It is desirable to place all plants that are in a backward state and have their flower scapes advancing where they may obtain the maximum amount of light, with due consideration, of course, to protection from actual scorching. It will not only be found that the flowers are poor when produced from improperly matured growths, but it will also be found, in many cases, that the succeeding growths are not satisfactory, and such bulbs and growths are more liable to attacks of insect pests than is the case with thoroughly hardened growths.

FLOWERING PLANTS.—We should also consider wheher our plants are capable of carrying full spikes of flower. I am thoroughly convinced that it is a great mistake to expect too much from odontoglossums. When a full spike of flowers is taken from a plant for two or three seasons in succession we make but little advance in the size and quality of growth and pseudo-bulb, in fact we are more likely to find that, after such treatment, there is deterioration. It is all very well to cry out about disbudding of flower scapes, but it is possible that those who cry the loudest in this respect take good care to nurse their plants, by the entire removal of spikes, until the plant has become sufficiently robust to carry a full spike of bloom. There is no doubt that a great deal can be done to assist the plants by disbudding, and with the choicer kinds, where the increase of stock has also to be considered, it will prove to be a still greater advantage. Seedlings flowering for the first time should always have their flowers kept down to one or two on the scape. This will be ample to determine the quality, and there will not be any apparent loss of vigour in succeeding growths. This disbudding should be done as early as possible.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CLIMBING ROSES.—As these are now showing their flower buds they must be given plenty of stimulants. If growth is at all inclined to be congested it must be liberally thinned, or the flower stems will be weak. A surface dressing of well-rotted manure will be beneficial, and the feeding properties of this should be washed into the soil with tepid water as soon as it is put on. A sprinkling of soot should be scattered over the manure before watering. If mildew appears, dust the affected parts with flowers of sulphur. Aphis may be destroyed by fumigating with a nicotine compound.

ROSES IN POTS.—As the early batches pass out of flower they must be placed in a cold house for a week or two preparatory to standing them out in the open. It is important to keep these free from insect pests, therefore, if they are affected, measures must be taken to clean them. The plants which are coming into flower must be carefully watered, using liquid manure, soot water, or some approved fertiliser, as the case demands. Great care must be exercised in ventilating the structures containing roses, as cold draughts must be avoided. Fire-heat must not be used excessively at any time.

CANNAS.—The plants which have been resting may now be brought out and started into growth. The roots must be shaken out and repotted in suitable sized pots. If propagation is desired the roots may be carefully divided and put into small pots and plunged in a moderately warm hotbed. Propagation may also be effected by seeds, sown singly in small pots. The canna is a gross feeding plant, and to secure the best results the rooting medium must be of a very rich character. Loam, leaf-soil, well-rotted manure, and crushed bones, with a good sprinkling of coarse sand, forms a suitable compost. When the plants have made plenty of roots they will need copious supplies of water. Stimulants must also be given them at this stage, increasing this in strength as growth advances. Keep them growing in a light structure near the glass, in a temperature of 60 or 65 degrees until the spikes begin to appear, when they may be given a greenhouse temperature.

BEGONIAS.—The tubers which have been resting during the winter may now be started into growth. Extra large tubers may be divided with a view to increasing the stock. The tubers may be placed in leaf-soil in boxes till growth commences, when they must be put singly into 5in. or 6in. pots in a compost of loam, leaf-soil, and sand. Keep the plants growing in a temperature of 65 degrees, syringe them with tepid rain water, and keep the atmosphere moist until flowering commences, when cooler and drier conditions will be necessary. Seed may now be sown in shallow pans. Fill the pans with a compost of loam and leaf-soil in equal parts, mixing plenty of silver sand with it. The compost must be passed through a fine sieve. Sow the seeds carefully over the surface and sprinkle a small quantity of sand over them. Place the pans on a hotbed, and keep them covered with a piece of glass and shaded.—E. HARRISS, Lockinge Gardens.

HARDY FRUITS.

STRAWBERRIES.—Planting from the nursery beds may still be carried out on good land. Plant firmly, when the land is not too sticky, and allow ample room for the full development of the large, strong-growing varieties. Those intending to make use of plants that have been forced should have the land thoroughly prepared some few weeks prior to planting. Strawberries delight in a firm grip, and soil in good heart. These forced plants should not be kept in their pots longer than is just necessary to harden them a little, and more space should be allowed than for smaller plants taken from the nursery stock. Clean over all the older beds thoroughly, dust soot among the plants, and finally mulch with suitable manure.

ALPINE STRAWBERRIES are very useful, and often much appreciated for their refined flavour. Some varieties may be increased by runners, while others must be raised from seeds. If raised from seeds, procure a good strain from a well-known firm, and sow at once in pans filled with good sandy soil, pressed firmly. Stand the pans in a gentle warmth, and cover with a square of glass and paper, until the seeds begin to germinate. Strong plants put out in April should fruit in autumn.

GRAFTING.—Attend to this work as soon as the bark parts freely from the stock. Several grafts will be required for large trees, and some of the headed-back branches will be better with two or three grafts, according to their thickness. Graft good varieties only, and after inserting the scions see that they are neatly bound before claying.

CUTTINGS OF GOOSEBERRIES, CURRANTS, ETC., that were inserted in beds suitable prepared at the end of last season, will need to be looked over, making each firm should they have become somewhat loosened by frost. Push the stems down, and tread by the side of the lines so that the soil is very firm. If the soil is not too wet run the Dutch hoe between the rows, keep the whole clean, neat, and the bushes properly labelled. In all gardens it is advisable to propagate a few of the best kinds annually—to replace older, worn-out bushes. Plants struck a year ago will need more room; plant them in beds, or in lines on some suitable land, allowing 12in. from plant to plant, and 2ft. between the rows. Prune a little to ensure neat bushes for planting permanently in the coming autumn. Good varieties of gooseberries are: Whites—Howard's Lancer, Antagonist, Langley Gage, Whitesmith, and Transparent (white); London, Speedwell, Crown Bob, Dan's Mistake, Whinham's Industry, and Warrington (reds); Leveller, Golden Lion, Keepsake, Trumpeter, and Golden Gem (yellow); Hedgehog, Greengage, Telegraph, Shiner, and Surprise (green). Red currant—Raby Castle, Fay's Prolific, River's Late Red, White Dutch, and Transparent. Black currants—Baldwin, Boskoop Giant, and French Black. H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

ONIONS.—For this crop the ground requires to be well manured and deeply dug; no better site can be wished for than that previously occupied by celery, and it is only necessary to apply a dressing of well-rotted manure and dig the ground one spit deep. When the soil is dry enough to be easily worked, it should be levelled and made firm by treading. Prior to sowing the seed, a good dressing of soot should be scattered over the surface and well raked in with a wooden rake. If possible, the sowing should be completed by the middle of March, when the soil should work freely, and admit of the drills being drawn at an even depth. If the weather be wet the operation should be deferred until a more favourable opportunity occurs. Sow the seeds thinly and as evenly as possible, in shallow drills about one foot apart, lightly press in the seeds with the back of the rake, and cover them with soil, and lightly rake over the bed to make a neat finish. Among the many excellent varieties are Improved Reading, Bedfordshire Champion, A1, Brown Globe, James's Long Keeping, and Nuneham Park. Where large bulbs of mild flavour are desired, Ailsa Craig, Cranston's Excelsior, and Rousham Park Hero may be recommended. Autumn-sown onions may be transplanted at the first favourable opportunity on well prepared ground. The rows should be one foot apart and the plants set out nine inches apart; this distance may be curtailed or extended according to the size of bulb desired.

TOMATOES.—Plants from a December sowing will be ready for a shift into 6in. pots. The potting soil should not be too rich, as it is desirable to promote short, sturdy growth; good turfy loam, with some finely broken old lime or plaster rubble, and a six-inch potful of bone-flour per barrow-load of loam, will insure satisfactory growth. Stake and tie the plants as required, and place them near the glass in a sunny position. Young plants from recent sowings should be dibbled into the centre of small 60 pots, or into boxes, well watered in, and, if the weather be bright, shaded until they commence to root. Water should be given in moderation to pot plants until the soil becomes filled with roots. Afford a night temperature of 60 degrees, with a corresponding rise during the daytime; admit air on every favourable occasion, as excessive humidity of the atmosphere will cause soft, sappy growth.—W. MESSENGER, Woolverstone Park Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

Notwithstanding a bitterly cold north-east wind, and a snowstorm the previous night, there was a quite good show at the Royal Horticultural Hall, on Tuesday, February 18, and during the afternoon the hall was crowded with visitors. The rock garden displays and collections of hardy flowers grow somewhat monotonous, the same style of arrangement and the same kinds of plants being repeated time after time. Orchids were not numerous, but daffodils were quite gay, and vegetables were of great interest, while primulas and azaleas and ferns were largely exhibited.

FLORAL COMMITTEE.

A very beautiful exhibit of primulas was set up by Messrs. Sutton and Sons, Reading. The grouping of the colours and varieties was very interesting and educative; a few leading varieties were Brilliant Rose, Majendie, Coral Pink, Sutton's Lavender, The Duchess, Giant Crimson, Crimson King, Giant Pink, Reading Blue, and the very fine deep purple-blue variety named The Czar. A very bright exhibit of rhododendrons from Messrs. R. Gill and Sons, Falmouth, was greatly admired because of its fine trusses of Rhododendron Cornubia, R. ciliatum, R. barbatum, etc., and its colony of Primula Winteri. Messrs. H. Cannell and Sons, Swanley, contributed a collection of cut zonal pelargoniums staged in glass vases.

A first-rate exhibit of finely-grown ferns, made by Messrs. J. Hill and Sons, Edmonton, was greatly admired, and it contained excellent specimens of the elegant Davallia tenuifolia Veitchi, Osmunda javanica, Nephrolepis exaltata superba, the bold Platycerium æthiopicum, Davallia repens—a grand plant, Asplenium serra, and Davallia fijiensis elegans.

Boronia megastigma lent fragrance to the group of greenhouse-flowering plants submitted by Messrs. Jas. Veitch and Sons, Chelsea. Cineraria Matador, rich scarlet; C. Feltham Beauty, and C. Pompadour, a fine strain of cyclamens and Tillandsia Lindeni all went to make up a bright collection. A handsome bank of Indian azaleas, both dwarf and fairly tall standards, was arranged by Messrs. Jas. Veitch and Sons, Chelsea; Mdme. Van der Cruyssen, rosy mauve; J. T. D. Llewelyn, pink; Apollo, scarlet; and Niobe White, with the blush and rose Vervæncana were a few of the leading varieties.

Among the carnations exhibited by Messrs. Young and Co., Hatherley, we made note of the new blush pink Hon. John Boscawen, Lady Audley Nield, Duchess of Devonshire, and Scarlet Glow. Mr. C. Engelmann, Saffron Walden, presented some excellent carnation blooms, and showed the yellow Sunstar and the pink Lady Northcliffe in very fine condition. Mr. H. Burnett brought over a beautiful lot of carnations from Guernsey, and delighted everyone with his vases of Lady Alington, Benora, White Chief, Mrs. C. F. Raphael, Rosette, Triumph, etc.

Mary Allwood was the outstanding carnation in a group of these popular flowers set up by Messrs. Allwood Bros., Haywards Heath, but Mrs. T. M. Cook, Rosette, Mrs. C. W. Ward, and the new and dainty rose-flaked Wivelsfield Wonder were also on view. A good strain of cyclamen with a bold group of carnation blooms, a batch of Acacia cordata, A. armata, and Erica melanthera made up a fairly large display from Messrs. Stuart Low and Co., Bush Hill Park, Enfield. Mikado, Salmon Enchantress, St. Nicholas, the new Northport, and White House, were the carnations chiefly shown in the small group set up by Messrs. Wells and Co., Merstham.

Forced flowering shrubs, chiefly azaleas, lilacs, and magnolias made up an effective exhibit from Messrs. Wm. Cutbush and Son, Highgate; at one end a fine set of carnation flowers were set up boldly, and notable sorts on view were Mrs. L. Mackinnon, Mrs. Tatham, King Manuel—a pretty cerise pink, R. F. Felton, and Countess of Onslow. A fragrant and elegant group of forced flowering shrubs from Mr. L. R. Russell, Richmond, was composed largely of standard lilacs and mollis azaleas, arranged over dwarf lilacs, pyruses, and azaleas.

A large contribution of ferns from Messrs. H. B. May and Sons, Edmonton, contained a batch of the exquisitely beautiful Nephrolepis Marshalli compacta, and grouplets of Gymnogramma schizophylla superba, the white powdered G. Mayi, the narrow-fronded Platycerium Cordreyi, and other good things.

Messrs. C. Brooks and Son, Basingstoke, showed their strains of Primula sinensis; the whole of the blooms were laid flat on black velvet in blocks of from 60 to 100 flowers. The varieties were Queen Mary, salmon-pink; Orange King, King George V., crimson scarlet; Giant Salmon, and Queen Alexandra, white. Very bright blue were the cinerarias shown by the London Flower Co., North Audley Street, W.; the varietal name, Bleu d'Azur, was a capital one, and the plants attracted a great deal of attention.

Mr. A. Shambrook, gardener to the Rev. H. Buckston, Sutton Hall, Sutton-on-the-Hill, Derby, is a first-rate grower of cyclamen, and on this occasion showed splendidly-flowered examples of his fringed variety, Mrs. Buckston, one of these carrying about seventy fine bright rose-pink flowers. Flowering peaches were delightfully displayed by Messrs. Wm. Paul and Son, Waltham Cross, and their group of Double White and Double Crimson, with the double almond, was a foretaste of early spring.

Forms of Primula cashmeriana and P. denticulata, showing great advances in sturdiness, size of bloom, and colour over the type, were exhibited finely by Mr. Maurice Prichard, Christchurch; some of the named sorts, especially Sir D. Morris and Rob Roy, were remarkable for their rich rose-purple colouring. Anemones, saxifrages and hardy heaths were included in the group. Messrs. Barr and Sons, Covent Garden, again arranged a little rock garden near the entrance and filled it prettily with groups of Saxifraga Elizabethæ, S. oppositifolia, Muscari azureum, Narcissus minimus, N. cyclaminens, N. bulbocodium, Crocus Malyi, C. Sieberi, Scilla sibirica alba, and many other dainty and beautiful spring flowers.

The rock garden arranged by Mr. C. Elliott, Six Hills, Stevenage, was prettily filled with groups of Morisia hypogæa, Iris reticulata, Saxifraga oppositifolia alba, S. Elizabethæ, S. Burseriana Gloria in grand form, and Gentiana acaulis. The Wargrave Plant Farm, Lim., The Arcade, Liverpool Street, put up a very pretty rockwork display, and in it set out charming little colonies of Iris reticulata, Saxifraga oppositifolia, Myosotis Ruth Fischer, Primula megasæfolia, hepaticas, and the white form of Scilla sibirica.

Alpine plants shown by Messrs. Whitelegg and Page, Chislehurst, were backed by forced daffodils. Morisia hypogæa, Houstonia serphyllifolia, Anemone pulsatilla, Iris reticulata, and Aubrietia Violet Queen. Messrs Thompson and Charman, Adam Street, Adelphi, presented primulas set in rock work, and a few small-growing shrubs, including pernettyas. In the small collection from the Guildford Hardy Plant Company, hardy heaths were conspicuous, and an outstanding plant was the pink-flowered Andromeda calyculata. Messrs. R. Tucker and Sons, George Street, Oxford Street, W., exhibited a little rock garden, with hardy heaths, primulas, and Saxifraga Burseriana grandiflora, and S. oppositifolia lotena, with quite large flowers.

Primula malacoides alba, Saxifraga Burseriana major, Lupinus argenteus, with elegant silvery leaves, Soldanella alpina, and Iris histrioides, were the features of the group from Messrs. Bees, Lim., Liverpool. A goodly group from Messrs. T. S. Ware, Lim., Feltham, contained colonies of Bletia hyacinthina, the showy Primula cashmeriana, P. denticulata alba, Cyclamen Atkinsi rubrum, saxifragas in numbers, and the sweetly-scented Epigæa repens.

Mr. G. Reuthe, Keston, again showed an interesting collection of hardy flowers that included saxifragas, hardy heaths, rhododendrons, camellias, scillas, iris, and species of crocus. Mr. G. W. Miller, Clarkson's Nurseries, Wisbech, was chiefly represented by hepaticas, coloured primroses, and primulas. Messrs. J. Piper and Son, Barnes, put up a very pretty little rock garden in one corner of the hall, and had fine breadths of Primula megasæfolia, Iris pumila lutea, Primula denticulata alba, hepaticas, blue primroses, Saxifraga oppositifolia, and S. Burseriana major. Retinospora tetragona aurea, planted on the highest part, was a very pretty and pigmy shrub.

Mr. James Box, Lindfield, submitted a bright exhibit of early flowers that was rich in hardy primulas and miniature shrubs, Daphne Blagayana being especially noticeable among the latter. Messrs. R. Wallace and Co., Colchester, had many interesting plants; Tulip Kaufmanniana, Iris bucharica, Narcissus triandrus albus, Lithospermum prostratum, and Anchusa myosotidiflora were a few of the choicest. Messrs. G. and A. Clark, Dover, presented coloured primroses, hardy cyclamens, irises, hardy heaths, and the glaucus junipers, set in a small rock garden. Retinospora filifera aurea, saxifragas in variety, and Primula denticulata were shown, with primroses and scillas, on rockwork, by the Burton Hardy Plant Nurseries, Christchurch.

One of the largest and also one of the boldest of the many groups exhibited was one composed of Poetaz daffodils grouped around and under conifers from Messrs. James Carter and Co., Raynes Park, S.W. Foremost among the varieties was Aspasia, a splendid pot plant, carrying from four to six fragrant white flowers on a stout stem. Irene, Elvira, Ideal, and Jaune à Merveille were other good varieties of this useful section, but Aspasia stood out conspicuously in this large, tastefully-arranged, grass-margined group.

Bulbs grown and flowered in ornamental bowls of fibre proved an interesting exhibit, and Messrs. R. H. Bath, Lim., Wisbech, demonstrated once more the value of this method of culture; the pans of golden crocuses attracted us as much as anything.

An exhibit of dainty daffodils from Mr. F. Herbert Chapman, Rotherside Gardens, Rye, was composed entirely of triandrus hybrids, nearly all of those staged being raised by Mr. Chapman. There were no fewer than fifty distinct sorts, and all were of refined form and habit. A few of the white sorts that attracted special attention were White Hart, Alabaster, Mrs. Walter Wright, Madonna, White Witch, and Problem. N. minacycla, the lemon-cupped Problem, and the dainty Little Bo-peep, as well as the bolder Bennett Poë, were other charming varieties.

Early daffodils were boldly shown by Messrs. Barr and Son, Covent Garden, their group being fronted by batches of Dutch crocuses. A few of the most striking daffodils were Primrose Queen, Blackwell, King Alfred, Blazing Star, Alice Knights, the bright golden Mikado, and White Lady. The tulips shown were also very good.

In a setting of Isolepis gracilis, Messrs. Cartwright and Goodwin, Kidderminster, set up a very bright and attractive contribution of cut daffodils, with a few hyacinths, muscaris, and a pan of the beautiful large white crocus named Kathleen Parlow (A.M.), a grand variety that has one faint line of rose-purple along the centre of each inner

segment. Among the daffodils Cornelia, Henry Irving, Victoria, Southern Star, Firebrand, and Blackwell were a few of conspicuous merit.

Paintings of flower and garden scenes were unusually numerous. Miss M. H. Mason, the lecturer of the afternoon, exhibited a large collection of sketches of landscapes of the Transvaal, and flowers of South, Central, and Eastern Africa, these latter drawn life-size from nature. Miss C. di Guardi, Montague Road, Richmond Road, Surrey; and Miss Adie, Brechin Place, W., were exhibitors of pictures. Miss Ivy Massee, Gateacre, Kew, sent skilful drawings of fungi, saxifragas, orchids, rhododendrons etc. Mrs. E. Fisher, Westerham, East Molesey, showed flower studies and views in Hampton Court Gardens. Miss Ough, Westwell Road, Streatham Common; Miss Josephine Gundry, Foot's Cray, Kent; Miss E. Warrington, Streatham Common; and Mrs. Macalister, Thurloe Square, W., were other artists whose productions were on view.

ORCHID COMMITTEE.

Mr. Alexander, orchid grower to Lieut.-Colonel Sir George Holford, Westonbirt, Tetbury, brought up Cymbidium Gottianum, the showy L_{a}-c. Valeria and Cattleya Leda (A.M.), a handsome Percivaliana cross, with deep rose-purple and gold flowers. Cymbidium Alexanderi Fowler's var. (F.C.C.) was very fine as shown by Mr. J. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, South Woodford; this has rich rose-pink flowers of considerable size, and is one of the best of the C. insigne crosses. Mr. G. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, put up a very pretty and interesting group, consisting chiefly of Odontioda Bradshawiæ Goodson's var., O. Keighleyensis, Odontoglossum ardentissimum, O. Loochristyense, O. Lambeauianum Henry Goodson, O. allium, and Phaius Norman. The plants were grouped pleasingly amid ferns and moss.

The large and brilliant Odontioda Mrs. F. M. Ogilvie, with pink, scarlet, and white colouring, was finely shown by Mr. Balmforth, gardener to F. Menteith Ogilvie, Esq., The Shrubbery, Oxford; the spike carried fourteen flowers. Odontoglossum Amethyst Glebelands var. (F.C.C.), a fine hybrid between O. eximium and O. Lambeauianum, was splendidly shown by Mr. J. Gurney Fowler, and its brilliant red-brown and rose-coloured flowers were a great attraction.

Cattleya Trianæ The Baron, with beautiful broad white petals and sepals and a blush yellow-throated lip, gained a F.C.C., as shown by Mr. Shill, gardener to Baron Bruno Schroder, The Dell, Egham; Odontoglossum crispum The Dell Sunrise, with a brown edge to the sepals, was another notable plant from The Dell.

Messrs. J. and A. McBean displayed fine plants of Cymbidium insigne with tall spikes of pink flowers; C. Schlegeli, C. Gottianum, Odontoglossum sceptrum, O. Lambeauianum, and other good things. Mr. Roberts, gardener to Miss Baker Baker, Ellemore Hall, Durham, showed the pale blush Bletia hyacinthina gebina. Mr. W. A. Manda, St. Albans, put up a group of orchids, consisting chiefly of varieties of Cattleya labiata. Mr. Maurice Mertens, Ledeberg, Ghent, exhibited Miltonia Bleuana nobilior, and a few bright hybrid odontoglossums and odontiodas.

Messrs. Sander and Sons, St. Albans, had a quite big display of orchids, including a brave show of Cattleya Trianæ, spikes of Odontoglossum elegans polyanthum, O. Pescatorei, with Cœlogyne flaccida, Odontioda Bradshawsiæ, Cypripedium Caractacus, Dendrochilum glumaceum, and some dendrobiums. Cattleya Trianæ Pallas, a pale blush form, was a charming form in this group.

From the Liverpool Orchid Nursery Company, Gateacre, Liverpool, came a small group of lælio-cattleyas of the Hippolyte section.

Messrs. J. Cypher and Sons, Cheltenham, put up some fine plants of good varieties of Lycaste Skinneri, spikes of Calanthe Bryan, the old Angræcum eburneum, and Phalænopsis Schillerianum, with good examples of Cypripedium Minos Youngi, C. Alcibiades superbum, etc. S. Gratrix, Esq., Whalley Range, Manchester, sent Odontoglossum crispum Leonard Perfect, a fine variety that had fourteen of its splendid, brown and red blotched flowers.

Exquisitely beautiful was Brasso-cattleya Menda (C. labiata Virginia × B.-c. Queen Alexandra), from Mr. Hunt, gardener to Pantia Ralli, Esq., Ashtead Park, Leatherhead. It has white sepals, greenish-white petals, a creamy lip with a purple line in front, and gained a F.C.C. Messrs. S. Low and Co., Enfield, had a goodly display of Dendrobium Wardianum, varieties of Cattleya Trianæ, Lælio-cattleya Bella, Cypripedium Mrs. Mostyn, Cœlogyne pandurata, and Brasso-cattleya Imperatrice de Russie.

FRUIT AND VEGETABLE COMMITTEE.

Especially fine in form and colour were the carrots, beet, turnips, and parsnips exhibited by Mr. Gentle, gardener to Mrs. E. H. Denison, Berkhamsted. Mr. Gentle is an adept at cultivating garden root crops, and seems to have a special lathe for his carrots and beet. His onions and potatoes were of equal merit, clean, well-kept, and really handsome.

Messrs. Sutton and Sons, Reading, had a few dozen lovely heads of their Superb Early White broccoli, an early self-protecting variety of great value, and high quality.

CERTIFICATES AND AWARDS.

First Class Certificate.—To Cattleya Trianæ The Baron, from Baron Bruno Schroder (gardener, Mr. D. Shill), The Dell, Egham; Brasso-cattleya Menda, from Pantia Ralli, Esq. (gardener, Mr. Hunt), Ashtead Park, Leatherhead; to Brasso-cattleya Goodson's var., from H. S. Goodson, Esq. (gardener, Mr. Day), Putney; to Cymbidium Alexanderi Fowler's var., and to Odontoglossum Amethyst Glebelands var., from J. Gurney Fowler, Esq., Glebelands, South Woodford.

Award of Merit.—To Lælio-cattleya Leda, from Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury; and to Crocus Kathleen Parlow, from Messrs. Cartwright and Goodwin, Kidderminster.

Cultural Commendation.—To Mr. Kempshall, gardener to the Duchess of Ilchester, Abbotsbury, Dorset, for fine flowers of Magnolia Campbelli.

MEDALS.

Silver-gilt Flora.—To Messrs. J. Veitch and Sons, Chelsea, for azaleas, etc.

Silver-gilt Banksian.—To Mr. Burnett, Guernsey, for carnations; to Messrs. J. Hill and Son, Edmonton, for ferns; to Messrs. H. B. May and Sons, Edmonton, for ferns; to Messrs. Sutton and Sons, Reading, for primulas.

Silver Flora.—To Mr. Day, gardener to H. S. Goodson, Esq., Putney, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. Charlesworth and Co., Hayward's Heath, for orchids; to Messrs. Barr and Sons, Covent Garden, for daffodils, etc.; to Mr. F. Herbert Chapman, Rye, for hybrid daffodils; to Messrs. W. Cutbush and Son, Highgate, for carnations and flowering shrubs.

Silver Knightian.—To Mr. Gentle, gardener to Mrs. Denison, Little Gaddesden, Berkhamsted, for vegetables.

Silver Banksian.—To Messrs. Sutton and Sons, Reading, for broccoli; to Sir Walter Gilbey, Elsenham, for lavender water; to the Rev. H. Buckston, Derby, for cyclamens; to Messrs. Jas. Carter and Co., Raynes Park, for daffodils; to Mr. C. Elliott, Stevenage, for alpines; to Messrs. R. Gill and Son, Falmouth, for rhododendrons; to Messrs. Stuart Low and Co., Enfield, for carnations, etc.; to Messrs. Wm. Paul and Son, Waltham Cross, for flowering peaches; to Mr. L. R. Russell, Richmond, for forced flowering shrubs; to Messrs. Whitelegg and Page, Chislehurst, for hardy plants; to Messrs. W. A. Manda, St. Albans, for orchids; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. J. and A. McBean, Cooksbridge, for orchids; and to the Liverpool Orchid Nurseries, Gateacre, for orchids.

Bronze Flora.—To Messrs. Allwood Bros., Hayward's Heath, for carnations; to Mr. G. Renthe, Keston, for hardy flowers; and to Messrs. T. S. Ware, Lim., Feltham, for hardy flowers.

Bronze Banksian.—To Mr. Maurice Prichard, Christchurch, for hardy flowers; to Messrs. J. Piper and Son, Barnes, for rock garden.

National Chrysanthemum Society.

A meeting of the Executive Committee was held at Carr's Restaurant, Strand, W.C., on Monday evening last, under the presidency of Mr. T. Bevan. Business was of a somewhat formal character. The retiring members of the Floral Committee were re-elected, and Mr. Martin Silsbury was elected to the one vacant seat. The finance, schedule, and publications sub-committees were reappointed, and Messrs. P. Cragg and W. Wells, jun., were added to the latter. A few new members were elected.

After this meeting the members of the Floral Committee dined together, Mr. D. B. Crane presiding. A pleasant evening was spent, the short speeches, many of an interestingly reminiscent character, being sandwiched between songs and readings.

National Dahlia Society.

During the evening of Friday, February 14, this society held its fourth annual conference at Carr's Restaurant, Strand. The President, Mr. George Gordon, V.M.H., opened the proceedings, and referred to the growing interest in dahlias, an interest that the conferences had doubtless deepened. The society was entering upon a new and vigorous policy, but it needed more support if it was to carry out its work properly and make the dahlia as popular as it deserved, and in this connection he urged that every member should do his utmost to secure new adherents. He said that three growers of the highest eminence were present to read papers, and had come from long distances to give their experience. Mr. Wyatt, of Salisbury, was well known as a raiser and grower; Mr. Treseder, from Cardiff, was known as an extensive and successful competitor, while Mr. A. Cobb came from Duffryn Gardens, where probably more dahlias were grown for garden decoration than in any other garden in the United Kingdom.

EXHIBITING AND JUDGING DAHLIAS.

The President then called upon Mr. Wyatt, and in passing we may say that Mr. Wyatt demonstrated many of the points raised during the reading of his paper, and showed how dahlia flowers might be made to look better on a show board than at present by raising the two back rows in tubes, and adding greenery beneath these raised rows. Mr. Wyatt's subject was "Dahlia Exhibiting and Dahlia Judging," and we hope to give his paper in extenso in an early issue.

Mr. J. Cheal opened the discussion with thanks to Mr. Wyatt. He was not prepared to follow Mr. Wyatt's suggestion that a dahlia was pre-eminently a show flower and its setting was of little value. Mr. Cheal maintained that the habit of a dahlia should count for a great deal, and would certainly add to the interest of dahlias as a class. He emphasised the need for extreme care on the part of the judges not to miss any stand in any class. Discussing the points laid down, Mr. Cheal said it was quite possible to give too great a value to size, and pointed out that refinement should receive full consideration. Setting up he also considered a matter of no small importance.

Mr. J. T. West put high quality far before size in the matter of show dahlias, and he thought the N.D.S. had sinned in this respect, the judges paying too much attention to size. He thought the use of foliage under the two back rows presented some difficulties, as such foliage flagged rather quickly.

Mr. J. B. Riding said that some dahlias had nothing but their face to recommend them, and he urged that good character—long and stiff stem, for instance—was of even greater importance than good looks. He was in general accord with Mr. Wyatt in his scale of pointing for judging, but said that far too much attention was given to size. There was, he said, a great need for a good code of judging for dahlias.

THE FUTURE OF THE DAHLIA.

Under this title Mr. Treseder peeped into the future, and, basing his observations upon recent history, he predicted a larger measure of support for garden dahlias, and suggested the possibility of new developments.

Mr. Cheal said Mr. Treseder's remarks were most inspiring and suggestive; it was difficult to discuss what had been said, but he would emphasise the need of an ideal in the minds of those who were raising dahlias, and strenuous effort to attain that ideal. In public gardens there was special need of the greater use of dahlias.

Mr. Riding believed there was a need for a sharper distinction between pæony and decorative dahlias; the latter were double, the former, though possibly having two or three rows of florets, must show a considerable centre, and be of more single character.

Mr. West humorously suggested pensions for dahlia raisers until the ideal dahlia could be raised, suitable alike for the show board and the garden.

Mr. Treseder, in reply, said he felt that show and garden dahlias would always be kept distinct from those desirable for garden effect.

GARDEN DAHLIAS.

Mr. Cobb then proceeded to read his paper on "The Selection and Cultivation of Dahlias for the Garden," and a portion of this is given in another part of the present issue.

After Mr. Cobb's instructive and enthusiastic paper, the President spoke of the need for a careful selection of varieties suitable for garden decoration, and also for a careful consideration of methods of culture when garden decoration was the point in view.

Mr. Treseder described briefly the dahlia garden at Duffryn, situated in a slight depression, with its hundreds of plants flowering profusely, and providing a glorious and startlingly impressive scene, that pointed very clearly to a great future for the dahlia. Mr. Riding and others joined in the discussion.

Mr. C. H. Curtis proposed a vote of thanks to the readers of papers, and suggested that a code of judging and a new set of "properties" would be a good outcome of the conference. He referred to the possible use of dahlia species for the creation of new races. Mr. Welsh seconded the motion, and said how eagerly the dahlia growers, particularly the smaller amateurs, looked forward to the publication of the papers read. He suggested a Certificate of Merit, by way of prize, for circulation among societies affiliated with the N.D.S.

This vote having been passed heartily, the President referred to a proposal from Mr. Cory to hold a trial of garden dahlias at Duffryn during the present year, and requesting help to make this trial as extensive and useful as possible. A vote of thanks to the President brought the proceedings to a close.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

PUBLISHING MANAGER,
148-9, Aldersgate Street,
London, E.C.,

who will give the matter immediate attention.

Croydon Gardeners' Society.

A lecture of much interest and great practical importance was recently given before the members of this society by Mr. G. C. Gough, A.R.C.Sc., B.Sc., a scientist from the Board of Agriculture and Fisheries.

The subject of Mr. Gough's lecture was the American gooseberry mildew, a scheduled disease in gooseberry culture, and one which has given considerable trouble in parts of Kent and other counties. Being a scheduled disease, anyone finding it prevalent in their gooseberry plantations, must report it to the Board of Agriculture, under penalty of a fine for failing to do so. It necessarily follows that all cultivators should be acquainted of its habits so that they can easily recognise it. When first discovered the Board issued an order that all trees infected were to be grubbed up and burnt, but this order has since been rescinded, and the case has only to be reported, and the inspector from the local Council will examine the trees, and effective measures to combat the disease will be advised.

The lecturer explained that after carefully investigating the cause and effect of this disease it was found to belong to the mildews, and is quite different to any other form; especially must it be noted the difference between this and the European gooseberry mildew. By aid of lantern slides Mr. Gough gave illustrations of magnified spores of the two diseases, and their formation was thus readily made apparent to his audience. Where badly infected bushes are found traces may be discovered on currant bushes, but the character of the currant being somewhat different to the gooseberry it does not adapt itself so readily, and is easily eradicated. Strange as it may seem the good cultivator is more likely to suffer than the possessor of trees which are not so well cared for. This is accounted for by the tenderer growth on the well-cultivated trees. The parasitical nature of the mildew finds in the young succulent growth a better host than old and matured wood. It has its seasons of growth, and about April and May will be found in its earliest stages. A white mildew will be noticed about this time on the tender foliage and young growths. After a few weeks it changes to a yellow colour, and as the season advances it takes to itself a chocolate hue. Spreading to the fruit it quickly covers this and makes it unfit for use. When it has reached the chocolate colour it can be easily detected by scraping a little from the bark, from which it readily peels off. At this stage the difference can be noted from the brown appearance of the wood made with the green-fly ravages. If left through the winter the spores drop off to the soil underneath, and there remain for long periods. Spraying with sulphide of potassium is not much use, for the spore is coated with a hard substance, and this strong wash will not penetrate the skin. To combat the disease Mr. Gough advised cutting off all the tips of infected growth and all infected fruit, consigning both to the fire. This should be done by October 31 at the latest. This procedure will prevent the spores falling to the soil for its resting period. The use of nitrogenous manures is not to be recommended because of their favouring the development of succulent growth. A dressing of slaked lime on the surface soil applied in April will be beneficial.

A few exhibits were staged by members and greatly appreciated. Mr. W. Tyrrell showed half a dozen parsnips; Mr. A. Edward, hyacinths, tulips, and narcissus, growing in moss fibre; well-flowered sprays of Prunus Pissardi, showing the early season, were staged by Mr. F. W. Moore; and 29 tubers of Midlothian Early potatoes, comprising the yield from one tuber, were exhibited by Mr. H. Bridge.

NEW BOOKS.

AMATEUR GARDENING ANNUAL AND YEAR BOOK, 1913.

Edited by T. W. Sanders, F.L.S. (Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London, E.C.) Price 1s. net.

The new edition of this annual forms a work abounding in interest and of great practical value to amateur gardeners of all classes. A special feature is made of the work in the garden, greenhouse, and home during each month of the year, and deservedly so, for the article dealing with it is so arranged as to render immense assistance to its readers in carrying out the many details that require attention in the several departments. Each month is divided into two sections, one of which is devoted to the work that has to be done in southern gardens and the other to that which will require attention in the gardens of those resident in the northern counties. This arrangement is a considerable improvement upon that in which there is no differentiation in the requirements of southern and northern cultivators. In addition to this important feature there are special articles on various subjects, prominent among them being those on "Hardy and Half-hardy Annuals," "Planting of Hardy Herbaceous Borders," "Formation and Planting of Rockeries," and "How to Manage a Greenhouse."

The Annual is profusely illustrated, and the illustrations are throughout of so high an order of merit as to render it not less remarkable for its attractiveness than for its utility as a comprehensive guide to the garden.

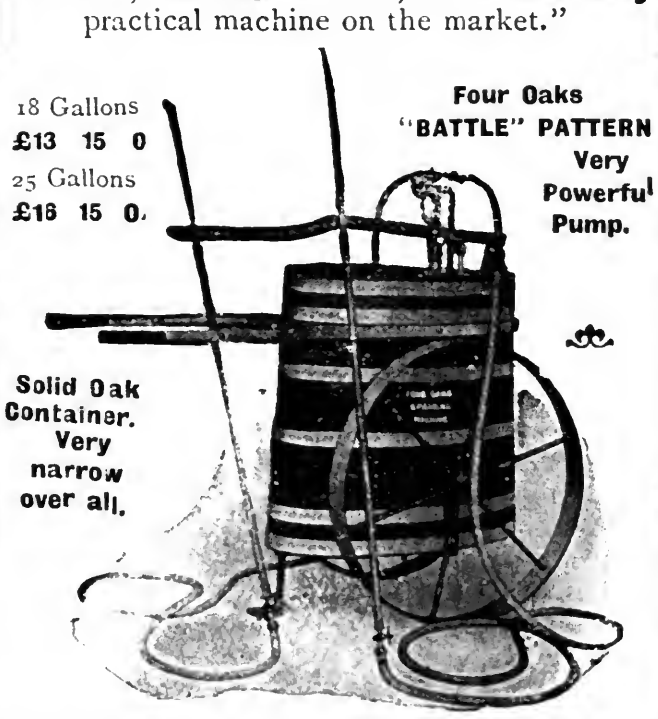
THE HORTICULTURAL DIRECTORY, 1913.

Journal of Horticulture," Essex Street, Strand, W.C. Price 1s.

The new edition of this work fully maintains the traditions which have become associated with it during the past fifty-four years, and should receive a welcome not less warm than in the previous years. So well known and highly appreciated are the merits of the publication that there is no occasion for us to write of it at length, or indulge in praise. Suffice to say that it amply fulfils its title, and, as a directory of all that relates to horticulture, is as complete and satisfactory as could be desired. Therefore it should be regarded as essential to all who are interested in the various horticultural activities.

Spraying.

One of England's leading Fruit Growers says: "I consider the 'Four Oaks' Spraying Machine, **'Battle'** Pattern, to be **the only** practical machine on the market."



Complete Catalogues of Spraying and Limewashing Machines and Syringes of every description free on application to the Sole Manufacturers:-**THE FOUR OAKS SPRAYING MACHINE CO., No. 3C, Sutton Coldfield.**

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

CŒLOGYNE CRISTATA.—C. W., Stockton: I have a few pans of Cœlogyne cristata, and the plants have flowered very freely. The roundish pseudo-bulbs fill the pans, and it seems that potting would be desirable. Would you advise potting; and, if so, when should the work be done?—When cœlogynes need repotting the work should be done quite soon after the flowers have faded, as new growth and new roots at once commence. C. cristata does not care for frequent root disturbance; therefore it should be so potted that there is room for development for a couple of seasons Where many plants are grown it is usual to pot half the number each year. Pans are preferable to pots, as C. cristata is of creeping habit, and is not deep rooting. Use live sphagnum and peat or osmunda fibre in about equal proportions with a little broken charcoal and sand. Ensure free drainage and press the compost firmly about the roots.

CHIVES.—B. M. B., Shrewsbury: What is the best time of year to move and replant chives? We have a very small patch, but the leaves were so much appreciated last year for flavouring that we propose to increase our stock if that is possible from what we have at present.—It is usual to increase the stock of chives by division of the clusters either in autumn or spring. You should lift and divide your plants directly weather permits, placing the bulbs six inches apart in rows a foot apart. A piece of fairly good ground should be chosen, but the plantation should be rather narrow, so that the leaves may be gathered from either side.

DIPLOMA IN HORTICULTURE. — W. B. M., Dorset: Appreciating the importance of gardeners doing all that is within their power to raise the status of the members of the gardening craft, I was very pleased to learn from the pages of the GARDENERS' MAGAZINE that the Royal Horticultural Society are about to take steps to confer the distinction of a National Diploma in Horticulture upon gardeners. As I should like to obtain the diploma I shall be much obliged by your informing me what I must do to qualify myself.—The scheme under which the diploma will be granted has not yet been prepared and published, but it will be granted on the results of an examination in the practice and science of horticulture. We have reason to believe that two examinations will have to be passed, the preliminary, the first of which will be held in 1914, and the final to be held about twelve months later. It is intended to hold the examination in three centres, and this will include written papers, viva voce questions, and practical work, the last-named to be done in a selected nursery. The examination will be open only to those who have had not less than seven years' experience in gardening. As you will readily understand, a thorough acquaintance with the practical work of the garden will be essential to success; and a full knowledge of botany, chemistry, entomology, fungology, and geology, in relation to the work of the garden, will, it may be assumed, be not less necessary. It will be well to wait until the syllabus is issued before preparing a systematic course of work, but you should at once proceed with the study of the several subjects mentioned. It may be well for you to enter for the ordinary examination in horticulture that will, as usual, be held by the Royal Horticultural Society this year, for not until you have passed that can you hope to pass the preliminary for the diploma. The ordinary examination will not only be useful in testing your knowledge, but the experience gained will give you greater confidence when you have to deal with more advanced questions.

LYCHNIS CHALCEDONICA.—A. M. E., Dorchester: I have been told that there are double-flowered varieties of Lychnis chalcedonica; please tell me if this is correct, and whether such double sorts are worth growing. —The well-known Lychnis chalcedonica, with its dense heads of scarlet blooms, is represented in gardens by at least two double forms, one scarlet and one white. These double varieties should be obtained, and planted at the end of March or in early April. They are not so robust as the type, but if planted in rich, loamy, and well-drained soil they will make good clumps provided they are left undisturbed for a couple of years. Propagation is by division in autumn or spring. These double forms are well worth growing, especially if you are interested in herbaceous plants.

MOLASSINE MEAL AND MANURE.—A correspondent, who has had a complete failure with mushrooms, although following methods previously successful, wishes to know whether the failure is in any degree due to the fact that the droppings used for the mushroom-bed were from horses fed with Molassine meal. We should say the failure is due to some other cause, but shall be very glad if any of our readers can enlighten our correspondent on this matter.

MUSA ENSETE FOR SUMMER EFFECT.—R. G. D., Tunbridge: We have had a root of Musa Ensete given us, and it seems as though two growths are likely to start therefrom. What is the best way to proceed with it for the purpose of securing good plants that will be effective in the garden during the summer?—You are probably fully aware of the means whereby cannas, started now, can be grown successfully; the culture of Musa Ensete may follow on similar lines. Afford moist heat and rich soil; if two growths start carefully separate them, and pot each separately. Allow plenty of room, feed liberally when the plants are growing freely in their final pots or tubs, and gradually harden off in May, so that plants may be put out of doors with safety early in June.

LAYERING OR RINGING FIGS.—A. B., Bradford.—I wish to take layers from a bush fig tree, by bringing branches through pots, my idea being to cut these from the parent bush below the pot, in the autumn. Kindly advise me how and where to cut the buried portion of the stem, to encourage rooting.—If a cut is made fairly deep in one side of the stem, to form a tongue, as in ordinary layering, and a piece of stone is placed so as to prevent the tongue from touching and growing on to the main portion, roots will be formed. The cut should be made at a point that will come rather more than half-way up the pot. Two tongue-like cuts, on opposite sides, one two inches below the other, would probably be an improvement. Write and tell us how many "layers" you make, and how many good plants result.

SPECIES OF ARAUCARIA.—P. G. H., Wigtown: Will you please tell me how many species of araucaria there are in cultivation? Discussing the matter the other day with a friend we could only think of three, i.e., A. excelsa, A. imbricata, and A. Bidwilli.—There are not very many species of araucaria, and beyond A. imbricata and A. excelsa, few are in cultivation outside botanic gardens, and special collections of coniferous trees. The chief species, all in cultivation at Kew, are A. Balansæ, from New Caledonia; A. Bidwilli, the Queensland "Bunya-Bunya"; A. brasiliana, from the mountains of Southern Brazil; A. Cooki, a New Caledonian species; A. Cunninghami, the Moreton Bay Pine, from Queensland; A. excelsa, the Norfolk Island Pine; A. imbricata, the popular Monkey Puzzle; and A. Rulei, from New Caledonia. There are a number of very distinct forms of A. excelsa, and several of these are of recent introduction.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

E. T., Wolverhampton.—1, Nuttalia cerasiformis; 2, Ruscus aculeatus; 3, Pinus Coulteri; 4, Saxifraga apiculata.

S. E. B., Norwich.—1, Odontoglossum triumphans; 2, Dendrobium Pierardi; 3, Phaius grandifolius; 4, Tillandsia Lindeni.

H. W. C., Chingford.—1, Prunus divaricata; 2, Sempervivum arachnoideum; 3, probably S. flagelliformis, send when in flower.

C. R., Chepstow: 1, Saxifraga sancta; 2, Adiantum tenerum; 3, Davallia polyantha; 4, Selaginella Mertensi variegata; 5, Garrya elliptica.

NEWS FROM HEADQUARTERS.

"THE BIG FOUR."

One's bank balance would rapidly vanish if the amount withdrawn were not periodically replenished.

That fact everyone recognises.

Yet how apt the amateur gardener is to forget that the same is true of sustenance for ever being steadily drawn from the soil by plant life!

The nourishment yielded by the soil is no more inexhaustible than the funds in one's bank. Unless the heavy withdrawals be periodically replaced we can expect nothing but weakly plants that fall easy prey to late frosts, prolonged droughts, blights, and disease. It is fruitless spending money on seeds and bulbs unless this elementary law of nature be obeyed.

There are FOUR BIG DEBTS we must pay back to the land in return for her bounty. These — "The Big Four" — are Lime, Phosphoric Acid, Nitrogen, and Potash.

Lime we place first and foremost because soil that is deficient in this element becomes sour, stagnant, and unresponsive to any other fertiliser. At least 90 per cent. of failures in cultivation, one eminent authority declares, is attributable to a deficiency of lime.

It is phosphoric acid that supplies the strength and stamina without which the plant cannot make its great effort in producing perfect fruit.

Nitrogen is responsible for the growth and foliage of the plant; when it is deficient the crops are backward, stunted, of yellow foliage, and quickly attract vermin.

Insufficient potash results in poor, hard, and tasteless fruit and vegetables.

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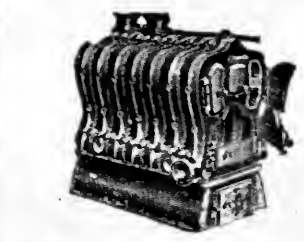

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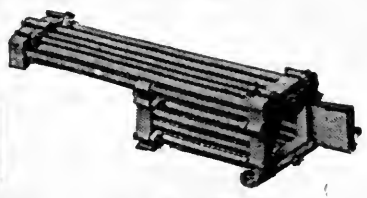

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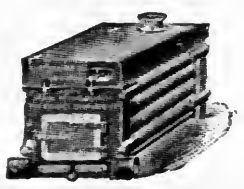

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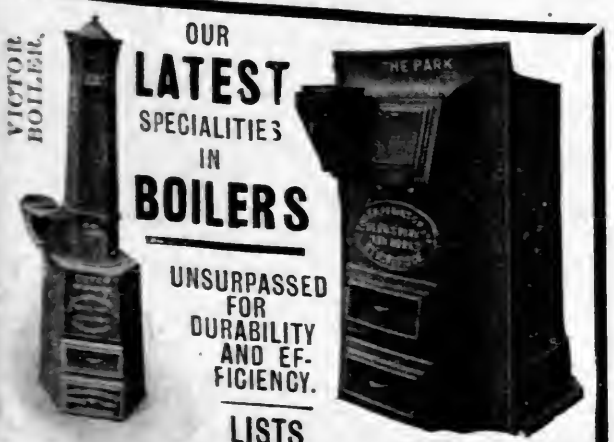

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MARKETS.

COVENT GARDEN.

Flowers.

Trade is steady, and there are ample supplies to meet the demand. Daffodils are in great force.

		s.	d.		s.	d.
Acacia	per bun.	0	6	to 1	0	
Anemones	per doz. bun.	2	6	3	0	
Arums	per doz.	2	0	4	0	
Adiantum cuneatum	per doz. bun.	4	0	6	0	
Asparagus plumosus	per doz. bun.	8	0	16	0	
,, Sprengeri	per doz. bun.	8	0	12	0	
Azalea	per doz. bun.	4	0	5	0	
Bouvardia	per doz. bun.	5	0	8	0	
Camellias	per doz.	1	6	2	6	
Carnations	per doz.	1	6	3	0	
,,	per doz. bun.	10	0	18	0	
,, Malmaison	per doz.	10	0	15	0	
Cattleyas	per doz.	9	0	15	0	
Chrysanthemums	per doz. bun.	8	0	12	0	
,,	per doz. blooms	1	6	4	0	
Croton leaves	per bun.	1	0	1	6	
Cypripediums	per doz.	2	0	3	0	
Daffodils	per doz. bun	1	6	4	0	
Eucharis	per doz.	2	0	3	0	
Freesias	per doz. bun.	2	0	3	0	
French fern	per doz. bun.	2	6	4	0	
Gardenias	per doz.	3	0	5	0	
Lapageria	per doz.	2	0	2	6	
Lilac	per bunch	3	0	6	0	
Lilium auratum	per bun.	2	0	5	0	
,, speciosum	per doz.	2	0	2	6	
,, longiflorum	per doz.	2	0	3	0	
Lily of the Valley	per doz. bun.	6	0	15	0	
Marguerites	per doz. bun.	2	6	4	0	
Mignonette	per doz. bun.	3	0	5	0	
Odontoglossums	per doz. blms.	3	0	5	0	
Pelargoniums	per doz. bun.	4	0	8	6	
Roman Hyacinths	per doz. bun.	6	0	12	0	
Roses	per doz.	2	0	8	0	
Smilax	per doz. trails	2	0	3	0	
Spiræa	per doz. bun.	5	0	7	0	
Tulips	per doz. bun.	5	0	12	0	
Violets	per doz. bun.	1	6	4	0	

Fruits.

The market is well supplied for the season, and trade is fairly good.

		s.	d.		s.	d.
Apples, English	per bush.	4	6	to 7	0	
,, American	per bar.	11	0	25	0	
,, Californian	per box	4	6	8	6	
,, Nova Scotian	per bar	16	6	25	0	
Apricots, Cape	per box	9	0	12	0	
Bananas, Canary	per bar.	7	0	10	6	
,, Jamaica	per bun.	3	0	5	6	
Cobnuts	per doz. lbs.	3	6	5	0	
Cocoanuts	per 100	18	0	23	0	
Cranberries	per case	8	0	9	0	
Dates	per doz. boxes	2	9	3	6	
Figs	per box	0	9	1	6	
Grapes, English	per lb.	1	0	8	0	
,, Almeria	per barrel	14	0	21	0	
,, Lisbon	per case	7	0	8	0	
Lemons	per case	7	0	28	0	
Medlars	per crate	4	0	5	0	
Oranges	per case	10	0	28	0	
,, California	per box	11	0	12	0	
,, Jamaica	per case	4	0	8	0	
Peaches, Cape	per box	5	0	15	0	
Pears	per ½-bush	2	0	4	0	
,, Cape	per box	5	0	7	0	
,, French	per box	2	0	5	0	
,, Californian	per case	8	0	16	0	
Pineapples		2	6	5	0	

Vegetables.

Business continues brisk, but prices are firmer.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	0	to 3	0	
,, Ground	per bush.	3	0	4	0	
Asparagus, Paris	per bun.	3	0	4	6	
Beet	per bush.	1	6	2	6	
Brussels Sprouts	per ½-bush.	1	0	2	0	
Cabbage	per tally	2	0	3	0	
Carrots	per doz. bun.	2	0	2	6	
Cauliflowers	per tally	6	0	10	0	
,, Cornish	per crate	3	0	4	6	
Celery	per doz. bun.	9	0	16	0	
Celeriac	per doz.	1	0	3	0	
Cucumbers	per flat	7	0	9	0	
Endive	per doz.	1	0	2	0	
Horseradish	per doz. bun.	10	0	12	0	
Leeks	per doz. bun.	1	0	2	0	
Lettuce	per doz.	1	0	2	0	
,, French	per crate	2	0	3	6	
Mushrooms	per doz. lbs.	6	0	10	0	
Onions	per bush.	2	0	3	0	
,, Spanish	per case	4	6	6	0	
Parsley	per doz. bun.	2	0	3	0	
Parsnips	per bush.	2	0	3	0	
Peas, French	per pad	4	0	6	0	
Radishes	per doz. bun.	1	0	1	6	
Rhubarb	per doz. bun.	0	10	3	0	
Savoys	per tally	2	6	4	0	
Seakale	per doz. bun.	8	0	15	0	
Spinach	per ½-bush.	2	0	3	0	

LONDON POTATO MARKETS.

Supplies are fairly large, and prices have a downward tendency.

		s.	d.		s.	d.
Bedfords	per ton	85	0	to 90	0	
Kents	per ton	85	0	95	0	
Lincoln	per ton	80	0	95	0	
Blacklands	per ton	70	0	80	0	
Scotch	per ton	80	0	95	0	
Dunbars	per ton	100	0	110	0	
German	per ton	75	0	95	0	
Belgian	per ton	70	0	85	0	
Dutch	per ton	60	0	70	0	

CATALOGUES RECEIVED.

HERD BROTHERS, PENRITH.—A wide range of subjects is listed in this catalogue.

JOHN PEED AND SONS, WEST NORWOOD.—An extensive seed list, freely illustrated, and well arranged.

CHARLES TURNER, SLOUGH.—A larger catalogue than usual; flower seeds are especially well listed, and a feature is made of collections.

W. W. JOHNSON AND SON, BOSTON.—A concise retail list of vegetable and flower seeds; seed potatoes and sweet peas are leading features.

HARRISON AND SONS, LEICESTER.—The wholesale list of vegetable and flower seeds issued by this Midland firm is very interesting, and it is nicely illustrated.

C. ENGELMANN, SAFFRON WALDEN.—An illustrated price list of perpetual-flowering carnations; specimen blooms, vases of flowers, and houses of plants are depicted.

RYDER AND SON, LIM., ST. ALBANS.—A wonderful catalogue of seeds, all in penny packets, and ranging from mustard and cress to orchids. Over 9,000 kinds and varieties of seeds are listed.

ROBERT SYDENHAM, LIMITED, TENBY STREET, BIRMINGHAM.—A compact pocket catalogue of seeds, containing a severe selection of varieties of vegetables and flowers. A coloured plate of sweet peas is included.

W. DRUMMOND AND SONS, DAWSON STREET, DUBLIN.—Plants, bulbs for spring planting, as well as sundries, and an extended list of flower and vegetable seeds is included in this freely-illustrated catalogue.

SUTTON AND SONS, READING.—Under the title of "Farmers' Year Book and Graziers' Manual," the Reading firm has issued a most interesting catalogue of farm seeds. Root crops and grasses receive very special attention, and the illustrations are excellent.

DICKSON AND ROBINSON, MANCHESTER.—A catalogue without an introduction; in other words, it has no preface, but opens at "Peas," and follows on with a rare selection of flowers, fruits, and vegetables derivable from seeds. There are plenty of illustrations, and a select number of meritorious novelties are listed.

BARR and SONS, COVENT GARDEN.—It is a pleasure to peruse this catalogue because, by virtue of its alphabetical arrangement, everything can be found easily. Novelties and specialities, lists of popular English names of flowers, of sundries, and of gardening books are included, as well as cultural notes, and the whole book is of handy form and size.

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
1913. February 9 to February 15.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 9—Sunday	—	47	46	51	41
,, 10—Monday	2 12	44	43	54	41
,, 11—Tuesday	6 18	31	31	55	30
,, 12—Wednesday	—	32	32	44	31
,, 13—Thursday	0 24	36	36	44	32
,, 14—Friday	—	32	32	39	30
,, 15—Saturday	—	35	36	39	32
Means	(total) 8 54	37	36	46	34

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
1913 February 9 to February 15.	ins.	deg.	deg.	deg.	deg.
Feb. 9—Sunday	0·16	43	43	44	34
,, 10—Monday	—	44	43	44	36
,, 11 Tuesday	—	42	43	45	21
,, 12—Wednesday	—	41	43	45	25
,, 13—Thursday	—	42	42	45	31
,, 14—Friday	—	40	42	44	20
,, 15 Saturday	0·05	41	42	44	29
Means	(total) 0·21	42	42	44	28

FORTHCOMING ENGAGEMENTS.

THURSDAY, February 20.—Linnean Society meets.

FRIDAY, February 28.—Beckenham Horticultural Society, Lecture.

TUESDAY, March 4.—Royal Horticultural Society: Narcissus Committee meets at 11.30; Fruit, Floral, and Orchid Committee at 12 o'clock; Lecture at 3 p.m. on "The Spring Flower Garden," by Mr. W. H. Divers, V.M.H.; Scientific Committee at 4 o'clock.

Royal Horticultural Society's Show of Forced Spring Bulbs—two days.

Horticultural Club, Monthly Dinner and Conversazione, at Hotel Windsor, 6 o'clock.

Scottish Horticultural Association.

WEDNESDAY, March 5.—Royal Horticultural Society's Show of Forced Spring Bulbs; second day.

THURSDAY, March 6.—Linnean Society Meeting.

MONDAY, March 10.—United Horticultural Benefit and Provident Society.

TUESDAY, March 11. Surbiton Spring Show.

WEDNESDAY, March 12.—Clevedon Spring Show.

North of England Horticultural Society's Spring Show, at Bradford.

THURSDAY, March 13.—Torquay Spring Show.

TUESDAY, March 18.—Royal Horticultural Society: Narcissus Committee meets at 11.30 a.m.; Fruit, Vegetable, and Floral Committees at 12 o'clock; Lecture at 3 p.m. on "The Romance of Weeds," by Mr. R. Lloyd Praeger, B.A.; Scientific Committee at 4 o'clock.

SATURDAY, March 29.—Paisley Spring Show.

VOL. LVI.—No. 3,096. SATURDAY, MARCH 1, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

"Garden" Varieties.

Although the publications of the British Pteridological Society, now extending through some nineteen years, and still more the articles contributed for a still longer period to these pages, have done much to enlighten the public with regard to the origin of the now innumerable beautiful varietal forms of our native ferns, we still find constantly cropping up the term "garden forms," as applied to them. Although this is better than the more ancient epithet of "monstrous," which implies that Nature had, as it were, made a mistake in creating them, it is still as erroneous and as misleading, and betrays as much ignorance of the real facts underlying their production. To deal with the term "monstrous" first of all we might quite as justifiably apply the term to all our most beautiful flowers, and fruits, and vegetation generally which do not conform to the strictly botanical specific forms of the wild plants. It is purely a question of degree of variation, and can only be justifiably applied to the innumerable instances where, for some reason or other, irregular deformation occurs, due sometimes to reversion, more or less partial as in the cases of the transformation of floral organs to the foliar forms from which they have been derived in the process of evolution, or by local interference with normal development, due to injury, insect influence, or other causes. Such properly "monstrous" departures from the normal are, however, as a rule, non-inheritable. They are not, as in the case of "sports" proper, part and parcel of a general change in the constitution of the organism, plant, or animal concerned, which change affects the seed or spore so that the new character appears regularly in the succeeding generations. There are exceptions, but they are very rare indeed. When, however, we find a thoroughbred variety or "sport," with its structure symmetrically altered throughout, so that it far exceeds the normal parent in beauty, and when the spores or seeds be sown, we acquire a generation showing precisely the same peculiarities, even though it be in different grades, it is surely a misnomer to apply the epithet "monstrous" thereto. When, however, as sometimes happens, a "sport" appears in which persistent structural defects occur so that, instead of a more beautiful plant, we obtain a persistently ugly and imperfect one, then, indeed, we may apply the term with justice, but only then. Coming now to the so-called "garden" varieties, under which category the choice ferns are erroneously classed, the "garden" has nothing whatever to do with their origin, nor has it acted in any way as an incentive to the production of the beauty we see, since quite probably it may have been found in even greater beauty, in the wild glen, wood, or other unsophisticated habitat in which it was originally discovered as a purely wild plant of Nature's unassisted production. True it is that, subsequent to its discovery, its spores may have been sown, and new generations been raised of even greater beauty, and that, instead of the original wild parent, we may be viewing in the garden one of the many of its descendants, but this makes no difference at all. In that wild plant, and under wild conditions, the potency was implanted of producing these subsequent wider developments, the garden itself has not, and does not, contribute anything thereto, though, of course, we have to thank the gardener, the selective cultivator, for his care in sowing and selecting. Even he, however, can do no more than profit by the "wild" potency alluded to; and the result which it affords him the capacity of obtaining. These considerations, therefore, show us that it is only in the case of hybrids and crosses specially effected by the cultivator that the term "garden form" is in any way properly applied, since the results attained are due to human interference with normal reproduction, and would not, and perhaps, could not, have been acquired without it. With the wild "sports," however, it had been practically proved that, if left in their original habitats, their scattered spores may produce improved types without any human aid whatever. The mere growth within the limits of a garden, might just as well justify the appellation of "garden" forms to the millions of normals grown under the same conditions, which would obviously be absurd.

MR. GEORGE P. MILN, J.P.

Mr. George Peddie Miln, J.P., recently appointed a magistrate for the city of Chester, is widely known in commercial circles by reason of his long connection with Messrs. Dicksons, Lim., of Chester and his present position as managing director of Messrs. Gartons, Lim., of Warrington. He has devoted his attention chiefly to seed production, and has achieved considerable success in the improvement of cereals and grasses by cross-fertilisation and selection. Natural science has always claimed his devotion, but botany has been his particular hobby, and the Order Gramineæ his special study for many years. For a long period he was hon. secretary of the Chester Natural Science Society, and held the office of president for three years, and in this connection he was awarded the Charles Kingsley Memorial Medal in 1905 "for having contributed to some branch or department of natural science." He has been instrumental in establishing prizes for Nature study for the scholars of the city and district, and by his energy and influence he

has made the Chester Paxton Society a great power for good in the directions of practical and scientific horticulture. As hon. secretary and treasurer of this society he has come prominently before the gardeners, amateur and professional, of Chester and he is greatly loved and admired for his work's sake, so much so that in 1908 the Paxton Society pleasingly recognised his valuable services by presenting him with its gold medal. To the Bench of magistrates at Chester Mr. Miln will prove a wise and welcome addition, and he is to be congratulated upon the honour conferred upon him.

Research Work in Forest Products.—A paper on the development of research work in forest products will be read by Mr. E. Russell Burdon, M.A., Investigator in Timber, Forestry School, Cambridge, at the meeting of the Royal Society of Arts on Wednesday next, March 5, commencing at eight p.m. Lieut.-Col. Sir David Prain, C.M.G., F.R.S., V.M.H., will preside.

Kew Tea Pavilion Destroyed by Fire.—Shortly after 3 a.m. on Thursday, February 20, the popular Tea Pavilion at the Royal Gardens, Kew, was found to be on fire, and, though the local and Richmond fire brigades were soon on the spot, it was impossible to save the building, and very soon all that remained of the rustic creeper-clad tea house was a few erect, charred posts, and a heap of ashes. The fire is believed to be the work of militant supporters of woman's suffrage. Two women discovered running across the Old Deer Park at the Richmond end of the Gardens were captured, and in a bag thrown away by one of them tow and paper covered with tar were found. These women were charged at Richmond with setting fire to the building, and were remanded in custody, but we understand one has since been released because of ill-health. The Tea Pavilion is closed during the winter months, and had been opened the previous Sunday afternoon for the first time this year. The total damage done is estimated at about £1,000. The Pavilion is public property, i.e., it is part of the establishment, but it contained a large amount of material belonging to the caterers. Besides the loss of Government and caterer's property, there is the loss sustained by the waitresses thrown out of employment, a loss which probably did not occur to those responsible for it.

Horticultural Club.—The monthly house dinner will take place at the Hotel Windsor, Victoria Street, Westminster, on Tuesday next, March 4, at 6.30 p.m., when Mr. Edward A. Bunyard will talk about "The Introduction and Development of Some of Our Hardy Fruits," illustrating his remarks with lantern slides.

Pruning and Planting Fruit Trees.—In a lecture given at the Royal Institution on the 21st ult., Mr. Spencer Pickering, F.R.S., stated that the investigations at the Woburn Experimental Fruit Farm showed that the well-being of a tree depended on the balance between roots and branches, both of which supplied certain, but different, elements necessary for growth. It did not matter at what period of the year the annual pruning of a tree took place, so long as it was not done while the tree was in actual growth. A good deal could be said, however, as to the extent of the pruning, but it was established as a fundamental principle that the less pruning there was the more would a tree grow, and the more fruit would it bear. With regard to planting fruit trees when received from the nursery, Mr. Pickering said it could make little or no difference to the future welfare of the tree whether the ends of the old roots were trimmed, or left jagged and torn, nor whether these roots were carefully spread out, instead of being huddled into the hole prepared for them; for it was the new rootlets which were to be formed, and not the old ones, on which the future life of the tree depended. Even when the roots were twisted and tied together in a bundle the tree did just as well as when they were spread out in accordance with the general practice. All the anomalous results which had been obtained on the subject of planting were easily explained by, and were the material consequences of, the fact that a tree when transplanted had to form a new root system before it could begin to grow again, and if this were but kept in view the whole subject became simplified, and the reason became evident why many of the practices supposed to be essential to the proper planting of a tree did not bear the test of actual experiment.

Adviser in Forestry at Cambridge. — Mr. C. Hankin, forester to Earl Cadogan, has been appointed adviser in forestry to the Cambridge University. He will be associated with the Reader in Forestry, under whose responsibility all working plans and proposals of a general nature will be issued.

Kew Bulletin.—The recent issue of this publication is of quite exceptional interest. The more important of the contributions to its pages are the "Notes on some Species of Acalypha," which occupy twenty-seven pages, the descriptions of new orchids, and a communication from Mr. J. B. Davy, the Government Botanist of South Africa relating to "Teff" (Eragrostis abysinica), a grass which has proved of much value as a fodder plant. Seed of teff was obtained from Abysinnia in 1886 by the Royal Botanic Gardens, Kew, and was distributed to the botanic gardens and some other institutions in India and the Colonies. This grass is of annual duration, attains a height ranging from two to four feet, and makes so rapid a growth as to mature in seven or eight weeks. Its drought-resisting properties, combined with high nutritive value, have rendered it especially useful in South Africa.

The Kew Guild Journal for 1913 has just reached us. It is the twentieth issue. How time flies! It is full of interest to Old Kewites, and, indeed, of great interest to other horticulturists who know and appreciate the work of Kew and of Kew men the world over. The frontispiece is a fine portrait of Mr. William Goldring, an old Kewite famous in three-quarters of the globe as a landscape gardener. As usual, the Kew notes and the letters from Kew men in distant lands are excellent and entertaining reading, as well as descriptive and instructive; the letters are from Papua, Portugese East Africa, Philadelphia, Singapore, St. Vincent, Kuala Lumpur, etc. The list at the end of the "Journal," showing the geographical distribution of Old Kewites and the positions they occupy, is at once an "eye-opener" and a fine record that any institution might be proud of.

Spread of American Gooseberry Mildew in Kent.—A report on the extension of the American Gooseberry Mildew in Kent was presented to the County Council at its meeting on the 19th ult. by the Diseases Committee. The report states that there is now a total infected area of 3,353 acres, and that the unsatisfactory feature with regard to this disease is the great difficulty which the inspectors have in inducing growers to comply with their notices requiring them to cut out the diseased shoots within a prescribed time. Many of these notices expired on October 31 last, it being important that the work should be done early so that the ground would not become reinfected by the falling spores. At the date, however, of the inspector's report (January 14) the work on no less than 1,586 acres was still unfinished, plantations of that extent being still in a condition which could not be passed as satisfactory. The Board of Agriculture is considering whether they should not themselves take action in some of these cases, and has asked that the local inspectors may, if necessary, be allowed to assist the Board with their evidence. To this the committee have assented.

Mr. Augustine Henry, who has during the past six years occupied the position of Reader of Forestry at the Cambridge University, has been appointed Professor of Forestry in the Royal College of Science, Dublin. Mr. Henry is the first Professor of Forestry at the College.

Additions to the Kew Arboretum.—As has been the case now for some years past, the most noteworthy additions to the hardy ligneous collections during 1912 have been of Chinese origin. These, we learn from the "Kew Bulletin," have been presented by the Arnold Arboretum, Mr. J. C. Williams of Caerhays, Messrs. Veitch, Mr. Maurice L. de Vilmorin, and the Hon. Vicary Gibbs. Most of the plants are still under number, and to those of Mr. Wilson's collecting are now being added the results of the journeys of Messrs. Purdom and Forrest. Mr. Forrest is still in, or on the borders of, China. A very charming dwarf rhododendron of his introduction, R. fastigiatum, Franchet, flowered during the year; a species resembling R. intricatum in leaf and in colour of flower but very distinct in the long exserted stamens. It is interesting to note that both at Kew and with Mr. J. C. Williams it flowered when only a few inches high and within seventeen months of sowing the seed—a remarkably short period compared with that taken by most seedling rhododendrons. From Canon Ellacombe have been received several plants of great interest, especially old-fashioned roses of which he has so fine a collection. The Earl of Ducie sent seeds of Fagus obliqua, which germinated well, and various plants have been received from Miss Ellen Willmott, Sir John Ross of Bladensburg, and Lady Hanbury, La Mortola.

Border Carnations.—In our issue of the 8th inst. we shall make a special feature of border carnations, and the articles on these fragrant flowers will chiefly have reference to spring planting and other cultural details requiring attention at this season of the year. Illustrations will be given of several of the finest varieties of recent introduction.

Visit of the Gardeners' Company to Belgium.—In our issue of February 22 we stated that the Gardeners' Company had decided to make a visit to Belgium in the course of next summer. We now learn from the "City Press" that the members of the Company taking part in the visit will leave London on June 2 and return on June 9. In addition to the study of horticulture, the members will take an official part in the International Agricultural Congress at Ghent. The secretary of the Board of Agriculture and the head of the agricultural branch of that authority are to be invited to accompany the deputation as guests of the Company. The itinerary will include an inspection of the nurseries of Messrs. Sander and Sons, at Bruges, the School of Arboriculture near Bruges, the vines at Hoeyleart, the private gardens of M. Firmin Lambeau and M. Dietrich, the School of Horticulture at

Vilverde, the gardens at Malines, the orchid houses of M. C. Vuylesteke, and the nurseries of MM. De Smet freres, near Ghent. The World's Fair at Ghent will also be visited. It is expected that the deputation, M. F. Lambeau, and M. Dietrich, the School of Horticulture, and the delegates attending the Agricultural Congress will be among the company invited to a reception by the King of the Belgians at his Palace at Laeken.

Jobbing Gardeners' Wages at Edinburgh.—At a meeting of employers in the nursery, garden, and florist trade, recently held at the Lauriston Hall, Edinburgh, it was unanimously resolved to increase the charges for jobbing gardeners. The principal speaker at the meeting said that, not only were the charges, so far as the employer was concerned, too small, but the employees were much underpaid. After some discussion, it was unanimously resolved, on the motion of the Chairman, to fix the jobbing rates, as from March 31, at 8d. per hour to the master and a minimum wage of 6d. per hour to the employee. It was also decided to form a trade association to be called The Edinburgh and Suburbs Nurserymen, Gardeners' and Florists' Association.

Concert for the Gardeners' Royal Benevolent Institution.—The Committee of the Liverpool Auxiliary of the Gardeners' Royal Benevolent Institution has arranged for their annual smoking concert in aid of the funds of the Institution to take place on March 8, at the Bear's Paw, Liverpool. Mr. R. G. Waterman, Woolton, is the hon. secretary.

Protecting Young Conifers from Frost.—In the issue of the "Transactions" of the Royal Scottish Arboricultural Society reference is made to the utility of alders and birches in protecting young coniferous trees from frost. The alder grows rapidly, and the side branches afford protection to the conifers from frost in winter and the scorching rays of the sun in summer; this benefit is proved by the healthy, dark-green appearance of the young trees, and by the rapid growth which they make after they are once fairly established. Mention is made of the results obtained on a plantation where spruce and larch are mixed with hardwoods, on the outside of the plot, while the wet, low-lying centre of the plot is planted with spruce mixed with alder. The alders are about 12ft. apart, and have proved a splendid protection, for a frost at the end of April, which scorched dozens of spruce on the outside of the wood, left unharmed the trees mixed with alder.

Cottage Gardening in Scotland.—In order to promote an interest in practical cottage gardening, the Board of Agriculture is appealing to the teachers in the rural parts of Scotland to help in this matter. The Board is now prepared to supply free of charge for use in the teacher's garden a collection of flower and vegetable seeds, bulbs, herbaceous plants, trees, bushes, etc., to the value of £1, on condition (1) that the older pupils in the school receive practical instruction in gardening from the plots and be encouraged to apply such instruction at their own homes; and (2) that the condition of the plots, etc., and the pupils' progress in gardening be, if practicable, subject to such tests or reports as the Education Department may require. The Board of Agriculture will welcome at the end of the session a short report by the teacher showing the effect of the instruction on the home circumstances of the pupils. The officials of the North and West of Scotland Colleges of Agriculture are desirous of assisting in the development of school gardening in Scotland, and are prepared to advise as to the formation of school gardens, and, on invitation, will give personal assistance with the work.

The "Perfect" Lady Gardener.—A short time since the daily Press gave a great deal of attention to Miss Elsie Scheel, of Brooklyn, describing her as the perfect woman, because her bodily measurements were considered to be in perfect proportion. What we were not told was that Miss Scheel is a horticultural student at Cornell University. We rather expected to find the "perfect woman" was a lady gardener, and we understand she is taking the horticultural course at Cornell, so that presently she may assist her father, who has a farm at Long Island.

Spraying Potatoes.—In the two reports recently published by the Agricultural College, Bangor, some interesting particulars are given of the results obtained in the use of Bordeaux mixture as a preventive of potato disease. It is stated that the Bordeaux mixture, with which the potato crop was dressed, was prepared with 24lb. sulphate of copper and 30lb. pure washing soda dissolved in 120 gallons of water, per acre, and this was applied to two plots in the first half of July. To one of them a second application was made, and another plot was sprayed in the second half of the month, the object being to compare the effects of early and late spraying, and double spraying with single applications. The results last year did not differ materially from those of the four preceding seasons. The yield of marketable potatoes was not much more than half that in 1911, but the relative returns from the sprayed plots, as compared with the unsprayed plots, were about the same. The evidence of the five years shows that there was a gain of nearly one ton per acre from early spraying, of nearly two tons from two dressings, and of nearly 1½ tons from late spraying.

Mutation of Œnotheras.—At a recent meeting of the Linnean Society Dr. R. R. Gates called attention to mutating œnotheras, and referred to the following facts and views relating to mutation as an evolutionary factor: (1) Œnothera Lamarckiana has probably undergone crossing in the wild state to the same extent as other open pollinated species intercross. (2) The mutation phenomena are evidence of germinal instability resulting from crossing, change of climate, or cultivation. (3) Hybrid splitting is inadequate to account for the forms which suddenly appear. (4) Some of the mutants differ from the parent in their physiological adjustments, and this may account for cases of "climatic adaptation." (5) O. rubricalyx has originated as a heterozygous mutant, but there are obvious difficulties in applying the same explanation to the other mutants of the genus. (6) The origin of certain of the mutations, at least (e.g., O. lata, O. gigas), is intimately concerned with chromosome mechanisms; that of certain others may be concerned with the action of releasing stimuli. (7) Darwinian natural selection always assumed an original environmental change for the organism, either (a) a change of climate in a given area, or (b) the introduction of new organisms, leading to the gradual modification of the species. (8) But neither chance-wise mutations in all directions, nor the vicissitudes of changing climates and distributions can account for the orderly phylogenies which larger groups of organisms frequently show. (9) There is no single evolutionary factor, but the process is a multifarious one.

FINE FOLIAGED BEDDING PLANTS FROM SEED.

It is not to a special class of plants that this article is directed, but to those that possess leaves of a beautiful or attractive nature, and may be considered suitable for bedding purposes. Within the last few years many subjects have been introduced to this class of decorative planting, and by their use the beauties of our gardens and parks have been very considerably enhanced.

As there are very many plants that cannot find a place in the space at disposal, it is intended to give a brief list only of those kinds that are easily raised from seeds, and a place for which may be found in most gardens, great or small.

Among plants with grey or light-coloured foliage, the centaureas and cinerarias take a foremost place. These always give a softening touch, and help tone down other plants of brighter hues and colours. Centaurea candidissima, C. gymnocarpa, Cineraria, acanthifolia, and C. maritima are invaluable for bedding purposes. Seeds of these may be sown any time during February or early March in gentle heat, and the plants kept growing steadily until required in May or June.

Cannas and ricinus, in their respective varieties, are attractive, and very effective where a bold display of foliage is desired. Seeds of the former should be sown during January or February in brisk heat, and by generous treatment large and useful plants may be secured by the end of May or the early part of June. These plants may be used year after year, if the roots are stored safe from frost during the winter months. The Castor Oils (Ricinus), on the other hand, should be sown annually, or, as is the method of some, the seed may be sown in the autumn, and the plants wintered in a warm greenhouse, afterwards growing them in gentle heat in the spring.

Chilian or Brazilian beet are excellent subjects for a dry border, and grown under such conditions the colouring of the foliage is superb. These plants will not, however, stand much disturbance at the roots; it is therefore better to sow two or three seeds in a three-inch pot, finally thinning them down to one plant only; as the seedlings strengthen they may be potted on into larger pots, and by these means fine specimens are obtained by bedding-out time. Seed may be sown any time during March or April, as the plants make rapid growth in a temperature of 55 or 60 degrees.

Cannabis gigantea (Giant Hemp) is now too seldom seen, but is an excellent subject for use in sub-tropical bedding. The seeds should be sown in gentle heat some time in March; these quickly germinate, and the seedlings make rapid progress. Fine specimens are easily obtained by bedding-out time by potting the plants as they need it. The growths may be stopped from time to time, to induce the formation of miniature bushes, but, given a good strain, the seedlings seldom require such attention. Select, if possible, a sunny position, well-manured ground, and afford plenty of moisture at the roots; given these the plants soon attain to a height of six or eight feet.

Kochia tricophylla (Mock Cypress) is an exceedingly pretty plant, with light green, feathery foliage, which, as the season advances, gradually changes to a brilliant crimson hue. Seeds may be sown in March in gentle heat, and afterwards the seedlings may be grown sturdily in a temperature of 55 to 60 degrees. No kind of coddling must be attempted, as the plant resents any such treatment, but at all times

ample drainage must be given, and plenty of moisture at the roots. The kochias when fully grown, form neat, compact, pyramid-shaped bushes, from two to three feet in height. As dot plants for small beds they are admirable.

Given a warm soil, a sunny position, and well-drained beds or borders, Amaranthus superbus and A. tricolor splendens may be safely used as bedding plants. From a decorative point of view these are equal to many fine-foliage hothouse subjects. Used as dot plants over a suitable groundwork, such as lobelia, dwarf ageratum, or Cineraria maritima, the effect produced is very pleasing. Sow the seeds in heat during March, pot the seedlings as required, giving greenhouse or warm frame treatment until planting out time.

This brief list of foliage plants would be incomplete without including the ever-useful Zea gracillima variegata. Given a good strain of this variety, for general usefulness and effect it is hard to beat. Given the same treatment as the amaranthus excellent plants are obtained by the end of May. A sheltered sunny position—such as a sunk garden—free from rough winds, suits it best, for if unduly exposed the foliage suffers, and becomes unsightly. Zea quadricolor perfecta is also a desirable variety, the foliage being beautifully striped with purple, rose, and yellow. Both these varieties of maize grow to a height of three to four feet only.

W. Hedley Warren.

ROYAL HORTICULTURAL SOCIETY'S CHELSEA SHOW.

References have recently appeared in the Press indicating the disappointment felt in the City that the Royal Horticultural Society's "Great Spring Show," or, as it is better known in the City, the "Temple Show," is no longer to be held at the Temple, but in the Royal Hospital Gardens, Chelsea, where it will occur for the first time on May 20 to 22 next.

The Council fully appreciate this disappointment, and sympathise with it; nor was it without long and careful consideration that they could bring themselves to consent to the change. As pointed out in their annual report, "the society has received much kindness from the Master and Benchers in being allowed for so long a time to make use of their gardens, but for several years past the feelings of attachment to the Temple Garden and dislike of the overcrowding have been struggling together for the mastery. . . . The Council have unavoidably come to the conclusion that it is their bounden duty, in the interest of the vast majority of Fellows, to move the show in future to Chelsea, which affords a space nearly three times as large as the Temple."

The change having thus not been sought by us (far from it), but forced upon us by the intolerable crowding, the Council of the society hope that all fair-minded men in the City will fall in with the inevitable and unavoidable change which, after all, is only an outward expression of the splendid work being done by the society and of its progress. Even at this early date, we can promise a show which will far exceed any of the society's previous shows, and repay even busy City men for the very few additional minutes taken by the journey to Chelsea.

The Council have also, in response to the suggestion of a City banker, decided to keep their fortnightly shows at Vincent Square open one hour later than hitherto, thus clearly showing that they are by no means unmindful of the interest of those of their Fellows whose daily work lies in the City. The alteration cannot, unfortunately, be brought into action this year, as all notices, etc., have, some time since, been printed and circulated, but it is ordered to begin in January of next year. W. Wilks.

SELECT PEAS OF MEDIUM HEIGHT.

In a large number of gardens, especially those of medium size, and where tall sticks are not easily obtained the varieties of garden peas of medium height are generally preferred to the taller ones. At the same time it must not be supposed that these are equal, in many instances, to some of our best-known tall varieties, either for appearance or productiveness.

As is generally known, much attention has been paid during recent years to the improvement of these highly-esteemed vegetables in relation to quality and earliness, and, indeed, for maintaining an unlimited supply till quite late autumn.

Unfortunately, the numbers of names in catalogues are most puzzling, especially to those who are not fully acquainted with the relative merits of varieties, and, in my opinion, it would be a great gain if these varieties were reduced considerably. Very many cultivators feel that they are bound to grow old varieties, and others are inclined to those which generally do well in their various districts. There is, of course, a great deal to be said for this inclination, but there are a certain number of sorts which seldom fail to produce the best results in any locality, providing, of course, good cultural skill is brought to bear upon them. For some years past I have advocated dispensing with the old white-seeded varieties. These are so inferior in every respect to the late additions of the marrowfat type, and at the most are only a day or two earlier, that they are hardly worth the expense and trouble of cultivating.

To ensure gathering at the earliest possible moment I strongly advise sowing the early and second early varieties thinly in boxes, and raising them under glass in a low temperature, either in unheated houses or pits, or even in cold frames. Though this may appear to involve additional work and trouble, it is really not the case, and much better results are sure to follow. The seeds germinate much more freely under glass than they would do in the cold ground in early spring, and one has them under better control, and can more readily protect them from inclement weather, and the ravages of the various pests, such as rats, mice, slugs, and birds.

Peas ought not to be coddled, but should have a free circulation of air about them on all favourable occasions, and, after being properly hardened, may be planted out in a warm sunny position during favourable weather.

At the time of planting the supports should be added, and there is nothing better than good bushy hazel sticks, generally prepared for the purpose. Where birds abound some means should be taken to prevent these injuring the young growths. If carefully and firmly planted on well-prepared ground, the plants will be found to progress much more rapidly than those sown in the open, and will come into bearing much more quickly. Capital varieties for this purpose are Gradus, Early Morn, Early Giant, and Edwin Beckett. Each of these varieties will rise to a height of from three to four feet, according to the season and the condition of the ground. It is a common mistake to sow and plant these varieties, as, indeed, all kinds of peas, too thickly. Five or six seeds are frequently sown where one would suffice, the result being poor quality and the bearing season much shortened.

Sutton's World Record is unquestionably a very fine pea, absolutely distinct, and the flavour all that can be desired. This variety seldom exceeds three feet in height; an ideal pea for very small gardens. Thomas Laxton is another grand variety of superb quality, and generally succeeds well in any locality; height, three feet. For successional crops King Edward can be strongly recommended, and is one of the best varieties with which I am acquainted; the quality is of the highest, and the height from two and a-half to three feet. Triumph is certainly a good pea, averaging about 3ft., and very prolific. The Gladstone is much cultivated in the North, and is a very fine variety for exhibition; height, four feet. Unfortunately this does not succeed in all districts.

Veitch's Perfection is an old, but very reliable variety, and succeeds well in most gardens. The height is from three feet to three feet six inches. Autocrat, in my opinion, is one of the finest peas ever raised for producing late supplies. It is of first-rate quality, pods fill well, has a most robust constitution, and unless overcrowded seldom becomes affected by mildew. It is possible in many districts, unless exceptionally severe weather intervenes, to gather from this variety until quite the end of November. Masterpiece is no doubt a selection from the above, and a very fine one too. The pods are slightly larger, but otherwise it is much the same as Autocrat. I have grown this for many years, and can testify to its good qualities. The above two varieties will rise to a height of from four to four and a-half feet.

For midseason and later supplies too much care can hardly be taken in the preparation of the ground. The labour of preparing trenches much in the same way as is practised for celery will be well repaid. When the trenches are made fill them with good well-decayed manure. Peas always enjoy a good root run and also an abundance of moisture when in full growth. Both clear water and liquid manure should be liberally applied during periods of drought, as this does much to ward off the attacks of mildew. At the same time apply a good mulching of short stable litter to check evaporation. It is a capital plan, both for early and very late sowings, to pinch out the points of the leading growths, and remove all side growths after a fair crop of pods have set. It is surprising what an influence this has on the development of the pods.

Edwin Beckett, V.M.H.
Aldenham House Gardens.

An Interesting Competition was arranged by the Cardiff Gardeners' Association during the current session, and the results were made known at the recent monthly meeting. Prizes were offered for skill in pruning, and for papers on the cultivation of violets for winter flowering. Mr. H. C. Davies, Palace Gardens, Landaff, obtained the premier award in the pruning competition, and Mr. C. H. Oldham, Roath Park, was first in the contest for the prizes for papers on violets.

Birmingham Horticultural Society will hold its second annual exhibition in Handsworth Park on Friday and Saturday, July 18 and 19. The schedule of prizes is now ready, and may be obtained from Mr. W. Carradine, the secretary, Hamstead Road, Birmingham. Cash and trophies, to the value of over £600, are offered as prizes in a series of a hundred and eighty classes. Of special interest are the classes for groups, a rock garden, a floral hanging basket, table decorations, fruit, sweet peas, and the series of trade displays.

ANNUALS IN THE FLOWER GARDEN.

There has been such rapid improvement in the various flowering plants which are annually raised from seeds, that it is now almost possible to dispense entirely with the plants that one had to rely upon a few years ago for carrying out schemes of floral decoration in the flower garden.

It is not prudent nor desirable to entirely do away with these old-fashioned bedding subjects, but, by making proper use of annuals in positions which are really suitable for them, a great deal more variety may be introduced into the general scheme of garden decoration. There are, of course, many annuals which cannot be employed in prominent positions, as their flowering season is so short. These should be relegated to mixed borders in the kitchen garden, or vacant places in shrubberies. Those selected for filling beds in the immediate vicinity of the dwelling should flower during the greater part of the season.

Among the most useful flowers for this purpose are the antirrhinums. They are not really annuals, but are best so treated. To make the best use of these the seed should be sown in heat in February or early in March. When the seedlings are large enough, they should be pricked out into boxes. While in boxes they must not be allowed to become crowded or starved, and should the beds which they are intended to furnish be occupied with spring-flowering plants they should be again transplanted in the reserve garden. Here they will make strong plants, and be capable, when transferred to their summer quarters, of flowering all through the season. The intermediate class is generally the most useful, although in filling large beds with mixed colours both the tall and Tom Thumb kinds may be intermixed with admirable effect.

The annual delphiniums are also invaluable for massing in beds, and need similar treatment to that recommended for antirrhinums. Lavateras are excellent for massing in mixed borders. These should be sown in specially prepared stations where they are intended to flower; they are invaluable for decorative purposes indoors. Clarkias are also useful for the mixed border and need much the same treatment as lavateras. Salvia Blue Beard is a most effective annual, which may be employed in various ways. It makes a pleasing combination with Hyacinthus candicans, which may be dotted over the bed. A mixed bed of salpiglossis always calls forth admiration. Nemesias cannot be excluded, as they are always admired either in beds by themselves or massed in their various colours in mixed borders. East Lothian stocks may be made use of for filling beds by themselves, and they must be sown early in the spring, pricking the young seedlings out singly into small 60-sized pots when large enough, and planting them out in April. They will commence flowering in July, and continue to bloom until the end of the season.

Dianthus Heddewigi is exceedingly valuable, and must also be sown early and treated liberally to obtain the best results. Gaillardias will respond to annual treatment if sown early enough, and treated liberally. These are invaluable for massing in clumps in the mixed border. Dimorphotheca aurantiaca deserves more extended cultivation, as it will bloom continuously during the greater part of the season if planted in a sunny situation.

Godetias deserve recognition in every garden, as they offer a wide range of most brilliant colouring. These may be grouped in separate colours in the mixed border or massed in several colours in beds or narrow boders. Lupins should be grown specially for the mixed border. Linum grandiflorum rubrum is always admired, and it is most effective when grown in large groups in the mixed border.

Eschscholtzias, of which there is now a charming variety, cannot be excluded. Cosmeas are very effective in the mixed border, but to obtain the best results they should be grown in pots until flowering commences.

Asters, coreopsis, Phlox Drummondi, Phacelia campanularia, petunias, nigellas, nasturtiums, nicotianas, centaureas, and annual chrysanthemums are all very useful annuals for summer bedding. It is a good plan to have a border of annuals of sufficient size to include many kinds and varieties, as, apart from those mentioned above, there are a host of others deserving of attention.

E. Harriss.

A BOLD ARRANGEMENT OF ANNUAL FLOWERS IN A SURREY GARDEN.

UNCOMMON VEGETABLES.

A marked feature in the development of our social life during the last twenty years, in its economic aspect, is the greater recognition of the dietetic value of fresh vegetables. This recognition is not, perhaps, as general as one might wish, nor has it yet reached its climax, but it is interesting to note that vegetables which were then considered as luxuries, and used only by a few, are to-day commodities deemed necessary by many. That this dietetic value of fresh vegetables is a real one is borne out by observation of children, in whose daily diet a regular supply of fresh vegetables forms an important part. If comparisons are made with other children fed largely on farinaceous foods, one cannot fail to notice the difference, and it is by no means difficult even in country villages, to determine the children belonging to a home which owns a well-cultivated vegetable garden.

The increased interest in vegetables and their cultivation has caused a much greater variety to be grown than formerly, though many kinds have not yet attained any great commercial value, yet much more, in the way of variety, is expected from the private gardener than was formerly the case.

Some of this interest may be due to the fact that people travel more, and acquire fresh tastes. Continental nations, as a rule, make greater use of vegetables as articles of food, and are generally credited with better methods of preparing them than the English.

Aubergines.

Among lesser-grown vegetables are the aubergines, or, as they are more generally known, "Egg Plants." The plant is an annual, and a near relative of the tomato; the fruits are used in similar ways. The taste to many is insipid, and has to be acquired, as with the tomato.

To obtain the best results the seeds should be sown, in light soil, early in the year—January or February—in a temperature of 60 to 65 degrees, and put when in the seed leaf into small 60's, or 72-sized pots. When established shift into 32's in rich compost, and pot firmly. At this stage a slightly lower temperature, with more air, is suitable. The plants "break" when about nine inches or one foot high, and may then be disbudded to two shoots, which may be allowed to carry two or three fruits each. These two shoots may be pinched and disbudded as the fruits form. From a March sowing plants may be set out on a spent hotbed in a pit or frame when large enough, planting about 15in. apart each way, but treating them otherwise in a similar manner to those in pots. Those in pots will need much feeding, or the fruits will fail to develop to any great size. Aubergines are particularly prone to attack by red spider, and the surroundings should be kept well damped, and the leaves well syringed on the under side. They are less trouble when planted out in frames, but in an unfavourable summer, such as that experienced last year, they are not as satisfactory as when grown in pots.

Good King Henry.

A native perennial plant used as a vegetable, and which I have only met with in East Yorkshire, but is, I believe, quite common in some parts of Lincolnshire, is one known as "Good King Henry." It is a species of chenopodium. The young shoots are much appreciated in spring in some districts.

The plant requires no particular attention, but if grown in rich soil the young growths are stronger, and therefore better than when the soil is poor. It is easily propagated from seeds or by division.

Maize.

We are, perhaps, indebted to our American visitors for the addition of maize, or Sweet Corn, to our list of vegetables. It was no doubt used long ago by Anglo-Indians, but Americans appear to have used it as a vegetable long before it was cultivated to any extent in England. Within recent years I have noticed fairly large plots planted with this crop in the market gardens in Middlesex, and there appears to be a fair demand for the green cobs in London hotels. The market gardeners dibble or sow the seeds thinly in frames or pits in April, over a gentle hotbed, and after hardening, lift, and transplant the seedlings in the latter part of May, about 18in. each way. The seeds may be sown singly in large 60's, where only a limited number of plants are wanted, but they must be planted out in good, rich soil before the pots are filled with roots, or growth will be checked.

New Zealand Spinach.

A useful vegetable, but not frequently seen in gardens is the New Zealand Spinach. Some years ago in the market gardens of Fulham, it was largely grown for picking during summer and early autumn, and the plants grew to a large size in the rich warm, sandy soil which had been well manured for generations. The practice there was to sow or plant between early crops of salads, at wide intervals, and intercrop again in the later ones while the plants were developing. The plants eventually had the plot to themselves, spaced at intervals of about 3ft. by 2ft.

In private gardens a few plants may be raised in pots in spring, placing a few seeds in a pot, and afterwards thinning to one, transferring them to the open ground in rich soil in May.

Celeriac.

This is another of the less common vegetables, which is now seen in some of the shop windows, although from experience there does not appear to be a great sale for it. The turnip-like roots are much appreciated by some people. The seeds are sown early in March, and the plants treated in the early stages in the same way as the celery used for salads. Like the celery it must be liberally supplied with moisture in all stages or the roots will be tough and stringy.

To obtain clean, well-shaped roots, free from coarse fibres, the soil must be rich, but free from raw manure. Contact with fresh or raw manures is apt to produce ill-formed roots, which, on cutting, are discoloured and rusted. Although shallow trenches facilitate watering in a dry period there need not be this labour spent on them, as in the case of celery, nor need the roots be planted deeply. When planting the distance apart may be 15in. each way or 1ft. by 18in. All lateral shoots should be pulled out. Abundance of water and liquid manure should be given in summer, and in August or early September the swollen roots should be earthed up, in order to blanch them.

The general practice is to lift the roots and store them in sand in October. The best-shaped roots are grown in a soil of a nature calculated to produce good carrots.

Cardoons.

The cardoon appears to be more appreciated on the Continent than in England. One serious objection to its cultivation in small gardens is the amount of room taken up by the plants. In habit of growth it resembles its relative, the Globe Artichoke, and, like it, is a perennial; usually it is raised from seeds each year. Seeds may be sown in April in a frame, over a spent hotbed, and the plants grown on and hardened ready for planting out in the latter half of May. It is unwise to allow plants to attain too large a size previous to planting out, or they may run to seed prematurely. The best method of planting is in trenches 4ft. apart, prepared as for celery, the plants being set out at 2ft. apart in the trench. Water freely in dry weather, and occasionally use liquid manure.

In September draw the leaves together, and bind them with bands of hay, the folds being placed closely together; afterwards earth up the crop with fine soil. If not used before frost sets in the cardoons must be protected, or lifted and stored.

F. Drew.

Reading University College Gardens.

NOVELTIES IN HARDY FLOWERS.

In this brief note it is proposed to touch lightly upon a number of hardy flowers that have gained some prominence during the last year, and so may be regarded as novelties. Sweet peas have been discussed already, and attention will be devoted to carnations and to dahlias in forthcoming issues; moreover, hardy trees and shrubs that are in any measure new were dealt with on a previous occasion. The scope of the present reference is, therefore, somewhat limited.

Antirrhinums are hardy plants, although they do not survive our damp winters in all gardens. These are unquestionably beautiful, and their popularity is already assured. All the leading seedsmen have excellent strains of tall, intermediate, and dwarf sections, and in many instances there are novelties in each section. The newer pink, rose, chamois, and vermilion shades are especially deserving of attention, but the older self colours must not be omitted. Rose Doré, listed in most catalogues, is a very meritorious variety. The varied colour forms of Dimmorphotheca aurantiaca owe a good deal of their popularity to Messrs. Barr and Sons, but on the rock garden or in a sunny season they will need no other aid than their own freedom and beauty to extend that popularity. The new Eschscholtzia Mikado (Gardiner) canaliculata with vivid orange, crinkled flowers, commends itself to lovers of brilliant annuals; and Lavatera Olbia (M. Prichard), lately brought into prominence, is sure to have admirers, as it reaches a height of from 3 to 6ft., and carries beautiful silvery or satin-rose flowers.

Astilbes have been greatly improved of late, and A. Rhemania (Profittlich), with pink plumes of violet-tipped flowers, is a striking novelty; while A. Avalanche (Waveren and Kruyff), of taller growth, has spikes of white flowers, and is especially fitted for the bog garden or moist border. Differing widely from these is A. simplicifolia, with white flowers, and a maximum height of six inches; it has been already grown in rock gardens where rare plants find a home. Patrinia palmata (Miss Willmott), with spreading heads of yellow flowers, is a dwarf summer-flowering plant, suitable for the rock garden, and Rodgersia tabuleris (A. Perry), with head of white, fragrant flowers, is a somewhat rare Chinese plant that produces large peltate leaves.

Lithospermum Froebelli (M. Prichard) has deep-blue flowers, and is a trailer. Also of trailing habit is Lysimachia Henryi (M. Prichard), a prostrate golden-flowered species. Two new wahlenbergias have made their debut; these are W. vincæflora (M. Prichard), rich blue; and W. gentianoides (Piper and Son), with drooping bright blue flowers. Each of these campanula-like flowers is a miniature plant adapted for the rock

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garden. Oxalis enneaphylla rosea (C. Elliott), from the Falkland Islands, is another rock garden plant of great beauty, its soft, rose-coloured flowers being freely produced in early summer. Silene Hookeri (T. S. Ware), a lovely rose-coloured Catchfly, flowers during June, and is a charming plant. Under the name of Phlox Arendsi (Arends) we have a quite new race of hardy flowers of varied colouring, derived, it is said, from P. canadensis and P. decussata; these were shown last July and attracted a great deal of attention. They should certainly be "made a note of." Lewisia Howelli (M. Prichard) is a rarity, its statice-like spikes of greenish-yellow flowers rising from a rosette of dwarf stout leaves; it will need careful handling. Celmesia spectabilis argentea (Bees, Lim.) is another plant needing special care, and in most parts of the country it will need the protection of a frame; its white flower-heads are three inches across.

is satin-white, with crimson centre. Pyrethrum Queen Mary (Miller), double, pink, has been shown so often that most people already know its worth.

The new lilies include a splendid addition in L. Warleyensis (Miss Willmott), a tall-growing kind, with numbers of orange, brown-spotted flowers on a fine spike. L. myriophyllum (R. Wallace and Co.), with its elegant leafage and large, white, yellow-throated flowers, was greatly admired at the International Horticultural Exhibition, and on the same occasion L. davuricum luteum (A. Perry), bright yellow, with brown spots, was very much in evidence. Kniphofia Unique (Wallace) and K. John Benary (J. Veitch and Sons) are two fine members of the Red Hot Poker family. The former is rich coral-red, but J. Benary is deep and brilliant red, and is one of the giants and a late-flowering member of the group. The new Montbretia Star of the East (Davison) is far and away the finest of its family, its

rosea superba (Whitelegg and Page), frequently shown in large masses early last year; its name suggests its colouring.

Turning to, and concluding with, the primula family, it is noticeable that Chinese species were fewer than usual; one, however, P. Knuthiana (J. Veitch and Sons) came from the Far East, and was collected by Mr. Purdom; it has rosy-lilac flowers, borne above neat rosettes of mealy leaves. P. Juliæ (W. Baker) hails from the Caucasus, and its purple-mauve flowers are very like those of the common primrose, except in colour. P. Warleyensis (Miss Willmott) is a tiny little plant, barely two inches high, but it bears purplish-lilac flowers quite freely; possibly it will have to be treated as an annual or biennial. P. Mrs. Douglas (J. Douglas) has handsome purple-blue flowers, and is of auricula-like habit, while Auricula Roxburgh (J. Douglas) is a delightful Alpine auricula, bearing fine trusses of purple-blue, white-centred blooms.

SAXIFRAGA ROSEA SUPERBA.

A remarkably effective variety with rich rose-red flowers, that has been well shown by Messrs. Whitelegg and Page, Chislehurst.

Delphiniums are strong favourites, and new varieties are always forthcoming; those calling for mention at present are Dusky Monarch (Kelway), dark purple, 8 to 10ft. high; Drake (Kelway), light blue, white centre; Tagalie (Kelway), semi-double, blue, white centre; Lovely (Kelway), deep blue and purple; Lavanda (Ferguson), large mauve flowers; and Harry Smeatham (Blackmore and Langdon), blue, with a purple line down each segment. Other good border plants of recent introduction are Aster Nancy Ballard (Ballard), a double Michaelmas daisy, with purplish-mauve flowers; Pentstemon Mrs. F. Fulford (Fulton), bearing rich red blooms; and Cheiranthus mutabilis, Keeley's var. (R. W. Rickards), a pretty wallflower with rose and purple flowers of distinct appearance. Two Oriental poppies, Edna Perry (A. Perry) and Perry's White (A. Perry), must be referred to. The former has salmon-pink, fringed flowers; and the latter yard-high spikes bearing yellow, orange suffused blooms, four inches across. Several new gladioli have appeared, but gladioli have to be very fine or distinct nowadays to secure awards. Crown Jewel (Kelway) is a lovely pink and yellow variety; Innocence (T. W. Le Page), pure white, belongs to the early or Colvillei set; Queen Mary (Barr and Sons), rich pink, white blotches, is also of this class, and so is Cardinal (E. H. Wheadon and Sons), a large salmon-red variety; Rosina (Blamfield) has soft pink flowers, and appeared in June last.

Yellow-flowered Eremuri increase, and two were added to them in 1912, i.e., E. Tubergeni (Wallace), a sulphur-yellow form of great beauty, rising about 4ft. high; and E. Golden Queen (J. Veitch and Sons), a charming lemon-yellow form obtained by crossing E. Warei with E. Bungei. One Nymphæa appeared last year, N. Attraction (L. de Rothschild). A good showy Saxifrage is S.

It may be added that all the foregoing novelties have gained an award at the R.H.S. or other prominent exhibitions.

Prunus triloba.—In the open ground the flowers of this showy member of the plum family sometimes suffer severely from late spring frosts, for which reason it is often trained to a wall. In this way the flowers develop unchecked, and when in good condition it must be regarded as one of the finest of wall shrubs, while it holds a similar position among those available for forcing, as under glass the slender shoots clothed with their charming semi-double pink blossoms, are very beautiful. Beside the numbers that are grown in this country great quantities are sent here from Holland and Belgium for flowering under glass. The allied Prunus or Cerasus sinensis or japonica, a smaller grower than the preceding, is also much valued for forcing.—W.

NOTES ON TUBEROUS BEGONIAS.

It is superfluous to say that tuberous begonias have been prominent in the van of floral progress, and certainly it would be difficult to mention any family of plants that can show such immense improvements and wonderful development during the past twenty-five years. This applies equally to habit, size, substance, and colours of the flowers and general excellence, and the exhibits that have been presented to public notice at large shows in recent years leads one to wonder whether any further advance is possible.

The combined efforts of several specialists, including Messrs. Cannell, Lemoine, Laing, Ware, Veitch, Blackmore and Langdon, etc., have brought about this wonderful change, and they have good reason to feel proud of the success which has attended their labours. If a gardener could have been found thirty years ago sufficiently bold and farseeing to predict that in the near future tuberous begonias would, to a considerable extent, supersede pelargoniums as bedding plants, he would have been regarded as talking nonsense.

For Garden Decoration.

We are obliged to admit that in very hot and dry seasons begonias are somewhat inferior to pelargoniums, while they are greatly superior to them in a normal, or dripping summer. The effect of heavy rains upon pelargoniums is to destroy their beauty for a week or two at least, and, on the other hand, these begonias appear the more resplendent after a short or prolonged rainfall. Nowhere have I seen such glorious displays as at Hampton Court gardens, where the value of massing on a large scale is amply demonstrated. These famous gardens are, from a gardening standpoint, in the country, and one cannot expect these pure-air plants to flourish in the same degree in the London parks.

An open position that is partially shaded during the middle of the day is found to be the most suitable when begonias are employed for garden decoration, and, perhaps, the best results are obtained when sandy loam enriched with old cow manure and flaky leaf-soil is provided. I cannot agree with some writers that the tubers should be started in heat early in February for bedding purposes, as, apart from the time and labour lost, the plants are not to be compared to those started later, and grown on under cool conditions. The middle of March is quite soon enough, and in order to economise space they may be arranged in shallow boxes filled with light rich soil, and be placed where they will have the assistance of a mild hotbed. Later, and when the growths are about two inches high, they should be transferred to large and fairly deep boxes, and be put six inches apart. If a little cocoanut fibre refuse is added to the compost they will lift with a large body of soil attached to the roots, and will receive no check whatever when placed in their permanent quarters. It is important they be kept, during the growing and hardening-off process, fairly close to the glass.

It is idle to expect success if the plants are allowed to suffer from drought after being planted out, and to reduce the labour of watering to a minimum I would advise that the beds be mulched with cow manure, preferably applied immediately after the ground has been loosened with a handfork. I have found nothing to equal the lawn sprinkler for watering purposes, and if it is allowed to remain half an hour at each station the ground is thoroughly moistened in every part. It may be added that in Western England the dry tubers are often planted out in April, but the practice is not to be recommended in less favourable parts. Appended is a list of double kinds that are specially suitable as bedders, and with regard to the single-flowered section there is no appreciable difference in their behaviour. The naming of these latter has, to a great extent, died out, but if procured from firms who have a reputation to maintain the highest form of excellence can be relied upon. I am reminded that the fringed and crested sections are possessed of much beauty and charm, and, to give credit where it is due, the perfecting of these types is the work of Messrs. Blackmore and Langdon, who also have produced some wonderful creations amonst the double varieties.

BEGONIA GLADYS VALENTINE.

An exquisitely beautiful variety, the flowers blush suffused with salmon. Raised by Messrs. T. S. Ware, Lim., Feltham.

For Beautifying the Conservatory.

Something must be said as to the management of begonias in pots, because in most gardens they figure largely in the decoration of the conservatory and greenhouse. It is usual to start batches of tubers at intervals from early in February to April, and in the same way as with bedders. The size of the pots from the outset will, of course, be regulated by the tubers and plants. It is important to give roomier quarters immediately the roots reach the sides of the pots, and to avoid overpotting. Further, it is a huge mistake to subject the plants to a high temperature, more especially in the early stages of their growth. Perhaps, from 60 to 65 degrees constitute ideal conditions.

It will occur to the cultivator to stage the plants fairly closely to the roof-glass whilst making their growth, also to supply atmospheric moisture by damping floor and staging, supplemented by overhead waterings daily until they are allowed to commence blooming. To maintain a buoyant atmosphere ventilate freely, and protect the plants from the direct rays of the sun during the hottest part of the day. From the time the plants are firmly established in the pots in which they are to bloom liquid manure may be applied once a week with advantage.

A few first-rate varieties for bedding purposes are Mrs. Langtry, white; Count Zeppelin, glowing scarlet; Gambetta, of similar colouring; Major Hope, a popular kind in light rose; Mrs. French, creamy-white; Hilda, deep salmon; Marquis of Stafford, crimson; Lafayette, crimson-scarlet; Rev. E. Lascelles, yellow; Hollyhock, pink; Argus, a pleasing shade of scarlet; Harry Laing, brick red; President Savage, lemon-yellow; R. B. Parsons, deep pink; Miss M. Griffith, blush; and Golden Crown, a fine sort.

For hanging baskets the following may be recommended: Lena, rosy-crimson; Starfish, of similar colour; Alice Manning, yellow; Fleur de Chrysanthéme, salmon-pink; Golden Shower, a great beauty; Carminia, carmine-red; Rose Cactus, rose-pink; Marie Bouchet, deep red, and extremely vigorous. Amongst a great galaxy of beauty I should select for pot culture, and especially for exhibition: Mary Pope, pure white; King Edward VII., crimson; Mrs. Augustus Philip Brandt, blush; Elaine, white; Miss Clara Sare, yellow, shaded gold; Kennerley Rumford, apricot; Lady Cromer, pearl-pink; Princess Victoria Louise, salmon-pink; Gladys Valentine, blush suffused with salmon; and Irene Tambling, fiery orange.

Walter H. Aggett.

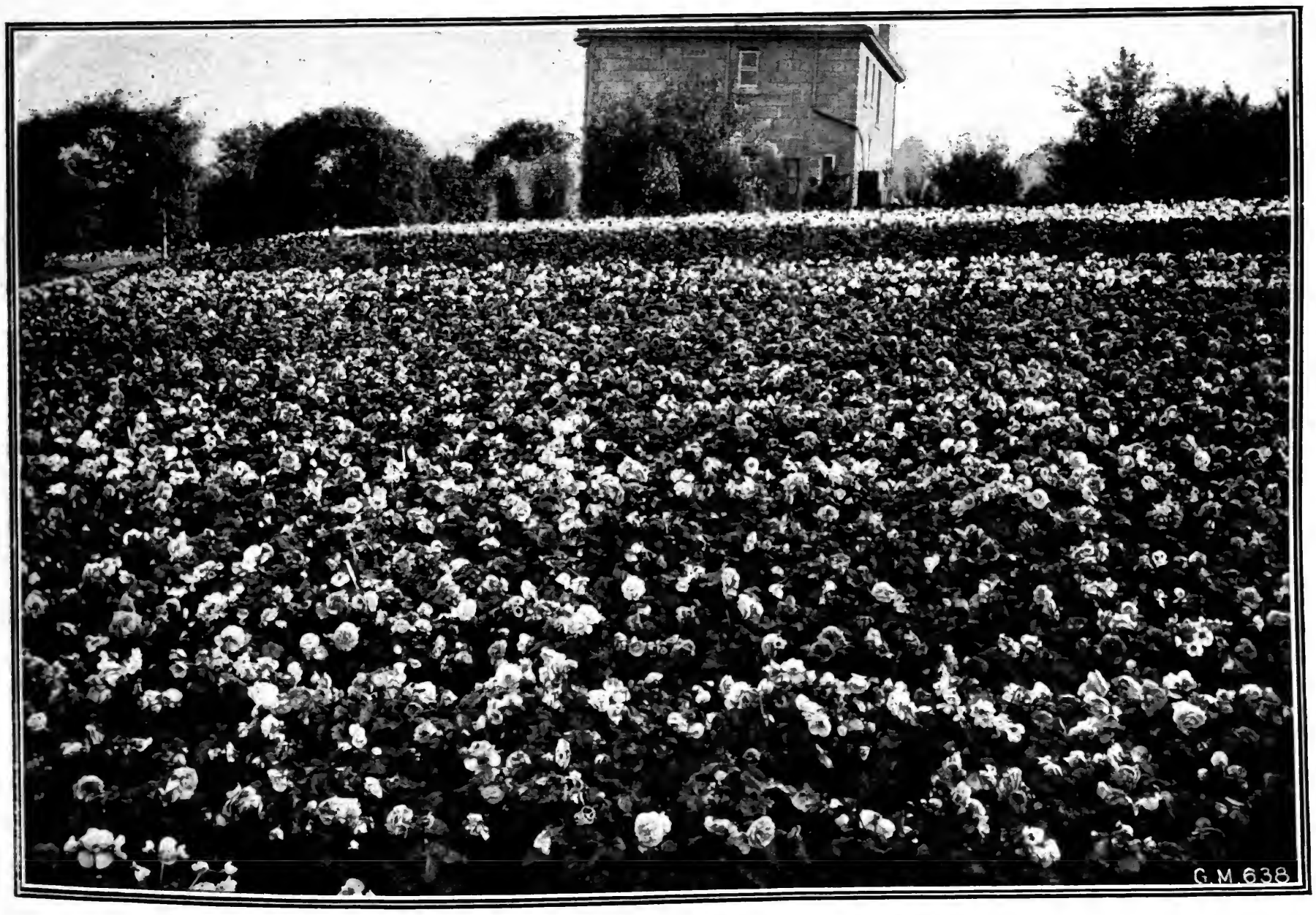
PITS AND FRAMES.

During late years we have heard much about cloches, intensive cultivation, French gardening, and the like, but many who are strong advocates of this system fail to recognise the important part played in gardening by pits and frames, or ignore them altogether. Cloches may be very well, but I fail to see their very great merits. Certainly they are handy for protecting plants in the herbaceous borders against the inclement weather, or useful for putting over salads or herbs; but for bringing things forward I should much prefer a cold frame, as that does not entail half the labour.

I remember, when first starting gardening, more than half a century ago, that hand-lights were then much in vogue. A whole host of plants were protected by them, but, as glass became cheaper, these hand-lights gave place to frames. In some instances they were permanent structures made of bricks, while in others they were temporary ones made of rough boards. These latter answered the purpose very well. Stakes were driven into the ground wide enough apart to take the lights; to these rough boards were nailed, and by this means a frame was made as long as desired. A hotbed was made in a portion, if not the whole length, and over this a whole host of seeds were sown. In some instances the seeds were sown in boxes, in others they were sown in specially prepared soil. As the heat declined fresh beds were made, to which the more tender subjects were transferred, while those in which the heat was on the wane were used for pricking out cauliflowers, lettuces, celery, etc. These frames, with their glass lights, would hold far more than the same space covered with cloches, and could be readily covered at night with mats or other protecting material.

At that time I lived not far from the moors, where we could obtain plenty of ling, and this was made into mats by being woven into a frame made of wood, so as to form a kind of thatch. Mats of this description were warm, and would keep out much snow and rain, as well as the frost, and they were very portable, being readily handled by a man. In those days most of the early produce, such as potatoes, carrots, lettuce, celery, French beans, and the like were grown in these primitive structures. Some others were used for forcing asparagus, while bedding plants occupied not a few, the old hand-light, cloche, or other portable protector being discarded.

It would, however, appear that the cloche was a new invention, and so it may be in its present shape, but it has long since been put on one side by the more practical for something more useful and economical, such as pits, frames, and portable low houses, which are far less trouble, and give greater satisfaction. H. C. P.



BED OF SEEDLING DOUBLE TUBEROUS BEGONIAS
In Messrs. Blackmore and Langdon's Nursery, Twerton Hill, Bath

Planting Vines.—Any preparations necessary should now be made for planting, but it is time enough for a couple of months yet to place the vines in the borders. Have in readiness a sufficient quantity of good loam, old mortar rubble, charred wood, and earth, bone-meal, and a little vine manure, if considered necessary, mixing all well together by turning several times. See that the drainage is perfectly clear before placing on the turf, grass side downwards, following afterwards with the compost, which can hardly be made too firm. Make the border about four feet wide. Those who intend planting one-year-old vines must disentangle the roots before planting, spreading them out carefully, and covering them with a nice sharp compost to the thickness of about three inches, giving a good watering afterwards with water at 75 degrees. I much prefer planting green vines in May or June, or even later, prepared from eyes.—F. Jordan, Warter Priory Gardens.

ROSE PLANTING IN SPRING.

Although it is undoubtedly best to plant roses in autumn, circumstances may prove too much for us, and then it behoves us to do the best we can in spring. In this connection February and March are the best months for transplanting roses grown in the open air, but April and the early part of May have been found most suitable for planting those from pots.

So much depends upon the preparation of soil that any labour in this direction is sure to be repaid. It is very essential to have the ground suitably moist, so that new roots can be formed quickly, and grow without check. A little extra attention is desirable in the matter of spreading the roots, and placing some soil among them; in fact, the whole operation of planting needs more care than would have sufficed under favourable conditions in autumn. I believe many failures in late spring planting are assisted (I will not say caused) by too loose planting. There is not the same amount of rain to press the soil that autumn-planted roses have received, and, although we do well by keeping the surface soil stirred, it appears to me to be best that where the roots are the ground should be firmer than is often the case for some time with spring-planted roses. If this is not so, why do so many of our old-established favourites thrive so well?

A mistake that I have only too frequently observed is that of leaving over-much growth upon the plants Doubtless, in most cases this is due to delay until what is considered a more seasonable date arrives. But it must be obvious that the quantity of shrivelled and distressed wood we so frequently meet with, more especially upon the stronger growers, is a great strain upon the roots that have not had time to feed the wood with more sap. In the ordinary course of autumn planting, we should cut away the top growth of most climbers, and I would do the same with most of our spring-planted roses at the time of, or very soon after, planting. There need be no fear of the same precocious growth among them as in established and early autumn-planted roses.

There is a method of spring planting that has proved very successful with us, and that is the use of small plants from pots. Oftentimes these can be procured at the same price as good ground plants; and, even if a little more expensive at first, we have a much better and more reliable display during the first season from planting them, and this is a great gain. If we do not secure much wood, it is always firm, and in the right place, instead of several feet away. The roots, too, are ready for immediate occupation of the fresh soil, and, having practically no check, soon make use of it. Another advantage lies in the almost certain absence of failures to grow, seeing the roots are already at home and established in the pot soil. Fortunately, all of our best and most reliable varieties from the tea-scented section and its hybrids can be readily purchased in this form, and, if planted well below the union of graft and stock, are quite equal to any budded plants from the open, seeing that nowadays the bud and graft are both worked lower than was the practice some years ago.

Even smaller plants than these can be obtained. I allude to the small, grafted plants that were propagated during the past winter, and it is astonishing what a display many of these will make during the summer. At all events, they will make really serviceable plants during the year, and will possess the great advantage of an abundance of fibrous roots.

The dwarf polyanthas, now so much used for bedding, will be a perfect picture during late summer and throughout the whole autumn if planted in this way. Bought in small pots, they are not expensive in the matter of carriage, while most of them may be carefully turned out of the pots, and thus less expense would be incurred. One point I must impress upon readers is, that, being in such tiny pots, the roses must be planted in soil that is quite moist. In our own case we always carefully water them before, or soon after, planting. The most suitable distances at which to plant depends so entirely upon the variety and its habit of growth, therefore I must leave that to the owner or planter, who should not neglect to become acquainted with the characteristics of the variety he is handling.

The filling-in of blanks, discovered at the time of pruning, may come under the heading of these notes, and I would merely reiterate the need for a little extra care, more especially as regards watering, for a short time, should the weather be dry, as the roses will have no far-reaching roots to keep them in such a case of necessity.

Rosarian.

ROSE LA TOSCA.

A beautiful hybrid tea with soft rose-pink flowers, of much value for bedding, having a good habit, and blooming freely and continuously.

ARRANGEMENT OF PLANTS FOR SUMMER DISPLAYS.

Well within the memory of most people great changes have taken place in the arrangement of plants for summer displays, and the different subjects that are employed for the purpose. To go back to the later 60's, nearly everyone seemed to be infatuated with the beauty of the ribbon border, that consisted of straight lines of brightly-coloured flowers, the longer the better. Whatever else might be planted, one was almost sure of finding scarlet pelargoniums, yellow calceolarias, blue lobelias, and Coleus Verschaffelti.

The advent of the bronze and tricolor-leaved pelargoniums, and the popularity they so quickly attained, led to great changes in the summer bedding, the displays being then less gorgeous than they formerly were.

The era of carpet bedding then followed, and to a certain extent continues to the present day, though it is decidedly less popular than it formerly was, the amount of time necessary to be spent over beds of this class being greatly against it. In positions, however, where the beds are looked down upon at close quarters, carpet bedding is still very effective.

A prominent feature of the present day is the extended use, for summer displays, of different hardy subjects, especially roses and the better-class of herbaceous plants. This, however, is not the only change that has taken place within the last few years, for, where tender plants are employed, the choice of subjects is not nearly so limited as it used to be, and in their arrangement a more informal and pleasing system of planting is generally followed. This allows for the employment of much larger plants than was at one time considered desirable, and now, especially in mixed beds which are so popular, plants up to six feet in height of such subjects as heliotropes, Streptosolen Jamesoni, Solanum jasminoides, Cassia corymbosa, Swainsonia galegifolia, Calceolaria Burbidgei, and others are often employed.

Fuchsias, which are now extensively used for summer displays, often as large specimens, do not, as a rule, associate with other subjects of equal stature, though violas as a groundwork for standard fuchsias of medium height, has a very pretty effect. For very large fuchsias an undergrowth and edging of some of the smaller kinds, such as Alice Hoffmann and Ida Noack, with the variegated-leaved form of Fuchsia gracilis, and the coloured kinds, such as Cloth of Gold and Meteor, may be used with advantage.

An item of considerable interest when the question of summer bedding is under consideration is at what part of the season the display is required to be at its best. Thus some annuals make, for a time, a goodly show, but they are in many cases over so soon that it is necessary to replace them before the season ends. Fuchsias, on the other hand, and in fact many things, retain their beauty till the nights grow very cold.

Calceolarias, especially the larger growers, still hold their own as desirable subjects for summer bedding, while pelargoniums are not yet out of the running. The advent of Paul Crampel and the improvement in the ivy-leaved section has kept pelargoniums well to the front. For a mass of brilliant colouring the variety of Salvia splendens known as Pride of Zurich, still holds its own with the brightest of the zonal pelargoniums, while marguerites, especially since the double-flowered Mrs. Sander has become so widely distributed, are now extensively grown.

As a foil to flowers of vivid tints, many foliage plants are very popular. The silvery-white Leucophyta or Calocephalus Browni may be pegged down as an edging, or, if grown as an upright specimen from 18in. to 3ft. in height, it is extremely useful as a dot plant. Others of that hoary tint are Artemisia arborea, Gnaphalium microphyllum, Cineraria maritima, Centaureas, with Antennaria tomentosa and Cerastium tomentosum, these last two being of very lowly stature, and therefore suitable only for edging or carpeting purposes. With the various subjects above alluded to, and others innumerable, it is evident that combinations without number can be made. The system followed in the case of these arrangements will, of course, depend upon many circumstances, such as the surroundings of the beds, the position from which they are chiefly viewed, and, above all, the fancy of the individual by whom they are planned, or more often of those to whom he is responsible. The stock that is available of any particular subject also plays an important part in the matter, so that suggestions cannot always be carried out in their entirety.

Still, the following arrangements which have been made within the last two or three years gave universal satisfaction: A groundwork of Koniga maritima, dotted over with double pink Begonia Major Hope, and, above these, a few 2ft. plants of Leucophyta Browni, edged with Echeveria secunda glauca. Salvia Pride of Zurich, dotted over with tall plants of Leucophyta Browni. Begonia Triomphe de Lorraine, one of the semperflorens section, with double crimson flower and leaf of much the same tint, interspersed with Fuchsia gracilis variegata and Centaurea candidissima,

MARGUERITE MRS. F. SANDER.

A bold arrangement of this free-flowering pure white double marguerite, which has proved of much value as a summer bedder.

edged with Koniga maritima. A carpet of blue viola, with Canna Paul Bert (amber) scattered over the whole, overtopped with plumes of Humea elegans. Dwarf crimson Begonia Washington and Koniga maritima, interspersed, and dotted over with Leucophyta Browni.

As a concluding note mention must be made of that comparatively new annual, Kochia tricophylla, the various uses to which it may be put, and the fact that it rapidly bounded into popularity, its quick growth, delightful leafage, and the change in colour that takes place in the autumn, are all features of interest. W. T.

PLANTING SWEET PEAS.

The unusually mild weather of January and February seems to have given us false ideas of how far the season has advanced, but each week brings us so much nearer to that period of activity and hopefulness—the planting season.

Many of us have very divided interests, and, should the coming season not be quite favourable for one thing, it will surely be of such a character that it will prove happy for at least one or two of the subjects that we cultivate. Disappointments may be ahead of us, but we hope they will be balanced by a fair amount of success.

Naturally, the lover of sweet peas is hoping that the weather will favour his own particular fancy, and after two such seasons as those of 1911 and 1912, the one so very hot and the other (after May) so very cold and wet, he may be excused if he is optimistic enough to think that he is in for a really good sweet pea season in 1913.

Up to the time of writing the weather has not been all that one would desire to bring the soil into that state of mellowness which is so necessary for planting; on the other hand, heavy soil generally is in a very wet or waterlogged condition, and some time must elapse before anything can be done to bring it into a nice workable condition. Fortunately there is still time for the ground to dry well before planting, for even in very favoured localities, and on light soil, it is not safe to plant out sweet peas before the second week in March. This is the earliest date that I have planted—and, I might add, with excellent results—but owing to adverse weather conditions I have had to leave planting as late as April 23, and even at this late date the plants had a good covering of snow, and twelve degrees of frost, before they had been in the ground two days, and yet no harm came.

The necessity for thoroughly hardening the plants cannot be too fully emphasised, as half the failures that one hears of after planting can be traced to coddling in the frame previous to planting, or to thick sowing in pots or boxes, which amounts to the same thing. When the plants are too close together, or growing too thickly, air cannot get among them, and the foliage and stems are badly nourished and thin, so, instead of growing away freely and becoming a good colour when planted out, they turn yellow, and if they do not actually die they are weeks before they get over the check, and the flowers are thin, which spells failure at an exhibition.

After the end of February we do not expect very severe frosts, and, if the lights are left off in anticipation of a fairly mild night, the degree or two of frost we sometimes get in the morning will not harm sweet peas; but, of course, there is a difference between a prolonged frost of seven or eight degrees and an occasional light one. The severe frost would probably freeze the pots right through, and might kill a great many of the young roots; so be cautious, remembering that sweet peas withstand twice this amount of frost after they are planted in the ground, where the roots are thoroughly protected by the soil.

This hardening process and the actual preparation of the soil are the two chief points to be considered, presuming, of course, that the ground has already been trenched and left rough. It is now considered advisable to give the ground a slight dressing of sulphate of potash some little time before planting, and if this is given at once, with an equal proportion of superphosphate, there should be sufficient manure in the soil to last the plants a considerable time, certainly until they are well advanced in growth.

Light, porous soil will only need lightly forking over just previous to planting, and, as already intimated, any time after the second week in March the plants should be as safe in the ground as in the frames. Heavier soils will probably need much more care, taking advantage of a good dry spell to get the whole surface of the soil thoroughly broken up either with the fork or harrow. This may need to be done two or three times before planting. The addition of old potting soil, leaf-mould, old hotbed manure, wood ashes, or mortar rubble will all help to make heavy soil more friable, and if this cannot be obtained in sufficient quantities to spread over the whole patch, a little might be worked in when the rows or clumps are to be planted.

I have many times advocated shaking out the roots well before planting, and, after further experience, I feel even more sure of its benefits. Even when the plants are raised singly in pots a certain amount of the roots should be shaken free of the ball of soil. The advantage of this is not so apparent immediately after planting, but in a fortnight plants so treated invariably look better, and commence growing away more freely than when the ball of soil is left intact, and, even where the plants are raised in the T.P. seed raisers (which, by the way, are splendid contrivances in which to raise a large number of plants in a small space), they should be given the same treatment, and not planted with the stiff paper raisers still around them. A good hole and firm planting are also essential, and without thorough tilling of the soil this cannot be nicely accomplished.

The number of plants and amount of space available will naturally control the amount of room each plant is to occupy, but double rows, five feet apart, is about the minimum that can be allowed if convenience in staking, watering, cutting, etc., is to be considered, and an extra foot or two of space between the rows will tend to sturdier growth and greater convenience in working. It matters very little which way the rows run, providing they have plenty of room, but those varieties that require shading may advantageously be planted all together in a row running east and west, as the shading will then be much more easily fixed, and need only be put up on one side of the row.

Staking and sooting, after planting, must be properly attended to, or slugs may do a lot of harm, and birds, too, must be guarded against. This may all seem a lot of bother, but it is the proper attention to details, especially at the outset, that is the keynote of success, and without it no one can hope to excel in the cultivation of any particular plant or flower.

Thomas Stevenson.

Woburn Place Gardens.

THE ROCK GARDEN IN MARCH.

"The sap will surely quicken soon or late,
The tardiest bird will twitter to a mate;
The spring must dawn again with warmth and bloom."

Christina C. Rossetti.

With March, we who are lovers of the alpine flowers feel that we are entering into our truest pleasures, and that spring has really come. Even now we are having a foretaste of the many treasures which the milder days will bring. On slope and in crevice of the rock garden there are already many beautiful flowers which have called for our glad welcome.

Many days, it is true, may pass over us before we can say that wintry weather has really passed away, and that the blossoming days have come with their full benison. Snell winds will blow and shrivel up some tender blooms, or wither up our hopes of the morrow during the dark hours of the night. Snow, and sleet, and bitter rains may yet drench our alpine flowers, and cause us to lament for their distressful plight. Yet it is of no use to despair; the story of the past will be repeated, and we shall surely again enter into our full joys. These are, to a large extent, the pleasures of anticipation, but it is our duty now to ensure for our favourites all the attention they desire at this season. The work of the time will bring the reward of the morrow, and we may well take count of what our plants call for as March begins to run its course.

Planting.

Now, and later, there is much planting to be performed. There are blanks, the result of the winter's assaults, to fill. Bare spots have to be clad, and with the earlier alpines this planting must be taken in hand at once. It is work which should be carefully performed, and not gone about in a haphazard fashion.

We should have some proper soil prepared for the pockets or crevices into which the plants are to go. Loam, leaf-soil, and sand, in about equal proportions, with the addition of some grit, will be a suitable compost for the greater number of our alpines. Some chips of stone among this will be useful; and for the few plants which really need lime or are benefited by it, limestone, in the form of chips or old broken mortar, may enter into the compost. If the plants are turned out of pots the outside of the ball should be slightly loosened; if full of roots some of these ought to be disentangled, and the whole planted with as little further disturbance as possible. If the plants are not in pots they require more care. Should the weather be dry the alpines should have their roots spread out as well as the space will permit, except in the case of deep-rooted subjects, a little soil put over the roots, and the hole filled up with water, adding more earth, and watering again when the former supply has drained away. The hole may then be filled up completely, and a few pieces of stone, or some grit and chips, placed about the plant to prevent evaporation, unless in a crevice of the rocks, where this can hardly be done. Firm planting is most essential, and many alpines are annually lost from the temerity of the grower, who is afraid to press the soil about the plants.

Top-dressing.

"Top-dress! Top-dress!" should be one of the maxims of the cultivator of rock plants, and more alpines are lost from neglect of this than from almost any other cause. All the plants should be gone carefully over at this season, loose leaves which have blown among them removed, and

decayed material taken from about them. Then some fine compost of the character just mentioned ought to be well tucked in about the plants, and worked into the tufts of the low-growing mat-like subjects, as well as some of the others. Many alpines have a tendency to grow out of the soil, and these are generally greatly assisted by some top-dressing. It hardly ever comes amiss, and that worked among the foliage may be watered in if the weather be dry.

Tidying Up.

This is an excellent time for a general "titivating" of the rock garden. Any unsightly plants should be removed, and everything made as neat as is compatible with the genius of the garden. Nowhere is a little work of this kind more noticeable than in the rock garden. Among other items which should be attended to is that of forking up the soil about the plants. This is not inconsistent with firm planting, and the loosening of the surface which is uncovered by stones prevents the hasty evaporation of the moisture underneath, and adds greatly to the well-kept appearance of the rockery and the plants upon it.

Watering.

The question of watering must always be approached with caution, especially at this season. Artificial watering is not to be commended, save under certain conditions. These conditions sometimes arise in March, when a parching wind licks up all the moisture, and is most injurious to our flowers. It is thus necessary at times to give a supply of water. Should this be so it ought to be given with a generous hand, not a miserly one, as a mere sprinkling does harm instead of good. If at all possible the water should be poured beside, and not on the plant. It is hardly possible to give too much water if the rock garden is as well-drained as it should be. Should the evenings be mild, which is not too often the case, a gentle dewing with water is often helpful, but it should never be applied unless the plants are moist at the roots.

Seed Sowing.

More and more are we realising the advantages of raising alpine flowers from seeds, and from now until May will be found as good a time as any for raising rock plants in this way for next year's bloom. It is needless to detail the methods to be followed, but it may be said that, as a rule, the seeds should be sown very thinly in pots, and not in the open ground.

Briefly stated, the arguments for raising more vigorous plants, having the plants at hand ready to put out at the more "convenient season," and the chance of securing improved varieties. Against these are to be set the additional labour and space required. It is for the reader to choose between the two courses. In any case he will find that March among the alpines is not only a time of enjoyment of the flowers, but is also one when there is much work to perform. S. Arnott.

Lachenalias.—The Cape Primroses, as these are sometimes termed, form a very pleasing feature in the greenhouse early in spring. Whether grown in pots or suspended baskets, they are very pretty. Good distinct kinds are L. Nelsoni, L. pendula, and L. tricolor. The failures that one sometimes hears of are due to their being potted too late in the season, as they should be in their flowering pots by August.—K.

ARAUCARIA EXCELSA.

The Norfolk Island pine has long been looked upon as most desirable for the decoration of the greenhouse or conservatory, while it also figures as one of the most popular subjects for the dwelling-house. From some points of view the extreme regularity of its growth is looked upon as too formal, while by others it is admired. Plants from a foot to eighteen inches in height are disposed of in considerable numbers by some nurserymen. They are obtained in two ways, the first by seeds and the second by means of cuttings.

In the case of cuttings, though the side branches may be rooted, they will not form effective plants, therefore, in order to obtain cuttings, plants that have become bare at the base or in other ways shabby may have the top or leader cut off. This will lead to one, two, or more side shoots being pushed up in order to replace the leader, and these shoots, being taken off and inserted into small pots of sandy soil, will soon root in a close propagating case, where there is a gentle bottom heat. Plants so obtained realise a higher price than seedlings, as they are well furnished at the base, whereas seedlings have only small branches at the bottom, and therefore present a much less pleasing appearance.

Of late we have had two distinct varieties of this araucaria brought prominently forward, one, elegantissima aurea, having all the young shoots tinged with yellow; and the other, Silver Star, every shoot of which is tipped with white. An older form, glauca, of more sturdy habit than the type, with beautiful glaucous foliage, is also very handsome, and should be grown wherever the forms of the Norfolk Island pine are appreciated. W. T.

PHLOX AMŒNA.

An effective specimen of this beautiful species which has rose-pink flowers.

NEW PLANTS AND FLOWERS.

BRASSO-CATTLEYA MENDA.

A very beautiful orchid and a secondary cross, obtained by using B.-c. Digbyano-Mossiæ var. Queen Alexandra and Cattleya labiata Virginia as parents. The flowers are about one-third larger than illustrated, with broad white petals and tinted white sepals. The large fringed lip is white, with a lemon-yellow throat and a bright purple mark on the front. F.C.C., R.H.S., February 18. Pantia Ralli, Esq. (gardener, Mr. Hunt), Ashtead Park, near Leatherhead.

BRASSO-CATTLEYA MENDA.
Flowers white, with a white and yello w, purple-marked lip. F.C.C., R.H.S., February 18. Pantia Ralli, Esq., Ashtead P ark, near Leatherhead.

BRASSO-CATTLEYA AMABILIS GOODSON'S VAR.

A very handsome form, of fine size and colour. The rosy-purple sepals and petals display the broad, purple, fringed, and yellow-throated lip to perfection. F.C.C., R.H.S., February 18. H. S. Goodson, Esq. (gardener, Mr. G. Day), Fairlawn, Putney.

CATTLEYA LEDA.

A fine hybrid between C. Percivaliana and C. Dowiana aurea. The colouring is deep rose, the lip being beautifully veined and shaded with deep gold. A.M., R.H.S., February 18. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

CATTLEYA TRIANÆ THE BARON.

A white variety of wonderful size and substance, the only colouring being the rose-pink shading and the yellow throat of the lip. F.C.C., R.H.S., February 18. Baron Bruno Schroder (gardener, Mr. J. Shill), The Dell, Egham.

CYMBIDIUM ALEXANDERI FOWLER'S VAR.

This is dwarfer than most of the hybrids from C. insigne, and this is due to the use of C. eburneo-Lowianum as the second parent. The flowers are of good size, deep pink, with rosy lines. Lip creamy-white, with deep rose-red markings. F.C.C., R.H.S., February 18. J. Gurney Fowler, Esq., Glebelands, South Woodford.

ODONTOGLOSSUM AMETHYST GLEBELAND'S VAR.

A splendid odontoglossum derived from O. Lambeauianum and O. eximium. It bore a grand spike of showy flowers; white ground flushed with pink, but very largely covered with bright red-brown blotches, except on the front of the lip, which is quite white. F.C.C., R.H.S., February 18. J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford.

CROCUS KATHLEEN PARLOW.

The finest and largest of all white crocuses. It is of Dutch origin, and belongs to the bedding section. It is a strong grower, and the large flowers are of fine substance; the three inner segments having a faint rose-purple line down the centre of the inner surface. A.M., R.H.S., February 18. Messrs. Cartwright and Goodwin, Kidderminster.

SUPPLIES OF GREEN VEGETABLES.—I.

There are seasons of the year when green vegetables are indispensable, while at others they are not of so much importance, or in such great demand; this being so, the aim of all gardeners should be to have a good supply at those particular seasons when most needed, and arrange the cropping of the ground so as not to have either a glut or a dearth at any time of the year. A good kitchen gardener, by his superior judgment and forethought, will be able to adjust the crops so as to economise the space at his disposal, but this needs close observation if there is to be no waste of any kind, especially in large establishments where the demand fluctuates considerably, for, however one may strive to keep within the mark, there are occasions when sudden and unlooked-for demands arise. It is in this department that most young gardeners who have not hitherto had much experience in kitchen gardening sometimes find themselves in difficulties, especially in places where the area allotted to the growth of vegetables is limited.

Broccoli.

This is one of the most important of winter and spring green crops, being in use from November until May. By sowing seeds of each section into which they are divided, a successive supply may be obtained through those months. Seed of the autumn kinds, such as Michaelmas White and Autumn Protecting, should be sown either in boxes, which should afterwards be placed in a cold frame, or on a shelf in a cool house, until germination takes place, or, in more favourable districts, sown on a warm border in February. The plants should be induced to grow as sturdily as possible from the first, and be put in their permanent quarters before they become drawn. The second section, which includes Winter Mammoth, Snow's White, Penzance, and the sprouting kinds, should be sown on a warm border early in March. For mid-season use Leamington, Main Crop, Safeguard, and the like, may be grown. The seeds of these ought to be sown the first week in April, while the sowing of such late kinds as Standwell, Universal, Latest of All, and Late Queen should take place from the middle of April to the first week in May, according to the district in which they are grown.

Broccolis are most in request during the dull winter months, therefore the aim should be to have a good supply at that season, and this cannot be secured unless due attention be paid to sowing the seeds at the proper time, and growing the plants as sturdy as possible through the summer. It is a mistake to plant broccolis between other crops, as they become drawn up, and, on that account, will not withstand the frost. A portion of this section should be

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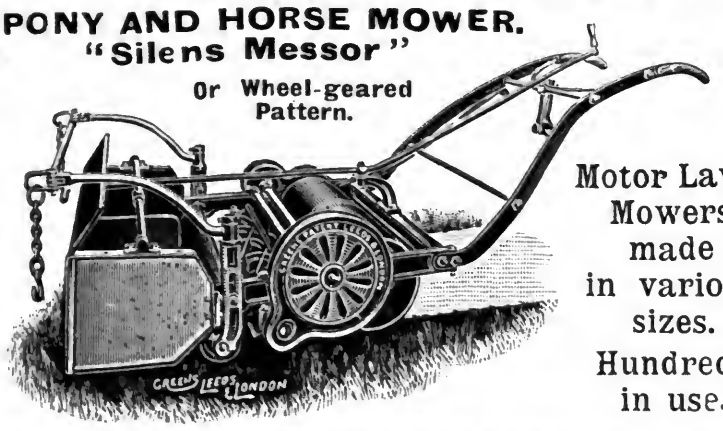

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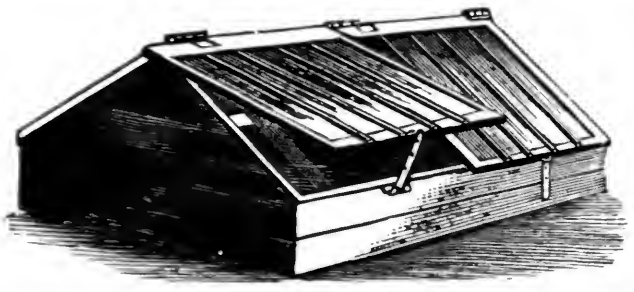

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lifted in November, and planted in pits, where they can be protected from frost. The others should be planted on a warm border, with their heads facing north, where, in severe weather, mats or other material can be thrown over them. The mistake often made in growing broccoli is keeping the plants too long in the seed beds; plants that become drawn seldom give satisfaction. As soon as they are large enough to handle they should be pricked out at least six inches apart, to induce them to grow strong from the commencement. A mistake often made is sowing the seeds too early, and leaving the plants to become overgrown before they are put into their winter quarters. There is more art in growing first-class broccoli than would appear if close heads of fine white texture are to be had, therefore particular attention should be paid to sowing the seeds at the right time, and getting the plants into their summer quarters as early as possible.

Brussels Sprouts.

For autumn and winter use these occupy a prominent place, and as they require a long season of growth, it is necessary to sow the seeds fairly early, but there is no advantage in sowing too soon, and afterwards allowing the plants to stand in the seed beds until they become leggy. The middle of March will be found soon enough in most districts. If the ground is too cold for the seeds in the open, then sow in a box or cold frame, but we have always had the best results from seeds sown thinly on a warm border. The soil should be made as fine as possible, and, if heavy, given a sprinkling of wood ashes or newly-slaked lime. It is preferable to sow the seeds in shallow drills, and prick out the plants when they have made three or four rough leaves.

Where the situation is exposed, it is better to plant in shallow drills, and when the plants are about a foot high level the soil round the stems; this will help them to resist the force of the wind, and maintain themselves in a perpendicular position. Often when planted on the surface they are carried over by the wind, in which case the sprouts produced are not so fine. The distance the plants should be set apart greatly depends on the quality of the soil. In some gardens, where this is a deep, well-cultivated medium, a distance of three feet each way will be found none too much, while, in others, too feet six inches will be ample. Brussels sprouts are most appreciated from November until February or March, after which they are but little in request.

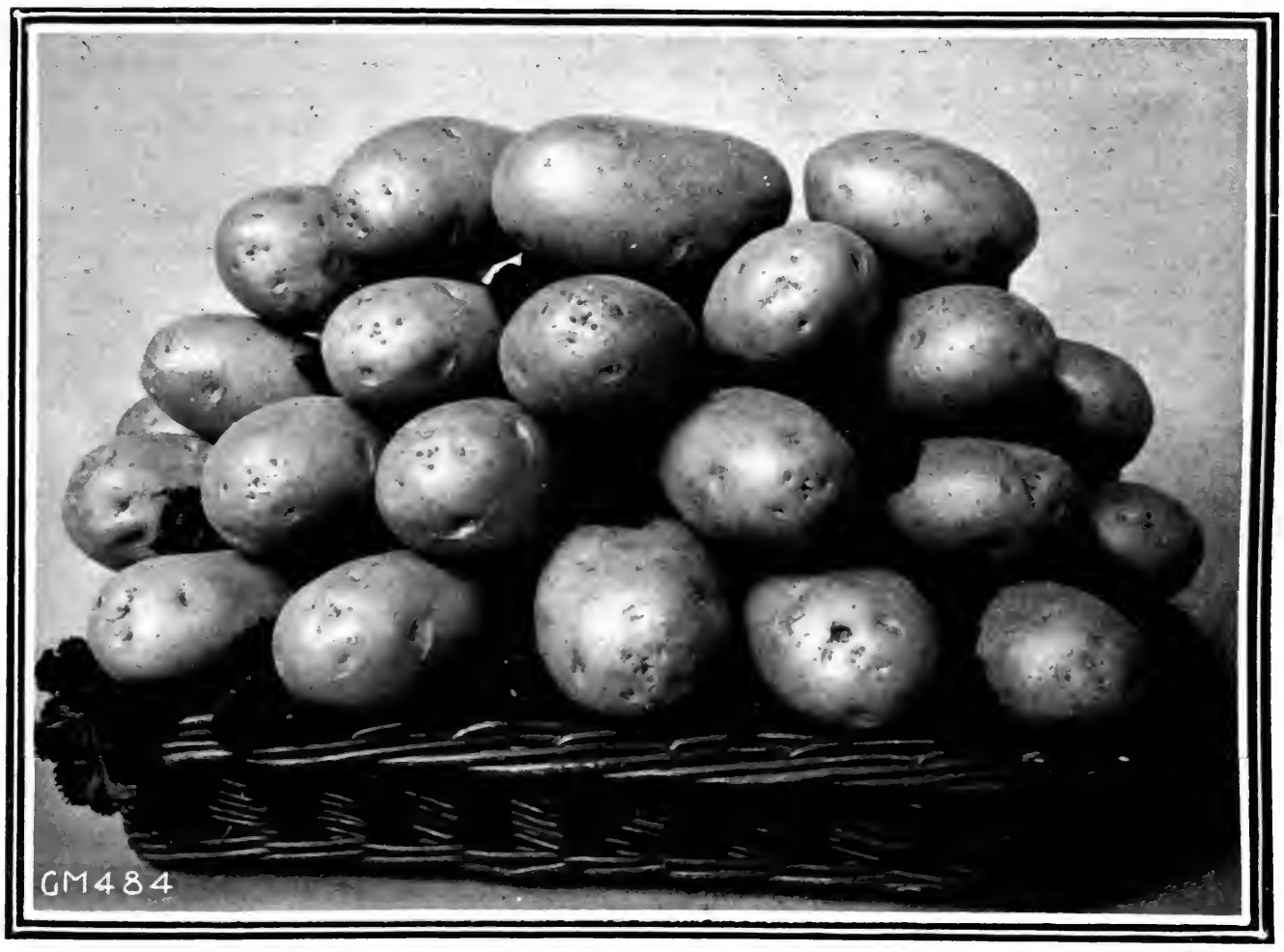
Borecoles.

The young, tender sprouts of these vegetables are much appreciated in early spring, especially those of the Asparagus Kale type, such as Sutton's Favourite, the old Asparagus Kale, Scotch Green Curled, and others of that class. The variegated kinds find but little favour with first-class cooks, as they do not boil a good colour. Seeds should be sown at the end of March, or early in April, and the plants set out in their permanent quarters as soon as large enough to handle. The distance between the plants must be regulated by the quality of the soil and the variety cultivated. There is nothing gained by planting closely. Some have an idea that if the hearts are taken out of the plants in early spring this will induce them to throw out more sprouts, but this is a mistake, as the wet often runs down the centre of the stalk, and causes rot, besides, as the plants grow, more sprouts are produced from the base of the leaf stalks.

H. C. Prinsep.

FIRST AND SECOND EARLY POTATOES.

The time of year is fast approaching when special thoughts must be given to this important crop, particularly the first earlies. To secure early potatoes one cannot urge too strongly the necessity of having the "sets" in proper condition when planting time arrives. The first consideration is to stand the tubers in boxes, "eyes" upwards, in a cool, light place, free from frosts or cold cutting winds, where they must be encouraged to form two or three firm, strong growths, all others being rubbed off as they appear. An occasional spray from the syringe may be required if the early varieties are backward, or brought in later. The later varieties will not require this latter attention as they should be quite early enough by planting time, providing they are all given the same box treatment at once. The boxing of potatoes may appear trivial, but it is a method which results in even foliage and a full supply of good-sized tubers, because a quick growth is being maintained, and no useless energy is spent on blanched and drawn growth previous to planting.



POTATO MIDLOTHIAN EARLY.

A fine basket of this excellent second-early potato, shown at the National Vegetable Society's exhibition by Messrs. Dobbie and Co., by whom it was introduced.

Early Varieties.

The time to plant the early potatoes will depend largely upon the position of the garden, and the part of the country. In most cases the first week in March will be soon enough. Here we plant a few rows on an early border the second week in February, between lines of peas, placing the latter so that there are three lines of potatoes between two rows of peas. The pea stakes protect the potatoes; if late spring frosts are feared a mat is thrown over the rows at night. In this way we usually are able to dig potatoes the last week in May.

Another plan is to plant at the foot of a south fence or wall, placing just one row of potatoes a foot from the wall, and parallel with it; the crop can be easily protected with boughs or canvas when necessary.

There may be many good and reliable varieties suitable for early crops, but it is not advisable to grow many sorts. A good selection of Midlothian Early is very hard to beat, whether for an amateur or otherwise, especially where the yellow varieties are sought after; this variety has a hardy and sturdy constitution, with very dwarf foliage. It is a very heavy cropper, and of splendid cooking quality. It does well both on light and heavy land, and a good breadth should be planted also for the second crop, as the variety remains fit for use over a long period. May Queen is another very necessary potato, being a heavy cropper, splendid grower, and remarkably good cooker, even when lifted quite small. Ringleader, a very early variety, that does well here, is not such a heavy cropper as the two others, but perhaps the best early flavoured potato we possess. Webb's Express, an excellent variety, heavy cropper, with shapely, medium-sized tubers, deserves to be grown more largely.

Providing the ground for early potatoes was manured and dug early, it should be in a good friable condition at planting time. Previous to planting, fork over the surface, and bring it to a good tilth. Take out trenches four in ches deep, place the "sets" therein, and cover them over with soil from hotbeds, etc., which should contain some burnt garden refuse. Keep the trenches two feet apart, and place the "sets" a foot apart.

The Second Earlies.

This batch, of course, will be larger than the earliest, and be planted on an open site. The first week in April is quite soon enough to plant, although a week earlier will be an advantage if the ground is in good condition. Superlative is a very reliable variety to grow, being of excellent flavour when lifted early, besides being an excellent cropper. Royal Kidney is another highly-flavoured variety, especially on heavy land. Carter's Flourball, a round potato, is a very heavy cropper, and quite "floury" when cooked. Windsor Castle, one of the finest-flavoured potatoes we have, is so liable to disease here that we have discarded it, but where it can be grown its flavour should give it a place. All this set should be planted in lines two feet six inches apart, and fifteen or sixteen inches apart in the rows.

G. Ellwood.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

ANGRÆCUMS.—The dwarf angræcums will now be showing signs of activity, by producing their flower scapes or growths; these should now have every assistance, and should any plants require new compost, excepting those that are likely to flower within a short period, repotting may now be done. The drainage used should be clean and ample, and as most of the dwarf-growing kinds lend themselves to basket or shallow-pan culture, every care must be taken to see that no great bulk of compost is used, and that the material is of a porous nature. In fact, the atmospheric conditions provided will determine failure or success. Sphagnum moss, chopped moderately fine and intermixed with silver sand or finely-broken crocks, will provide all that is necessary as a rooting medium, and if peat or osmunda fibre is used all the fine particles must be first abstracted; the fibre should be chopped finely and mixed in about equal proportions with the sphagnum moss. Hot, humid conditions are essential throughout the year. The larger growing kinds, A. eburneum and A. sesquipedale will also be now producing their flower scapes, and should have every encouragement. The first-named species does not usually require annual repotting, so that where the compost has decayed on the surface, it should now be removed, and fresh material be given. The spring-flowering type of A. sesquipedale may be repotted as soon as it passes out of flower.

RENANTHERA IMSCHOOTIANA.—The introduction of this species in larger quantities and its more general cultivation are a sufficient proof of its utility. The lasting qualities of the flowers, combined with grace of spike and brilliancy of colouring, render this orchid one of the most serviceable for house and table decoration through the late spring and summer months, and there is nothing more attractive for exhibition. The plants are in a more or less active state of growth during the greater part of the winter months, and during this period a warm, moist atmosphere, such as that found suitable for phalænopsis, is required, and this must be maintained, with rather more light, until the plants come into flower. During the summer and autumn, after flowering, a cool, intermediate temperature, with less root moisture, will be found suitable. Like most of this class of plant potting should not be done more frequently than is absolutely necessary. Remove as much of the old potting compost as may be thought desirable, and replace with new material, rather than disturb the roots. Here again, the condition of the atmosphere will determine the measure of success, and the question of compost is only of a secondary importance. When repotting use plenty of clean drainage and a free, open compost of finely chopped polypodium or osmunda fibre, mixed with sphagnum moss and sand, crocks, or charcoal.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

STREPTOCARPUSES. — Young plants raised from seeds sown in January should now be ready for pricking off. A compost similar to that recommended for gloxinias is suitable. The seedlings, which require careful handling, may be pricked out into pans about three inches apart. The stove shelf is a suitable place for them, and careful watering and shading from bright sunshine is necessary. Older plants which have been kept in cooler quarters may be turned out of their pots, the roots carefully reduced, and then repotted, using larger pots. A warm pit with a genial atmosphere will suit them nicely. When well rooted an occasional application of liquid manure, and also of soot water, will assist in the production of an abundance of flowers through the early summer months. An occasional fumigation may be necessary to keep down aphides.

GESNERAS FOR WINTER FLOWERING.—As the flowering season passes these may have all flower spikes removed, and for a few weeks they should occupy an open position in a warm house, in order to fully develop their corms before ripening them. To this end an occasional feeding will materially assist them. Water may then be gradually withheld, and when thoroughly ripened they may be stored under the staging until required for starting at the end of June. G. exoniensis and G. refulgens are suitable varieties for this purpose.

MARANTAS.—These beautiful stove foliage plants may be successfully grown if a strong, moist heat can be afforded. The present is a suitable time for repotting, and the soil they delight in consists of good fibrous peat, a little rich loam, and sand. Pots must be clean and well drained, for, although they enjoy liberal waterings when growing, moisture must not become stagnant in the soil. They may be increased by root division.

IXORAS.—Plants intended for late summer flowering should at once be started. When growth commences they may be repotted, using peat and loam in fibrous condition, to which a proportion of about one-seventh of sand is added. While making their growth they require shade, a moist atmosphere, and a good supply of water. As the growth is completed less shade will be necessary, and they may be kept a little drier until the flowers are formed. Like many other stove plants they are very liable to attacks of thrip, red spider, scale, and mealy bug, and great care must be taken to keep them clean. Fumigation must not be practised after the flowers have formed, for this causes them to fall.

PROPAGATION should be continued. Cuttings of Centropogon Lucyanus, Strobilanthus, Goodyeras, Plumbago rosea, and Coleus thyrsoideus are among those which may be inserted when obtainable.

SHADING.—As the sun becomes more powerful it will be necessary to attend to shading, and blinds should be fixed without delay.—H. Prime, Hatfield House Gardens.

FRUITS UNDER GLASS.

POT VINES, started in November, will now require plenty of weak liquid manure and other stimulants, especially during the second swelling, but feeding should be discontinued when the grapes begin to colour. Do not pinch the laterals more than can be helped; rather encourage leaf development, as this will improve the size and colour of the fruit. If red spider makes its appearance, sponge the leaves, as the slightest injury to the foliage at this early season will check the proper swelling of the grapes.

LATE HOUSES.—In order to give the late vines time to finish their fruit and mature their wood by the end of September, all the late houses should be closed now. Syringe the vines as previously recommended, and merely give as much fire-heat as will prevent any stagnation of the atmosphere.

PLUMS AND CHERRIES.—Where the fruits have set, either on pot or permanent trees, an advance of 5 degrees may be given in the temperature, with free use of the syringe. Later trees in flower must be kept steady with a night temperature of 45 to 50 degrees; it is fatal to over-excite them until they have set their fruits. Fumigate the house lightly just before the flowers open and again after the fruits have set, and at all times keep a sharp look out for green and black fly. Ventilate freely on all favourable occasions, but avoid draughts.

MELONS.—Be careful in the watering of these fruits at this early season, and maintain a steady temperature of 65 to 70 degrees at night, admitting a little air daily. Regulate the growths as this becomes necessary, and stop the leading shoots when they reach the top of the trellis. Fertilise the flowers as they appear, and endeavour to set as many fruits as possible at one time, so they may grow away evenly. Sow seeds for succession as recommended.

CUCUMBERS.—Early young plants should now be growing away freely; pinch the leading shoots when they have reached the top, and stop lateral shoots at the first joint as they continue to grow. More moisture may now be given, and light rich top-dressings placed over the roots whenever they appear on the surface is preferable to placing a large quantity of compost around them all at once. A hotbed may now be made ready out of doors, and any strong-growing approved varieties planted on them when ready. Throw the materials, which should consist of equal parts of litter and leaves, into a loose conical heap, and turn two or three times before making up the beds. In the meantime, have the soil made ready and the frames well cleaned and painted if necessary. —F. Jordan, Warter Priory Gardens.

THE FLOWER GARDEN.

HERBACEOUS BORDERS must now be given attention, and the surface soil between the plants should be moved. Choose dry days to carry out such work, and any planting not yet finished must be completed without delay. Keep a sharp look-out for slugs, as they are very partial to the young growths of delphiniums and phloxes at this time of the year. The surface soil of flower beds should also be stirred to give them a fresh appearance and benefit the occupants.

ANCHUSA ITALICA.—The varieties Dropmore, Opal, and Pride of Dover, are handsome subjects for herbaceous borders, and it is a good plan to raise a batch of plants each season to flower the following year. When raised from seeds, however careful one may be in saving them from the best types only, the result will be very variable; so, to procure plants to be relied upon, other methods of propagation must be resorted to. Plants which flowered last season will, in many instances, show no signs of making young growths, but if the roots are quite sound cut them into pieces two inches in length, and insert them in an upright position in pans containing sandy soil; place in a house having a moist, warm atmosphere, and they will soon commence to produce young growths from the top of the cuttings; these growths must be thinned, when large enough, leaving two or three of the strongest. Put them in large 60-size pots and grow them in a cold frame until sufficiently established for planting out in the reserve garden.

SUMMER BEDDING PLANTS.—Many of the quick growing kinds will soon need propagating, and among these are heliotropes, double lobelia, iresine, Coleus Verschaffelti, Salvia splendens, and S. Fireball, verbenas, etc. It is very essential, when raising such plants, to keep them growing without a check until transferred to the open ground, and this can only be accomplished by using a little judgment, for to have plants too forward is equally as unsatisfactory as having them too late. Heliotropes and salvias are especially susceptible to starvation, as they rapidly become root-bound.

CALCEOLARIAS, PENTSTEMONS, AND VIOLAS occupying cold frames, are growing freely, and the first-named will need more space to allow them to develop. Pentstemons and violas can be safely transferred to their flowering quarters should these be available, and the room now taken up by them will prove valuable for other subjects requiring the protection of a cold frame.—T. B. Field, Wych Cross Place Gardens.

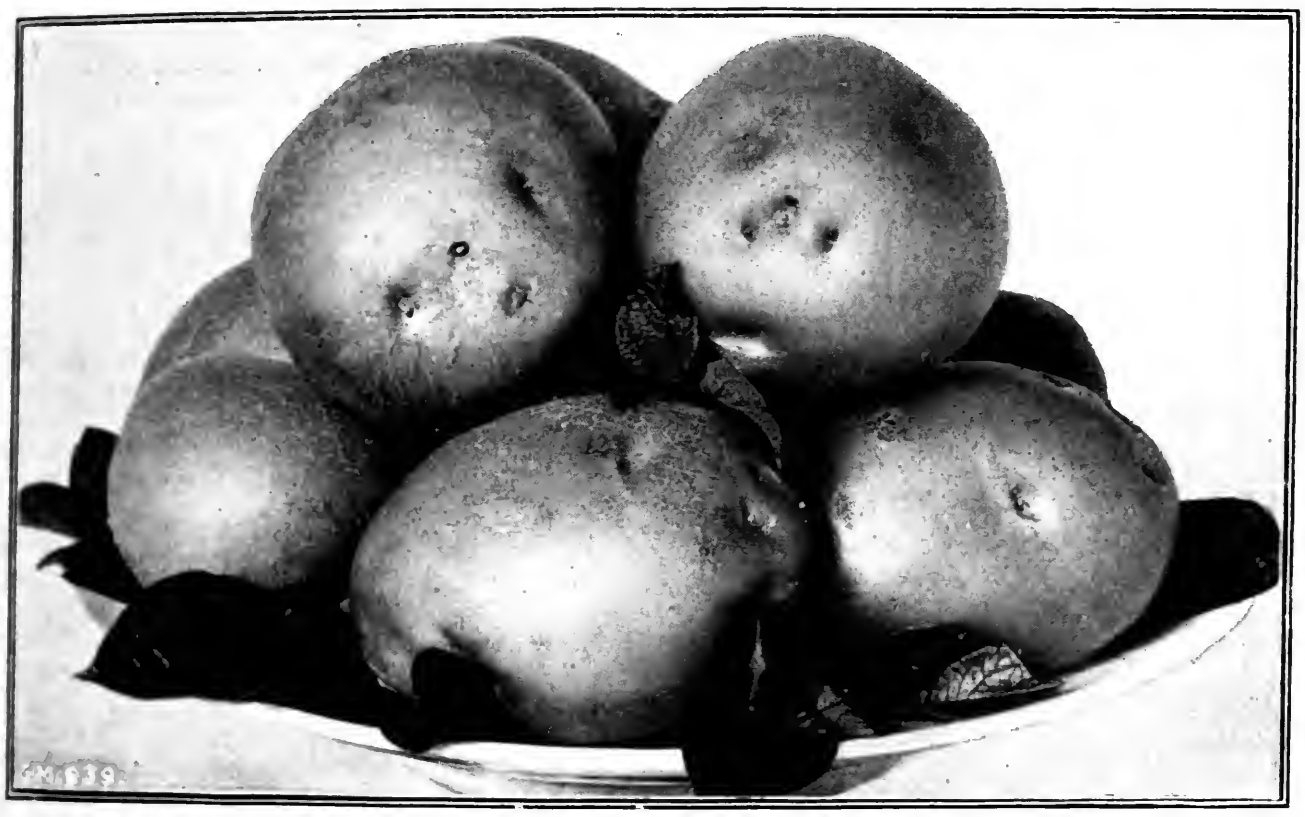
NOVELTIES IN VEGETABLES.

The novelties among vegetables are somewhat less numerous than usual this season, but they are sufficient to give added interest to kitchen gardens in which it is the practice to grow a few new varieties annually in association with others of a similar character that have taken a high position in their respective classes. They should consequently have attention at the present time. With reference to the novelties among vegetables, it may be said that there is a general agreement among cultivators of experience as to the inadvisability of growing novelties on a large scale until they have been subjected to such trial as will enable the cultivator to become well acquainted with their characteristics, and thus be in a position to determine their relative merits for meeting his requirements. With this limitation some at least of the new varieties should be grown each year, for they will give much interest, and some, at least, will be found to possess merits of so high an order as to justify their being assigned a prominent place among the high-class varieties in general cultivation. The following are a few of the more noteworthy novelties that have come under our notice.

The dwarf French beans, which are useful in all gardens, and especially so in those of which the soil is light and warm, include two comparatively new varieties that are especially deserving of attention where the merits of these vegetables are fully appreciated. These are known as Magpie and Sunrise (J. Carter and Co.). The first-named is remarkable for its large pods and great productiveness, and, while of the highest merit for outdoor culture, is admirably adapted for glass culture. The second was raised from a cross effected between Ne Plus Ultra and Carter's Perpetual, is very productive, and has much finer pods than those of Ne Plus Ultra.

Borecoles or kales do not have additions made to them, except at comparatively long intervals, hence a novelty such as Veitch's New Sprouting Kale (J. Veitch and Sons) should have a thorough trial. It is hardy and vigorous in growth; the leaves are fringed at the margin, and the sprouts, which are of excellent quality, are produced in great abundance.

Peas include several novelties of much merit, and brief mention may with advantage be made of the following: Defiance Marrowfat, a second early, and productive variety, attaining a height of four feet, and of excellent quality; and New Distinction, a late blue-wrinkled marrowfat variety of high quality, and equally suitable for exhibition and home supplies (E. Webb and Sons). Early Duke, a first early marrowfat variety, attaining a height of three feet, and producing its handsome, well-filled pods in great abundance (J. Carter and Co). King Edward, an excellent second early variety, about two feet in height, and remarkable for its productiveness, broad, well-filled pods, and the high quality and fine colour of the peas; and Sutton's Longstander, a distinct variety of the Ne Plus Ultra type, but later, more vigorous in growth, and very productive, while the quality is of the highest (Sutton and Sons); and King George, an early wrinkled variety, attaining a height of about 2½ft., and possessing heavy cropping properties. The long curved pods are well filled with large, deep green, richly-flavoured peas (John K. King and Sons).

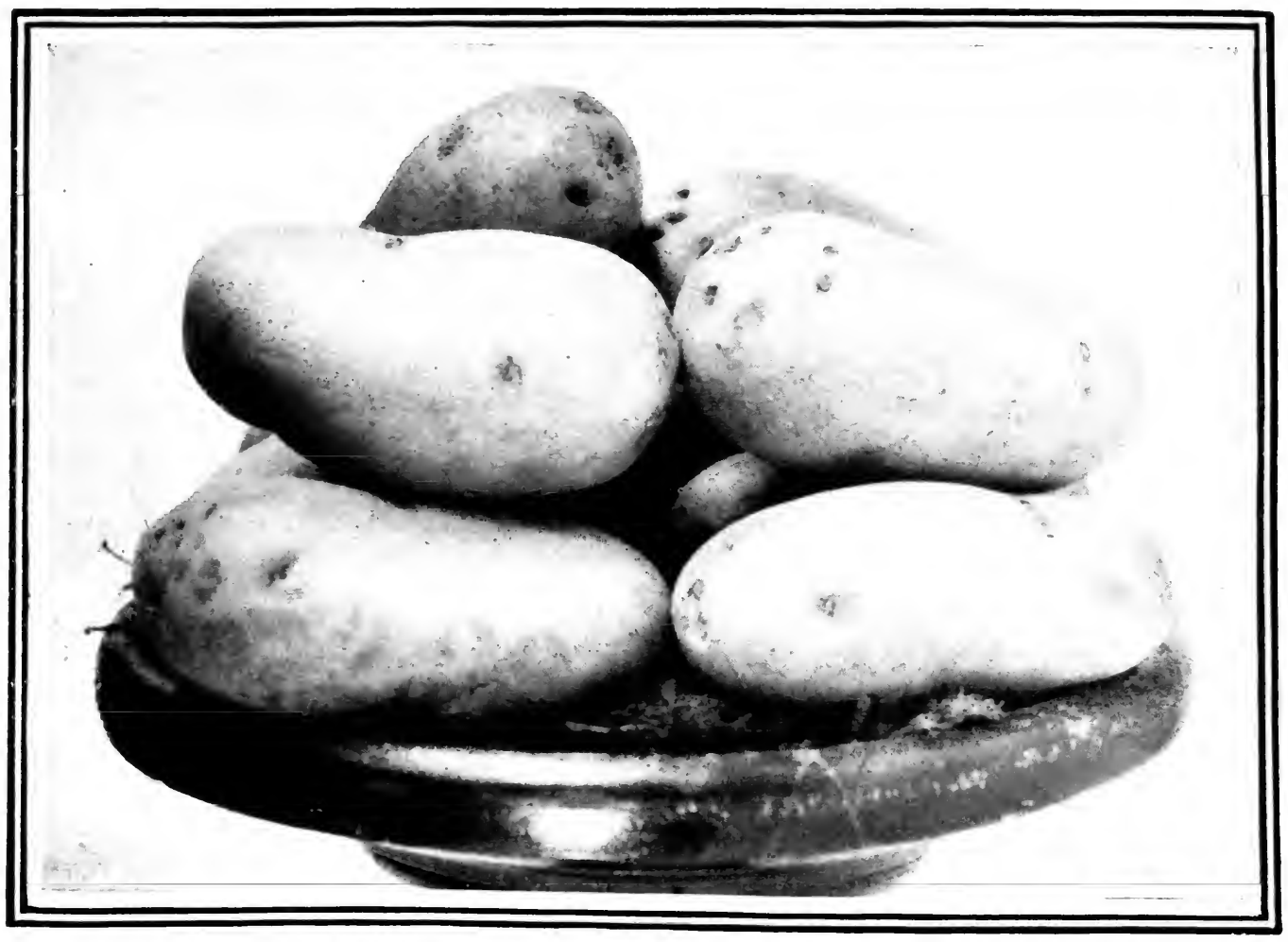


POTATO SUTTON'S BALMORAL CASTLE.
A second early white round variety, very productive and of high quality.

Potatoes of recent introduction include several that should have attention. We mention a few that have come under our notice, but they do not exhaust the list of those which should be generally planted for purposes of trial. These comprise: Imperial Beauty (Barr and Sons), a highly productive variety. The tubers have a smooth skin, and are of a good appearance, and the quality is high. This variety had an Award of Merit made in its favour in the Wisley Trials last year. Balmoral Castle (Sutton and Sons) is a round variety of great merit, and possesses much interest as the first of a new strain of pedigree potatoes introduced by the raisers. It is even more productive than Up-to-Date, the tubers are shapely with shallow eyes; the skin is white, and the flavour excellent. Balmoral Castle, which belongs to the same strain, is a second early kidney, which also is noteworthy for heavy cropping, the fine appearance of the tubers, and high quality. New First Crop (E. Webb and Sons) has the promise of becoming highly popular for first early supplies. The variety is very productive as a first early; the tubers are pebble-shaped, the flesh is white, and the flavour excellent.

Cordyline Doucetti—This is a form of Cordyline or Dracæna australis, and is very distinct and pleasing. It differs from the type in being of a more compact habit, the slender leaves being very numerous. They are, in addition, variegated with white. It is as hardy as australis itself, and is therefore useful in places where the stove kinds might be injured.—W.

Thyrsacanthus rutilans.—Plants grown more or less in standard form show off the flowers of this thyrsacanthus to the best advantage, for being borne on long, pendulous panicles, it is necessary for them to occupy a more or less raised position. Individually the flowers are tubular in shape, and of a deep scarlet or bright crimson colour. If the plants are dwarf, the pots must be raised up in order to show off the flowers to advantage; indeed, for this purpose, I have seen them sometimes suspended from the roof. For general purposes, however, small plants are the best. This thyrsacanthus is easily raised from cuttings in the spring, and the young plants must be grown on without check. They must not be kept too warm during the summer, otherwise red spider is apt to attack the foliage.—T.



POTATO, IMPERIAL BEAUTY.
A handsome and productive kidney potato of high quality. Introduced by Messrs Barr and Sons.

Lettuces of the cabbage type, with finely curled leaves, possess merit that justify their being generally grown for contributing to the summer supplies. Especially noteworthy among the varieties belonging to this type is Evercurled (E. Webb and Sons), a distinct variety, producing hearts of medium size, and of a flavour suggesting a tender endive.

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EXHIBITIONS AND MEETINGS.

East Anglian Horticultural Club.

There was a very large gathering of members of this club at the February meeting. The subject for the evening was a lantern lecture by Mr. G. A. Cowie, M.A., B.Sc., upon "The Uses and Abuses of Artificial Manures." The subject was dealt with in a plain and practical manner by the lecturer, and the slides ably depicted the effect of "this or that manuring." As might be expected, all that Mr. Cowie said was received with interest, and a discussion followed, during which it was especially pointed out that before applying artificial manures the grower ought to know something of the components of the soil he is treating. The lecturer was heartily thanked, and suitably replied.

During the evening a large number of new members were enrolled, and Mr. W. L. Wallis, the secretary, was kept busy.

The exhibition tables presented a very attractive appearance with forced bulbs in pots and also in the fruit section. Mr. F. J. Endersby, gardener to J. H. Gurney, Esq., Keswick, was commended for his cyclamen, primulas, and cattleyas. Mr. W. Shoesmith staged a choice bunch of exotic flowers, orchids predominating, whilst the display of carnations put up by Mr. D. Cockerill, gardener to G. E. White, Esq., Eaton, contained blooms as good as one could wish for.

North of England Horticultural Society.

The annual meeting of the North of England Horticultural Society was held at the Queen's Hotel, Leeds, on the 19th ult., under the presidency of Major J. W. Dent, the chairman of council.

The report of the council showed that there had been a large increase in the membership during the past year, the number of Fellows and members being 506, as compared with 414 in the previous year. The scientific and educational work had been carried on successfully, and the exhibitions had been unique as educational factors. The latest plants had been exhibited, while a high standard had been maintained at the shows. Regret was expressed that in spite of the increased membership the accounts showed a serious adverse balance at the end of the year. The council were prepared, if the members so decided, to carry on the society during the current year, and they hoped that by rigid economy and an increased membership a further deficit might be avoided. If by September 30 it was evident that the membership would not be increased to the extent looked for, the council would call a general meeting to consider the position. In order to carry on the society on its present lines an annual income of £500 was needed.

The balance-sheet showed that the expenses had amounted to £829, and that there was a deficit on the year's working of £255. The subscriptions had amounted to £277.

The Chairman, in moving the adoption of the report, said there were certain matters they might congratulate themselves upon, and some points which required their very serious consideration. He thought the steady increase in the number of Fellows showed that the society was attracting attention throughout the North of England, and was doing good work in stirring up interest in horticulture generally. Financially the society had done a shade better than in the previous year, the deficit being £255 as compared with £262 in 1911. They could not, however, continue to face a deficit of upwards of £250 a year. The only way in which the deficit could be obviated was by an increased membership. They could not hope to obtain any material revenue from the shows. All they could hope was that they might pay their way. It lay with the members of the society to say that day whether they thought the society was doing good work, and whether there were possibilities of good work in front of it.

The motion was seconded by Professor R. S. Seton, and a discussion followed, in which Mr. Mansell, Mr. J. Donoghue, and Mr. W. Lawrenson took part. At the close of the discussion the Chairman briefly replied, and the reports and accounts were adopted, and the proposal to carry on the society was agreed to.

It was resolved that a meeting and lecture, with opportunities for the exhibition of plants for certificates, should be held in Leeds on the second Tuesday in each month, except in the months when the society holds its own shows. A spring show will be held in Bradford in March, a summer show at some place to be determined later, and an autumn show in Leeds.

Earl Grey was re-elected president; Mr. Rupert E. Beckett, treasurer; and the Rev. J. Bernard Hall, secretary.

Broughty Ferry Horticultural Association.

The February meeting was held in the Y.M.C.A hall, and Mr. Jas. Bethel presided over a good attendance of members assembled to hear a lecture on "Sweet Peas" delivered by Mr. John Macher, head gardener at Fothringham. In introducing the lecturer, the President took occasion to point out the phenomenal success which had attended Mr. Macher's methods of sweet pea culture during the past two or three years; last year especially this success was very marked wherever he competed. He had won many trophies and some valuable cups at the principal shows in Scotland.

Mr. Macher first gave a short history of the sweet pea and its evolution. His methods of cultivation briefly were to place his order for seeds early in October, and sowing in 5-inch pots from the middle to end of November, plunging the pots in leaf-mould in a cold frame, where the seeds were allowed to germinate and remain throughout the winter, matting them up during very severe frost, and giving air on all favourable occasions.

Holding up some sturdy little plants about three inches high, he defied his audience to produce such specimens from seeds sown in heat in January or February. They might get them as tall, but they lacked constitution, and were destitute of anything like woody fibre which enabled them to start growing immediately after being planted. Planting he performed about April 16 in ground trenched two spades deep, the soil being well mixed with farmyard manure, if possible, in the autumn, when basic slag was added as the work proceeded. In February he advocated forking over the ground, and at the same time giving a dressing of 7lb. superphosphate and 7lb. sulphate of potash to 20 yards' run of trenches, which were 6 feet wide. For planting he favoured double rows, placing the plants 2 feet by 1 foot apart, and, defying superstition, he always planted 13 plants of each variety. Staking he divided into three operations; twigs at first to protect the plants, then three or four feet branches later on, and when they were no longer serviceable he placed others from 10 to 12 feet high, securing the tops to wires strained from each end. He allowed three stems to grow to each plant, all side growths being removed, and the plants never allowed to fully develop their flowers. When the first two flowers on a spike were expanded he cut the spike and let the others develop in water. He believed in cutting such flowers from 12 to 36 hours before a show.

After giving a list of varieties and many hints on staging, he finished up with some hints on judging. A profitable discussion ensued, when many other aspects of sweet pea cultivation were mooted, and all expressed their agreement on the popularity of the lecturer and his subject.

Mr. Alex. Duncan, Carbet Castle Gardens, was awarded the monthly prize for a well-flowered Dendrobium nobile, while the President exhibited a collection of forced narcissi, Tulip Prince of Austria, and Sutton's Pot Myosotis. Votes of thanks to all contributors closed the proceedings.

Dumfries and District Horticultural Society.

A meeting of those interested in the formation of a new horticultural society, to hold an annual open show of flowers, fruit, and vegetables in Dumfries, was held in St. George's Hall, Dumfries, on the evening of February 15. There was a large attendance, and Mr. S. Arnott, Sunnymead, was called to the chair. The draft rules, etc., of the society, as submitted by the committee appointed for the purpose, were considered seriatim, and approved after some alterations had been made. It was agreed that the title of the society be "The Dumfries and District Horticultural Society." The election of office-bearers was then proceeded with, and the following appointments were made with unanimity: President, Mr. S. Arnott, Sunnymead; vice-presidents, from the nursery and seedsmen, Mr. A. W. M'Alister; from the gardeners, Mr. W. Hutchison, The Gardens, Terregles; from the amateurs, Mr. J. Maxwell Gray. Eighteen members of the committee, six each from nurserymen and seedsmen, from the gardeners, and from the amateurs, were elected. Mr. J. L. Armstrong, who has been interim secretary, was elected secretary and treasurer.

Dumfries and Galloway Gardeners' Association.

A meeting of this association was held in St. George's Hall, Dumfries, on February 22. There was a good attendance, Mr. S. Arnott presiding. After the usual formal business, the Chairman called upon the lecturer of the evening, Mr. W. Taylor, The Gardens, Brocklehurst, Dumfries, to give his paper on "Landscape Gardening: Gardens Old and New." Mr. Taylor gave an able paper, covering a comprehensive survey of the different styles of gardens for a long period, and giving a concise summary of this part of his subject. The gardens of the present day and their various styles were also discussed in an impartial manner, and the paper concluded with a number of practical details calculated to be of service to those laying out a garden. These included principles to be followed in the laying out and planting of the grounds and gardens.

Mr. Taylor's paper was an excellent one, and was much appreciated, as was evident from the general tone of the interesting discussion which followed, and was taken part in by several speakers, including the chairman and Messrs. Reid, Hutchinson, Pritchard, Croall, and Nicholson. Mr. Taylor was heartily thanked for his interesting contribution.

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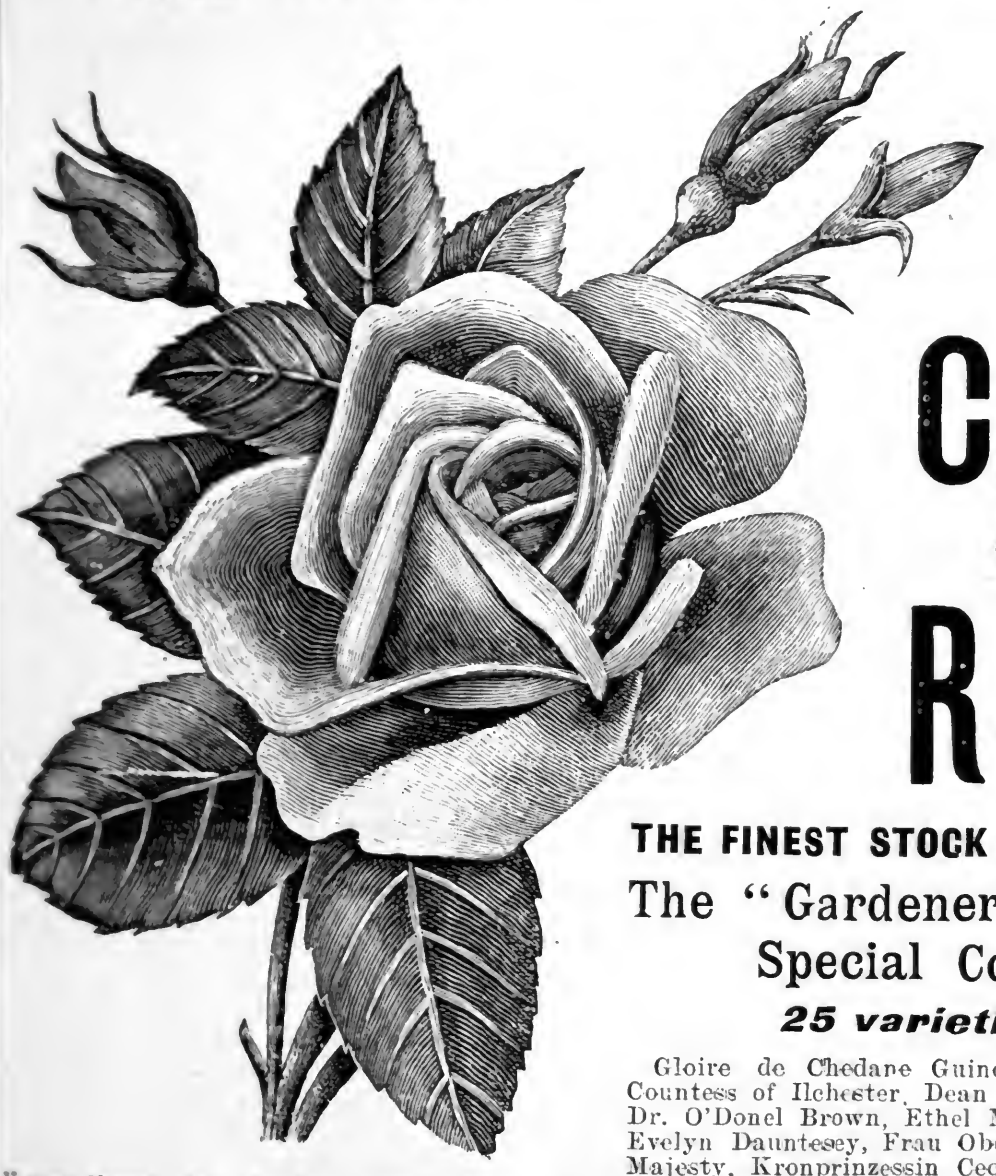

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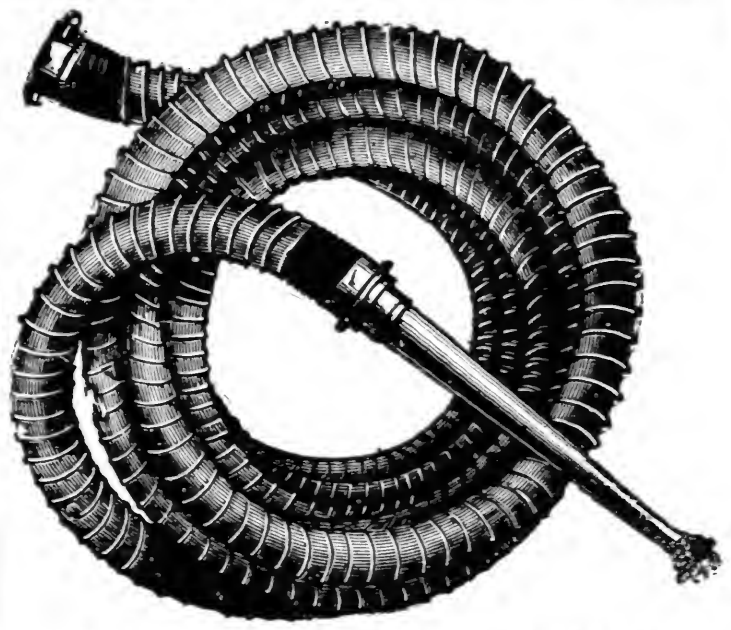

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Birmingham Union of Horticultural Societies.

The Birmingham and Midland Union of Horticultural Societies, which was inaugurated in June last, and to which thirteen societies are now affiliated, held their first annual meeting at the University the other evening, with Councillor Neville Chamberlain in the chair.

Mr. William G. Carradine presented the report, which mentioned that nine council meetings and committee meetings had been held, and these had been instructive and helpful, so much so that the means of communication which had now been made possible among the various societies had in itself fully justified the existence of the Union. One of the most important branches of the work of the Union was the prevention of dishonest exhibiting, and the council intended to take active steps in the matter. Arrangements had also been made to provide all affiliated societies with an approved list of lecturers, together with the subjects of their lectures.

On the motion of the President, the report was approved.

Mr. Thomas Silver, chairman of the Union, proposed a vote of thanks to the President for his services, and expressed the opinion that this year the societies would feel the benefit of being amalgamated.

Mr. Chamberlain was re-elected president, Mr. Silvers chairman, Mr. Carradine hon. secretary and treasurer, and Mr. William Marriott hon. auditor.

Mr. Carradine afterwards gave an address on "Some Difficulties of Flower Show Schedules."

Croydon Gardeners' Society.

A subject of great interest to gardeners, especially the hybridist, was considered by the members of this society at its last meeting. The interest in the subject was manifested by the big attendance of members, when the lecturer, Mr. E. J. Allard, from the John Innes Horticultural Institution, Merton, gave a very instructive discourse on "Pollination and Fertilisation." A study of Nature's methods of pollination is a very engrossing one, and one which the hybridist must copy when artificial means are brought into force. Science in horticulture has advanced with good strides, and made what appeared impossibilities years ago actual accomplishments at the present time, hence we have now forms of fruit, flowers, and vegetables, bearing the character of the two parents, obtained with artificial aids, yet differing in the progeny from the parent plants.

Mr. Allard explained with lantern illustrations the process of pollination, and passed on to the different methods of distribution of the pollen grains. Wind and insects play a very important part in this carrying the pollen grains to the receptive stigma of a plant of similar order and fertilisation takes place. Water is also a factor in pollen distribution, and a good illustration is found in the Vallisneria spiralis. The pollen from this plant rises from the flower hidden low in the water and floats on the surface until it comes in contact with the receptive flower also floating on the surface.

Colour attraction to insects was explicitly dealt with by the lecturer; flowers which contain honey are a source of attraction to insects, which, in gathering the honey, transfer the pollen from one flower to another.

Experiments in fruit growing, principally with plums and apples, have proved the great advantage of mixed varieties in an orchard. Some are practically self sterile, and if pollen from another variety can be introduced to the flowers if will ensure a crop. A good many tests have been made in this way by Mr. Allard, and practical information like this was much appreciated by the audience.

The principle of the Mendelian Law is now a governing factor with hybridists, and is proving of great benefits in the science. Demonstrations of this theory were given by the lecturer, and were keenly followed.

With such a subject there were several questions requiring answers, and to each member who raised a query Mr. Allard responded in a generous spirit.

Very unanimous was the hearty thanks of the meeting conveyed to Mr. Allard upon the conclusion of the lecture, and the members appreciated the fact very much that such a college as the John Innes Horticultural Institution is in the neighbourhood.

An exhibition of forced plants was made by Mr. T. Butcher, who staged sprays of double peach blossoms. Mr. T. W. Hayden brought a vase of Sir Watkin narcissus, and two dishes of culinary apples were shown by Mr. W. Paulley. Mr. A. Edwards contributed a dish of pears, all of which lent attraction to the meeting.

Chester Paxton Society.

The second meeting of the session was held recently at the Grosvenor Museum, when a lecture, entitled "Plant Life and Its Place in Nature," was given by Mr. J. D. Siddall, J.P., F.R.M.S., and was fully illustrated with original lantern slides. Mr. John Weaver, of Christleton Hall Gardens, presided over a large attendance of members, who showed keen interest in the subject. At the outset Mr. Siddall clearly described the three kingdoms of Nature—Mineral, Vegetable, and Animal; and explained their distinguishing characters and relations to each other. Proceeding, he showed how plants were dependent upon the mineral kingdom, and how they made from mineral matter the food that was indispensable to the life of animals. Hence, the vital importance of a thorough study of all the details of vegetable life. Beginning with descriptions of some of the simplest forms of living organisms, and concluding with the most highly-specialised plants, such as our forest trees, the lecturer lucidly described the life-history, structure, and functions of many typical examples, which were aptly illustrated by the lantern slides.

The meeting closed by a vote of thanks to the lecturer, on the proposition of Mr. N. F. Barnes, seconded by Mr. Wakefield, and supported by the Chairman and the Hon. Secretary (Mr. G. P. Miln).

FORTHCOMING ENGAGEMENTS.

TUESDAY, March 4.—Royal Horticultural Society; Narcissus Committee meets at 11.30; Fruit, Floral, and Orchid Committee at 12 o'clock; Lecture at 3 p.m. on "The Spring Flower Garden," by Mr. W. H. Divers, V.M.H.; Scientific Committee at 4 o'clock.

Horticultural Club Monthly Dinner and Conversazione at the Hotel Windsor, Westminster; Mr. E. A. Bunyard will lecture on "The Introduction and Development of Some of Our Hardy Fruits," and will illustrate his remarks with lantern slides.

Royal Horticultural Society's Show of Forced Spring Bulbs—two days.

Scottish Horticultural Association.

WEDNESDAY, March 5.—Royal Society of Arts, John Street, Adelphi, W.C.: Lecture on "The Development of Research Work in Forest Products," by Mr. E. Russell Burdon, M.A.; chair to be taken at 8 p.m. by Lieut.-Colonel Sir David Prain, Director of The Royal Gardens, Kew.

Royal Horticultural Society's Show of Forced Spring Bulbs; second day.

THURSDAY, March 6.—Birmingham Horticultural Society; Lecture on "Hardy Annuals, Asters, and Stocks," by Messrs. H. G. Cox and F. Townsend, in the Lecture Theatre, University, Edmund Street at 8 p.m.

Linnean Society Meeting.

MONDAY, March 10.—United Horticultural Benefit and Provident Society.

TUESDAY, March 11. Surbiton Spring Show.

WEDNESDAY, March 12.—Clevedon Spring Show. North of England Horticultural Society's Spring Show, at Bradford.

THURSDAY, March 13.—Torquay Spring Show.

TUESDAY, March 18.—Royal Horticultural Society; Narcissus Committee meets at 11.30 a.m.; Fruit, Vegetable, and Floral Committees at 12 o'clock; Lecture at 3 p.m. on "The Romance of Weeds," by Mr. R. Lloyd Praeger, B.A.; Scientific Committee at 4 o'clock.

SATURDAY, March 29.—Paisley Spring Show.

ANSWERS TO CORRESPONDENTS.

A GOOD SUBSTITUTE FOR STABLE MANURE.—R. F. B., Middlesex: For reasons with which you need not be troubled, I have a considerable amount of planting that I am desirous of completing before the season is too far advanced for such work to be carried out with success. One of the greatest difficulties that I have had to contend with in the preparation of the soil has been the small amount of stable manure available in the district in which I reside. Some of my friends who have good gardens tell me they have used spent hops with the most satisfactory results. I shall be greatly obliged by your informing me whether hops can be used as a substitute for stable manure in the preparation of ground for spring planting, more especially for beds and borders in which roses and choice shrubs are to be planted.—Spent hops are useful for adding humus to the soil and for mulching beds and borders during the summer, but they cannot be regarded as a good substitute for stable manure. The probability is that your friends referred, not to spent hops but to the hop manure prepared and sold by Messrs. Wakeley Brothers and Co., which is a very different substance. Wakeley's Hop Manure, while clean to handle, and in no way objectionable in smell, is so rich in nitrogen, phosphates, and potash, as to afford the various forms of plant life the food essential to their full development. We have used Wakeley's Hop Manure with much success for roses and flowering and other shrubs, and consider it a most useful fertiliser, especially for ground that has to be prepared a short time before the time of planting, there being no risk of injury to the delicate fibrous roots as is sometimes the case with stable manure.

WINTER-FLOWERING PELARGONIUMS.—H. B. B., Lymington: What is the best time to strike cuttings of zonal pelargoniums to produce good plants for winter flowering?—February and March are the best months in which to insert cuttings of pelargoniums when winter flowering is the end in view. Place the cuttings singly in small pots, in sandy soil, in an intermediate house. Pot them as soon as nicely rooted, and at an early date proceed to harden the plants by admitting plenty of air. A pit or frame will afford all necessary protection after this period until the plants have become well rooted in 32-sized pots, when open-air treatment is best. Choose a sunny position, and stand the pots on boards, slates, or a hard ash base. Pinch out the growing point on several occasions to secure bushy specimens, but do not stop the growths later than August. House the plants early in September, and, if possible, allow them a light, airy house where a temperature of from 50 to 60 degrees can be easily maintained through the winter. A dry atmosphere is essential, and the ventilators next the hot-water pipes should only be quite closed during very severe weather.

JIMSON WEED.—H. R. B., Wolverhampton: A friend of mine resident in the United States mentions the Jimson Weed in letters to me. I cannot find what plant it is he refers to under this quaint title, but perhaps you can enlighten me.—The Jimson Weed is Datura Stramonium, an annual plant fairly common in England, and, by reason of its spiny fruits, known popularly as the Thorn Apple.

PRESERVATION OF WOODEN LABELS.—M. W., Coventry: I have an idea that some time ago you referred to a method of dealing with wooden labels in such a way as to ensure their preservation for a much longer period than they usually last. If you will again give the method I shall be greatly obliged.—The life of wooden labels can be considerably prolonged if they are laid in a strong solution of sulphate of iron (copperas) until thoroughly soaked with the liquid. Lay them out to drain, and as soon as dry place them in lime water. The result of these soakings is a chemical action

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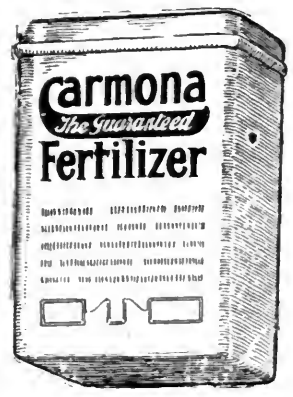

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In bags, 14lbs. **4**/**6**, 28lbs. **7**/**6**, 56lbs. **12**/**6**, 112lbs. **20**/-

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which causes the formation of sulphate of lime in the wood tissues, and this sulphate is very insoluble, hence the labels are more enduring than those not treated.

COLLINSIA BICOLOR.—D. W., Ross: I am very fond of the old pale blue and white-flowered annual named Collinsia bicolor, but it is so short lived, as a rule, that I fancy there must be something wrong with my methods. Will you please tell me the best way to manage it?—If seeds are sown in August where the plants are to flower, and the seedlings are thinned to six inches apart, a goodly proportion will survive the winter provided the soil is well drained and not heavy and cold. Sometimes all the autumn-sown seedlings are killed by damp and cold, therefore if a few dozen seedlings are kept, singly, in small pots, in a cold frame, to be planted out in March, disappointment will be avoided. These autumn-sown plants come into flower quite early, and have usually run their course by the end of June, so that if proper arraugements are made their places can be filled by other subjects to give a later display. Spring sowing out of doors should take place as early as the weather permits during March. Choose a sunny spot, sow thinly, and thin out the seedlings quite early.

SWEET PEAS.—J. T. P., Ipswich: Kindly recommend me a handy book upon sweet peas; one dealing with the culture of these flowers for garden decoration and for exhibition, and giving information as to varieties, manures, etc.—"Sweet Peas and Their Cultivation," by C. H. Curtis, contains all the information you will require. It can be obtained from the Gardeners' Magazine Office, 148 and 149, Aldersgate Street, E.C., for 1s. 2d.; on 1s. 8d. (cloth bound), post free.

RINGING FIGS.—"Hibernia" writes: In your issue of February 22 (p. 144), "A. B.," Bradford, remarks that he wishes to take layers from a bush fig tree. Some 13 years ago I desired to convert a fig-house into a vinery, but my employer would not give his consent unless I would guarantee a supply of figs equal to that which he had the previous year. This I did, and, as the method I employed to secure the result may be of service to "A. B." in attaining his object, I have much pleasure in stating it. Of course, it is well known that figs are not difficult things to layer, but the question is: which is the best way to proceed? In order to fulfil my promise, I knew I must get roots on all the principal branches, and not give them any appreciable check when they were removed from the parent plants. This I succeeded in doing by finding sufficient split, 9in. drain pipes, each 2ft. long, and placing them in positions to admit the branches at the desired points. Those split pipes were then filled with a rich, open compost, and the branches ringed just under a joint and buried in the rooting medium. The atmosphere of the house was kept moist as well as the compost, and although I now speak from memory, I think the whole mass of compost was a mat of fibrous roots within a month. I severed the connection with the old plant, carefully preserved the mass of soil and fibres in the split drain pipes, and had them carefully planted in a newly-made border. This done, I took the precaution to guard against a check in case the border should be cold by soaking it with water at a temperature of 90 degrees. This warmth at the root acted like magic on the plants, for they went off into growth with a rush, and perfected more and much finer fruits than they did the year before. So great was the success of ringing with these figs that I have adopted the same means of securing other plants for special purposes by it, and if "A. B." will follow out my plan, he need have no fears. As "ringing" rarely comes into the horticultural vocabulary, I would like to refer to another success I met with in adopting it, and which will show that by employing this method of securing young plants of certain things it is possible to produce what is otherwise unattainable. A number of scarlet chestnut plants were wanted in 5½in. pots, well set for flower, so that they could be forced. Strong growths, with prominent buds, were selected when the wood was fairly firm; these were ringed just under a joint, and had a ball of moss and leaf-soil tied round them and kept moist. These growths were about a month, so far as I can remember, in filling the material with roots, and were then cut from the trees and potted. In due time they were forced, and produced quite a sensation. Other plants could be treated in a similar way, and fine stuff secured for forcing purposes should they be desired, if the method of ringing is adopted. By "ringing," it is meant that about an inch or more of bark is completely removed from the branch or stem that is to be operated upon.

NAMES OF PLANTS.

T. N. G., Tiverton.—1, Cattleya Trianæ, a very poor form; 2, Odontoglossum cirrhosum.

C. L. R., Wolverton.—1, Dracæna Massangeana; 2, D. Goldieana; 3, D. reflexa; 4, D. Baptisti.

W. W. W., Hoddesdon.—1, Pelargonium quercifolium; 2, P. tetragonum; 3, Vallisneria spiralis; 4, Panax Victoriæ.

E. F. S., Chertsey.—1, Ribes sanguinea; 2, Garrya elliptica; 3, Saxifraga Elizabethæ; 4, S. Burseriana; 5, Exacum affine; 6, Acalypha Macafeeana.

THE R.H.S. FORTNIGHTLY SHOWS.

In the report of the R.H.S. exhibition held on February 18, mention is made of the rock garden displays and collections of hardy flowers, which, it is alleged, have become somewhat monotonous, the same style of arrangement and the same kinds of plants being repeated time after time. There is truth in this allegation, although it is assuredly equally applicable to the perpetual carnations, the forced shrubs, mostly of Continental origin, and in summer to the sweet peas. The absolute fact is that very many of the exhibits brought to the Horticultural Hall lack the quality and merit that should mark everything staged at the exhibitions of the Royal Horticultural Society. The aggravating part about it is that whilst much of the Hall space is occupied by exhibits of little worth, the walking space in the Hall is so cramped that visitors find it almost impossible, and certainly very uncomfortable, to struggle round to see what is really worth seeing.

Is it not time the council took steps to remedy a state of affairs that is without doubt giving rise to a spirit of discontent among those who are finding a visit to the show rather a task to be shunned than a pleasure to be enjoyed? Could the shows not be classified in some way? Say, for instance, one meeting a month to be devoted to stove and greenhouse plants, indoor fruits, etc., and the next meeting to outdoor subjects only. As an alternative it might be advisable to limit individual exhibitors to one exhibit per month, also placing certain limits on the extent of each exhibit. Whichever of these courses are adopted, it would to a certain extent reduce the pressure upon space, and if a system of censorship were instituted whereby any exhibitor who staged an exhibit unworthy of the society would be prohibited from exhibiting again for a period of three months, there would be little fear of indifferent plants or produce putting in an appearance. Corrigenda.

Stirchley Amateur Rose and Viola Association.—A new society has been formed to serve the districts of Stirchley, King's Norton, Northfield, Bournville, Selly Oak, and King's Heath, and the first show will be held on July 5, 1913. Mr. W. Ebling, 223, Beaumont Road, Bournville, is the hon. secretary and treasurer.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

Date. 1913. February 16 to February 22.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 16—Sunday	3 42	31	31	45	29
,, 17—Monday	0 12	37	36	42	31
,, 18—Tuesday.....	5 36	31	31	37	31
,, 19—Wednesday..	3 36	33	32	39	30
,, 20—Thursday....	—	33	32	38	32
,, 21—Friday.....	2 36	38	35	42	32
,, 22—Saturday.....	2 0	35	35	42	31
	(total)				
Means	17 42	34	33	40	31

Date. 1913. February 16 to February 22.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Feb. 16—Sunday	—	40	41	44	21
,, 17—Monday	0·04	39	41	44	26
,, 18 Tuesday.....	—	39	41	44	23
,, 19—Wednesday..	—	38	40	44	24
,, 20—Thursday....	—	37	39	43	27
,, 21—Friday.....	—	37	39	43	26
,, 22 - Saturday....	—	38	39	43	20
	(total)				
Means ...	0·04	38	40	43	24

Snow fell on Monday, February 17.

FORTHCOMING EVENTS.

Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.
Ealing Horticultural Society, July 9.
Ulverston Rose and Sweet Pea Show, July 18.
Worth Horticultural Society, July 30.
Ranmoor Floral and Horticultural Society, Aug. 4.
Swanage Horticultural Society, August 4.
Horsley Horticultural and Cottage Garden Society, August 16.
Ashton-under-Lyne Horticultural Association, September 6.
Bedford Chrysanthemum Show, November 12.

NEWS FROM HEADQUARTERS.

THE EXHIBITOR'S OPPORTUNITY.

The humble copper would not buy your morning paper were not hundreds of thousands of copies sold.

Nor could timepieces be offered at a few shillings were they not manufactured by the tens of thousands, thereby reducing the working expenses to a minimum.

You cannot judge value by price.

It is only the enormous demand for Carters "Exhibitor's" collection of vegetable seeds that admits of their being sold at the price of half-a-guinea, packing and postage free. This favourite collection, with which amateurs are so extraordinarily successful in prize-winning, contains thirty packets of absolutely the best of everything in vegetable seeds. It includes the four finest varieties of Peas, three varieties of Beans, two each of Beet, Cabbage, Cauliflower, Carrot, Celery, Lettuce, and Onion, and one each of Borecole, Brussels Sprouts, Savoy, Cucumber, Leek, Parsnip, Tomato, Turnip, and Vegetable Marrow—all tested seeds from the best re-selected stocks.

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LONDON, S.W.

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Carnations.

To no new or rare plants are the pages of our present issue chiefly devoted, but to flowers that have been cultivated, and highly appreciated, for upwards of three centuries by the flower-loving community, and have received the care and exercised the skill of many generations of florists, whose work, if not always conducted on the lines that we could have desired, is deserving of the respect of those who have an affection for the carnation in its diversity of form and colouring. During the three hundred or more years that carnations have had a place among cultivated flowers in British gardens they have, on the whole, been held in high estimation, the poets have sung their praises, authors have written in advocacy of their claims for a prominent position in the garden, and a comparatively large body of cultivators have given freely of their time and thought to the production of flowers in the highest state of development, and to the creation of forms differing from those already in cultivation either in habit, form, or colour. They have, like other flowers occupying a prominent position, had their vicissitudes, as well as their periods of popularity. These, it may be assumed, have been due, in part, to the vagaries of fashion, and in part to the lines that were now and again followed by different generations of florists who were more or less closely associated with carnations. According to Chaucer, the clove was cultivated in this country in the reign of Edward III., and there is ample evidence that carnations generally were highly esteemed during the reign of Queen Elizabeth. Shakespeare, writing of them, says: "The fairest flowers o' the season are our carnations." Gerard states that he had a yellow carnation in his garden "which a worshipfull marchant of London, Master Nicholas Lete, procured from Poland." Parkinson, who followed Gerard, gives the names of forty-nine varieties that were cultivated during the reign of Charles I., whose Queen was especially partial to flowers. Carnations experienced a setback during the troublous times towards the close of the reign of the last-named King and the Commonwealth, in 1665 Rea stating in his "Flora," that there were formerly many good varieties, of which but few were then to be found in gardens. Concurrently with the decline at that period in the popularity of carnations in this country, their cultivation was taken up in Holland, and Rea states that he knew more than one hundred Dutch varieties, all of them having "fair large and double flowers." From this time they appear to have received greater favour, for in the second edition of his work, published

MR. H. PRENTICE.

some years later, three hundred and sixty varieties are mentioned as being then in cultivation. Passing through a period of two centuries, we find carnations under a cloud, as far as the garden was concerned. There was a large and earnest band of florists engaged in their cultivation, and successful exhibitions were held, but very little was done to increase their usefulness for adding to the attractions of the garden or for the supply of cut flowers for beautifying the home, and for personal adornment. The aim of both cultivators and raisers appeared to be the development of flowers for the exhibition stage, and in this they achieved much success. Necessarily, border varieties obtained no advantage therefrom, and, in course of time, they lost much of their popularity. Recognising the need for reform, the late Mr. Martin Smith, who was for some years president of the National Carnation Society, and raised many beautiful varieties, made strenuous endeavour to bring about a much-needed reform, and succeeded beyond expectations. As the result of his efforts the exhibitions were increased in interest and attractiveness, varieties that thrive in open borders were brought into prominence, and their cultivation greatly increased. Since the period of this reform, more than a quarter of a century ago, the society has largely increased in influence and usefulness, and enjoyed the support of all classes who appreciate the charms of the several sections that have been long in cultivation. Since the initiation of the changes here referred to much has happened in the world of carnations, and, as one result, we have now the perpetual carnations, which have made their way into the majority of gardens and trade establishments, and are now grown in such immense numbers that the figures would be startling were it possible to give a correct record. As the merits of the perpetual varieties had, necessarily, to be determined on lines somewhat different from those which were followed in the case of the border and show varieties, it was seen that a special code for judging new varieties should be prepared. The National Carnation and Picotee Society was invited to take the matter in hand, with the co-operation of some of the leading authorities on the perpetual varieties. Unfortunately, the existing society failed to recognise its responsibilities, and no steps were taken in connection with it. Accordingly a society in the interests of the perpetual carnations was formed, and it has done such excellent work as to fully justify its existence. The older society, in the special sphere of its activities, has also done, and is doing, good work, and this matter is not referred to because of any laxity on the part of either body. We refer to it because of the undesirability of splitting the varieties of any flower into two or more sections, and setting up a society for each. What we might have had, and, indeed, should have had, is not two societies, but one, and that a National Carnation Society which would unite in the bond of membership all who are actively interested in the flower. We may, perhaps, have some day a society such as the one we have in our mind, but for the present we shall have to be satisfied with the existing state of

things, and do all that is possible to promote the development of the several classes as garden flowers. In this connection it might be well to consider whether it might not be possible to amalgamate, not the two societies, but the border and perpetual carnations, with a view to increasing their value for decorative effect in the open. It would unquestionably be an immense advantage to considerably extend the season of the border varieties, and increase the hardiness of the perpetual section, and render their flower stems more rigid. What is greatly needed for the further popularisation of these flowers for outdoor culture is a race that will bloom freely throughout the summer and autumn, and be so hardy as to be able to successfully battle with the climatic conditions that obtain in this country. Seeing what has been accomplished in connection with carnations and some other flowers that might be mentioned, a consummation so much to be desired should not be regarded as impossible.

Mr. H. Prentice.—The subject of our illustration belongs to the younger generation of head gardeners, who are ably carrying on the traditions established by what is known as the old school. Mr. Prentice started seriously on his gardening career at Hewell Grange, the Earl of Plymouth's fine Worcestershire seat, and it was in those early days that he learnt to realise that important as the glass department may be, the care of the outside garden is even more so, and these precepts he has put into practice since he became a head gardener. After remaining at Hewell Grange, the young gardener removed to the Pastures, near Derby, where he stayed two years before moving again to the beautiful home of Madame Patti (Baroness Cedérstroom) where he had charge of the winter garden, conservatory, and plant houses. The next change was to a foremanship at Lord Joicey's establishment at Gregynog Hall, Montgomery, under Mr. J. Jackson, of whose tuition Mr. Prentice speaks very highly. The subject of our illustration became head gardener to W. J. Gordon-Canning, Esq., at Hartpury House, near Gloucester, about seven years ago, and during that period he has established a reputation for himself as being an excellent gardener and capable organiser. A believer in education, Mr. Prentice impresses on his subordinates the importance of taking fast hold of instruction, and, though he is too modest to talk about himself, the garden under his charge bears ample testimony to his capabilities. In short, Mr. Prentice is a worthy example of a capable, well-informed, and intelligent young head gardener, and while this type remains, gardening will not go far wrong.

Testimonial to the Rev. W. Wilks.—Mr. W. A. Bilney, J.P., asks us to announce that the fund for the testimonial to the Rev. W. Wilks—who, as our readers are aware, has just completed twenty-five years of service as secretary of the Royal Horticultural Society—will be closed on Tuesday, March 25, hence intending subscribers are requested to send their contributions at an early date to the London County and Westminster Bank, 173, Victoria Street, Westminster, S.W.

The Davidson Annual Cup.—The Council of the Royal Horticultural Society have accepted the offer of an annual silver cup from E. H. Davidson, Esq., of Borlases, Twyford. In 1913 it will be awarded in open competition at the Spring Show at Chelsea, on May 20 to 22, for the "finest cattleya, not a hybrid, in the show." The decision of the Council will be final, and the cup may be withheld altogether at their discretion. The Council will not award the cup unless satisfied that the exhibit is, in the main, due to the work and capability of the exhibitor or his employees. The Council may reserve decision till the third day of the show.

Dynamite in the Garden.—It is very doubtful whether dynamite will ever take the place of the spade in gardening, though it may well supplement the work of the plough in agriculture. Experiments are being conducted in several parts of the country. Dr. Herbert Durham has recently worked his garden at Hampton, Hereford, with the aid of cheddite, a form of dynamite. The explosive was placed in holes 3ft. deep, and though the garden is near the house, and the soil dealt with only a few yards from a glasshouse, there was little concussion, and no damage, nor was the soil forcibly thrown into the air. The soil was moved to a depth of six feet by the explosive, and it has been estimated that in a couple of hours the cheddite did as much work as a man could have done in a fortnight, and loosened the soil to a greater depth. It is anticipated that the gases generated would kill insect pests, and add to the fertility of the soil.

Rose Dell at Kew.—A considerable amount of renovation has during the present winter been done in the Rose Dell, which was formed sixteen years since, and is so charming a feature of the Royal Gardens, Kew. The soil in some parts of the dell has been renewed and advantage has been taken of the opportunity thus afforded for adding a selection of the best and most distinct of the new rambler roses to the collection already established.

Kentish Fruit Research Station.—The scheme for a fruit research station in Kent, for which the Board of Agriculture has promised an annual grant of £500, has taken definite shape. The site selected is at East Malling, near Maidstone, and covers a little over 22 acres. For the purchase of the land and the erection of the necessary buildings £2,500 is estimated to be required, and the Kent County Council have agreed to contribute £1,500 on condition that the balance is forthcoming from either the County Council of Surrey or Sussex, or from some other sources. Under the scheme the land will be conveyed to the County Council, or County Councils, and will then be let to the Governors of the South-Eastern Agricultural College, Wye, upon an agreement that they will expend the balance of the fund in erecting the necessary building and setting out the land. The college will be responsible for carrying on the work of the station.

Gardeners' Royal Benevolent Institution.—The following letter has been sent to 8,000 gardeners in Great Britain by Sir Harry Veitch, inviting them to become subscribers to this charity, of which he is treasurer and chairman of committee: "I am very anxious to induce more of my brother gardeners to give a generous support to the Gardeners' Royal Benevolent Institution, which is doing such admirable work in providing, so far as its means allow, annuities for those who are necessitous and past work (also their widows), also in giving assistance to deserving cases in temporary distress. I appeal to you, therefore, to become a subscriber should you not be one already, and, if you are a member, then to do your utmost to induce others to follow your example. It is very sad to think how many deserving applicants have to wait, sometimes, for years, for that help of which they stand so much in immediate need, and which they cannot receive at once in consequence of the want of sufficient funds, and it is in order to try and remedy this that I now make my appeal to you. I venture to point out to you that if you may never have to seek its help, you will be contributing and doing all in your power to induce others to join be assisting those who have been less fortunate than yourself in the battle of life. The head gardeners of Great Britain are said to number upwards of ten thousand, and it is indeed sad to think that of that number only about one-tenth are at present supporters of an institution the work of which is carried on for their special benefit. I shall be most thankful to you if you will now help to remedy this state of affairs."

Trial of Spraying Apparatus at Wisley.—The Council of the Royal Horticultural Society are arranging to have a trial of spraying apparatus and outfit this spring, and have fixed Wednesday, April 23, for that purpose. Makers are accordingly invited to send their apparatus to Wisley for this trial. Their own assistants can be present to explain and to start the machines, etc., that they may appear to the best advantage from the points of merit claimed for them.

Cyclamen Flowers in Decoration.—In the course of a paper, read by Mr. F. E. Peacock at the monthly meeting of the Torquay Gardeners' Association, special attention was directed to the value of cyclamen flowers for decorative purposes. Mr. Peacock said that many cultivators failed to secure the lasting properties of cyclamen flowers when cut through adopting a wrong method of procedure. Instead of their being cut, they should be pulled from the corm, as, when cut, the stem decayed, and caused the corm to decay. After being pulled away from the corm about an inch should be cut from the base of the stem, and the stem then put in warm water as deep as it would permit. They should remain in the water about half an hour, when they can be arranged in vases and other receptacles, as may be desired. Mr. Peacock said that in his experience the flowers that were put in cold water when gathered would flag in a short time.

Pruning and Planting of Fruit Trees.—With reference to these important operations, Mr. A. D. Richardson writes: In Mr. Spencer Pickering's lecture on this subject at the Royal Institution, as reported in the Gardeners' Magazine of March 1, we are told that in planting trees received from the nursery "it could make little or no difference to the future welfare of the tree whether the ends of the old roots were trimmed, or left jagged and torn, nor whether these roots were carefully spread out, instead of being huddled into the hole prepared for them; for it was the new rootlets which were to be formed, and not the old ones, on which the future life of the tree depended." If it be the case, as Mr. Pickering states, that careless planting is attended with as good results as the most careful, in the case of fruit trees, how is it that in the case of coniferous forest trees failure is so often due to careless planting? Illustrations have repeatedly appeared in forestry journals of plants which had failed through having malformed root systems, due to bad planting, both in the nursery and in plantations, and if failure can be traced to careless planting in their case (and I don't think there can be much doubt on this point, although I do not for a moment commit myself to the opinion of some of our non-practical lecturers on forestry that notching is responsible for it, for they don't know the difference between a good notch and a bad one), how is it so different from that of fruit trees? Why do these

plants not form a new root system when they are maltreated in planting, just as fruit trees do? It would be interesting to know if Mr. Pickering can give any explanation of this.

Torquay Sweet Pea Society is the latest addition to the list of societies exclusively devoted to the cult of the sweet pea. The first exhibition under the auspices of the society will be held on June 25, and the schedule of prizes includes thirty-one classes.

Miss Ethel Sargent, F.L.S., who has done excellent work in connection with plant anatomy and embryology, is to be President of the Botany Section at the meeting of the British Association, which takes place at Birmingham in September next. Miss Sargent will be the first lady to preside over a section of the British Association.

Pergola for Vines.—The need for a better means of exhibiting the collection of vines (Vitis and allied genera) at Kew has, according to the "Kew Bulletin," long been felt by the authorities. Ever since the reorganisation of the Arboretum by Sir Joseph Hooker, about forty years ago, they have been grown on a curving line of iron posts near the North Gallery, where they have had to be treated as bush rather than climbers; being pruned back every winter and the shoots being shortened once or twice during the summer. A pergola of the same type as the Rose Pergola has now been provided for them. It consists of two rows of iron uprights connected by flattish arching rods and linked together lengthwise by chains. The perloga is about 500 feet long, 11 feet wide, 10 feet high, and about 12 feet between each pair of uprights. It runs parallel with the Acacia Avenue, between it and the site of the Refreshment Pavilion.

A New Remedy for American Gooseberry Mildew. — Mr. T. Thorne Baker is, we learn, testing the effects of certain of the sulphur bacteria upon the American gooseberry mildew. This destructive fungus has been killed by Mr. Baker by applying to it, on the infected twigs, a sulphide solution, which is afterwards decomposed by the application of a high frequency electric discharge. The nascent sulphur produced under the electrical influence immediately destroys the red form of gooseberry mildew. More extensive tests are to be carried out next autumn, together with experiments in which other bushes will be sprayed with sulphur-bacterial solutions.

Floral Zygomorphy. — To the monthly meeting of the Royal Society of Edinburgh Mr. J. McLean Thompson contributed a paper on the initiation of staminal zygomorphy. In the course thereof he directed attention to the fact that a study of the very young buds and expanded flowers of Greyia Sutherlandi showed that in all parts of the flower zygomorphy was initiated, but it was not maintained. In the case of the stamens the filaments did not attain the maximum length simultaneously; but sooner or later they all attained the maximum length, and when this stage was reached the anthers dehisced. It was shown that the lengthening of the filaments was due to the elongation of the cells, the number of which remained the same from an early development stage up to the perfected condition.

MAZUS RUGOSUS.

A small growing plant with flowers of a rose-purple colour. A.M., R.H.S., and Hardy Plant Society, March 4. The Wargrave Plant Farm, The Arcade, Liverpool Street, E.C.

DWARF FIBROUS-ROOTED BEGONIAS.

When planning the floral arrangements for beds and borders for the season, one is sometimes at a loss to find an adequate and effective edging plant to prevent a clashing of colours. To anyone who has not become acquainted with the newer forms of the dwarf, fibrous-rooted begonia for this purpose, I would strongly advise their adoption, for, not only are the flowers very freely produced, and able to withstand adverse changes of weather almost unharmed, but the foliage of many of them, being of a bronze or metallic hue, makes a telling display at all times.

For small beds a single row of plants forming the outer belt may be ample, but for others of considerable area, or for wide, lengthy borders of plants, two or more lines will be requisite, and these should be planted about eight inches apart, so that by the early part of August the intervening spaces are filled. As for the genus in general, a generous soil is necessary, and if the natural medium is inclined to retentiveness, sand, leaf-mould, or well-decayed manure, used separately or mixed together, and applied where wanted some time previous to planting, will answer. A similar mixture, applied as a mulching upon the surface, will induce free rooting, and prove an antidote to drought.

Raising the Plants.

It is obvious that, being fibrous-rooted, the plants must be raised from seed each year; but this is not a troublesome process compared with the returns, where a steady, humid temperature of from 60 to 70 degrees can be maintained for a few weeks. Like its tuberous-rooted compeers the seeds are dust-like, and require a very fine and well-prepared soil to aid germination; while a close-fitting case or hand-light placed within a heated house will be found conducive to success. Failing a house, a quantity of fermenting material (fresh leaves and stable litter in about equal parts) should be prepared by being well mixed and occasionally turned, to dispel rank gases, after which it may be formed into a suitable-sized heap and made quite firm. Upon this the hand-light or other contrivance may be placed, and the bed of soil to a depth of two or more inches be put upon the manure and made level and smooth to receive the seeds. If moderately moist, water may be withheld; but if otherwise a sprinkling should be given a few hours before the seed is sown. When sowing, distribute the seeds as evenly as possible, and follow by pressing it down with some plain, smooth article to which the seeds will not adhere. Place on the cover, and use shade until germination begins, when both light and air must be admitted very cautiously, and sunshine must at all times be excluded until the second pair of leaves have formed. This stage attained, transplanting must be carried out, using good friable and warmed soil, and giving shade through the brighter portion of each day until the plantlets are again established. After this growth will be rapid, and as a consequence less heat is necessary, leading to the usual hardening off preparatory to planting out in due course.

Varieties.

These are fairly numerous, varying slightly in height and compactness of growth, while the colouring of the flowers is mostly of the crimson and pink shades, the former being as a rule most reliable where strict adherence to a particular colour scheme is desired. As already stated, the beautifully marbled foliage is very striking, more especially so when bespangled by dew, or rain showers, the drops of moisture scintillating in the after sunshine in a manner certain to find appreciation. Last season, which was acknowledged one of the dullest on record, a broad band of Carter's Crimson on each side of a central walk some fifty yards in length, continued in bloom from the middle of July until November, and at no period was there any lack of display; while the handsome foliage made a most effective groundwork or setting to the crimson brilliance when most other kinds of edging plants presented a woe-begone appearance. Late in autumn many of these plants were carefully lifted and used in diverse ways for room and table decoration, thereby fulfilling a dual purpose.

JAMES DAY.

TOMATOES FOR SUMMER SUPPLIES.

Tomatoes are of so much value as articles of diet during the summer months that to many it must be a great source of satisfaction that liberal supplies can be produced without any special difficulties having to be surmounted. As in the growth of other garden crops, it is not everyone who achieves a full measure of success, but the details are simple enough, and when failures occur they are, in the majority of cases, due to their not being properly understood. The chief points in the culture of tomatoes are to have strong plants, to avoid a compost containing a large proportion of nitrogenous manure, to repress the growths not required for fruit bearing, and to assist the plants with rich top-dressings or liquid manure when carrying heavy crops of fruit.

Whether the tomatoes are to be grown under glass or in the open, a beginning should be made at once, as there will then be no occasion to grow the young plants in an unnecessarily high temperature to have them of a suitable size for transferring them to the pots in which they are to fruit, to inside borders, or to a warm border outside at the proper time. Sow the seed thinly in five or six-inch pots filled with a light, sandy compost, cover lightly with the mixture, give a watering through a fine rose, and place in a structure in which the temperature ranges from 65 to 70 degrees. It matters not whether the seed pots occupy a light or dark position previous to the germination of the seeds, but immediately the seedlings make their appearance above the surface they should be placed where they will be within a short distance of the glass, and enjoy a free circulation of air. When the plants are about two inches in height put them singly in three-inch pots, and place them in a rather shady position, where they should remain for a few days until they have recovered from the check received.

From the period of the plants becoming established in the small pots until the time arrives for transferring them to their permanent quarters, a comparatively small house or spacious pit will afford the most suitable quarters. A temperature of about 65 degrees should be maintained, and the structure be freely ventilated. In bright weather an increase of ten or more degrees may be allowed during the day, and in cold, dull periods it will be well to increase the fire heat instead of reducing the ventilation, to prevent the temperature falling below that which is here advised.

The proper time for repotting the plants will be when they have well filled the pots with roots, and the first shift should be into others six inches in diameter. The proper time for shifting those to be grown in pots under glass into pots nine inches in diameter is when they have well filled the six-inch pots with roots. The most suitable compost from the time the young plants are potted off singly until they receive their final shift is one consisting of turfy-loam four parts, and leaf-mould or manure from an old hotbed one part, with a liberal proportion of coarse grit, the exact quantity of the latter being determined by whether the loam is light or heavy. The pots should be efficiently drained and stood on the surface.

In the case of tomatoes planted out under glass the bed should be comparatively shallow, and from twelve to fifteen inches may be mentioned as a suitable depth. When the beds are of sufficient depth to allow a wide range for the roots the growth is usually too robust to admit of the production of heavy crops of high quality, and it may become so soft as to be a ready prey to various fungoid pests. The aim should be to encourage a firm, short-jointed growth, and, when a heavy crop of fruit has been set, to assist them with a top-dressing of some suitable artificial fertiliser, or supplies of liquid manure. Whether the plants are trained to a trellis or grown in beds on the floor of the house, training as single cordons is preferable. In the former case the plants should be planted about two feet apart, and in the latter the best results will be obtained by arranging them two feet apart in rows with three and a-half feet spaces between them. Pot culture is preferable, although involving greater attention and more work.

In outdoor culture the best results are obtained by training the plants to a wall with a south aspect, and failing an available wall space a warm border should be taken advantage of. In favourable seasons excellent crops may be obtained from plants in the open quarters. A forking over of the border will be necessary, and if the soil is very poor a light dressing of a phosphatic manure, such as superphosphate of lime or bonemeal, may be applied. Strong plants in six-inch pots should be bedded out. Against a wall two feet will be a good distance at which to put them apart, and when in borders and open quarters allow the same space in the rows, which should have three-feet spaces between them. Grown as cordons all the side growths must be nipped off as they appear, and those grown away from walls should have the top of the stem pinched out when four clusters of fruit have set.

The varieties available are so numerous that in making a selection those who are not well acquainted with tomatoes experience some difficulty. Even those who have considerable knowledge find the task otherwise than easy, and I shall not do more than state that, in my practice, I have found Carter's Sunrise, Sutton's Best of All, Webb's New Emperor, and Dickson and Robinson's Moneymaker of great excellence for culture under glass. Out of doors Carter's Sunrise and Sutton's Earliest of All have been most satisfactory with me.

PRACTICAL CULTIVATOR.

THE NEWER BORDER CARNATIONS.

The great extension of the cultivation of perpetual-flowering carnations has reacted upon border carnations in a marked degree, and given a very distinct impetus to their use in the garden. With the popularity of the former has come a better method of exhibiting the latter, and it is now quite the thing to exhibit flowers in vases, with long stems, and sufficient "grass" to produce a more natural and artistic display than is possible when individual blooms are placed on the show board. We do not decry the show board method, but we feel quite sure that flowers in vases add materially to the attractiveness of an exhibition, and are most likely to induce visitors to take up the culture of border carnatons.

We again give some illustrations of first-rate varieties. Droitwich, raised by the Rev. C. A. Gottwaltz, and distributed by Messrs. Arthur R. Brown, Lim., King's Norton, Birmingham, was finely shown by the latter last season; it is a white ground fancy, with rosy-red markings, and has a very refined and pleasing appearance. Mrs. G. Marshall is one of the finest of crimson selfs, and the vase figured represents the blooms which won premier honours at the National Carnation Show in July last, for Mr. J. H. Lakeman, of Thornton Heath, in an open class.

Bob Acres and Jean Douglas are two fine additions to the list of scarlet selfs, the former, as illustrated, won for Mr. James Douglas, Great Bookham, the premier award for a vase of one scarlet self in July last, while the variety named Jean Douglas is a deep, yet brilliant, scarlet self of splendid form and substance. It gained an Award of Merit at a meeting of the Royal Horticultural Society held on July 2 last when shown by the raiser Mr. James Douglas. John Ridd, yellow ground, marked with bright rosy-red, promises to be one of the finest of fancies, and is one of Mr. Douglas' seedlings, and gained an A.M. on the same occasion as Jean Douglas.

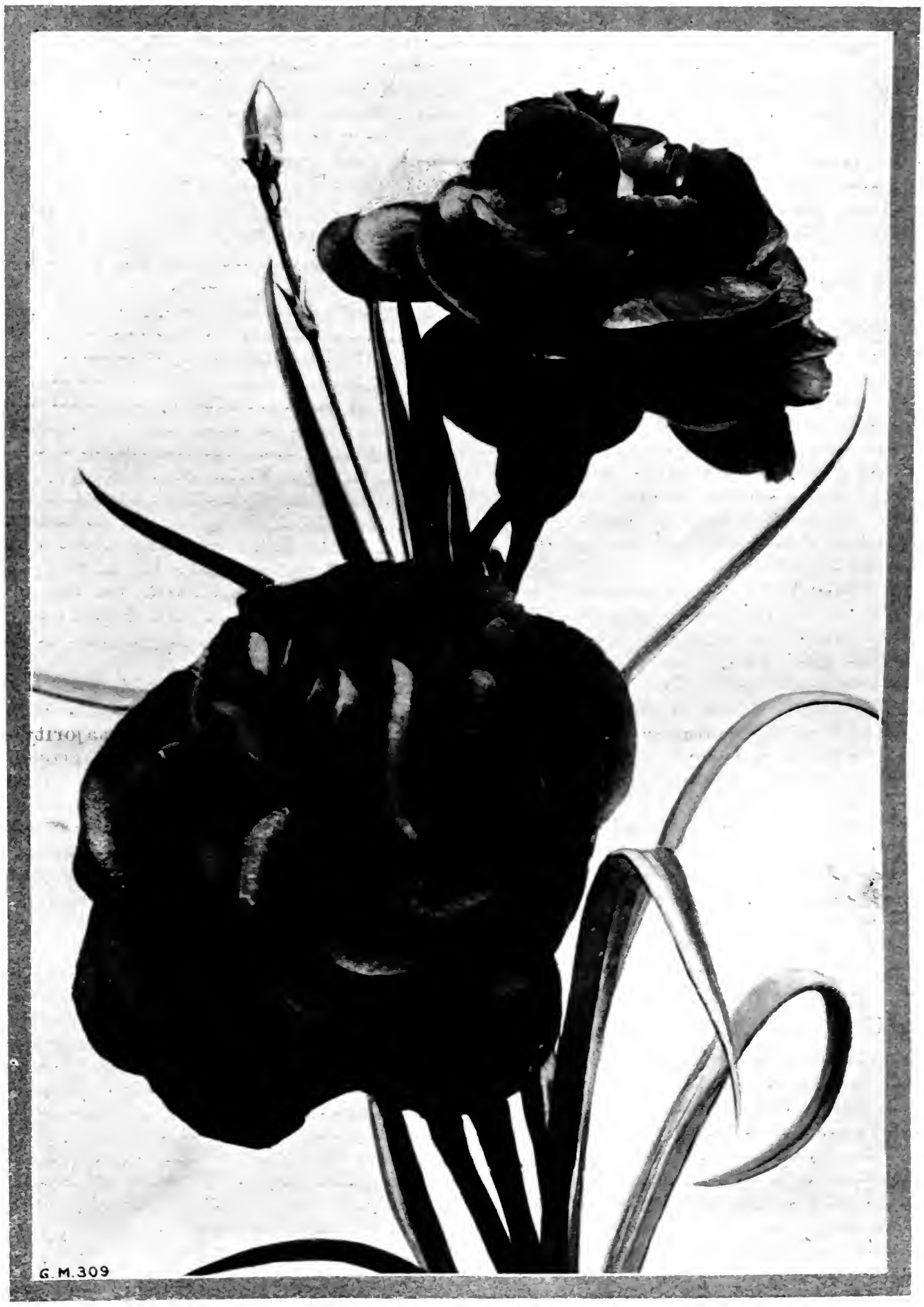
Mr. Charles Blick, Hayes, Kent, has scored with Queen Mary, a lovely salmon-rose variety that is especially fragrant. King George is a fine pure white self from the same raiser, and both King and Queen have gained the A.M. of the R.H.S. Caradine, a yellow ground fancy, with heavy crimson markings, is a Hayes variety that attracted a great deal of attention at the international Horticultural Exhibition, while Cyclops, orange, shaded with scarlet, gives a very distinct and effective bit of colouring, and is also one of Mr. Blick's novelties, as is Attraction, a champion pure white self.

Messrs. A. R. Brown's Begonia is a quaintly-named salmon self of great substance and beauty, while their Eureka, a grand rose self, and Royal Velvet, a very distinct deep imperial purple self, is another variety of great prominence and one that is almost unique in colouring.

Eulalia japonica variegata.—There are three distinct varieties of Eulalia japonica, or at all events, the grass commonly grown under that name, but which is now by our botanical authorities referred to as Miscanthus japonicus. Of the three varieties there is the one at the head of this note, whose long, gracefully arching leaves are freely striped with white, next, gracillima, with much narrower leaves, in which the white marking is limited to the midrib, and lastly, zebrina, whose leaves are barred transversely with cream. They are all hardy, but variegata is largely grown in pots for various decorative purposes.—W.

BORDER CARNATIONS FOR CUTTING.

Seedling carnations afford such a wealth of cutting material and such brilliant colours that their culture should find greater favour. Carnations are lasting, and, provided they are tastefully arranged, they are most pleasing. I am aware there are some slight objections to seedlings, and the most important one arises when there is a high percentage of singles in the bed. On the other hand, I have made excellent use of distinct colours for dinner-table decoration, using freely some of the finer grass with the flowers. Those who have to vary their floral work daily can make good use of the single varieties, and it is surprising what a pleasing effect they have when lightly arranged, and when colours that show up well under artificial light are selected.



CARNATION JEAN DOUGLAS.

A very finely-shaped self border variety, of brilliant scarlet colouring. A.M., R.H.S., July 2, 1912. Mr. James Douglas, Great Bookham.

Selecting Seedlings.

Those who raise their own seedlings will have observed that a goodly proportion of the plants are always more advanced than the others, and here much care should be exercised, as often these have a much stronger or thicker leaf growth; but they are rather misleading, and should be rejected, selecting those of less robust growth, as these mostly will be doubles and of the best quality. I have noted that a large percentage of yellow varieties are obtained from the smaller or backward seedlings in the seed pan.

For many years I relied upon the border varieties for house decoration, but found it important to obtain seed from a good source. If this is done there will be a small percentage of useless flowers. We found, however, that the "grass" was useful, for when the useless sorts were discovered all flower spikes were removed from the plants, and this gave us abundance of foliage for use with the good blooms.

Some of my readers may remark that the border varieties are much inferior to the Malmaisons as decorative flowers. This is simply a matter of taste. I always found that by careful selection of colours we could get a much lighter and prettier effect from the seedlings. From seedlings the grower has much pleasure as the flowers open; there are frequently colours that are

wanting in the other forms grown under glass, and it is an easy matter later on to propagate and retain a good variety.

Sowing and Transplanting.

The sprng months form undoubtedly the best time to sow, and March, April, or May may be selected, according to the means for growing the plants. May might be considered late, but I have, at times, found it advisable, with every inch of glass in use, to defer sowing till May, and by so doing give the seedlings more room and attention. There is no gain whatever—indeed, there may be loss—by sowing early and allowing the seedlings to remain too long in the seed pans, for if they become drawn they rarely grow well. Another point to be considered is the after-culture of the seedlings; I mean as regards the date of sowing. In a very exposed garden, with a wet clay soil, I have varied the culture somewhat by sowing in June or July in cold frames, pricking the seedlings off when large enough to handle, and growing them in cold frames all through the winter, planting out the seedlings the following spring. Of course, this is rather exceptional treatment, but it was necessary in a cold soil in a northern county.

Seeds sown in the early spring in a warm frame soon germinate, and the seedlings should be placed as near the glass as possible as soon as above ground. I am in favour of a little warmth at the start to assist germination, but excess of heat or lack of ventilation means weak plants. Later on, for May sowings, a cold frame, kept close till the seedlings appear, will suffice, provided the pans or pots are placed on a well-drained surface or on boards. In all cases water sparingly at first.

Provide good turfy loam that has been stacked some time. Get loam free from wireworm, as this pest is one of the worst enemies the carnation has to contend with; when stacking the loam place layers of fresh soot between the turves. Loam deficient of grit should have a liberal addition of old mortar rubble. Secure ample drainage in the seed pans, and cover the seeds very lightly after sowing, and place a sheet of glass over the pans to check evaporation. Boxes of a shallow build do well for the seedlings, or they may be planted in pans or temporary shelters until large enough to plant out in their permanent quarters.

Preparation of Beds.

The beds should be prepared some little time in advance of planting. The seedlings will be large enough when four or five inches high, and I prefer early planting. Plant firmly, fifteen to eighteen inches apart, and eighteen inches between the rows. June, July, or August are good months for planting, but, of course, the date will be governed by the time of seed sowing. Early planting allows the seedlings to become strong before winter.

I have briefly touched upon the plan of later sowings and wintering in frames, but this is only in extreme or isolated cases. In most gardens, given well-prepared soil, the carnation will winter well if well rooted before we have severe weather. After a severe frost it will be well to tread round the seedlings, as they suffer if at all loose at the collar: hence my remark earlier to make the seedlings firm at planting.

When flowers are forming freely, carnations well repay copious supplies of moisture, if the soil is light, late in the day. Bud thinning is not frequently practised, but it has a wonderful influence on the health of the plants, and with varieties inclined to make a pendulous growth, it assists in strengthening them. Early staking and tying are important to keep the blossoms clean, and when the plants are grown in rows it is an easy matter to support them with twine and a few stakes at intervals.

Soils and Diseases.

Any good garden soil will grow seedling carnations, as these are so much more robust than layered plants, but there must be ample food provided by good manure and deep digging.

As regards enemies, I have referred to wireworm, and would advise fresh lime, freely used in the winter, as this also keeps slugs and snails at bay especially. Dress the surface soil with soot previous to planting. Leather-coated grubs I found troublesome in our light soil, but these are proof against the remedies advised, and only hand-picking was any good; they are most active at dusk, and can be caught readily with the aid of a light. G. Wythes.

FANCY CARNATIONS.

All carnations are beautiful, be they flakes, bizarres, picotees, selfs, or fancies, or of border or tree type. The question is often asked, "What is a fancy carnation?" The answer is, it is an embodiment of all the other classes. During the process of improvement by cross-fertilization from time to time factors have been dropped out and others created, as the case may be, and produced this striking type of flower. The old style of florist disdainfully spoke of them as mongrels. It is to be regretted that there are to-day those whose tastes are so vitiated that they are disposed to disregard, and speak with a strange indifference of, any particular section of the carnation family which they do not, or cannot, grow themselves.

During the last two decades (thanks to the splendid efforts of the late Mr. Martin R. Smith) the advance made in the production of fancies has been little short of marvellous. Twenty years ago it was difficult to find a dozen dissimilar varieties, but today they can be obtained in an almost endless range of variety, with a diversity of colour markings of a most fascinating kind, disposed on white, yellow, lavender, and other coloured grounds. The flowers are of large size, indeed, as a class; the fancies produce larger flowers than any other section of the carnation, with the exception of the Malmaison. In spite of the cool reception given them by the old florists, fancies now hold high rank in the large carnation exhibitions held in this country. Their advance has been irresistible, so much so that now they largely control the fixing of the dates for the National Carnation and Picotee Societies' shows. This control has been gained at the expense of the flakes and bizarres, which are now rarely shown at their best, as they usually bloom about a fortnight earlier than the fancies.

Yes, the fancy has fairly ousted many of its old relations. This I regard as unfortunate, but it is not to be wondered at, as not only are the fancy flowers large, bold, solid, and graceful, but the brilliancy and wonderful distribution of their colour markings give them a loveliness that is peculiarly their own, and beautiful to look upon.

All who have a taste for gardening should find room for a few fancies. The cultural treatment is similar to that of all carnations grown in the open border, except that the tree varieties should be propagated by cuttings instead of layering, as is usual with plants grown in the border. The fancies have already found their way into hundreds of gardens, but there are still many lovers of flowers who think that the plant which produces this type of flower is of a delicate constitution. The truth is that, as a class, fancies are extremely vigorous, with strong stems and healthy foliage, and the flowers, with a few exceptions, will withstand rough or hot weather much better than any other type of carnation. They thrive in almost any soil that is well cultivated.

An open position where there is plenty of sunshine is best for them. They should not be planted near such greedy consumers of plant food as sweet peas and pyrethrums, as not only would they be robbed of their fair share of food in the soil, but would be overshadowed and prevented from obtaining that free circulation of air which is so essential to healthy growth. Too often carnations are placed in a nice "cosy" position, and starved or coddled to death by inexperience. The application of strong manures is also to be deprecated, as it lays the foundation of many disorders. When the plants are well established, soot, which is said to be a complete manure, should be freely sprinkled on the border and hoed in. The judicious application of soot improves the colour both of foliage and flower. Should the weather be very hot at the time the flowers appear, a light shading from the noon-day sun with art muslin would be beneficial.

It is doubtless true that plants of any kind grown in and near London do not thrive so well as in country districts, where the air is purer. How far this applies to the flowers of carnations in the winter months we are all too painfully aware. In the summer, however, things are very different, and flowers from the district of London are often the best. At the National Carnation and Picotee Society's Show in July, 1912, the Martin Smith Memorial Cup and the cup for the second division were both won with flowers from plants grown in North London by Mr. Robert Morton. Anyone who saw the fancies in these exhibits would require no further proof that they thrive in London air.

For the information of those who are unacquainted with fancies, I mention a few varieties known to me as strong and vigorous in habit of growth. Yellow grounds: Father O'Flynn, Jno. Ridd, Liberté, Linkman, Lord Steyne, Pasquin, Renown, Queen Eleanor, and Ronny Buchanan. White grounds: Delicia and The Bride. Lavender ground: Persephone.

From now to the end of March is a good time for planting. All the above-mentioned varieties produce handsome flowers, and may be obtained in small pots at little expense, and, with careful propagation, it will not be necessary to buy fresh plants for years. These, like all other plants, demand attention if good results are to follow. My advice to the beginner is (having obtained the stock) plant firmly, and do not water them in. Avoid at any time being too venturesome in the application of water. Grown in pots they will require more attention and give better results, but, though you may have the finest soil in the kingdom, disaster will be sure to follow the indiscreet use of the water can, especially if the plants are in pots. Believe me, seven-eighths of successful pot culture of the carnation lies in knowing when the plants really require watering. The whole twelve varieties mentioned can be purchased, in pairs, for about twenty shillings. I mention this because, in a recent issue of a gardening paper, a correspondent suggested that it would cost £5 to buy sufficient plants to put up six carnation blooms in a local show. My last word is, purchase the stock from a grower who has a reputation to lose, and is, therefore, careful to see that the plants he supplies are strong and healthy.

Jas. Fairlie.

PLANTING OUT CARNATIONS IN SPRING.

In the cultivation of border carnations both autumn and spring planting find favour with different cultivators; but the time at which they are planted out depends largely upon the climatic conditions, and the nature of the soil. I am of opinion that the best results are obtained by planting in spring, the plants having been potted into 60's during the autumn, and placed in cold frames for the winter. Under such conditions it is an easy matter to regulate the treatment, and to keep the plants moderately dry at the roots, which is essential for the successful management of carnations during the dull season.

In a number of instances the question of frame accommodation is undoubtedly a consideration, but if an effort is made to provide space for the plants under glass during the winter, the cultivator will be amply repaid by the superior results obtained during the flowering season. Of course, where carnations can be successfully wintered out of doors in their flowering quarters no exception can be taken to the system, but it is only in favourable localities that this method of cultivation gives really good results. Where the ground is heavy and retentive of moisture it is not advisable to attempt autumn planting, as a considerable proportion of the plants would probably become diseased.

The preparation of the soil calls for careful consideration. A well-cultivated medium loam is the best for carnations, although almost any garden soil can be made suitable. The site that is chosen should be prepared early in the year by bastard trenching but there is no perceptible gain from adding a large quantity of organic manure to ground intended for carnations unless it is very impoverished and lacking in humus. A good plan is to choose a site that was well manured the previous year, but if it is considered desirable to add more nourishment to the soil apply a good dressing of bonemeal, and mix this thoroughly with the top spit. Heavy retentive soil is greatly benefited by the addition of some coarse sand and flaky leaf-soil, while some good wood ashes may also be incorporated with advantage.

The end of March is the best time for transferring the plants to their flowering quarters, and a mild, genial day, when the ground is in good working condition, should be chosen. In the meantime, give the plants as much air as possible on all favourable occasions. When carnations are grown for cutting purposes it is advisable to plant them in rows across a suitable part of the garden, and to leave an alley two feet wide after every four rows, to allow space to attend to the plants and cut the blooms. The plants should be a foot or fifteen inches apart each way, the latter distance for preference. See that the soil is fairly moist before they are turned out of the pots, and take care not to damage the roots, but retain the ball of soil intact when planting out. Press the soil firmly around the roots, and finish off the work in a neat and tidy manner.

When carnations are planted for garden display, the beds or groups may take a variety of forms, according to the grower's taste. Whole borders can be planted with them where space permits, and probably this method is the most satisfactory of all, as brilliant stretches of colour are then obtainable. Scroll-shaped beds look remarkably well planted with carnations when bright colours are chosen, but when these are in close association it is important to choose colours that will harmonise, or to keep to one variety. Where space is limited groups consisting of not less than seven plants can be placed in the herbaceous borders with good effect, and by this means quite a large variety can be grown.

When the plants are established in their flowering quarters it is an advantage to run the hoe through them occasionally to keep down weeds, and check evaporation in dry weather. As growth advances a light dressing of a reliable carnation fertiliser will be beneficial, and should be worked into the soil with the hoe.

CARNATION BOB ACRES.

A very handsome border variety, wholly of a rich scarlet colouring, shown successfully by Mr. James Douglas, Great Bookham.

Varieties of border carnations are very numerous, and many of them have beautifully-formed flowers, while they cover a wide range of colours. Selfs are probably the most effective from a decorative point of view, in a cut state, and are certainly more telling when seen in a mass, but fancies, flakes, and bizarres also have their attractions.

Mrs. H. J. Cutbush is a free-flowering scarlet, and a vigorous grower, being one of the best as a cut flower variety. Cardinal and Volunteer are both attractive scarlets. Leander is a lovely salmon-pink, and Bridegroom is a large pink, while Ivo Sieright is pink flaked with heliotrope. Lady Hermoine is a delightful rosy-salmon, and a very popular variety, but is rather weak in the stem. Agnes Sorrell is a rich deep crimson, and Old Clove is still popular, largely on account of its delicious perfume. Snowflake, Mrs. E. Martin Smith, and Mrs. Henwood are beautiful white varieties, while Daffodil is a handsome yellow of good form and substance. Mrs. Reynolds Hole is an old favourite, with rich terra-cotta blooms, and Tresilian is a handsome and vigorous variety with deep salmon-pink flowers.

J. Gardner.

Batsford Park Gardens.

THE IDEAL BORDER CARNATION.

There is probably a considerable divergence of opinion as to what constitutes the ideal of any flower, so that I, of necessity, lay myself open here to a considerable amount of criticism, especially as I do not pretend to be a florist in the rigid acceptance of the term. However, I can but outline what I consider an ideal border carnation.

The flower should be symmetrical, and nearly approaching in outline a perfect circle. The petals should neatly overlap, and there should be such fullness in the centre as gives depth and substance, without the suggestion of coarseness or crowding. Nor should the stigma be visible in the perfect flower.

The perfect flower should, of course, be fresh. The outline of its petals should be smooth, and not serrated, and the flower should possess such freshness as gives lustre to the colour. The petals should retain an expansive position without falling back or being inclined to incurve, as if there were not strength for expansion. Nor should the petals lack substance, and their strength or substance should be able to withstand the test of touch as well as of sight. The quality of freshness is one which should be insisted on.

But I think particular emphasis should be laid on the attribute of fragrance. We know that, unfortunately, many carnations of delicious colour are absolutely devoid of fragrance, yet it cannot be denied that this is one of the most charming and compelling attributes. If, as would seem to be the case, we must, in the acquisition of more refined colours, sacrifice fragrance, the verdict of all flower lovers will be that the sacrifice is far too great.

In our conception of the ideal carnation we would insist on clarity of colour. Too many are the varieties where the difficulty of defining the colour is great because there is not sufficient clearness—the colour, in the catalogued term, is "suffused," but the truthfully expressive term would often be "washy." With clarity of colour is closely allied intensity, which is the true mark of a good flower.

In the matter of size we lay ourselves open to criticism, for we must confess to favour a large flower. Nor is there anything unreasonable in this. If we have in the flower the qualities named in this article it is but human that we should want those qualities in plenty, and that plenty is provided in a large flower. A large flower need not be coarse, need not be ragged, need not overcrowd its petals, need not be lacking in symmetry, while a small flower may quite conceivably have all these bad traits. Therefore, provided the form, fullness freshness, fragrance, and colour of the flower are present let us have the bloom large—larger.

Proof against sunburn is another quality which should be present in the perfect flower. It is difficult, perhaps impossible, to wholly achieve this in some colours, but that is our ideal, for if it be a defect, and I think there can be no question in that, our efforts should be directed towards its removal. When grown in the greenhouse shading can so easily be accomplished that the defect is scarcely noticeable, but to be forced to shade border flowers is to spoil the decorative effect, and in itself is sufficient to exclude such varieties from the garden.

Furthermore, the flower must be true to type and to class. Any suspicion of breaking away from the variety, the class, or the type suggests fickleness which is a quality not to be tolerated in a flower, as in a human being.

A further quality essential to the ideal flower is that it keeps its freshness, its colour, and its beauty for a considerable time, whether on the plant or in a cut state, and that the flower will well withstand adverse conditions of weather. Obviously a flower which lasts for a considerable time is worth two whose beauty is very transient.

If the calyx of a carnation splits the beauty of the flower is lessened, for even if we resort to the expedient of wire or rubber rings it cannot but be recognised that there is a defect, and that we are doing for the plant what it should be capable of doing for itself. We can only suggest that the defect be eliminated, or, at any rate, lessened, by a rigid and hard-hearted process of selection, and that it be prevented culturally by an endeavour to grow the plants steadily without a check, so that the tissues of the calyx do not lose their elasticity when responding to the pressure due to the development of the flower.

The flower must stand erect on a long, strong, wiry stem furnished with several lateral buds, and, while being duly supported by a suitable stake, it should be sufficiently rigid to ensure an erect habit when set in a vase as a cut flower. The full length of stem for use when cutting can only be obtained when but one flower is allowed on a stem, or when the crown and the lateral buds open simultaneously, or nearly so. This is more noticeable with some varieties than with others, and if the flowers are grown for cut purposes it would be well to select plants for the purpose which exhibit this quality, while for the decoration of the border and the extension of the period over which the beauty of the plant lasts a succession of flowers should be aimed at.

If a plant is to be beautiful, its beauty must be widespread. It must so envelop the plants as to betray itself in all parts. An ideal carnation must have ideal attributes in connection with the habit and constitution of the plant. The foliage must be plenteous and healthy, and should preferably be sufficiently strong to dispel the suggestion of wilting, and yet not so erectly set as to be stiff and coarse. A glaucous green, well clouded with "bloom," makes, in my opinion, more for beauty than does the colour which tends more closely to a pure green. It is preferable also, both for the artistic appearance of the plants and for greater convenience of layering, that the grass be low and short-jointed, and that while the growths individually are fairly strong they are also fairly numerous.

The constitution of the plant must be judged by the class to which the carnation belongs, by the variety, and by the cultural treatment. The aim in carnation culture should be to put vigour into the plants, without which they cannot impart vigour and beauty to the flower. The raising of new varieties—or should we not rather say the express methods employed for increasing the stock of a new variety?—is often done at the expense of vigour. It is hard, indeed, to turn our back on a new variety, with some new and pleasing shade of colour, but the true interests of the carnation are best served by insistence on a high standard of inherent vigour being maintained.

With the increase of new varieties and a decrease of vigour comes a greater tendency to disease and a lesser power of withstanding the attacks of pests. Despite all the researches chemically, and their promotion commercially, we are still grievously tormented by pests and diseases, so that much of the time which could so profitably be devoted to culture has perforce to be expended in combating these evils. Now if a higher standard of vigour were insisted on, if ideals in the plant were as vigorously pursued as are ideals in the flower, we should see the beginning of an era when the power of the pest would be considerably diminished.

To sum up: Our ideal border carnation, then, should have beauty and symmetry of form, fullness and freshness of flower, deliciousness of fragrance, clarity, intensity, and delicacy of colour, large size, devoid of coarseness, proof against sunburn, trueness to type and to variety, lasting property alike on the plant and in a cut state, non-splitting of calyx, length and strength of stem, simultaneous flowering of crown and lateral buds, close, short, and compact habit of grass, and such vigour of constitution as will, to a large extent, defy the ravages of pests, and leave the plants practically unscathed by bad weather. If we have these qualities in a border carnation surely we can want no more.

Let us then do our very best to forward the realisation of these ideals, and this, we venture to think, can best be done by studying the plant, carefully attending to its every want, and using all our powers of selection and re-selection. Let us endeavour to choose only those varieties which come most closely to our ideal, and lastly, let us do our best to diffuse cultural knowledge and encourage care in selection among all lovers of the "divine flower."

W. F. Rowles.

Falkland Palace Gardens.

ARALIA VEITCHI.

This, and its still more slender variety gracillima, form very pleasing table plants, as owing to their delicate nature they obstruct but very little of the view across a table. These aralias are not easy to strike, but they may readily be grafted on stocks of Aralia reticulata, a species with narrow leaves. This is readily propagated by means of cuttings. When employed as stocks they should be established in small pots.

Given a supply of suitable stocks a considerable number of plants may be obtained from one of Veitchi, which may perhaps have grown too tall, and become bare at the base. Not only does the top of the plant form a good scion, but each bud may be so employed. The bud should have its attendant leaf left on. Side grafting is the best for the purpose, and, of course, the point of union should be as near the ground as possible. A sharp knife is very necessary. If the cut portions fit well together, and are tied securely in position, a union will soon take place, provided they are placed in a close propagating case in the stove, and are kept shaded from the sun. When the young plants are sufficiently advanced to shift into larger pots they may often be buried deeper than before, so that the point of union will be wholly or partially covered. S. W.

EXHIBITING BORDER CARNATIONS.

The method of exhibiting the border carnations to-day presents a very striking contrast to that of a century ago, when growers conveyed their blooms to the exhibitions in their coat pockets. Each individual bloom was encased in a tin receptacle resembling a mushroom in appearance. Some of those used by my grandfather are still in my possession, and are, probably, the only relics left of this curious old custom. About a dozen blooms were then a maximum number for a grower to exhibit at any one show, whereas it is now a common occurrence for an exhibitor to stage from five hundred to a thousand blooms at one exhibition.

From this time until 1893 the only method of staging was in the familiar green boxes, with paper collars. In the year mentioned the Midland Carnation Society led the way by adding classes for blooms shown on long stems in vases. These classes proving a great success they were soon copied by other societies, and it became necessary to differentiate the two styles. They are now technically known as "dressed" and "undressed" classes. Each style has its own distinct merits. The dressed classes demand that fine petal, perfection of form, and quality, without which the present excellence of the flower could not have been obtained. In the undressed classes the decorative effect is the first consideration, and demands bold, large flowers of striking colours and tasteful arrangement.

To new exhibitors the following advice on methods of staging and exhibiting may be useful. The best time to cut the blooms is early in the morning, while the petals are fresh and stiff, as if they are cut during the heat of the day, or in the evening, many of them will close, or "wink oop," as the Northern growers say, on the journey to the show. Have some vases full of clean water to place the stems in as soon as cut, and be sure to place them in a cool, airy place, though not in a draught. The flowers for the vase classes may be taken to the show in shallow boxes; they may be laid lengthwise, side by side, but it is well to make a roll of paper to rest the pods on to prevent the petals rubbing on the bottom of the box. At most exhibitions wires, "as a mere support," which must come beyond the base of the calyx," are allowed, and these are of great advantage, both for packing and staging, as you can bend the stem to any angle you like with their aid.

Before staging it is well to look over each flower with your tweezers, even in the "undressed" classes, gently guiding the petals into place, and then place the blooms in the vase, packing them in firmly with a little green moss, and then bending the stems round to the best angle to face the judges.

This procedure in exhibiting in the classes for blooms on cards is widely different. If you are showing twelve blooms cut about fifteen with as much variety as possible, and, having filled your tubes with water, take the largest bloom in your left hand, and commence the important operation of dressing. With a pair of steel tweezers turn down the points of the calyx in each of its divisions, thereby gaining a larger size. Then, having loosened each petal from its neighbour with a pair of ivory tweezers, put on the card, and commence to build the flower up, first by gently drawing out the guard petals to the edge of the card, and following up with the next row laid over them, in the manner of the slates on a roof till you have built the flower up, as near to the shape of half a ball as you can get it. The top petals should be drawn up to the centre to form a crown for the flower.

Each exhibitor seems to have his own particular method of putting the finishing touches to a flower, some dressing it with a flat crown, and others with the petals standing up in the centre. My own practice is to note the natural habit of the variety, and to dress it accordingly.

A method to be avoided is one that is sometimes adopted. It consists in twisting the petals across the centre of the flower to fill up a hole, making a kind of knot in the centre, and giving it an unnatural appearance.

A few points of a general character to be remembered are: Always have your boxes or vases ready and properly cleaned beforehand. Good flowers exhibited in a slovenly fashion are like a splendid jewel in a bad setting. It is not fair to the jewel. A point also to be emphasised is to avoid extremes of size. It is better to leave a very large flower out of your stand than to have its size dwarf all the rest of your twelve, and make them look smaller than they are. Lastly, be a good loser; we cannot all win, and if beaten to-day, by noting your own weak points you may turn the tables at the next attempt.

King's Norton. A. R. Brown.

CARNATION MRS. GEO. MARSHALL.

One of the finest of self-coloured border carnations; the colour is rich glowing crimson. The flowers shown were successfully exhibited last year by Mr. J. H. Lakeman, Thornton Heath.

HELIANTHUS TOMENTOSUS.

Here we have a border plant with greater attractions than most of its sister sunflowers. It was first introduced to this country as Helianthus mollis, and an Award of Merit was given to it under that name by the R.H.S. The true H. mollis, however, has more flowers, and these are not so large, while the plant is less woolly. In H. tomentosus we have a border flower which grows from five to six feet high, the latter height being only attained in a good border of rich soil. The stems are quite woolly, and the leaves are of a silvery grey. The blooms are of a fine shade of orange. The tomentose sunflower is quite hardy, and is propagated by division or seeds. Planting for autumn bloom may be performed until March.—S. Arnott.

WATERSIDE PLANTING.

The presence of water in some shape or form greatly increases the attractions of any garden, and its entire absence is a matter of regret. Many are the gardens, admirable in most respects, in which the only thing lacking is water. Whether this is present in the form of a lake, pool, river, or murmuring streamlet, it is always welcome in any garden, but it is on its surroundings that its appeal to the eye chiefly depends, and considerable thought should be bestowed upon their artistic grouping. If they are pleasingly disposed they increase the beauty of the water, and produce a picture of entrancing loveliness, but if the arrangement has not been carefully considered, with a view to effect, the probability is that the landscape will lack much of its possible charm. It will be generally admitted that some description of planting is very desirable on the shores of a lake, since an open sheet of water, with its sides destitute of all manner of plant growth, misses one of the chief beauties of still water, that of reflection of adjacent objects, and only the floating clouds can be mirrored on its still surface.

CARNATION DROITWICH.

A new white-ground fancy border carnation, the markings of a rosy-red hue. Raised by Rev C. A. Gottwaltz, and distributed by Messrs. Arthur R. Brown, Lim., Wychall Nurseries, King's Norton, Birmingham.

It being admitted that the margins of lakes should be diversified by various plants, the next question to be thought of is the subjects to be used, and the manner of the planting. This should not be carried to excess, as nothing should be more carefully avoided than to so hide the sheet of water, that, from some little distance, it cannot be seen. Before planting is begun care should be taken to discover from what situations the most charming views of the water are to be seen, and on these spots no shrubs or plants should be permitted to interfere with the view. Originality of planting should be studied, since nothing so detracts from the beauty of a lake as the appearance of monotonous uniformity in its surroundings. This, however, is too generally noticeable, the same plant being often seen arranged in groups at equal distances on the shore, this creating a sense of dull sameness. Plants of distinct growth should be set by the waterside, for nowhere is habit so noticeable as by the margin of a lake, where they are massed in small isolated groups, so that their habit of growth may be adequately displayed.

Contrasts of form often give a very attractive picture, as when a lofty group of some lovely bamboo, such as Arundinaria Falconeri or Phyllostachys henonis holds aloft its slender, graceful canes twenty feet or more in height, set with gently waving leaves, close by a great colony of the majestic Gunnera manicata, whose huge leaves, carried on tall stems, spread ten feet across, and show wonderful diversity of growth. The plants available for growing by the waterside are many and varied, and different conditions of soil are at hand —dryness on the ascending banks, moisture on the lower levels, where it may be reached by the descending roots, and at the water level soil that is constantly damp, where bog plants may be grown.

Of the nobler foliage plants there is nothing to excel the gunneras, G. manicata, a native of Brazil, and G. scabra, from Chili. Both of these are fine plants, but the foliage of the former is larger. They are not quite hardy, being often severely injured by the late spring frosts even in Devon and Cornwall, but they will grow as far north as Worcestershire. The yuccas are very valuable, both for their handsome foliage and their white flower spires. They should be grown in colonies of one species. They are attractive even when not in flower, and when in full bloom Yucca gloriosa and Y. recurva are extremely handsome, while Y. filamentosa generally flowers annually. The great saxifrage, S. peltata, is a native of California, but as it is at rest during the winter it is rarely harmed by the frost. A tall flower spike, about three feet in height, is thrown up in April, and bears a large head of pale pink flowers. The deeply-cut leaves succeed the bloom spike, and are over a foot in diameter. It is very partial to moisture, and will grow in the middle of a small stream.

Arundo donax, with its lofty shafts, from which the blue-green pennoned leaves flutter, is extremely effective when grown in an isolated position. It sometimes attains a height of twenty feet. The beautiful variegated form is more tender, and sometimes dies even in the south-west The phormiums, or New Zealand flaxes, are very handsome plants, with their long, erect, sword-shaped leaves, often eight feet in length, and are hardy, even in Scotland. Though there are many varieties, P. tenax and its variegated forms are as good as any. All spiræas delight in a moist soil, and of the herbaceous section, S. armens, S. astilboides, and S. palmata are among the best, while of the shrubby class, S. ariæfolia, S. Lindleyana, and S. arguta are hard to beat.

Many of the primulas appreciate moist soil, and flourish to perfection where they are grown in damp spots. In a certain

Cornish garden the rose-coloured form of P. japonica grows for a distance of over a hundred yards by the side of a lake beneath lime trees, and when in full bloom the wide belt of flowers presents a lovely picture, their bright colouring being reflected on the still sheet of the lake. Many of them are growing covered by an inch or two of water, and self-sown seedlings spring up in countless numbers. P. sikkimensis, with its pale yellow, drooping sweetly-scented flowers, is also equally happy by the waterside, as is P. rosea, which succeeds best at the water level, and produces a bright display of vivid colour in the spring.

Some lilies, such as L. pardalinum, L. superbum, and L. canadense thrive in moist, peaty soil by the waterside, and the North American Cardinal Flower (Lobelia cardinalis) delights in damp soil. Day lilies will also do well, two of the most effective being the common Hemerocallis flava, yellow, and H. aurantiaca major, with large orange-yellow blossoms. A striking plant that will succeed in moderately moist soil is Eryngium pandanifolium. It has long, narrow, grey-green, spined leaves, and very lofty flower heads, often ten feet in height, which are set with numerous greenish, rounded bloom heads.

Rodgersia podophylla is an extremely handsome and noble foliage plant, a native of Japan. It has large leaves, deeply divided, which are carried on tall stems, and turn to a rich bronzy tint in the early autumn. It throws up a tall flower spike of white blossoms, which is borne well above the foliage in June, and is very pretty.

A SUCCESSFUL EXAMPLE OF WATERSIDE PLANTING.

A beautiful scene in the Japanese garden at Watermouth Castle, Devon.

The newly-introduced R. pinnata is also an attractive plant, and appreciates a damp spot. The polygonums are, as a rule, unfitted for the borders and beds in the garden as they spread so rapidly, but by the lakeside they do no harm, and, if planted as isolated specimens, when the shoots bend outwards elegantly they are strikingly effective. The two best suited for planting by the lake are P. cuspidatum and P. sachalinense. They are both large plants many feet in height. When bearing its graceful white flower panicles the first-named is very pretty, while the large pale green leaves of the latter are of pleasing appearance. The noble Acanthus latifolius, the leaves of which suggested the Corinthian capital, is an exceptionally fine plant, and will succeed well in the drier spots, as will one of the finest of our foliage plants, the Globe Artichoke, Cynara Scolymus, which, with its arching, grey, deeply-cut foliage, is very ornamental, though it is rarely seen out of the kitchen garden.

Other subjects that will succeed by the waterside are the Monkshood (Aconitum napellus), Michaelmas daisies, Globe Flowers (Trollius), the deep rose variety of the loosestrife, and some of the stronger campanulas, such as C. grandis and C. latifolia. The arum lily is a splendid water plant, and if grown in a foot of water the roots will be unharmed, even if the foliage is killed. In a certain Cornish lake it is grown in countless numbers, and early in June a thousand or more blooms might be cut without materially diminishing the display.

Some of the terrestial orchids are very valuable for planting in damp, peaty ground by the waterside. They require to be kept moist during the entire year. The Mocassin Flower, Cypripedium spectabile, is one of the best and loveliest. The petals are white, and the large pouch is of a soft rich rose colour. It is a native of North America, and perfectly hardy. Another handsome species is C. pubescens, which bears yellow and brown flowers. It blooms very freely when well established.

Wyndham Fitzherbert.

RUSCUS RACEMOSUS.

This ruscus, also known as the Alexandrian Laurel, a title derived from its supposed identity with the victor's laurel of Mount Olympus, is one of the most beautiful of foliage plants. In growth and habit it is not unlike a dwarf bamboo, producing slender, bamboo-like shoots about four feet in length, set with glossy green pointed leaves (or cladodes) about two inches in length. In the spring its small greenish-white blossoms make their appearance in little clusters at the points of the shoots, but it rarely fruits in this country. It is, perhaps, the most valuable of all foliage plants for indoor decoration, its arching growths being very graceful, and the shining leaves retaining their freshness when cut and placed in water for fully two months.

As a native of Portugal, from which country it was introduced in 1739, it cannot be considered absolutely hardy everywhere throughout this country, but there are spots in most gardens where it would be found to succeed. Though not particular as to soil, it is partial to a chalk formation, and does best in partial shade; indeed, it might be well used for undergrowth where sufficiently plentiful, in place of the common native Butchers' Broom (Ruscus aculeatus), a far less ornamental species. The correct name for Ruscus racemosus is now held to be Danæ racemosus.

Wyndham Fitzherbert.

SUPPLIES OF GREEN VEGETABLES.—II.

Cabbage.

Good cabbages find favour in all gardens, whether large or small, but as soon as other choice vegetables come in, they are but very little in request, therefore it is not advisable to grow more of these than is really necessary to supply the household during the early summer. From April to June they are most appreciated, but when peas become plentiful there is but little demand for them. It is the earliest cabbages that are most in demand, therefore the aim should be to have them as early as possible. If a sowing is made in August of some such variety as Ellam's Early, Mein's No. 1, Harbinger, and Flower of Spring in warm, sheltered situations, good hearts may be cut in April. There is no need to grow a long list of varieties, as they take up too much room.

Where there is likely to be a demand in the autumn for cabbages, a pinch of colewort seed may be sown in July. Plants raised from this sowing, if put out about a foot apart, will soon turn in.

To produce nice, crisp, early spring cabbage, the ground must be in good heart, and if of a warm, dry nature, the growth will be more rapid than in that which is cold and unfavourable, therefore those who have this latter class of soil to deal with should select one of the warmest and driest portions of the garden on which to plant the early cabbages. The seeds should be sown from the end of July to the middle of August, according to the district; if sown too soon the plants are apt to run to seed after a severe winter. When the plants have made three or four rough leaves, they should be pricked out to keep them dwarf. At that time of the year, the soil being warm, growth is very rapid, so a close watch must be kept on the plants to see they do not become drawn. Choose a showery time, if possible, to put them into their permanent quarters. In most gardens the plot from which the spring onions have been lifted will be a suitable one, though in some gardens which have naturally a cold soil a warmer spot should be chosen. It is not necessary to plant these small-growing kinds far apart, as they make but few outside leaves; about eighteen inches will be ample, the object being to get the crop off as soon as possible to make room for others, and, as the cabbages are usually cut before they are fully grown, this can readily be accomplished. To induce the cabbages to grow more rapidly in early spring, give a sprinkling of finely-powdered nitrate of soda between the rows in March. The rain will soon wash this down to the roots, and its effect will be seen in a few days if the weather should be fine and warm.

Cauliflowers.

The delicate heads of this vegetable are much appreciated in May and June, but after that they are not usually called for until the autumn approaches. To obtain nice white heads of cauliflower early in the season much care is needed, for the seed must be sown under glass in January or early in February, and the plants brought forward on a slight hotbed. The earliest batch must be grown under glass until ready for use, while those to succeed them should be potted up when small, and kept growing in cold frames until it is safe to transfer them to the open quarters in April.

There are now several very early kinds on the market, such as First Crop, Early Forcing, Emperor, and Pearl.

Cauliflowers, when grown under glass, are very liable to damp in a young state, therefore every precaution should be taken to guard against this disaster. As soon as the seedlings are large enough to handle they should be pricked off. Avoid too much moisture, both at the roots and in the atmosphere, until the plants have attained a good size, then they must not be allowed to become dry at the roots, or in all probability they will "bolt." The plants that were potted up, after being duly hardened off, should be put out in a warm, sheltered place about the middle of April. Choose showery weather for the operation, if possible, but, should the weather be dry at the time, give a thorough soaking both before and after planting. As there should be good balls of roots and earth, there will be no necessity to shade from the sun.

For an autumn supply there are none better than Autumn Giant and Mammoth; both are good kinds, and will turn in during September and October. To produce good heads at this time of the year is not difficult. The seeds should be sown in the open in March, and the plants put out as soon as they are ready, on a piece of well-prepared ground that has not been occupied with any of the brassica tribe for a couple of years. Should the soil be of a light sandy nature a mulching of thoroughly decayed manure will prevent evaporation, and conserve the moisture that is in the soil. Cauliflowers of this class make large foliage, and, therefore, need much support to enable them to form fine heads of close texture.

Savoys.

These are not much appreciated before December, and from then onward until February or March they are in great demand. Small, compact hearts find most favour in private establishments, not the large, coarse, overgrown kinds that partake of the flavour of ox cabbages. Seeds must not be sown too early; from the middle of April to the first week in June, according to the district and the variety cultivated, will be soon enough. The quality of the land has much to do with the production of first-class Savoys. The soil cannot well be too rich if tender, crisp hearts are to be produced, for the quicker they are grown the more tender they are.

The varieties most appreciated are Perfection, Tom Thumb, Dwarf Green Curled, New Year, and the like. There is also a variety known by the name of Miniature Drumhead, which turns in very quickly, and is very tender. These small varieties may be planted much closer together than the large-growing kinds, from a foot to eighteen inches being ample.

The foregoing kinds are, with those mentioned in the first part of this article, among the most useful of the several brassicas for providing a supply of green vegetables at the seasons when they are most needed, and, by carefully paying attention to the time of sowing and other details, the cultivator should be able at all times to keep up a supply, provided the space at his command is adequate to the demand made. H. C. Prinsep.

Perpetual-flowering Carnations.—The cuttings which were struck in December will now be ready to pot into 4½in. pots. Use a compost of fibrous loam, leaf-soil, and coarse sand. Pot the plants firmly, and when potted place them on a shelf near the glass. Lightly spray them with rain-water once or twice daily, and water with care until the roots have taken possession of the new soil. Pot on cuttings which have been recently struck as soon as they are sufficiently well rooted. Do not expose recently-potted plants to cold draughts or bright sunshine.—E. Harriss.

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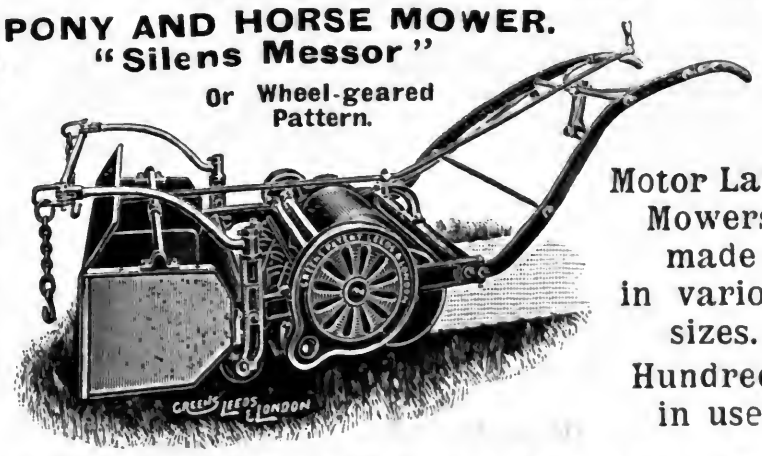

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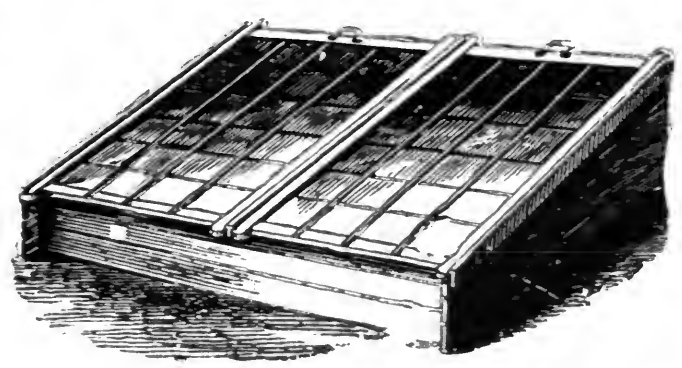

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FIG. 1.

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FIG. 2.

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GREENHOUSE PRIMULAS.

So much has been said and written about greenhouse primulas that anything new concerning them would appear to be out of the question. But every year sees some advance made in the plants and flowers, or in cultivation, or in the uses to which the plants are put. Primulas for greenhouse or conservatory decoration belong to a very few species, but, as in the case of P. sinensis and P. obconica, the varietal range is considerable. Besides these two there are P. floribunda, P. verticillata, P. Kewensis, a hybrid between the two latter; and P. malacoides. P. Forbesi is a charming little species, but P. malacoides has practically put it out of court as a greenhouse plant.

All these can be raised from seeds, and all are available, more or less, for the decoration of homes and glasshouses during the winter season. Of course, P. sinensis still holds the foremost position, but it has a strong rival for public favour in P. obconica. This latter blooms over a longer period, perhaps, and possesses a bolder beauty, but it lacks the refinement of the best varieties of P. sinensis. It is so good, however, and so easily grown by even amateurs with small conveniences, that it deserves all its popularity. As with P. sinensis, so with P. obconica, Messrs. Sutton and Sons, of Reading, have taken up the work of improvement with their accustomed skill and patience, and their colour strains come very true from seeds. Mauve, lilac, lilac-purple, rose, and pink are colours finely represented in the Reading strains, and the plants are strong growers and wonderfully free flowering. It is in the red and white varieties that work still remains to be done. A bright red that is almost scarlet has been produced, and there is a white with a purity beyond all question.

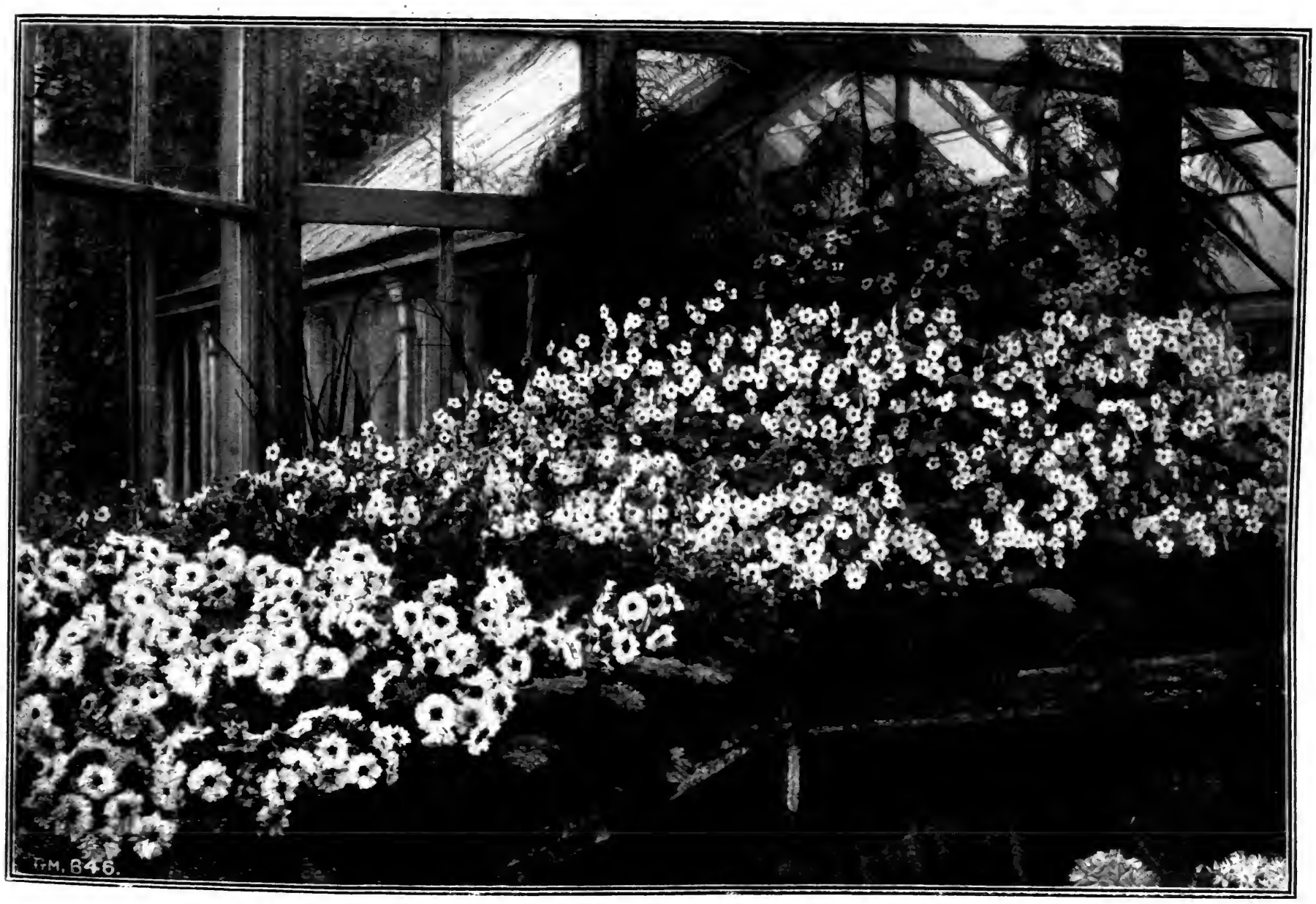
More and more popular do the Star primulas become, and no doubt this popularity will continue just as long as the present ideal of habit and form is maintained. New colours or colour shades are needed, and one can see the process of manufacture at Reading. The original White Star is still the most popular variety of this section, but the blue varieties are obtaining new admirers every year, and the star form of Lord Roberts, with salmon-pink flowers, provides a warm tint very acceptable in winter time. Ruby Star is probably the best form for display under artificial light.

A little idea of the progress made at Reading with Chinese primulas, including, of course, the Star section, may be obtained from the fact that in 1893 Messrs. Sutton and Sons offered twenty varieties; in 1898, thirty varieties; in 1903, forty varieties; in 1908, fifty varieties; and in the present year they offer fifty-five varieties. The offer of fifty-five varieties does not mean merely growing that number of batches of plants for seeds. By no means. Selection and cross-fertilisation is conducted every season and on a large scale, in the hope that some variety may be improved, or superseded, by a better, or that some quite new one may be evolved. In 1893 the number of batches of plants from which seeds were saved separately, either for sale or selection, was 154; in 1898 it was 167; in 1903 it had reached 256; and went on to 431 in 1908, but fell to 340 in 1913. Does the smaller number of seed stocks and selections in 1913 indicate a decline in Chinese primulas? Not at all; the figures simply point to the fact that the application of Mendelian principles has rendered it unnecessary to grow so many of the smaller batches, because the ultimate result of certain crosses is now perfectly well known.

It is hardly necessary to name many varieties of the giant and older races of florists' primulas, but the giants are such a distinct race, so large-flowered, and yet so refined, that the little extra attention they need is amply repaid; there are pink, white, crimson, and salmon shades of this splendid section. Turning to the older type, The Duchess stands out prominently, its rosy-carmine zone round a yellow eye invariably attracting attention and exciting admiration. The Czar, violet-purple; Coral Pink, a happy variety that always suggests springtime to the writer; Crimson King and Reading Scarlet, with brilliant colouring; Snowdrift and Royal White, whites; and Reading Pink, soft pink, fringed flowers, form a good selection, though Reading Blue must be added for those who like its shade.

A new race now being offered is peculiar because the flowers are eyeless. No doubt the few varieties, Snow Queen, Silver King, and Silver Star, will "take on" with those who love novelty. We have become so used to the yellow or orange eye in primulas that its absence suggests that the Messrs. Sutton are not quite playing the game. Hitherto they have added colour, size, floriferousness, fringing, differently coloured foliage, and leaves of fern-like elegance; but now they have taken away something, and we are not yet used to the "naked" look of eyeless primulas. Now, if the Reading firm had gone on with their addition and given us a greatly enlarged yellow or orange eye—in fact, a flower all eye instead of eyeless, there would have been jubilation among primula lovers.

A few combinations of varieties of primulas may prove useful. The following are not mere suggestions, but combinations of proved beauty carried out by Mr. Townsend, gardener to Mr. Leonard Sutton, at Hillside, Reading, with plants of his own growing, not those under Mr. Macdonald's care at the nursery: Dark Blue Star and the golden P. Kewensis, or Ruby Star mixed with P. Kewensis. Giant White Star (Bouquet habit), with a few plants of the mauve P. malacoides. Reading Blue, Royal White, and Pearl, mixed with a few plants of Coral Pink. Reading Blue goes well with The Czar, if only a few of the latter are used among the former; arranged thus the two blue shades are more effective than when separated. Coral Pink and Crimson King intermixed provide a very beautiful combination. Giant Pink and Giant White make an obviously good display together. In the illustration a conservatory group is shown at Hillside, Reading. In the foreground is Coral Pink, followed by the Duchess, Ruby Star, Giant White Star, Pink Star, and Giant White Star again, with Dark Blue Star and P. Kewensis grouped together at the highest point. This scene was so novel in its colouring and arrangement, and so widely different from the methods usually employed in staging primulas in the conservatory, that we have reproduced it.



A CHARMING ARRANGEMENT OF PRIMULAS IN THE CONSERVATORY,
At Hillside, Reading, the residence of Leonard Sutton, Esq.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

THUNIAS.—T. Bensoniæ, T. Marshalliana, and the hybrid S. Veitchiana belong to the section of deciduous orchids, which require a complete rest during the autumn and winter season. They should now be producing their young growths, from the base of the old pseudo-bulbs, and will require fresh material. The old plants should be turned out of the pots, the whole of the decayed soil shaken from the roots, and at the same time all dead and decaying matter should be cut away with a sharp knife. Thunias are usually placed several together in the same pot, the pseudo-bulbs being placed two or three inches apart, taking care that the young growths are kept about an inch below the rim of the pot, so that the potting material may be made moderately firm about the base. It is advisable that each of the old bulbs should have a stick sufficiently strong to secure it until the plants become re-established. The compost should consist of peat, fibrous yellow loam, and sphagnum moss, and a liberal addition of finely-broken crocks or coarse sand to render the soil porous. The pots used should be thoroughly clean, eight to nine inches in diameter, and filled to about one-third of their depth with clean broken crocks, which should be covered with a thin layer of partly-decayed oak leaves. After potting place in a light position in a stove or East Indian house, and as near the roof glass as possible, for unless they have ample light from the commencement of growth, they rarely produce satisfactory results. Thunias should be carefully watered at first, and very little moisture will be necessary until the new roots become established.

PROPAGATION. — To increase the stock thunias may be readily propagated by taking off the back pseudo-bulbs and making them into cuttings about six inches long, which can be inserted as ordinary cuttings, or laid out on sphagnum moss, in a propagating case, or at the warm, moist end of a stove. They will require constant moisture and a strong heat, and as soon as roots are observed, at the base of the new shoots, they should be potted in a mixture of chopped sphagnum peat and sand, every encouragement being then given to produce free growth.

THE PRINCIPAL INSECT PESTS are scale, red-spider, and thrip, but, if the houses are sprayed with some safe insecticide at regular intervals throughout the growing season, these insects may be readily kept in check. Red-spider sometimes attacks the under sides of the leaves where the atmosphere is at all dry. The discreet use of the syringe in favourable weather will considerably help in keeping this pest in check. The plants are exceedingly useful for exhibition during the summer season, and are most effective where used for house decoration. The flowers will last in a room considerably longer even than when removed to a cool greenhouse.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

PRIMULA OBCONICA.—The great improvement which has been effected in this species renders it one of the most useful greenhouse-flowering plants we have. The colour of the flowers covers a much wider range than was the case a few years ago, and the size of the individual flowers, as well as the flower trusses, has been improved. Seeds may now be sown for raising a batch of plants to flower in the autumn. Sow the seeds in shallow pans in a compost of loam, leaf-soil, and sand. The soil must be finely sifted, and the seeds be only lightly covered. Cover the pans with a sheet of glass, and place them on a shelf in a warm house, keeping them shaded until germination takes place. Prick the seedlings out into other pans when large enough to handle, and when fairly established shift them into small 60-sized pots, and keep them growing in a position near the glass in an intermediate temperature. Their final shift should be into 5in. pots.

PRIMULA MALACOIDES.—This is also a very desirable plant for the greenhouse, and deserves more extended cultivation. The method of cultivation is very similar to that of P. obconica. One important point to remember in regard to its culture is that its spikes are very liable to damp off just when they are rising, if water is not carefully applied.

PRIMULA SINENSIS. A batch of Chinese primulas may be raised now, and given similar treatment to the above. With liberal treatment, these will flower during the greater part of late autumn and winter.

LOBELIA TENUIOR.—The colour of this lobelia and its easy culture makes it a very useful plant for the greenhouse during the summer months. Sow the seeds now in pans in a light compost. When the young plants are large enough, prick them out into large 60's, in which size they will flower.

SOUVENIR DE LA MALMAISON CARNATIONS.—Unless it is desirable to hasten these into flower they must be kept as cool as possible. The flower spikes in many cases are rising, and must be securely supported by neat stakes. The plants must now be more liberally supplied with water; stimulants may also be given more frequently, and with increased strength. Fumigate with a nicotine compound to keep the plants free from aphis.—E. Harriss, Lockinge Gardens.

HARDY FRUITS.

NUTS.—The pruning of these may now be pushed forward. In Kent, and other parts where nuts are grown extensively for market, pruning is usually commenced early in the year, and extends over a period of fully three months; but where there are only a few bushes I like to leave them until the tiny pink-coloured female blossoms show. Leave ample catkins to assist fertilisation; cut back all coarse wood and remove all suckers that spring up at the base of the stems; shorten side shoots on the main branches, and endeavour as far as possible to keep the whole of the bush open and clothed with small twiggy, fruitful growths. Commencing with young trees, see that they have a clear stem of 12 to 18 inches above the ground level, and train the heads vase-shaped; when shortening back the leaders, always cut to an eye pointing in an outward direction. Start with three to five shoots, and as these extend allow others at intervals till a good vase-shaped head 7 feet high is formed, when very little further attention will be required except shortening as advised. Old and fruitful bushes will benefit by having a little well-decayed manure pricked into the soil over and about the roots, but, if the bushes grow too gross to be fruitful, do not add manure. Keep the land free from weeds, and dust plenty of lime beneath the bushes after the pruning is completed, at the same time slightly loosening the surface with a fork to prevent the land from cracking in dry weather.

PROTECTING FRUIT BLOSSOMS.—Attend to this before the buds are injured by cutting winds and sharp frosts. The buds are this year more forward than we like to see them, owing to the past mild weather, so that protection may have to be employed earlier than usual. In some parts of the country, and in mild seasons, protection may not be necessary, but it is well to be on the safe side. In the absence of blinds, glass copings, etc., hang two or three thicknesses of fish netting in front of the trees, resting this on poles to prevent injury to the flowers and for convenience. This, with a few small pieces (at intervals) of Portugal laurel stuck behind the branches, will save the blooms during sharp frosts.

VINES.—If these have not yet been pruned they should be taken in hand at once, or the wound will not dry sufficiently to prevent bleeding. Prune the laterals back to a couple of eyes, and secure the leaders. To be reasonably successful with outside vines the position should be good, the border rather elevated, and the roots somewhat confined. The fruiting wood should be as close to the wall as possible, and disbudding and stopping of the laterals will need as much care and attention as in the case of vines grown under glass.

ANY SPRAYING to be done must not be delayed. Dusting all bush fruits, pears and apples, before the flowers get too advanced, with soot and lime, will prove very helpful in cleansing the bark and freeing the crevices of insect pests. — H. Markham, Wrotham Park Gardens.

THE KITCHEN GARDEN.

ASPARAGUS.—When making a new plantation it is a great advantage to prepare the site early in the previous autumn, and subsequently fork over the ground once or twice at least during the winter months to sweeten the land; heavy soils in particular will be materially improved by exposing the top spit as much as possible to the action of the weather. It is most essential the land should work freely ere the time for planting comes round. Should the preparatory operations of trenching, etc., have been unavoidably postponed, the work should be pushed through without delay. Asparagus should be planted in a situation well open to the sun; the land must be well drained, heavily manured and trenched, the rougher portion of the manure being placed in the bottom of the trench. Soil of a very stiff nature should be made suitable by adding road-scrapings, rubbish heap material, wood ashes, and sand to the staple, and be left exposed to the weather till the beginning of April, and, after being scuffled over, should be made level in readiness for planting. Two-year-old seedlings of either the Giant, Connover's Colossal, or Argenteuil should be procured, and placed a distance of 2ft. apart, the roots spread out horizontally and regularly, and then covered with the finer portions of soil in such a manner that the crowns will lay about three inches under the surface. Asparagus roots should be exposed as little as possible to the air, and should be transferred from one situation to another without unnecessary delay. If raised beds are desired, they should not be less than 4ft. wide, with alleys 2ft. wide running between. In preparing such beds—providing the whole quarter has been trenched over—the required distances should be marked out, and the soil from the alleys placed on either side to form the raised beds, which should be about six inches above the alleys when finished. The roots may then be planted as previously advised. The beginning of April is a suitable time to plant, selecting, if possible, a dull, quiet day for the operation. No heads must be cut the first year after planting.

LETTUCE. — Autumn-sown plants which have been hardened off may be planted in a warm and sheltered position. To keep up a succession, it may be necessary to put a portion of the most forward plants in a cold frame; plant in light rich soil, spray on fine days, and close the frames early. If the nights be cold some protecting material should be placed over the lights.

SEEDS.—Sow either in boxes or on a mild hotbed in a frame or pit. Tender and True and Imperial cabbages; Golden Ball and an approved main crop variety of lettuce; Brussels sprouts for early gathering, preferably of the Dwarf Gem class; Magnum Bonum, Snowdon, and Early Mammoth cauliflower, and celery for early lifting. The main sowing of celery seed should be made towards the end of the present month.—W. Messenger, Woolverstone Park Gardens.

NATIONAL SWEET PEA SOCIETY. Great Exhibition at Royal Horticultural Hall, Westminster, July 17, and at Carlisle, Aug. 13 and 14. Join now. Minimum Annual Subscription, 5s. Schedule on application. "Sweet Pea Annual," free to members; 2s., post free, to non-members. CHARLES H. CURTIS, Hon. Sec., Adelaide Road, Brentford, Middlesex.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

The society's hall was simply packed with exhibits on Tuesday and Wednesday, March 4 and 5, and the crowds of visitors put comfort out of the question, and rendered it a very difficult matter to carefully inspect any particular display. A part of the space was filled with competitive exhibits of hyacinths, tulips, and alpines, and daffodils were in great force, as the Daffodil Committee held its first meeting of the year on this occasion. Orchids were not numerous, but forced flowering shrubs, alpines, and greenhouse plants were very much in evidence, while Messrs. Carter's spring garden was greatly admired for its beauty and novelty. There were very few new plants.

FLORAL COMMITTEE.

A beautiful lot of perpetual carnation flowers from Mr. H. Burnett, Guernsey, attracted a great deal of attention; Marmion, Geisha, Mrs. C. F. Raphael, and R. F. Felton were varieties grandly displayed. Mr. G. Engelmann, Saffron Walden, had carnations forward, and showed the yellow Sunstar and Elektra finely. He also showed a large number of coloured forms of freesias under the general name of Freesia Ragionesi; some almost blue and others quite deep rosy-red.

A little group of perpetual carnations, set up by Messrs. Young and Co., Hatherley, contained good flowers of Geisha, Rose Dore, Mrs. C. W. Ward, Duchess of Devonshire, Winsor, and Mrs. Brodie Henderson, the latter an art red shade. Carnations Mary Allwood, White Wonder, Scarlet Glow, and La Rayonnante were varieties especially well shown by Messrs. Allwood Brothers, Haywards Heath. Messrs. Stuart Low and Co., Enfield, put up perpetual carnations in great variety, showing Baroness de Brienen freely and well, cyclamens, heaths, and azaleas.

A particularly striking exhibit from Messrs. Jas. Carter and Co., Raynes Park, represented a spring garden. A paved pathway occupied the centre, leading to handsome iron gates supported by ivy-clad pillars. Beyond the gates could be seen masses of golden crocuses beneath conifers, and hidden lights gave the effect of sunshine. On either side of the gates extended a low yew-backed terrace covered with daffodils and crocuses in great variety. In the terrace wall saxifragas were growing. In front of the wall a grass lawn of the most lovely velvety green extended, and jutting into this from the terrace wall was a semi-circular projection, carrying a grand leaden vase filled with blue hyacinths and with purple crocuses round the base. To right and left of the paved walk were beds of pink tulips and white crocuses. The exhibit was a great attraction, and excited a great deal of attention.

Just inside the entrance Messrs. Barr and Sons arranged a little rock garden display that was gay with Chionodoxa Lucilæ, Scilla sibirica, Muscari botrioides alba, Narcissus minimus, N. minor, N. Bulbocodium, N. triandrus, and N. cyclamineus. Fritillaria citrina, Epimedium rubrum-luteum, Saxifraga oppositifolium, and S. apiculatum were also well shown. Messrs. Sutton and Sons, Reading, exhibited hyacinths set in ferns. The spikes were pleasingly grouped—blue and buff, blush and rose, yellow and rose-red, and white and blush. Each grouplet was of semi-circular form.

A very fair collection of hyacinths was staged by Mr. A. Hewlett, gardener to Mrs. Balfour, Langley Lodge, Headington Hill, Oxford; of General Butler, Jacques, Captain Boyton, La Grandesse, Coreggio, and Electra there were fine spikes. Messrs. Carter Page, and Co., London Wall, presented a mixed collection of daffodils, hyacinths, tulips, and lily of the valley, all grown in bowls of fibre; the collection proved very interesting, especially to the ladies. Spanish irises from Mr. R. d'E. Day, Sutton Scotney, were very showy, and a good collection of varieties was displayed.

A very extensive exhibit of hyacinths, probably the largest ever seen at the Hall, was staged across the end of the hall by Messrs. R. and G. Cuthbert, Southgate. The hyacinths were in pans of five or eight plants, each pan containing but one variety. There were some scores of pans, and a few leading sorts were Schotel, pale blue; King Menelik, deep purple-blue; Lady Derby, pale rose; Perle Brilliant, porcelaine blue; Queen of the Pinks, rose-pink; Mr. Plimsoll, white; King Alfred, bright blue; Yellow Hammer, yellow—this gained a gold medal from the Dutch Bulb Growers' Society.

A very fine exhibit of a hundred and eighty hyacinths in pots, was set up by Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree. The spikes were of fine size and substance, and particularly massive were the varieties Dr. Lieber, Queen of the Pinks, Jacques, Leviathan, King of the Blues, Schotel, Lord Balfour, Lord Derby, and Yellow Hammer. High cultural skill characterised this extensive display, and the gold medal of the General Bulb Growers' Society of Holland was well merited.

In these days, when the alpine plants have gained such a prominent position in horticulture, it was a treat to see such a splendid amateurs' display as the one staged by Sir Everard A. Hambro, K.C.V.O., Hayes Place, Hayes, Kent (gardener, Mr. J. Grandfield). The exhibit was worthy of the reputation of the exhibitor, the background being formed with flowering examples of Cytisus Kewensis, kalmias, and conifers, while nestling in pans amongst sandstone and moss were saxafragas in variety, flowering without signs of overforcing. These included Saxifraga scardica obtusa, S. Burseriana tridentata, S. Boissieri, S. Faldonside, S. H. S. Godseff, S. Burseriana Gloria in splendid form, S. Boydi, and S. longifolia; Primula Winteri, Viola gracilis, Omphaloides Cappodocca and a few tulips. The whole were in perfect health, but the arrangement could hardly be described as natural. With the shrubs in the background, daffodils of sorts were freely associated, and as hardy primulas were present in great force the group had a very spring-like effect.

A particularly fine exhibit of alpines, arranged in a low rock garden form, with the plants bedded in small granite chips, was a great success, and such exhibits are likely to increase the love of these beautiful plants. There were splendid breadths of Saxifraga oppositifolia alba, the fine yellow S. Faldonside, S. Boydi alba, S. oppositifolia splendens, S. Burseriana Gloria, shown grandly, S. Rocheliana, and S. Elizabethæ. This contribution was from Mr. Clarence Elliott, Six Hills, Stevenage. Dwarf conifers from Messrs. W. Fells and Sons, Hitchin, included capital plants of Juniperus sabina variegata, and J. nana canadensis aurea, both suitable for the rock garden.

A pleasing exhibit in rock garden fashion was contributed by Messrs. R. Wallace and Co., Colchester. Quite naturally grouped were the patches of Primula rosea, P. Juliæ, with bluish-purple flowers; Fritillaria meleagris, Saxifraga apiculata, S. oppositifolia splendens, S. Faldonside, Primula nivalis, Cheiranthus Allioni, Tulipa Clusiana, and T. Kaufmanniana. A very pretty exhibit of alpines from Mr. Maurice Prichard, Christchurch, contained a splendid lot of Primula denticulata, P. Cashmeriana, and P. cortusoides, Tritelia uniflora, Saxifraga decipiens, Rob Roy, and Cytisus præcox.

Yet another rock garden exhibit, and this a bold one, was disposed by Messrs. John Piper and Sons, Bayswater and Barnes. It was a bold design, and Primula Winteri, P. rosea, P. frondosa, P. denticulata, and its white form, and P. megasæfolia were prominent subjects used. Messrs. J. Cheal and Sons, Crawley, were exhibitors of alpines, primulas, and useful dwarf shrubs for rockwork planting. Messrs. T. S. Ware, Feltham, filled a narrow rock garden with Saxifraga oppositifolia, Erysimum helveticum, Primula Cashmeriana, the very pretty Thalictrum anemonoides, Saxifraga Faldonside, etc.

Mr. Jas. Box, Lindfield, filled a corner with a rock garden, wherein primulas were in great form, and many other alpines were well displayed. The Burton Hardy Plant Nurseries, Christchurch, contributed a small collection of alpines. Mr. L. R. Russell, Richmond, sent up hardy primulas and shrubs. A bright group of alpine plants was contributed by Messrs. J. Jackman and Son, Woking, and Messrs. J. Peed and Sons, Norwood, also exhibited plants suitable for the rock garden.

The Wargrave Plant Farm, The Arcade, Liverpool Street, showed some good colonies of saxifragas, hepaticas, scillas, and primulas, and had a pan of Mazus rugosus, a tiny plant with a fairly large flower that is chiefly composed of a large three-lobed rosy-purple lip, with a white, brown-spotted crest (A.M.). Mr. G. Reuthe, Keston, submitted a large collection of alpines, gay anemones, ericas, rhododendrons, Drimya Winteri, camellias, and irises.

Messrs. Baker's, Wolverhampton, exhibited Primula denticulata in variety, Sisyrinchium grandiflorum, and its rosy form. Coloured primroses and heaths were the chief features of the exhibit from Messrs. G. and A. Clark, Dover. Mr. A. Hemsley, Crawley, had an interesting collection of alpines and small shrubs: lithospermums, violas, and Potentilla Miss Willmott were well shown on a little rockery.

The group of forced shrubs from Messrs. James Veitch and Sons, Chelsea, was a pleasing one, composed largely of the graceful Wistaria sinensis and W. sinensis alba, associated with lilacs, Azalea Anthony Koster, Erica Veitchi, Rhododendron The Countess, Spiræa confusa, and Cerasus Hisakura. Messrs. A. Koster and Sons, Boskoop, showed their new lilac, a bright rosy lilac variety named Hugo Koster (A.M.)

A delightfully fragrant exhibit of violets from Messrs. Blackmore and Langdon attracted the ladies: La Belle Parisienne, Kaiser Wilhelm, and Lady Hume Campbell were the three varieties that appealed most to us.

Particularly fine in Messrs. W. Cutbush and Sons' group of carnations was a grand vase of the yellow-ground fancy Mrs. Waldorf Astor; Mrs. L. Mackinnon, red, and R. F. Felton, blush, were other varieties finely staged. The same firm presented a showy group of forced flowering trees and shrubs, the chief subjects being lilacs, mollis azaleas, magnolias, wistarias, and laburnums. Cinerarias from Messrs. James Veitch and Sons, Chelsea, were very effective, especially the elegant Feltham Beauty strain. Matador, Snowball, and Intermediate Blue formed the national colours respectively, red, white, and blue.

Messrs. H. B. May and Sons' exhibit included a pair of large graceful specimens of Asplenium caudatum, and batches of Gymnogramma gloriosa schizophylla and Nephrolepis Marshalli compacta. Messrs. H. Cannell and Sons, Swanley, sent a large batch of cinerarias.

ORCHID COMMITTEE.

Mr. E. H. Davidson, Orchid Dene, Twyford, contributed Brasso-cattleya Dora with a large and beautiful cream-white flower; Odontioda Zephyr-marginata, with purple margin round its reddish flowers; and Odontoglossum Ruby, a deeply-coloured O. Rossi hybrid. Messrs. Hassall and Co., Southgate, had some finely spotted odontoglossums, Brasso-cattleya Menda, and B.-c. Queen Alexandra.

Some quaint and interesting orchids from Gatton Park, Reigate, were staged by Mr. Collier, gardener to Sir Jeremiah Colman, Bart.; Dendrobium bigibbum Lady Colman (A.M.), with deep blush flowers; Cirrhopetalum picturatum, and the white Dendrobium speciosum fusiforme were a few of the kinds shown.

Messrs. J. Cypher and Sons, Cheltenham, had a pretty group in which Cypripedium aureum Hyeanum, Angræcum sesquipedale, Odontioda Bradshawiæ, and Dendrobium nobile virginale figured conspicuously. The charming and graceful Angræcum citratum was very well represented in the group of orchids submitted by Messrs. Charlesworth and Co., Haywards Heath; Odontoglossum Elaine, O. Jasper, Phaius tuberculosus, and the deep crimson-red Odontioda Patricia were other good things on view.

Cymbidium insigne, Odontoglossum Thompsoni, Brasso-cattleya Maronæ, Odontioda Bradshawiæ, Renanthera Imschootiana, and fine varieties of Cattleya Trianæ were all capitally shown by Messrs. Sander and Sons, St. Albans. Cattleya Trianæ Colossal, a fine bright purple-mauve variety with very broad sepals and petals, gained an A.M. for Mr. Alexander, orchid grower to Sir George Holford, Westonbirt, Gloucester.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, displayed Lælio-cattleya Pizzaro with five showy, purple and gold flowers; a long spike of the black and green Cœlogyne pandurata, various dendrobiums, and the tiny and rare Dendrobium linguæforme. Odontioda Bradshawiæ, Cookson's var., was capitally shown by Mr. H. J. Chapman, gardener to Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne.

Sophronitis grandiflora Cobb's var., with large flowers of very vivid vermilion colour, was sent by Walter Cobb, Esq. (gardener, Mr. C. J. Salter), Rusper, Horsham. Mr. Balmforth, gardener to F. Menteith Ogilvie, Esq., The Shrubbery, Oxford, exhibited Odontioda Bradshawiæ Shrubbery var., a glorious rich crimson form with large blooms.

Messrs. J. and A. McBean, Cooksbridge, showed Cattleya Tityus Excelsior, with a beautiful lip; L.-c. Smilax Prince of Orange (A.M.), with deep orange-coloured flowers; and Odontoglossum eximium Alpha (F.C.C.), rosy, with deep red-brown blotches. Miltonia Harwoodi, Moss' var. (A.M.), with rich velvety salmon-red flowers; and Odontioda Mossiæ (Cochlioda Noezliana and Odontoglossum maculatum) (A.M.), were shown by J. T. Moss, Esq., Wintershill, Bishop's Waltham.

A spike of the rare, purple-flowered Eulophiella Peetersiana and a beautiful specimen of Sophro-lælia Psyche, with about fifty reddish-scarlet flowers, came from Mr. W. H. White, orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking.

NARCISSUS AND TULIP COMMITTEE.

Mr. Christopher Bourne Simpson, Bletchley, had a charming display of choice daffodils, and the group contained many fine things. There were Whitewell, Lord Roberts, Sister, Mervyn, the Golden Cornelia, Bernardi, the graceful Incognita, Olympia, Evangeline, George Herbert, and a beautiful seedling with broad, salmon-tinted buff cup and white perianth segments that are coloured at the base; this is a Leedsi form, and has been christened Wendy. Messrs. R. H. Bath, Lim., Wisbech, exhibited tulips and daffodils growing in fibre, and thus added to the popularity of this method of culture. Crocus and daffodils were also well shown, but Aspasia in bowls was the chief attraction.

Messrs. Barr and Sons, Covent Garden, exhibited a goodly set of daffodils, the flowers all fresh and beautiful. King Alfred, Victoria, Sunrise—very pretty—Hamlet, Duke of Bedford, Cardinal, and the bright orange-coloured Firelight were a few of the best, but there were several dainty unnamed seedlings on view. The daffodils from Messrs. J. R. Pearson and Sons, Lowdham, Notts, were well set up, but a trifle small. Some outstanding varieties were Blackwell, Victoria, Lady Margaret Boscawen, the very dainty Vega, King Alfred, the brilliant little Firebrand, Duke of Bedford, and Scarletta.

A slightly crowded but otherwise fine exhibit of daffodils staged over a base of Isolepis gracilis by Messrs. Cartwright and Goodwin, Kidderminster, was keenly inspected by daffodil lovers. Fairy, King Alfred, Bennett Poe—very graceful—Arnold Rogers, the lovely Incognita, Lady M. Boscawen, Firebrand, Circlet, Mdme. de Graaff, and Southern Light were a few of the best sorts. Messrs. Walter T. Ware, Lim., Inglescombe, brought up a few first-rate daffodils forced in pots; a few leading varieties were Miss Willmott, Harold Finn, Duke of Bedford, White Nun, Princess Alice, Queen of the West, Leo—a fine trumpet variety—and Macebearer. A pretty little exhibit from Robert Sydenham Limited, Tenby Street, Birmingham, consisted of lily of the valley, freesias, and daffodils; the latter included Great Warley, Ursula, Lord Kitchener, Castill, Marjorie, King Alfred, and Pilgrim.

CERTIFICATE AND AWARDS.

First Class Certificate.—To Odontoglossum eximium Alpha, from Messrs. J. and A. McBean, Cooksbridge.

Award of Merit.—To Dendrobium bigibbum var. Lady Colman, from Sir Jeremiah Colman, Bart. (gardener, Mr. Collier), Gatton Park, Reigate; to Miltonioda Harwoodi Moss' var., and to Odontioda Mossiæ, from J. T. Moss, Esq., Wintershill, Bishop's Waltham; to Lælio-cattleya Smilax var. Prince of Orange, from Messrs. J. and A. McBean; to Cattleya Trianæ Colossal, from Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury; to Oncidioda Cooksoni Ralli's var., from P. Ralli, Esq., Leatherhead; to Lilac Hugo Koster, from Messrs. Koster and Son, Boskoop, Holland; to Saxifraga Faldonside, from Sir E. Hambro (gardener, Mr. Grandfield), Hayes; to Mazus rugosus, from the Wargrave Plant Farm, The Arcade, Liverpool Street, E.C.

MEDALS.

Silver-gilt Flora.—To Messrs. Jas. Carter and Co., Raynes Park, for a spring garden.

Silver-gilt Banksian.—To Mr. Christopher Bourne, Bletchley, for daffodils; to Messrs. J. Piper and Son, Barnes, for alpines and hyacinths; to Messrs. J. Veitch and Sons, Chelsea, for greenhouse plants and shrubs.

Silver Flora.—To Messrs. W. Cutbush and Son, Highgate, for forced shrubs and carnations; to Mr. Clarence Elliott, Stevenage, for alpines; to Messrs. R. Wallace and Co., Colchester, for hardy plants; to Messrs. Barr and Sons, Covent Garden, for daffodils; to Messrs. Cartwright and Goodwin, Kidderminster, for daffodils; to Messrs. Sander and Sons, St. Albans, for orchids.

Silver Banksian.—To Messrs. Allwood Brothers, Hayward's Heath, for carnations; to Mrs. Balfour, Headington, for hyacinths; to Mr. Jas. Box, Lindfield, for hardy plants; to Mr. Burnett, Guernsey, for carnations; to Messrs. G. Jackman and Son, Woking, for hardy plants; to Messrs. S. Low and Co., Enfield, for carnations, etc.; to Messrs. H. B. May and Sons, Edmonton, for ferns; to Messrs. J. R. Pearson and Sons, Lowdham, for daffodils; to Messrs. Walter T. Ware, Lim., Inglescombe, for daffodils in pots; to Messrs. Charlesworth and Co., Haywards Heath for orchids; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; and to Messrs. S. Low and Co., Enfield, for orchids.

Bronze Flora.—To Messrs. Blackmore and Langdon, Twerton-on-Avon, for violets; to Messrs. J. Cheal and Son, Crawley, for rock garden; to Mr. C. Engelmann, Saffron Waldon, for carnations and freesias; to Mr. M. Prichard, Christchurch, for hardy flowers; to Messrs. Carter Page and Co., London Wall, for hardy plants; to Mr. G. Reuthe, Keston, for alpines, etc.

SPRING SHOW OF BULBS AND ROCK PLANTS.

This exhibition, though perhaps not so large as we have seen it on former occasions, was, however, a good one. The hyacinths, being particularly good in this season of reputed poor bulbs, both the trade and amateurs staging large, well-developed spikes. It is somewhat strange that the exhibitors cannot drop the old exhibition pot, and stage them in the pots they are actually grown in.

The prizes for eighteen hyacinths distinct were keenly contested, the first prize exentually being awarded Mr. J. H. Barker, gardener to Mr. F. R. Dixon Nuttall, J.P., Ingleholme, Ecclestone Park, Prescot, Lancs, who staged some beautifully developed spikes and even throughout. The varieties were: Jacques, Perle Brilliant, La Grandesse, Menelik, Cornelia, Correggio, Enchantress, Ivanhoe, Gounod, La Victorie, a grand spike, Lady Derby, Electra, Queen of Pinks, M. Van der Hoop, Marconia, King of the Blues, Yellow Hammer, and Cardinal Wiseman. Mr. J. Gibson, gardener to the Duke of Portland, K.G., Welbeck Abbey, Worksop, was placed second with a slightly weaker exhibit, though he had some splendid spikes, the best being Jacques, Perle Brilliant, La Victorie, King of the Blues, Totula, Moseno, and Lady Derby. It might be that Mr. Gibson lost a point or two in staging. Mr. A. Hewlett, gardener to Mrs. Henry Balfour, Headington Hill, Oxford, secured the third position with flowers much more open in the spike, while Mr. G. Craddnck, gardener to Colonel the Right Hon. Mark Lockwood, Bishop's Hall, was fourth with some good spikes, while others were past their best.

For twelve distinct varieties Mr. H. Prime, gardener to the Marquis of Salisbury, Hatfield House, Hatfield, was a fine first-prize winner. The flowers, though being fully developed, were wonderfully fresh and bright. A few of the best were Electra, Jacques, King Menelik, La Victorie, Lady Derby, and Moreno. Mr. H. Roper, gardener to Mr. R. G. Morrison, The Hollies, Victoria Park, Wavertree, was a capital second, with a point or two in his favour in the matter of staging; he had excellent spikes of Jacques, La Victorie, King of Blues, Menelik, and Gounod. Mr. T. F. Weddle, gardener to Mr. H. G. Tyson, Hollybush Lodge, Avenue Road, Old Southgate, was third with fine examples, but one or two were a little past their best. Mr. W. H. Newton, gardener to Mrs. McDowell Nathan, Little Heath Wood, Potter's Bar, was a creditable fourth.

There were five entries for six hyacinths, distinct, the first prize going to the North, which was well won by Mr. A. Hanson, Ivanhoe, Victoria Park, Wavertree. The varieties were Jacques, Perle Brilliant, Menelik, Marconi, La Victorie, and Correggio, all fine examples. Mr. J. Skelton, gardener to Lord Hillingdon, Wilderuesse, Sevenoaks, was a good second with fine spikes of La Victorie and City of Haarlem; while Mr. H. Edwards, gardener to Mrs. Arthur Levita, Norton Priory, Chichester, was third.

There were four contestants for four pans of hyacinths, ten roots of one variety in each pan, and the first prize fell to Mr. G. T. Weddle, who had timed his varieties splendidly. The spikes were beautifully fresh, clean, and bright. The varieties employed were Schotel, pale blue; City of Haarlem, yellow; La Victorie, red in splendid form; and Correggio, white. Mr. J. Gibson was a fine second, using the same varieties except in the blues, where he employed the dark King of the Blues. Mr. H. Prime was third with fine examples of Brilliant and Lady Derby; while the fourth position fell to Mr. G. Cradduck, who was let down with his pan of Menelik.

There were two entries for the finest decorative display of hyacinths, the first award being the Gold Medal of the General Bulb Growers' Society of Haarlem. This was secured by Mesrs. R. and G. Cuthbert, Southgate, who occupied the entire end of the hall with pans containing seven to ten spikes each; these were arranged in three tiers, and made a magnificent display, as sixty-five varieties would do. The chief sorts were La Victorie, Totula, King of the Violets, King Alfred, Ivanhoe, King Menelik, Jacques, Cardinal Wiseman, Queen of the Pinks, King of the Roses, Correggio, La Grandesse, Mr. Plimsoll, Yellow Hammer, and City of Haarlem. Messrs. J. Piper and Son, Bayswater, were second with a nice display

in baskets, the groundwork being moss, with Selaginellas dotted in between, while palms and adiantums considerably added to the display.

For six single hyacinths grown in moss fibre, in vases not exceeding six inches in diameter, there were three competitors. Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham Common, winning first prize with nice clean spikes. Miss Gordon Thompson, The Elms, Potter's Bar, was second, and the Hon. Mrs. Guy Baring, St. Cross Mill, Winchester, third.

The tulips in moss fibre were excellent; the vases not exceeding seven inches in diameter gave sufficient room to display each variety to perfection. Mr. W. Howe secured the first prize with splendid vases of La Rêve, Prince of Austria, Keizerskroon, Montressor, Van der Neer, and Vermilion Brilliant. The Hon. Mrs. Guy Baring was second with well-developed bowls. Miss Gordon Thompson was third. Strange to relate, there were but two exhibitions for six bowls of narcissi, Mr. W. Howe again securing the premier honours with vases timed to perfection. The varieties were Seagull, Mrs. H. J. Veitch, Golden Bell, Lilian, Lucifer, and Will-o'-the-Wisp. The Hon. Mrs. Guy Baring was second.

The Gentian Cup offered by Messrs. R. Wallace and Co. for the best exhibit of alpines, bulbs, and dwarf shrubs, arranged on a space 5ft. by 3ft., brought out but one competitor, Mr. Grandfield, gardener to Sir Everard Hambro, Hayes. The exhibit was crowded between some trade displays in the annexe, and consequently seemed rather poor. It contained Cytisus Kewensis, Viola gracilis, and such fine saxifragas as Faldonside, Burseriana Gloria, apiculata, Petrarchi, Elizabethæ, Frederici Guilelmi, with primulas, etc.

NEW BOOKS.

FRUIT GROWING FOR BEGINNERS.

By F. W. Hardy. ("Country Life," Lim., 20, Tavistock Street, Covent Garden, London, W.C.) Price 1s.; cloth, 1s. 6d.

The author tells his readers in the admirably written preface that "Fruit Growing for Beginners" has been written with the object of supplying amateurs with a handbook on fruit culture that is at once concise and simple; and that he has succeeded in effecting his object there can be no doubt. He has accomplished something more than this, for while constantly keeping in view the requirements of the amateurs who engage in fruit growing with but little practical knowledge of the details, he has succeeded in making the book of much value to those who have made some advance in this interesting branch of garden work.

It would be a pleasant task to write at length on this interesting and useful book, but it must suffice to say that all classes of hardy fruits that are usually grown in the garden are included and dealt with in such manner that the amateur will have no difficulty in obtaining a clear idea of the course of procedure essential to success.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

PUBLISHING MANAGER,
148-9, Aldersgate Street,
London, E.C.,

who will give the matter immediate attention.

OBITUARY.

MR. WILLIAM COCKER.

Keen regret will be evinced by horticulturists generally, and rose lovers in particular, on learning of the demise, at the comparatively early age of 55, of Mr. William Cocker, senior partner of the firm of Messrs. James Cocker and Sons, Springhill Nursery, Aberdeen, which took place at his residence, Springhill, near Aberdeen, on Thursday, February 27. He had been in indifferent health for a considerable time, and, hoping that a change might be beneficial, he went to Harrogate in the late autumn of last year, but it proved otherwise. Born on a nursery, the son of a nurseryman, and the grandson of a nurseryman, the love of his profession was instinctive. From a boy at school, the study of rose culture had always a keen fascination for him, and as he grew older he studied the scientific side of horticulture. In the early '70's his father sent him to Forest Hill, London, to engage for a period with Messrs. James Laing and Sons, where he studied rose culture. From thence he proceeded to Slough Nurseries, under the late Mr. Charles Turner. On the completion of his apprenticeship he returned to Aberdeen to assist his father, and enter upon his life's work. How well he accomplished his task is well known. In his rose work, Mr. Cocker considered that most beautiful rose, Mrs. James Cocker, one of his greatest triumphs, and he named it after his mother. The most recent triumph of the firm was the fine rose Mrs. Andrew Carnegie. It has been stated in various quarters that this rose was the work of Mr. William Cocker, but this is not the case. Its production was due to his brother, Mr. Alex. M. Cocker.

As a hybridist, Mr. Cocker did some capital work, especially among polyanthuses, and the Royal Horticultural Society awarded him a certificate of appreciation for his work in raising double varieties from seed.

Mr. Cocker was not married, and the charge of the business—as has been the case for the past twelve months—will now devolve upon his surviving brother, Mr. Alex. M. Cocker.

THE LATE MR. W. COCKER.

DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers is "Dahlias and their Cultivation," by J. B. Wroe, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post, 1s. 8d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

THE R.H.S. FORTNIGHTLY SHOWS.

As a constant visitor to these shows all the year round, I have read the remarks of your correspondent "Corrigenda" with considerable interest, for the points raised have been pretty widely discussed at the last few meetings, and no doubt when the spring flowers come in with a rush, the discussions will become more acute. The exhibitors want more space for their displays; the visitors are clamouring for more room so that they can see the exhibits, while there is a section who attend chiefly to see their friends, and, to my way of thinking, block the gangways to their hearts' content. And those of us who remember the sign posts and blind alleys that were tried a few years ago to lessen the evil of filling up the gangways, had good cause to be thankful when they were removed.

I quite agree with your correspondent as to the monotony of the rock gardens, but is it not a sign of the popularity of this class of gardening? Some of the exhibitors do not stage their exhibits just for the "fun of the thing," and if some of the exhibits staged are not up to the "hall mark," they are generally the best the grower can produce. Sometimes it is a new exhibitor who is anxious to stage at Vincent Square; in such a case it would be very hard on him if his exhibit were rejected, for the chances are the second time he turned up a great improvement would be apparent. So I fear "Corrigenda's" censorship is out of the question; and, to my way of thinking, if the shows were classified it would not mend matters one bit; on the contrary, it would lessen the interest taken in them. The great variety they now possess is part of their charm, for there is something to please the tastes of everyone, and the idea of cutting an exhibitor down to one show per month would cause havoc amongst the narcissi exhibitors, dahlia exhibitors, and all kindred subjects, for it would mean they could perhaps only put in an appearance once a year; and I am strongly against reducing the size of the large exhibits. What figure would a group of forced shrubs cut in a ten-foot run of space; a collection of fruit trees in pots; or the grand displays of bamboos? What would they look like? The superintendent has a very difficult task to perform now, cutting down spaces wherever he can, without spoiling the effect of the show, or keeping away exhibitors.

But I do think it time the "off season" finished, much as I like pictures to admire and please the eye, and much as I am devoted to pickles, jam, and marmalade ad lib on the table at meal times, I do not think they should monopolise the main hall and crowd out the floral exhibits into the annexe. But there, I suppose all of us have our grievances, and no doubt the council are fully cognisant of the limiting of spaces to exhibitors, and the cramped gangways; but, unfortunately, they cannot push the outer walls, either into the playground of the school on the one hand, or the technical school on the other, much less the playing-field of the Westminster School in the front; so some further solution will have to be suggested.

I think that your correspondent should bear in mind that all the horticultural interests of the kingdom (and they are many) look upon the "Hall" as a meeting-place, both amateur and trade alike, so this in itself forms some congestion of traffic. In fact, there are so many interests bound up in the letters R.H.S. that it has become a sort of magnetic pole which attracts the horicultural world each fortnight; and I am

afraid the protest and remedies suggested by "Corrigenda" will do little, if anything, to arrest the present condition of affairs—in fact, I have fully made up my mind that matters will get worse during the coming season instead of better. Essex.

"Corrigenda" in last week's issue raises a very interesting question, but I am afraid he is not a "builder of rockeries" at the meetings, or he would appreciate the difficulty of making any great variation in the formation of them when confined to table-space of three feet width. There is certainly a great improvement this year, as the authorities have allowed some firms the whole width of the double staging, and how much it adds to the beauty of the show! Before, all one could see on entering was a mass of faded green baize, but now they have gone so far, why not let exhibitors use the floor for rockeries if they wish? Those who prefer a background could put one up for themselves. With regard to the small space allowed for visitors, it might be as well if the Council put on the cards whether it was to be a flower show or a rival to the Royal Academy. At present we do not know to which we are going. F. R. H. S.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

Date. 1913. February 23 to March 1.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 23—Sunday	6 54	36	33	47	25
,, 24—Monday	3 18	37	35	49	33
,, 25—Tuesday.....	0 42	45	42	46	38
,, 26—Wednesday..	—	43	43	49	41
,, 27—Thursday....	2 30	43	42	51	35
,, 28—Friday.....	1 6	48	36	42	37
Mar. 1—Saturday.....	—	37	35	47	35
Means	(total) 14 30	41	38	47	35

Date. 1913. February 23 to March 1.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Feb. 23—Sunday	—	37	39	43	15
,, 24—Monday	—	37	39	42	22
,, 25—Tuesday.....	0·01	38	39	42	30
,, 26—Wednesday..	—	39	39	42	34
,, 27—Thursday....	0·01	40	40	42	26
,, 28—Friday.....	—	41	41	42	33
Mar. 1—Saturday....	0·04	41	41	42	31
Means ...	(total) 0·06	39	39	42	27

FORTHCOMING ENGAGEMENTS.

MONDAY, March 10.—United Horticultural Benefit and Provident Society.
TUESDAY, March 11. Surbiton Spring Show.
WEDNESDAY, March 12.—Clevedon Spring Show.
North of England Horticultural Society's Spring Show, at Bradford.
THURSDAY, March 13.—Torquay Spring Show.
TUESDAY, March 18.—Royal Horticultural Society; Narcissus Committee meets at 11.30 a.m.; Fruit, Vegetable, and Floral Committees at 12 o'clock; Lecture at 3 p.m. on "The Romance of Weeds," by Mr. R. Lloyd Praeger, B.A.; Scientific Committee at 4 o'clock.
SATURDAY, March 29.—Paisley Spring Show.

CATALOGUES RECEIVED.

THE WHINS, CHALFONT ST. PETER, BUCKS.—A very novel catalogue of plants that have silvery or grey foliage. The covers are silvery, and so the title of "The Silver List" is justified.

A. PERRY, HARDY PLANT FARM, ENFIELD.—Lilies, montbretias, gladioli, and seeds of perennial plants form the subject matter of the new issue, and many uncommon species are included.

ANSWERS TO CORRESPONDENTS.

RASPBERRIES FOR MARKET CULTIVATION.—F. G., Hants: Could you please tell me in your "Answers to Correspondents," the two best varieties of raspberries besides Superlative to grow for market?—For comparatively dwarf varieties, a true stock of Carter's Prolific and Norwich Wonder are considered most profitable for market gardening, and these need not be staked. In addition to Superlative, the two tall varieties (needing stakes or wires) most suitable for a market grower are Hornet (Rivers') and Baumforth Seedling.

THE LATE MR. WM. HOLMES.—A. C. B., Forest Gate: Will you kindly give me, through your "Answers to Correspondents" column, the date of the decease of Mr. Wm. Holmes, who was for so many years secretary of the National Chrysanthemum Society? I think it must be about twenty-five years ago since he passed away, but as I have not any old Gardeners' Magazines convenient for reference I cannot fix the date.—Mr. Wm. Holmes died on Thursday, September 18, 1890; he was a nurseryman and the son of a nurseryman, and his business was at Frampton Park Nurseries, Hackney. In 1877, on the secretaryship of the Borough of Hackney Chrysanthemum Society becoming vacant, he was unanimously elected to fill the post, and the results more than justified the appointment. In 1877 the society had 52 members, an income of £84, and disbursed £53 in prizes. In 1883 he suggested that the society should change its name and become the National Chrysanthemum Society. This suggestion was adopted, Mr. Holmes was appointed hon. secretary of the new venture, and wonderful success followed. In 1889 the society had over seven hundred members and an income of about £850. In 1886 so great had been the progress made during the three previous years, that the members presented Mr. Holmes with three silver epergnes and an illuminated address as a mark of their appreciation of his efforts. Mr. Holmes was in his thirty-eighth year when he passed away.

ADDRESS.—J. S. H., Manchester: As requested, we have forwarded your letter to the desired address.

DAFFODIL CULTURE IN THE SCILLY ISLES.—M. E. J., Bristol: I am fairly well acquainted with the cultivation and distribution of daffodils by the growers in the Isles of Scilly, but I do not know how the industry came into being. Can you, briefly, tell me how the industry originated? — About 1865 there were eight varieties or species of narcissi growing in the Isles of Scilly, some of them in almost a wild state. These were N. Telamonius plenus, N. odorus major (Campernelli), N. Tazetta ochrolencus (Scilly White), N. Tazetta aureus (Grand Soleil d'Or), two varieties of Grand Monarque, N. biflorus fl. pl., and N. poeticus recurvus. These had been introduced in various ways, possibly by the monks at Tresco, probably by the Governors of the islands, and, in the case of the giant jonquil, by a sailor son. Besides these eight daffodils there were some few others in the gardens at Tresco, and the late Mr. Augustus Smith suggested his tenants should send flowers to Covent Garden, seeing they grew so well and flowered so early. He himself dispatched the first consignment in 1865, and his flowers realised £1. In those days, and for some time later, there was not a big demand for cut flowers, and, though daffodils were sent to Covent Garden from St. Mary's and Tresco, it was not until about 1880 that the business became really remunerative. In 1883 Mr. T. Algernon Dorrien-Smith went to Holland, Belgium, and the Channel Islands to study the daffodil industry and its possibilities, discovering that the Channel Islands growers were turning their attention to potatoes, grapes, tomatoes, and beans for the early markets, he felt that there was a good opening for Scilly daffodils, and so he bought bulbs largely for himself and for his tenants, and thus placed the industry on a firm basis. The exports of flowers rose to 65 tons in 1885, 85 tons in 1886, 160 tons in 1887, 188 tons in 1888, and 198 tons in 1889.

CLIMBING ROSES IN POTS.—H. A., Taunton: At the end of last October I dug up and placed in large pots several dozen rambling roses. These were plunged in the open ground until the middle of January, when they were lifted and placed in a cold house, where they receive plenty of ventilation. The weak shoots were cut out and the strong ones shortened slightly. I wish to have them all in bloom by the middle of May. When should I place them in heat, and what should their treatment be while in heat? At present they have shoots well over an inch in length.—At this date it is quite impossible for us to say how much heat your roses should receive to produce flowers in mid-May, because we do not know what kind of weather lies before us. Do not attempt to force the plants by the use of much heat. Keep a little warmth in the pipes, so that plenty of ventilation may be allowed. Avoid cold draughts, and do not let the night temperature fall below 45 degrees. In bright, mild weather gently spray the plants during the morning, and by carefully damping down produce an atmosphere that suggests a pleasant day at the end of April. By the middle of April you will be able to obtain a good idea of the possible date of flowering, and will then be able to judiciously retard or accelerate progress as seems necessary.

NAMES OF PLANTS.

M. A., Ware.—1, Acacia armata; 2, A. Drummondi.

W. F. A., Poole.—1, Orobus vernus; 2, Saxifraga oppositifolia; 3, Cœlogyne flaccida.

F. M. N., Chippenham.—1, Ceropegia Woodi; 2, Libonia Penrhosiensis; 3, Mimulus (or Diplacus) glutinosus.

J. L. C., St. Asaph.—Eriostemon buxifolius; 2, Polygala myrtifolia grandiflora—commonly known as P. Dalmaisiana.

S. S., Ryde.—1, Cedrus atlantica glauca; 2, Retinospora obtusa; 3, Alyssum saxatile; 4, Ribes sanguineum; 5, Dendrobium Pierardi.

NEWS FROM HEADQUARTERS.

COST

The cost of labour in your garden is just as high whether you plant low-grade seeds or Carters Tested Seeds.

And when you come to reflect upon the fact that the capacity of your garden is limited and that unless you are sure of your seeds the long months of waiting may end in disappointment, the difference in cost is so trifling, the difference in results is so great.

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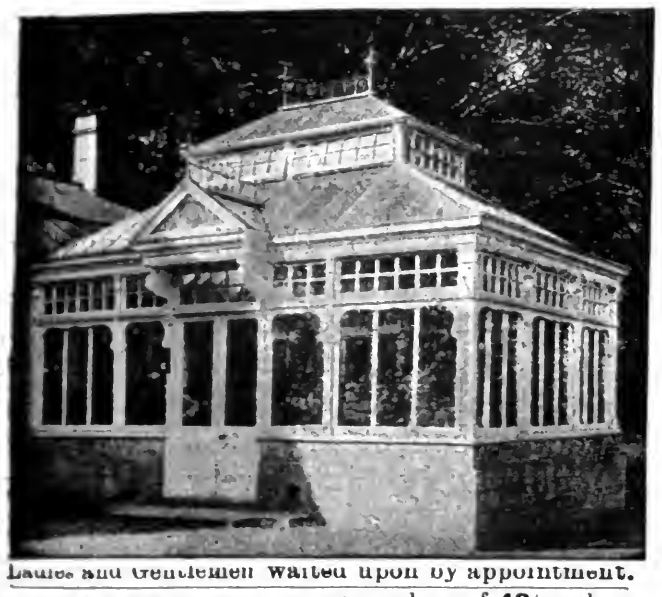

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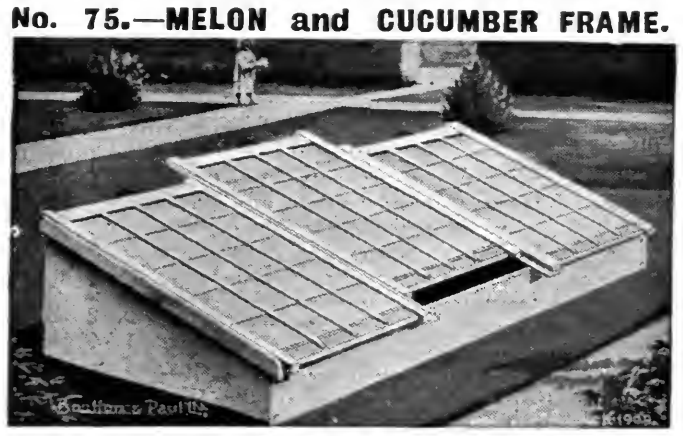

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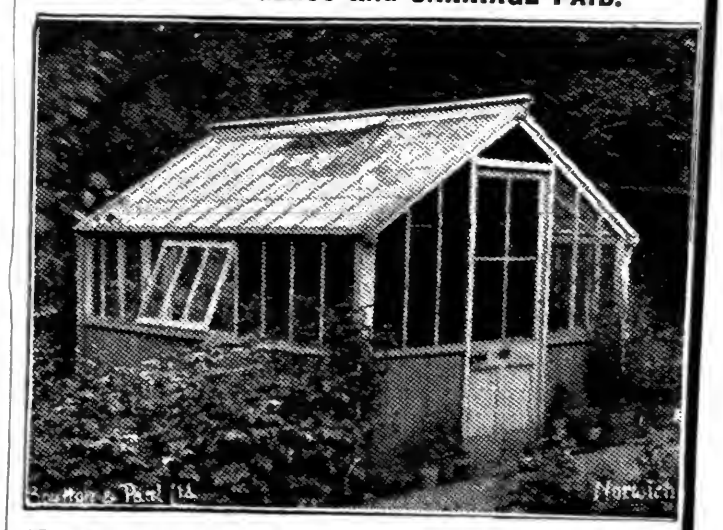

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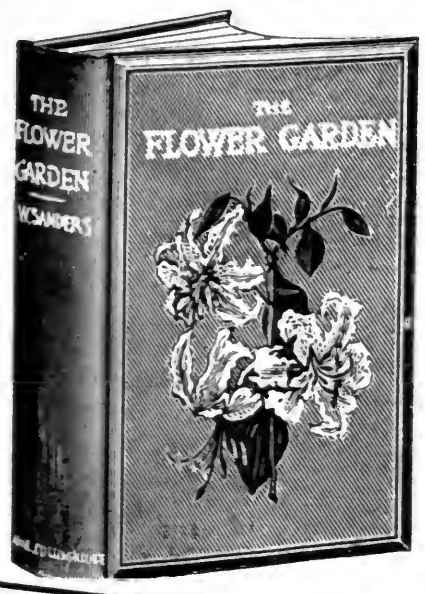

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,, Sprengeri	per doz. bun.	8	0	12	0	
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Bouvardias	per doz. bun.	4	0	6	0	
Camellias	per doz.	1	6	3	6	
Carnations	per doz.	1	6	2	6	
,,	per doz. bun.	10	0	15	0	
,, Malmaison	per doz.	10	0	15	0	
Cattleyas	per doz.	9	0	15	0	
Croton leaves	per bun.	1	0	1	6	
Cypripediums	per doz.	2	0	3	0	
Daffodils	per doz. bun.	1	6	5	0	
Eucharis	per doz.	2	0	3	0	
Freesias	per doz. bun.	1	6	2	6	
French fern	per doz. bun.	2	6	4	0	
Gardenias	per doz.	3	0	5	0	
Lapageria	per doz.	2	0	2	6	
Lilac	per bunch	3	0	5	0	
Lilium auratum	per bun.	2	0	3	0	
,, speciosum	per doz.	1	6	2	6	
,, longiflorum	per doz.	2	0	3	0	
Lily of the Valley	per doz. bun.	6	0	18	0	
Marguerites	per doz. bun.	1	6	2	6	
Odontoglossums	per doz. blms.	3	0	5	0	
Pelargoniums	per doz. bun.	4	0	8	0	
Roses	per doz.	2	0	8	0	
Smilax	per doz. trails	2	0	3	0	
Spiræa	per doz. bun.	2	0	6	0	
Tulips	per doz. bun.	5	0	12	0	
Violets	per doz. bun.	1	6	3	0	

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		s.	d.		s.	d.
Apples, English	per bush.	5	0	to 7	0	
,, American	per bar.	18	0	30	0	
,, Californian	per box	5	0	8	6	
,, Nova Scotian	per bar.	10	6	23	0	
,, Oregon	per box	6	0	9	0	
Apricots, Cape	per box	9	0	12	0	
Bananas, Canary	per bar.	7	0	12	0	
,, Jamaica	per bun.	3	0	5	6	
Cobnuts	per doz. lbs.	3	6	5	0	
Cocoanuts	per 100	18	0	23	0	
Cranberries	per case	8	0	9	0	
Dates	per doz. boxes	2	9	3	6	
Grape Fruits	per case	8	0	18	0	
Grapes, English	per lb.	1	6	12	0	
,, Almeria	per bar.	16	0	21	0	
,, Lisbon	per case	7	0	8	0	
,, Cape	per box	5	0	8	0	
Lemons	per case	15	0	22	0	
Nectarines, Cape	per box	6	0	12	0	
Oranges	per case	10	0	32	0	
,, California	per box	10	0	14	0	
,, Jamaica	per case	4	0	8	0	
Peaches, Cape	per box	5	0	15	0	
Pears, Cape	per box	5	0	8	0	
,, French	per box	2	0	5	0	
,, Californian	per case	12	0	16	0	
,, American	per case	7	0	8	0	
Pineapples		2	6	5	0	
,, Cape	per doz.	5	0	6	0	
Plums, Cape	per box	4	0	7	0	
Strawberries	per lb.	8	0	16	0	

Vegetables.

English tomatoes are now coming in steadily from Southern districts. Mushrooms find a ready sale, and there is a brisk demand for cauliflowers and the best greenstuffs.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	0	to 3	0	
,, Ground	per bush.	3	0	4	0	
Asparagus, Paris	per bun.	3	0	4	6	
,, English	per bun.	3	0	4	0	
Beet	per bush.	1	6	2	6	
Beans, Guernsey	per lb.	2	0	3	6	
,, Madeira	per basket	4	0	6	0	
Broccoli, Sprouting	per bush.	1	0	1	6	
Brussels Sprouts	per bush.	2	0	2	6	
Cabbage	per tally	2	0	3	6	
Carrots	per doz. bun.	2	0	2	6	
,, French	per doz. bun.	7	0	10	0	
Cauliflowers	per tally	6	0	10	0	
,, Cornish	per crate	3	0	4	6	
Celery	per doz. bun.	9	0	16	0	
Celeriac	per doz.	1	0	2	0	
Cucumbers	per doz.	7	0	9	0	
Endive	per doz.	1	0	2	0	
Horseradish	per doz. bun.	10	0	12	0	
Leeks	per doz. bun.	1	0	2	0	
Lettuce	per doz.	1	0	2	0	
,, French	per crate	2	6	3	6	
Mushrooms	per doz. lbs.	6	0	10	0	
Onions	per bush.	2	0	3	0	
,, Spanish	per case	4	6	6	0	
Parsley	per doz. bun.	2	0	3	0	
Parsnips	per bush.	2	0	3	0	
Peas, French	per pad	4	0	6	0	
Radishes	per doz. bun.	1	0	1	6	

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There is practically no alteration of supply or demand to record, and it is doubtful whether prices will rise any higher.

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Scotch	per ton	80	0	95	0	
Dunbars	per ton	100	0	120	0	
German	per ton	75	0	95	0	
Belgian	per ton	60	0	75	0	
Dutch	per ton	60	0	70	0	

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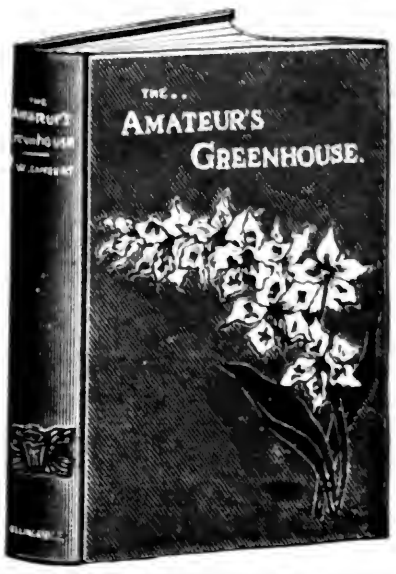

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VOL. LVI.—No. 3,098. SATURDAY, MARCH 15, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Coal.

Coal is so familiar and apparently commonplace a subject that we rarely give a thought to the underlying wonders which a careful study of it reveals. The garden lover who soars beyond the simple culture of hardy plants in the open, and whose pocket and inclinations permit him to deal with tender and choice exotics, recognises the fact that coal as a heating material is an essential as an indirect means of protection of these against the rigours of winter; but probably rarely recognises the fact that by its use he is really availing himself of a previous generation of plants whose remains are now yielding up their long-imprisoned sunshine in support of their present successors. The human mind, however, is totally incapable of estimating the chronological gap which lies between the two epochs. The great Book of Nature which lies beneath our feet, enshrined in the rocks which form the terrestrial crust, gives us glimpses of that inconceivable past during which the now dry land, or even lofty mountains, have alternately sunk into the profundities of deep oceans, and eventually risen anew therefrom into the realm of sunshine. Each of these changes is clearly proved, and is not the mere outcome of vague theory, as is evidenced in the familiar regions of Kent by the coal seams there underlying the chalk. This naturally leads to the questions, "What is coal?" and "What is chalk?" As regards the latter, we dealt with it recently under the title of "Lime" in one of our "Notes of the Week," in which we showed that it was essentially a deep ocean deposit which required myriads of years to be formed by the slow accretion of marine animal remains. Turn we now to the coal, and analyse it in similar fashion, and we find that the immense thickness of the coal measures is entirely due to a probably equally slow accretion of terrestrial plant remains, mostly of ferns and their allies. Again, for myriads of years, these plants occupied immense areas on more or less elevated, though presumably flat and swampy land, bathed probably in a constant humid atmosphere of tropical or subtropical temperature, and under a more or less clouded sky—i.e., in the most congenial conditions possible for such a class of growth. It is also reasonable to expect that in those far distant times the percentage of carbonic acid gas in the atmosphere was much greater than at present, since at that time all the solid carbon now locked up in our coal seams must have been held in suspension as invisible gas in the upper air. Profiting by these conditions, these fern forests grew luxuriantly generation after generation, rising up and dying down, each one in its decay contributing something to the underlying mass of vegetable débris, which was eventually solidified by its own and subsequent pressure into the coal we are using to-day, in which, and the associated shales or underlying soil, abundant evidence is found in the shape of the veritable frondage itself. Such specimens are often so perfect that we are quite able to compare them with present-day growths; and, singularly enough, though they date so far back that evolutionally they might be expected to be much simpler as an approach to their undoubted progenitors, the seaweeds of the primeval oceans, they are equally complex in structure and perfect in detail as their successors of to-day. One of the most curious features in connection with the coal formation generally is the successional character of the seams themselves, each one of which must represent a continuous forest of very long duration. In some parts of the world they occur in considerable numbers, one after the other, each one definitely separated by rocks formed of solidified clayey soil, shale, or even of other descriptions, the total thickness of such superimposed seams running into thousands of feet. This could only happen by each forest, in turn, becoming submerged, which can only mean a subsidence of the surface and consequent flooding. This, in its turn, must have brought suspended soil, and accumulated it until conditions were restored favouring fresh growth and the formation of another seam, the alternative being a rise of the land, which resulted in draining it sufficiently to effect the same results. Probably the successive seams are due to both causes, each involving very long periods, while the total period involved in subsequent deposits, and removal of deposits by denudation, since the coal-forming plants flourished on the surface, defies, as we have said, even an approach to computation.

MR. A. BULLOCK.

Mr. A. Bullock, head gardener to J. Wythes, Esq., at Copped Hall, Epping, for the past eleven years, has charge of an old and very interesting garden, and one which has been greatly extended during his service. Nothing is specialised in, but every effort is made to have each department up to date, and to maintain a supply of fruits, flowers, and vegetables all the year round. The gardens are especially well provided with a fine lot of glass-houses. Mr. Bullock, who is now well known in the Metropolitan district, was previously head gardener to the late Lady Howard de Walden, at West Malvern, and before that he was employed at Lockinge, Halton, and Dover House, consequently his experience has fitted him for the position he now occupies. He is a first-rate all-round gardener, a capable organiser, as exemplified by the work he has accomplished at Copped Hall, and a most genial companion. For some time past Mr. Bullock has had a seat on the Royal Horticultural Society's Fruit and Vegetable Committee, and his thorough

acquaintance with the various kinds of fruits and vegetables and their cultivation has obtained for him a high position among the members, consequently his judgment on the novelties that come before the Committe is treated with the highest respect.

Awards to Perpetual Carnations.—By arrangement with the Royal Horticultural Society the Floral Committee of the Perpetual-flowering Carnation Society will meet at Westminster four times a year, instead of twice as heretofore. The first of such meetings will be held on Tuesday, March 18, at 11 a.m. No novelty will be dealt with unless it is registered with the Society, and regulations regarding registration may be obtained from the Hon. Secretary, Mr T. A. Weston, Floradale, Orpington, to whom also application should be made for the schedule of the Leamington Carnation Show to be held on April 10 and 11.

Resignation of Sir Trevor Lawrence.—With reference to his impending resignation of the presidency of the Royal Horticultural Society, Sir Trevor Lawrence, Bart., writes: "In 1884, when I became president, the society had fallen into serious difficulties, pecuniary and other. But the surrender of the gardens at South Kensington laid the foundations of a new era. Since that time the society's progress has been uninterrupted, until it reached its present position of unprecedented prosperity and affluence. My reasons for writing this letter are the desire to emphasise the fact, fully recognised by my colleagues and myself, that the society's success has been due to the remarkable spread of a love of gardens and gardening among all classes of our people, rich and poor alike, and the fact that even this would not have sufficed to ensure prosperity had it not been decided to devote the society's energies wholly to the promotion and direction of scientific and practical horticulture, a decision which has been strictly adhered to. I cannot, however, resign a post, which has meant so much to me for so many years, without asking leave to express publicly my deep obligations to the colleagues with whom it has been my good fortune to work for so long. The society's council and committees are filled by men who know their work thoroughly, and are the heads of their special departments. They give gratuitously time, knowledge, and energy without stint to all they undertake. In this they have the hearty support of their employers, both amateur and professional, from whom, indeed, the society received a large measure of support even in its darkest days. The result may be summed up in a few words. The society, founded in 1804, has now upwards of 13,000 Fellows, a subscription income of over £19,000 a year, a hall which cost £45,000, a celebrated garden, with a horticultural school and laboratory, upon which £10,000 has been spent, an extensive and valuable library, a reserve fund approaching £70,000, and no debts. I should not omit a reference to the valuable services of the Rev. W. Wilks, our secretary for twenty-five years, to whom a well-deserved testimony is now being raised."

Colouring Matter in Plants.—For some considerable period Professor Keble, of the University College, Reading, and Messrs. E. F. Armstrong and W. N. Jones, have been engaged in the investigation of the colouring matter of plants, and have already obtained some interesting results. In their latest report to the Royal Society they state that according to the results they have obtained the latent colouring matter, or chromogen, becomes coloured under the influence of bodies that give it oxygen while the colours can be made to disappear under the influence of reducing agents. It was possible that this chromogen circulated in the plants, carrying oxygen to the tissues, and that it was only when it reached such parts as the petals where this work was not required, that the oxidation of the colouring matter became complete and the colour appeared. It seemed to depend on the greater or less quantity of water in the plant whether the oxidising or reducing agents gained the upper hand, and the authors suggested that the predominence of oxidation or reduction process might have an important bearing on such phenomena as the latency and activity of seeds and the awakening of plants from the winter rest.

Nicotine as an Insecticide.—Appreciating the importance of nicotine in combating insect pests injurious to fruit trees, the Kent fruit growers are urging upon the Government the desirability of abolishing the duty on the tobacco imported for the manufacture of insecticides, and they suggest that it should be rendered useless for smoking purposes by the addition of paraffin before it leaves bond. It is found that the concession already made by the Government in allowing tobacco to be grown for agricultural purposes free of Excise duty both in England and Ireland is of no practical value, seeing that nicotine costs more to grow than to buy.

Huntingdon Daffodil Show.—Miss P. M. Linton, the hon. secretary of the Huntingdonshire Daffodil Society, writes that, owing to the earliness of the season, the Society's exhibition will be held on April 3, instead of on April 17, as previously arranged.

Memorial to Sir Joseph Hooker.—A mural tablet of coloured marble has been placed in Kew Church in memory of this distinguished botanist, and occupies a position on the north wall close to the memorial of Sir W. J. Hooker. On the tablet is the following inscription: "1817-1911 Joseph Dalton Hooker, O.M., G.C.S.I. C.B. M.D. D.C.L. LL.D., Associé Etranger of the Institute of France, Knight of the Prussian Order "Pour le Mérite," sometime President of the Royal Society, for XX years Director of the Royal Botanic Gardens Kew. Born at Halesworth 30th June 1817, died at Windlesham 10th Dec. 1911. The works of the Lord are great sought out of all them that have pleasure therein." Underneath the inscription is a Wedgewood medallion portrait of Sir Joseph Hooker, and around it are five panels with Wedgewood figures of plants that in the course of his life he became especially associated with. In the upper corner panels that are to the left and right the plants are an aristolochia, indicating his close association with the African flora, and a nepenthes commemorative of his contribution to the knowledge of insectivorous plants. The lower panel to the left contains a cinchona, which will serve to remind posterity of the important part he took in introducing the medicinal cinchonas of South America to South-Eastern Asia, and thereby rendering a service of immense value to suffering humanity. In the lower panel to the right is a rhododendron, which serves as a reminder of Sir Joseph Hooker's Himalayan travels, and the lower central panel contains a celmesia, which is commemorative of his southern journey with Ross and his work in connection with the New Zealand flora. The portrait is the work of Mr. Frank Bowcher, and is an excellent likeness.

Fruits of Rose Madame Berard.—Taking considerable interest in the diversity of form and colour of the fruits or "heps" of garden roses, we have derived much pleasure from a gathering of fruits of Madame Berard, kindly sent us by that eminent rosarian Mr. Hill Gray, who is wintering at the Azores. The fruits of this strong-growing and beautiful tea-scented variety are oblate and of relatively large size, being nearly one and a-half inches in diameter, and they are brilliant vermilion when fully ripe. Such large and brightly coloured fruits produce a very striking effect when they are borne so freely as is evidently the case with those at the Azores.

The Alpine Flora of Japan is to be made the object of special investigation by the Tokyo College of Science, which is establishing a large botanical garden for the purpose at Nikko, situated in a region of high mountains. The new enterprise, which is, we learn from "Nature," intended as a complement to the two gardens, representing the temperate zone and the tropics respectively, laid out by the College some years ago elsewhere in Japan. The site for the new garden was acquired some four or five years ago, and the necessary adaptations and arrangements are expected to be completed early in the summer of the present year. The buildings erected in the enclosure comprise a laboratory, a residential building for students, experimental greenhouses, etc. The garden is to be divided into eighteen sections for the separate cultivation of all varieties of mountainous flora, ranging from trees and shrubs to ground plants and lichens, and including foreign as well as local growths. Dr. H. Komatsu has been placed in charge of the new station, to which the large collection of alpine species already acquired by the college, but hitherto restricted through lack of accommodation, will be transferred in due course.

Soil in Relation to the Plant.—At the March meeting of the Manchester Literary and Philosophical Society a lecture was given by Mr. A. D. Hall on "The Soil in Relation to the Plant." In his opening remarks, Mr. Hall directed attention to the fact that the plant took but a very small proportion of its substance out of the soil, but that little was indispensable. In particular the plant's growth depended upon the supply of three substances—nitrogen, phosphoric acid, and potash—and the function of a manure was to supply the deficiencies of an ordinary soil in one or more of these substances. It was evident that the substances had to be in solution before they could enter the plant. Compounds of phosphoric acid and potash present in the soil possessed only a very slight solubility, and the soil solution would become saturated to its utmost capacity even though the soil contained much less phosphoric acid and potash than are ever found in cultivated land. The acceptance of this view prevents the difference between good and bad soil being attributed to any difference in the amount of phosphoric acid and potash in the soil; further, additions of these substances could not directly stimulate the nutrition of the plant. This hypothesis had then to face the well-known fact that the yield of crops on particular soils could be greatly increased by the use of certain manures—namely, phosphates. American investigators propounding this theory suggested

that the manure acted by precipitating and putting out of action certain injurious substances excreted by the roots. Attention was paid to the effects of both poor and good supplies of air to the roots, and to the necessity for a good supply. In conclusion, Mr. Hall stated that the theory of the indifference of the plant to the amount of nutrients in the soil was found to be untenable.

A German National Park.—Ten years since Professor Lauterborn, recognising the fact that agricultural and industrial progress in the German Empire had brought about the destruction of certain members of the flora and fauna, proposed that a "Naturschutzpark" should be established for native plants and animals. Subsequent to this proposal being made, the Botanical Society of the Palatinate carefully considered the question, and in 1907 the desirability of establishing a reserve park of a national character was strongly advocated during the anniversary celebrations for Linnæus. For a time the matter did not receive much attention outside botanical and zoological circles, but with perseverance on the part of those who appreciated the importance of a natural reservation the Government has been induced to take action. Acting on the advice of the scientists, it has reserved the country situated between the valleys of Spendel and Wildenstein for the purpose of a "Naturschutzpark." The reserve is to be bounded on all sides by a broad ditch, within boundaries so formed the cutting of wood or any other enterprise is forbidden. Only acknowledged botanists will be allowed to gather the wild flowers, and even such permits will be granted only under the most stringent conditions, since, as is stated in the official minute, it is owing to their scientific zeal that certain species have been practically annihilated in the Haardt and in the Rhine Valley.

Transmission of Plants through Italy.—In consequence of the strong representations made by the Board of Agriculture, the Italian authorities have given permission for the transmission through Italy of parcels containing plants, seeds, and bulbs, provided they are transmitted in sealed receptacles. This condition is fulfilled in the case of parcels for India and the Far East generally, sent in transit through Italy; and there is accordingly no longer any objection to the posting of such parcels for transmission by the overland route to India. This concession is an important one in the case of plants, which suffer by delay, as there is a saving at least a week by sending parcels "via Brindisi."

The Effects of Poisonous Substances on Plants is being investigated at the Rothamsted Experiment Station, and the investigations that have already been made suggest that the subject is one that affords abundant room for research with the probability of obtaining results that will be of considerable value to agriculturists and horticulturists. The investigations are being carried out by Dr. Winifred E. Brenchley, the lady botanist at the station.

BRASSO-CATTLEYA VEITCH THE DELL VARIETY.

Many and beautiful as are the brasso-cattleyas now it is very doubtful whether any exceed in beauty those produced by crossing Brassavola Digbyana with Cattleya Mossiæ. This combination was the first of the series of hybrids derived from B. Digbyana, and first flowered in 1889, at Chelsea, where it was raised for Messrs. James Veitch and Sons by Mr. J. Seden. The Chelsea nursery could hardly contain Mr. Seden on the day that this new hybrid opened its large, bright bloom, and showed, by the wonderful fringing of the large labellum, the possibilities that lay in the use of B. Digbyana as a parent. Many lovely forms of this original brasso-cattleya have been raised, and those which have a white form of C. Mossiæ as parent are among the most exquisite orchids we have. Queen Alexandra and Princess Victoria are varietal forms, and there is a particularly pleasing hybrid with large white flowers. It was derived from B. Digbyana and C. Mossiæ Wagneri. Another grand white form, with a pale yellow area at the base of the wonderfully fringed lip, is The Dell variety, here figured. This was exhibited at Westminster on October 22 last by Mr. Shill, gardener to Baron Bruno Schroder, The Dell, Egham, when it obtained a First Class Certificate. An especially handsome coloured form of B.-c. Veitchi—the Westonbirt variety—belongs to Lieut.-Colonel Sir George Holford; it gained the coveted F.C.C. in 1904.

BRASSO-CATTLEYA VEITCHI THE DELL VARIETY.

Flowers about eight inches across, pure white, with a small, pale yellow area at the base of the fringed lip.

AMONG THE ALPINE FLOWERS.

"The daughters of the year,
One after one, thro' that still garden passed:
Each garlanded with her peculiar flower
Danced into light and died into the shade."
Tennyson.

'Twould be difficult indeed to assert that March had any "peculiar flower" among the many which garland her in the rock garden of to-day. The daffodil may be the flower which "takes the winds of March with beauty," but there are many other blossoms to which we turn with eagerness and joy. We admire the gold and silver of the narcissus, yet we cannot find it in our hearts to say that it is the only flower worthy of our love in these blustering March days. She has all grace and all beauty, yet she cannot monopolise the affections of the lover of all flowers. If the narcissus has her glories and her graces, so, too, have they. The glories may be less overwhelming, but the graces are as alluring as those she presents. The winsome beauty of even the most modest of these flowers appeals to us with an irresistible call, and so we must leave the daffodil to the single-hearted lover of her glorious beauty, and content ourselves by speaking of more retiring nymphs of the garden.

The Green Snowdrop.

Ere the snowdrop passes away again for the year we can hardly let slip the opportunity of saying a word on behalf of the curious, yet pretty, Galanthus virescens. This is a late-flowering snowdrop, which came to this country originally from the Vienna Botanic Gardens, via Baden-Baden, which has found its way into but few gardens. It is very attractive in its own quiet way. Unwilling to assume the virgin attire of its sister flowers, Galanthus virescens has remained almost entirely green. The outer segments are clouded and faintly striped with green, save for their margins, which are white. The inner ones are of a deeper green, just relieved by white at the lower end of the segments. It is impossible to give an adequate idea of the real loveliness of a clump of this green snowdrop. To those who have not seen it the green snowdrop may appear of little charm, but those who know it have a different opinion, and admire the modest attractions of this little Galanthus virescens. It is far from plentiful, but is exceedingly beautiful in the most unassuming way.

Saxifraga gracilis.

From somewhere or other, but from one of several generally good saxifraga sources, I obtained last year a kabschia under the name of Saxifraga gracilis. As with many other saxifrages, one is not at all disposed to accept the name, especially as the great "Index Kewensis" refers S. "gracilis" to three other species, to none of which my plant belongs. It is one, however, which comes very near S. Elizabethæ, and, as at present advised, it resembles it very closely. It is, however, lighter green, has a more lax habit, and has smaller, rather lighter yellow flowers. I have been growing it in a moraine since I received it, and it evidently appreciates its position there, and has thriven remarkably well. Barring the question of the name, I am pleased to have this saxifrage, though it is not specially distinct from several others of the same section.

Crocus tommasinianus.

One wonders why Tommasini's crocus is not more widely cultivated in the rock garden. It is one of the prettiest and most reliable of the smaller species, and is always exceedingly beautiful when it blooms, in the month of March, as a rule, although sometimes as early as February. It is a pleasing little flower, which deserves more notice paid to it, and which, withal, is so cheap that it is within the reach of almost everyone. The colour of the typical plant of the species is lavender, but the plants vary considerably, and varieties known as C. t. atropurpureus and C. t. pallidus are also in the market, the former having purple and the latter lilac blooms. There is a scarce white variety, albus, but this is not in my possession. "Lavender" is hardly a fitting description for the colouring of the typical plant, but "sapphire-lavender" is possibly more descriptive. C. tommasinianus seeds freely, and increases both in this manner and by offsets. It comes from one of the countries which are exciting so much attention at the present time—Dalmatia.

Rhododendron præcox.

Early in the month there opened the lovely peach-coloured blossoms of Rhododendron præcox, one of the loveliest of all the dwarfer shrubs which grace the rock garden. It is not always dwarf, however, as the writer knows a plant which is ten or twelve feet high. It is one, however, which has been in the safe place for very many years, and which has never been kept within bounds by pruning. The writer has a plant some three feet high, and it has been in his gardens for twenty years or so, and has had but little pruning, save as much as would preserve it in shape. Its value in the rock garden is unquestionably high. Its demerits are the facts that it flowers without its leaves, and that it comes so early that the flowers are occasionally caught by frost, and that if this is severe, and the plant uncovered, the flowers may be bereft of their loveliness in a night. But such a lovely plant is worth a little trouble, and a mat laid upon it, but kept off the flowers, when frost threatens, or a handlight raised on stones and put over it under the same conditions will often prove the salvation of the flowers from an untimely end.

Other Flowers.

There are many flowers now in bloom, bulbous plants for the most part, but others as well. There are still some of the old and new varieties of Erica carnea—a galaxy of beauty in themselves; chionodoxas in blue, white, pink, and mauve; scillas, in white, blue, pink, and pale flesh; chionoscillas, the pretty hybrids between the glories of the snow and the squills; primulas, not a few; saxifrages, violas, snowdrops, anemones, muscaris, cyclamens, and a goodly number of other pleasure-giving blossoms which venture to face the gales of a tempestuous March.

S. Arnott.

THE R.H.S. FORTNIGHTLY SHOWS.

At the risk of appearing very dense, I must confess to being unable to discover the purpose of the long letter by "Essex," page 179, of the Gardeners' Magazine.

It seems to me that, having admitted the grievance I complained of really does exist, "Essex" simply wanders away at random until at length, finding himself just about where he started, he makes up his mind to let the matter rest, comforting himself with the assertion that things will get worse instead of better. This may satisfy "Essex," but he must not assume that all the rest of the Fellows of the R.H.S. are content that it should be so. As a matter of fact, there is more than a mild murmuring of discontent, and if "Essex" was at the Hall on March 4 he probably discovered that the discussions on the subject have already become acute, and that "something definite must be done" was the prevailing feeling expressed by Fellows whose one object in paying their subscriptions is to secure the privilege of inspecting the exhibits at the society's shows.

Despite "Essex's" excuses for those who stage mediocre exhibits, and his promises that second attempts would show great improvement, I maintain that the R.H.S. Hall should house only first-class exhibits, and should not be given over to exhibitors who are only trying their hand, or learning what an exhibit should be. Let the beginners gain experience at local shows, or let them pay a few visits to the Hall to see what is required before they venture into what should be the most select and exclusive circle in our horticultural world.

But I do not even agree that it is the beginners who are the greatest offenders. Many an exhibit I have seen at the R.H.S. Hall staged by quite old hands has been neither creditable to the exhibitor or to the Royal Horticultural Society.

As to limiting a group of pot fruit trees, forced shrubs, or bamboos to a ten-foot run of space, I did not say that this should be done; but I do say that a firm or an exhibitor should only occupy such space as can be filled with really choice and attractive products, and, moreover, no one exhibitor should be granted so much space that others are made to suffer as a consequence.

In regard to limiting exhibitors to one show a month, and to separating indoor from outdoor sections, I still consider this is likely to prove the most satisfactory means of removing the trouble which has certainly got to be dealt with in some way. I know there are some of the trade exhibitors who would very readily limit themselves to one exhibit a month if they knew their competitors would do the same, and there are many of the visitors who care only for the hardy plants, and would be quite ready to give up half the meetings to the orchid lovers and perpetual carnation growers, etc. As to the hardship upon the daffodil and dahlia exhibitors, there could doubtless be a workable compromise that would enable these short-season subjects to be specially catered for. At all events, "Essex" must not assume that because he is content to jostle round in a dense crowd, and miss seeing half the things he most desires to see, nothing needs to be done.

Corrigenda.

Carnation Mary Allwood.—Like an old friend, the more one sees of this perpetual carnation, the greater the appreciation. The perfume is good and lasting, and the colour is a shade between the varieties Mrs. Clode and Leander. It gives a colour which has been wanting in perpetual carnations, and, apart from the question of colour, it has fine form and build, and therefore possesses most of the essentials in a thoroughly good carnation. I have been particularly impressed with its lasting qualities in a cut state, and have had blooms remain in good condition for more than a fortnight, these retaining their colour and fragrance to the last in an ordinary sitting-room.—Paul T. Moore.

STRELITZIA REGINÆ.

No doubt, owing to the fact that in most botanical gardens this plant is generally cultivated in a tropical temperature, it is rarely seen in private gardens, where the stove houses have usually to be occupied by plants which are more suitable for either filling plant-vases in the dwelling-house, or for supplying cut blooms. But anyone who possesses a warm greenhouse may well grow this uncommon and handsome plant. Indeed, when so treated, it is generally more floriferous than when grown as a tropical subject, because the greater amount of heat induces the production of richer foliage.

The best soil suited to the Bird of Paradise flower, or the Bird's Tongue flower, as it is variously styled, is two parts of roughly-broken fibrous loam and one of peat, with the addition of plenty of broken charcoal and coarse sand. As abundance of water is required during the growing season, the pots should be well drained, and the soil pressed only moderately firm. During the flowering season, and throughout the resting period, very little water is required, as Nature has given the plants thick fleshy leaves and cellular stalks, which enable it to withstand an annual period of drought. Yet at the same time it is not wise to keep the plants so dry that the foliage shrivels.

Few greenhouse plants can equal in gorgeousness the flowers of Strelitzia Reginæ; the stout spikes, which rise above the broad shining leaves, bear flowers of rich bluish-purple and orange, escaping from a farina-clad flower scape. Where sufficient headroom cannot be given to this species, S. humilis, which Nicholson's "Dictionary of Gardening" quotes as being "a reduced copy" of the former, might be grown. In larger houses, S. Augusta, which usually flowers a month earlier than S. Reginæ, is also well worthy of culture. Even when not flowering these species are decidedly ornamental. Cecil Aubrey.

ASTERS FOR BEDDING.

In late summer and autumn the asters add very considerably to the garden's charm, provided they are well grown and planted boldly in suitable positions. They never look better than when filling large beds, and the accompanying illustration shows such a bed in the Torwood Gardens, at Torquay. Asters afford ample room for the exercise of a variety of tastes because the florists have perfected a number of widely distinct strains. For those who like the more compact plants and rather formal flowers the Victoria, Bouquet, and French strains appeal strongly, while the chrysanthemum-flowered sorts are quite dwarf, but give a little more freedom of form.

Latterly, however, the more elegant strains have found great favour both for garden decoration and for cutting. The Comet, Ostrich Plume, and Ray asters, and the newer single varieties of the Southcote Beauty type, deserve all the popularity they enjoy, because of their free and graceful form and habit, and the considerable range of colouring they present. The rose and pink shades of the Ostrich Plumes, the white and peach-pink forms of the exquisite Comet strain, the white and primrose Ray asters, and the white and rich pink shades found in the Southcote Beauty, or plumed, single varieties, all excite admiration. The single sorts grow up to two and a-half feet high, and are, therefore, splendid for large beds and groups. In a private garden these must be grown in reserve quarters as well if a bed is planted because the ladies of the household will most certainly want large numbers of their elegant, golden-centred blooms, on long stems, for home decoration.

Thick sowing and failure to transplant the seedlings early are the chief causes of failure among asters, and yet such failures could so easily be avoided. Raised in the gentle heat of a warm greenhouse, pricked out into boxes containing fairly rich soil, and composed largely of loam, leaf-mould, grit, and again transplanted in a frame over a spent hotbed before they become drawn or starved, asters will grow well, and make a fine root system by planting-out time. While in the frame they can be adequately cared for in the matter of air and water, and if placed about six inches apart either way they make excellent material for beds or borders. When only once transplanted, and allowed to grow thickly in boxes, asters are seldom a success, and even though they flower they can in no way compare with plants treated in kindlier fashion, and allowed more room to develop. Two dozen first-rate asters are worth far more than fifty half-starved ones.

A FINE BED OF SINGLE ASTERS IN THE TORWOOD GARDENS, TORQUAY.

Vegetable Marrows.—Where conveniences exist for obtaining an early crop, sow the seeds singly in small pots, and place in a temperature of about 60 deg. As growth proceeds shift into 48-sized pots, and when well established, plant out on a mild hotbed in a pit or frame. If an early crop of potatoes is lifted from a pit the marrows may be planted in its place. If there is a spare space in an intermediate house, plants may be put in boxes and trained up the trellis. Moore's Cream and Pen-y-byd are suitable varieties for early crops, being productive and of high quality.—W. Messenger.

PERPETUAL-FLOWERING CARNATION NOVELTIES OF 1912.

New varieties of perpetual-flowering carnations are essential because the old ones deteriorate in time, so must be replaced and when good novelties are disseminated all are benefited. Never in the history of the flower have so many good varieties been sent out in one year as during last season. The International Show must account for this supreme effort, and certainly the position of the flower has been greatly strengthened.

It is impossible to say definitely which is the best novelty of the year, because various varieties have different uses, but the following will be the most popular.

Triumph, from the cut flower standpoint, is the crimson variety of to-day, producing two flowers to every one of Carola. However, those who still prefer fine quality will cling to the latter variety, yet I predict a great future for Triumph.

Empire Day is a variety which practically everyone will grow soon; it was never shown or advertised so much as its merits warrant. The colour is a clear shade of pale salmon-pink; flowers are of good size, and the habit of growth is always robust and healthy, with strong stem and calyx. This variety I consider the best pale salmon-pink, and one everybody should cultivate.

Rosette is deep bright cerise, a shade long sought after, and, compared with other varieties of similar shades, Rosette is much purer and brighter in colour, while in habit, stem, and calyx little more can be desired. Unfortunately the flowers lack scent, but this is practically its only shortcoming.

Wivelsfield Wonder is white, daintily flaked rose-pink. Flowers, large and full, with good scent. The growth of this variety is exceptionally strong and healthy, and it resembles Enchantress in formation of flower and growth, but is more robust.

Benora, white, flaked red, has finely, well-formed flowers of good size, and a healthy growth, which is quick, but does not make a large bushy plant. The flowers of this variety are totally distinct from those of Wivelsfield Wonder, and which is the most beautiful of the two is a matter of taste.

Lady Northcliff is salmon-pink, similar in colour to that popular old variety, Mrs. H. Burnett, but it is more free in flowering. However, the blooms are not so large as those of Empire Day, but perhaps it is a better producer.

Mandarin, yellow, heavily flaked rosy-pink, is, perhaps, the best yellow fancy variety yet produced; it has excellently-built flowers and free healthy growth.

La Rayonnante, large, maize-yellow, the flowers measuring four inches and over, is very strong and healthy, with ideal stem. The calyx splits, and it is not so free flowering as same varieties, but is undoubtedly the best clear yellow.

Sunstar, bright yellow, with pale pink and white markings, has flowers of large size, with good stem and calyx; the growth is free and robust. Certainly an excellent variety.

Lady Meyer, flesh-pink, several shades deeper than Enchantress, is a variety which promises to supersede our old favourite, as the calyx, stem, and growth are much stronger, and not affected so much by dull weather; it had the distinction of giving the premier vase at the recent show.

Baroness M. de Brenien, salmon-pink, has very large, massive flowers. The growth is particularly strong. This should prove an excellent exhibition variety, and its slowness in flowering is compensated by the fine quality of the blooms.

Fairmount, heliotrope, with a French grey finish, has flowers that are large and well built; the growth is strong and healthy. Fairmount should supersede that popular old variety Mikado.

Geisha, heliotrope, with a suffusion of salmon at the base of the petal, has wonderful long, erect stems, and robust growth.

Coronation, silvery-pink, gives medium-sized flowers, and is of free growth; unfortunately the flowers are affected by the sun, and often assume a magenta shade.

Duchess of Devonshire, deep crimson, with flowers of beautiful form, is, unfortunately, not quite so free-flowering as some of the varieties.

Cinnabar gives a distinct shade of a rich red-brown colouring; the flowers are small, but beautifully perfumed; a very healthy grower.

Wodenethe has large, full white flowers, and strong healthy growth; it is not so free flowering as White Wonder, but should be popular.

St. Nicholas, scarlet, is bright, but the flowers are rather thin and small. Scarlet Glow is still, I think, the best scarlet.

Elektra, orange, edged pinkish apricot, is a free and healthy grower. The flowers are not large, but they are greatly admired.

Montagu C. Allwood.

Hayward's Heath.

MISTAKES WITH ANNUALS.

The raising of some seeds is such a simple process that it is one of the first things the child learns to do in the garden, though it is true it is done in a rule-of-thumb fashion, and it is not always certain that he will get even moderate results with those of the easiest culture. Some amateurs do not advance much beyond this stage in later life, for they do not realise that annuals, as a class, are not easy things to grow well, and that unless they are really well grown they are little better than weeds, in fact not so good as some weeds.

Sowing Too Thickly.

The first and most general mistake in their cultivation is that of thick sowing, and that is one which even the most experienced fall into sometimes. We are so anxious to have the ground well covered, and that without waiting very long. When seeds are sown thickly irremediable injury is done to the seedlings however soon they are thinned, as they become leggy directly they are up, and then they are always weak at the base, and soon fall over. In thinning a bed of seedlings all groups or clumps of seedlings should be pulled up completely, selecting those to remain which have a clear space round them to start with. Thinning should be done gradually, leaving the best plants at each thinning and not hesitating to pull up plants because they are large and strong if it is seen that they will unduly crowd others. Few people leave Shirley poppies, for instance, eight or ten inches apart, and yet they will pay for this distance, and even more, under very good cultivation.

Poor Cultivation.

Another mistake almost as common as the preceding, and quite as harmful in its results, is poor cultivation of the soil. Let anyone prove this for himself by taking up one plant out of well-cultivated soil and another from soil which is badly cultivated, and noting the difference in the root systems. The finer the tilth of the soil the greater will be the number of roots, and as each little rootlet contributes to the well-being of the plant, the stronger and better the latter will be. The greater the depth of cultivated soil, too, the greater the range for collecting the food supply, and the longer the plant can withstand drought. The enrichment of the soil is included in the term good cultivation, but this part of it is not necessary for all annuals, and this should always be borne in mind. Tropæolums, for instance, will run to leaf if the soil is rich; salpiglossis will die away unexpectedly and mysteriously if the soil is damp as well as rich.

Late Sowing.

Another mistake with hardy annuals is late sowing. Every countryman knows the poor results often following the late sowing of spring corn, the warm or even hot weather of late May or early June coming before the root systems are sufficiently extensive to maintain the rapidly increasing size of the plants, with the result that they are forced into flower too early. On any but the heaviest and wettest soils most annuals may safely be sown the last week in February, or as soon after as weather conditions permit, and many, especially in light soils, will do better if sown from July to September, according to the sort, when they will make fine plants and keep up a longer display, though they will come on so early, in many cases, that we shall need to have successional plants ready by the end of July.

It needs a considerable knowledge of annuals to avoid using them in the wrong way. Their character is very diversified, and, if we are going to use them all in similar fashion, we shall make great mistakes in the garden. Love-in-a-mist, malopes, and godetias, however beautiful in their different ways, will make ugly gaps in the beds and borders early in August. These cannot be used in such positions without having material in readiness to put in their places as soon as they begin to fade. There are some annuals, in fact many, which are admirably adapted for use as bedding plants, and only those should be used for the purpose, but in raising them it should be borne in mind that if they are not raised until April it will be the middle of July, or even later, in some cases, before they are producing any effect, by which time the best part of the summer is over. The middle or end of February, or, at latest, early March, is not too early to sow most of the bedding annuals, and we need not be afraid of having them in flower too early, as they will last in flower throughout the summer.

Alger Petts.

Browallia speciosa major.—This makes a charming greenhouse plant, and is very easily cultivated. Sow the seeds now in pans of light sandy soil, and place in heat till the seedlings are through. A shift into small 60-sized pots when large enough, and later into 48's, is all they require. They must be stopped once or twice to encourage a branching habit. Their bright blue flowers are very effective during late summer and autumn.—E. Harriss.

ROSE ELLEN POULSEN.

Conspicuous in several of the beautiful collections of roses exhibited by Messrs. William Paul and Son at the meetings of the Royal Horticultural Society held during the summer and autumn of last year, was the charming variety Ellen Poulsen, of which an illustration is given here. This variety belongs to the dwarf polyantha section, was introduced in 1911-12, and during the past year it proved so satisfactory as to be regarded as a valuable addition to the dwarf bedding roses. Under good cultivation, such as it would receive in the Waltham Cross Nurseries, it attains a height ranging between eighteen and twenty-four inches, and produces freely and continuously its large clusters of bright cherry-rose flowers. The form of the flowers and their arrangement in the truss, which was cut from one of Messrs. W. Paul and Son's plants, is so admirably depicted that further description is unnecessary. It must, however, be said that the flowers are delightfully fragrant, and that the petals have a cream-coloured base. The foliage is dark green, and described as mildew-proof; and the variety is of much value for forcing. Where the distinctive charms of the dwarf polyantha roses are appreciated Ellen Poulsen should be included amongst the newer roses selected for planting this spring.

SMOOTH CAYENNE AND CHARLOTTE ROTHSCHILD PINEAPPLES.

In these days, when British-grown pine-apples are seldom asked for, and consequently gardeners generally need take but little interest in them, from a cultural or any other point of view, I ought perhaps to apologise for trespassing upon space in alluding to them. Having, however, been asked particulars respecting their culture, and the origin of the above-named varieties, and being unable from the means at command to enlighten my correspondent about the latter part of his enquiry, may I ask if any reader of this note will assist me?

The Smooth Cayenne has, I am aware, been considerably longer under cultivation in this country than has Charlotte Rothschild, though it is not mentioned in the first editions of either "Johnson's Cottage Garden" or M'Intosh's "Practical Gardener," nor is it referred to by Mr. Donald Munro in his "Report upon Varieties of the Pine-apple" published in the first volume of the "Transactions of the Royal Horticultural Society" (1835), in which 52 varieties are described. No doubt it would have been included in this lucid description of varieties had it been under cultivation at the date of publication, for it is one of the very best of pine-apples, especially for affording a supply of ripe fruits, of excellent flavour and handsome appearance, during the winter and early spring months. It is likewise the most valued for colonial cultivation and export, and the fine condition in which it is thus produced can be frequently observed at the establishments of leading fruiterers.

The late Mr. D. Thompson, in the "Culture of the Pine-apple," speaks of this variety as weighing 11b. for every pip in depth, and this, as we have many times proved, is not an excessive estimation. At one time an inferior variety of Smooth Cayenne was common in collections, and I found it here when taking charge of these gardens.

I recollect first seeing plants of the variety Charlotte Rothschild in 1870, and they were grown at Duporth, in Cornwall, by the late Mr. Bacon. At the same date, at Tregrehan, in the same county, pine-apples were grandly managed by Mr. Woolcock. I well remember Mr. Bacon, when speaking of Charlotte Rothschild, referred to it as a new variety, and said his plants were the first of it he had fruited, and I believe I am right in saying he obtained the suckers from Mr. Barnes, who was then gardener at Bicton, and distinguished as a cultivator of pines. From these recollections it may be supposed it had at that date been but recently introduced.

Relative to pine-apples, it may be remarked that I am informed by two former assistants, respectively manager and assistant manager of tea plantations in Cachar, that these fruits are quite easily brought to perfection there in open quarters, the flavour being excellent, and this I see is confirmed by Thomas Carson, who writes in a chapter on Tea Planting, in "Ranching, Sports, and Travel": "At Scottpore, in Cachar, I think I grew as fine pine-apples and bananas as were produced anywhere. The pine-apple contains no fibre. You can cut the top off and sup the delicious mushy contents with a spoon."

The Hendre Gardens. THOS. COOMBER.

ROSE ELLEN POULSEN.
A dwarf polyantha variety, the flowers bright cherry-rose.

GLORIOSAS.

Having been rested, the tubers of gloriosas may now be taken from their pots and repotted, placing several in 10in. or 12in. pots. When finished, the tubers should be covered by an inch or so of the compost, which may consist of fibrous loam, peat, and leaf-mould in equal parts, with the addition of a little well-decomposed manure and some sand. If the compost is in good condition very little water will be required until the growths appear, when moist heat will be necessary. G. superba and G. Planti (or virescens) are both useful for covering stove rafters and for affording cut flowers in late summer and autumn.—H. PRIME, Hatfield House Gardens.

NOTES FROM SCOTLAND.

Early Potato Planting.

The weather in the latter part of February was all that could well be desired for planting the sprouted tubers that form the advance guard of this important crop. Not only has rainfall been almost absent, thus rendering the light, sandy tracts of soil bordering the sea for miles along the western coasts of the counties of Ayr and Wigtown in splendid working order, but the general non-prevalence of wind has greatly aided in the task of applying artificial manures and the efficient preparation of the ground.

Morning frosts have somewhat retarded field operations occasionally, until the day was well advanced, but in general, in connection with this work, much requires doing under cover at the homestead as well as in the open fields. To all appearances the present season's crops will equal, if not surpass in area any that have gone before, while the tubers, having kept well in store and sprouted strongly, afford grounds of hope for another prosperous and bountiful year.

Roses and the Winter.

Not for many years—certainly never since the Hybrid Tea and Rambler sections came into such prominence, and their culture become so universal as at present—has such destruction among the plants been experienced as is the case now made manifest by the numerous dark-coloured stems without a sign of returning sap activity. The damage now apparent has been partly suspected for some time past, but was tempered with the hope that with advancing spring a fair proportion of the shoots would resume their accustomed vitality and a fair amount of vigour. In many cases, such hopes are now dispelled, for it becomes daily more evident that many plants which have successfully withstood the rigours of previous winters are killed to the root, and that, where budded, the stock may grow, but the scion has passed beyond revival.

This, too, applies not specially to one establishment or district, but to the greater portion of the southernmost extent of Scotland. The winter now closing, though having been a most trying one for all connected with the soil, was more remarkable for rainfall, snow storms, and boisterous winds, than for very severe frost.

The harm done to roses undoubtedly occurred in November, when on two successive nights from twenty to thirty degrees of frost were registered, varying, of course, in intensity according to the situation and the district. At that time the plants were in full foliage and the stems highly charged with sap, and thus ill-prepared to endure the sudden change. Shrubs of several kinds, as myrtles, bays, and laurestinus, and those of deciduous character, as buddleias, magnolias, and tree lupins, are much damaged.

Exhibitions and Improvement Societies.

The first-named, for the coming season, appear to be in the ascendant. The thriving town of Dumfries, so conveniently situated and so well connected by way of railway communication from all parts, seems to have headed the forward movement. Early in January a few ardent horticulturists met and had under discussion the advisability of instituting a rose and sweet pea society. This culminated in a schedule of rules and prizes, with the provision that an exhibition be held at or near Dumfries about the third week in July, when both flowers are usually at their best in northern gardens. Since then another society, more general and further reaching in its scope, has in turn been formulated with powers to arrange for and to hold an exhibition about a month later than the former.

Dumfries claims to be among the first, if not the pioneer, centre in the kingdom in which a purely horticultural society was established, but, strange to say, with its historic past and all its present-day advantages as to population, industrial activity, and convenience of access, coupled with the onward and upward march of horticulture in general, it has, in recent years, been unable to hold its own financially or in the extent and importance of its annual exhibitions. And this in spite of the fact that different bodies of men, well versed in horticulture and possessing good business acumen, have from time to time served upon its committee.

We read that the man who makes two blades of grass grow where but one grew before is a benefactor to the race. In the case under notice two committees of men will endeavour to make two shows or societies thrive where one failed before, and, as the material at their disposal is not widely different to that available in the past, the working arrangements and final consummation will doubtless be watched with considerable interest by many engaged in the gentle art of horticulture.

Labour and Wages.

Amid the general unrest, and appeals of the employed for better conditions and higher remuneration for labour among classes far and away better requited in this respect than are gardeners in general, it is surprising that the latter, beyond the customary grumble, bear so patiently the seeming injustice of their lot. As illustrating the reasonableness and goodwill existing between the Edinburgh masters and men engaged in the jobbing trade of the city, as culled from newspaper reports, it may be stated that at an arranged meeting, at which both parties were about equally represented, the most harmonious feelings seem to have prevailed, and it was resolved that higher charges should be made for work performed, the additional charge being placed almost entirely to the credit and benefit of the workmen, of whom the employers or their representatives spoke in the highest terms as to intelligence and industry. Could something similar be carried out in private gardening, whereby employer and employee were brought into closer contact and conference, it might in very many cases lead to an adjustment of real grievances which are now borne in sullen silence.

Things of this sort may in course of time rectify themselves unaided, as any gardener having to deal with several assistants is well aware of the difficulty of obtaining suitable and trustworthy men; or, if obtained, to retain their services at the rate of wages that sufficed in years gone by. This has already resulted in a considerable betterment in the conditions of housing, as well as in the remuneration given to young men.

James Day.

SOME USEFUL STONECROPS.

The charming group of Sedum Alberti shown in the accompanying illustration will give a good idea of the usefulness of many members of this succulent-leaved family. In too many gardens the few sedums that are grown may be generally found relegated to odd corners and out of the way places, where they fail to do themselves justice. They are, however, very good-natured plants, and even under such conditions make themselves attractive, and show to what useful purposes they may be put. For dry banks and rocky ledges in the rock garden the dwarf, carpeting species are almost indispensable, covering the ground during the whole of the year with foliage, and producing sheets of beautiful flowers in the summer months. They will grow on places where it would be difficult to get other plants to thrive, and thus are all the more valuable.

Besides carpets of crimson and purple, green and white, and golden-yellow, as well as many other shades of colour, there are taller-growing species of elegant and striking habit, which form bushy specimens, like S. spectabile, with stout stems and large fleshy leaves. These, in autumn, are topped with large heads of rich purple flowers that are very handsome. The following notes, however, are confined to those dwarf-growing species that may be relied upon to quickly form spreading carpets of pleasing foliage of different shades of green, and produce sheets of brilliant flowers in summer and autumn. Some of the more beautiful ones, like S. pulchellum, must necessarily be omitted from this list, as it does not prove hardy in many places, but its rose-coloured flowers are very handsome.

The stonecrops are all of easy culture, flourishing in borders that are sufficiently well drained, crevices of old walls, dry stony banks, and sunny pockets in the rock garden. There is no difficulty in the matter of propagation, as even the leaves of some species, like S. dasyphyllum and others, rubbed off and scattered about, will soon form buds, succeeded by plants, in a short time. Seeds are also produced freely by some species.

S. acre, the Wall Pepper, or Biting Stonecrop, is a native plant which is practically covered in early summer with sheets of bright yellow flowers. Owing to its spreading so freely it is apt to become a nuisance where rarer plants are grown, so care must be exercised in placing it. It is extremely useful for borderings or the tops of old walls. A very pretty form is S. acre aureum, every growing point of which, in spring, is golden-yellow.

S. Alberti, here illustrated, forms a carpet of interlacing stems and short terete leaves, covered in summer with panicles of white flowers. It is only about three inches high, grown on dry, open places, but in the more shady places it is liable to get drawn. An exceedingly useful carpeting plant, S. Alberti is a native of Turkestan, its introduction to cultivation being due to Dr. Regel, of St. Petersburg. It is closely allied to S. album, commonly known as the Worm Grass, another native of this country. The creeping growths are clothed with evergreen, short leaves, and in summer are covered with clouds of comparatively large white flowers on pink stems. For a sunny bank there is no more effective plant when in flower, while in winter and other parts of the year it may be used to provide a clothing for dry and arid positions.

S. brevifolium, the Mealy Stonecrop, is a beautiful little evergreen plant, which has

been described as looking like a mass of silvery, rose-tinted globules of meal, so rounded and covered with powder are the leaves. It will thrive on a dry, sunny ledge, but is one of the least hardy of those included here. The flowers are a pinky-white, but the chief attraction lies in the pretty foliage.

S. Ewersi is a very ornamental Himalayan plant, with semi-trailing stems a few inches long, glaucous, rounded leaves, and clusters of purplish flowers. These are produced from July to October, and render this a valuable plant for the rock garden where flowers are beginning to get scarce at this time of the year. S. E. turkestanicum is a variety with rosy-purple flowers.

For rapidly covering a given space there is no other sedum, except S. spurium, to compete with S. oppositifolium, which comes from the Caucasus. It is evergreen, a perfect curtain, draping the wall with evergreen foliage, replaced in summer by the crimson flowers. Like S. oppositifolium it is a native of the Caucasus, and very similar to it in habit.

S. ternata is a glabrous evergreen plant with spathulate leaves in whorls of three up the stem, and crowded into rosettes at the top. The masses of white flowers in loose cymes are produced in May and June, and last in perfection for a long period. It is a native of Western North America, and usually found growing on the rocky banks of streams, but although a moisture-loving plant, it succeeds well in open, sunny situations, planted in sandy loam.

There are many other beautiful plants contained in this genus besides those above-mentioned. They are of various habit, from the tall-growing S. maximum, with large fleshy leaves and broad corymbs

CRATÆGUS PINNATIFIDA MAJOR.

From its foliage alone this tree may be readily detected in a collection of thorns, for, though shaped somewhat like the leaves of our common whitethorn or hawthorn, they are of large size, thick texture, and deep green colour. The blades of the larger leaves are up to four and a-half inches in length, and four inches wide, with stalks a couple of inches long. Neither is it in leafage alone where special size is noticeable, for the white flowers are larger than those of most species, while the showy red fruits are almost an inch long, and the same in diameter. They are very fleshy, comparing them with those of C. tenacetifolia in that respect. Added to this, the tree is of vigorous habit, with large, rounded, distinct buds, and few spines. It is certainly one of the most

SEDUM ALBERTI.

An attractive species with white flowers on pink stems.

with long trailing stems, and bright green flat leaves. In shady places it grows very fast, but does not there produce its good-sized white flowers so freely as when planted in a more open, sunny place. Like the preceding, it is a late summer and early autumn-flowering plant.

S. rupestre and S. reflexum are two native species of similar habit, with procumbent trailing stems, closely set with narrow leaves of glaucous green. S. rupestre bears masses of clear yellow flowers during the summer. It is very variable in habit, and there are several different forms of it in cultivation. All are exceedingly useful carpeting plants.

The rich crimson heads of flowers borne by S. spurium are very attractive. It is most effective when planted on the top of a retaining wall in a sunny position. The long trailing stems grow down, and form

of greenish-white flowers, to the diminutive S. brevifolium. Those of the Aizoon section, including S. kamtschaticum and S. Maximowiczi, with erect stems and, mostly, yellow flowers, are very useful border plants. One of the most distinct is S. spathulifolium, from Western North America, which has glaucous leaves in pretty rosettes, and pretty citron-yellow flowers. It must be planted in a very dry, well-drained position. W. Irving.

Eurya latifolia variegata.—This camellia-like greenhouse shrub is remarkable for the manner in which the shining leaves are variegated. Of a green ground they are marked with creamy-yellow and grey in varying amounts, and very differently arranged. The young leaves are suffused with pink. It forms a very pretty object in the greenhouse.—T.

distinct of the many kinds, but it is doubtful whether it is so generally useful and ornamental as some of the American sorts, and is certainly less decorative than C. coccinea, C. mollis, and others of that class. A native of China, it has long been known in our gardens. W. D.

Grasses in Pots.—Some of the annual grasses form very pleasing subjects for greenhouse decoration, if sown in five or six-inch pots, and allowed to come on gradually, giving them plenty of light and air. Particularly suited for the purpose are some of the Agrostis, such as A. pulchella and A. nebulosa; Brizas of sorts, especially Briza maxima, Hordeum jubatum, Bromus brizæformis, Lagurus ovatus, and others. They will serve the useful purpose of lightening up a group of flowering subjects.—K.

HYDRANGEAS: NEW AND OLD.

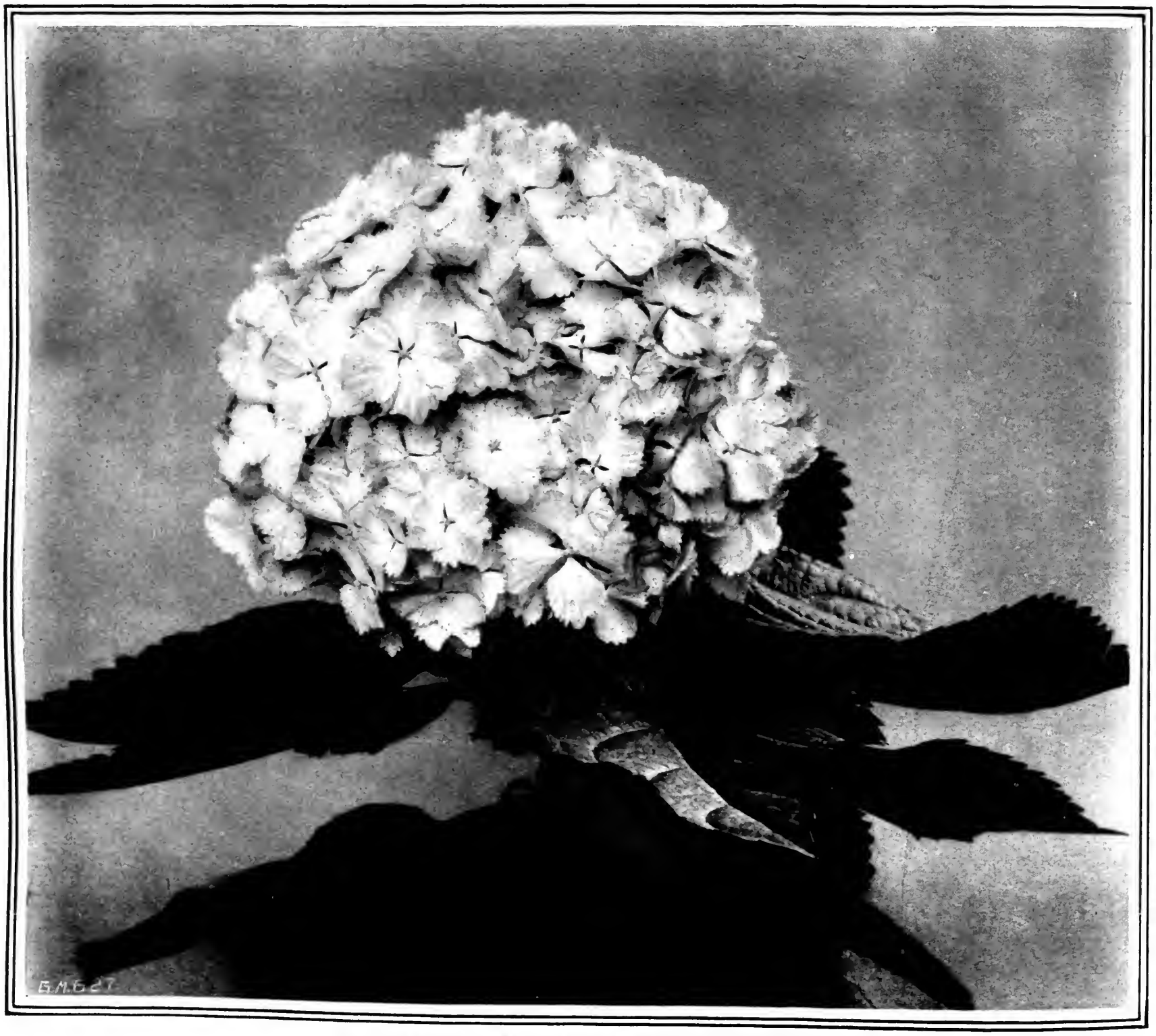
The genus hydrangea is a fairly extensive one that, in a state of Nature, occurs principally in North America and in North-Eastern Asia, including Japan. Far and away the most popular of all is Hydrangea Hortensia, which forms such a feature of many gardens in the south and west of this country, and in other places, especially in proximity to the sea, for it seems to favour a near association with "the briny." A fine specimen in a Torquay garden is herewith illustrated. The neighbourhood of the sea is, however, by no means essential to its well doing, as delightful specimens may be met with in the home counties where conditions are favourable; and grown in pots for decorative purposes, it figures largely in Covent Garden Market over a considerable period of the year. In addition to this, specimen plants grown in large pots or tubs are exceedingly valuable for standing on terraces or in similar positions during the summer months.

The use of Hydrangea Hortensia itself as a decorative subject, and its ornamental features out of doors where the weather is not too severe, have, however, been at different times dealt with in the pages of the Gardeners' Magazine, notably in the issue for August 10, 1912. Such being the case, I need say nothing further on that point, but confine myself to mentioning a few of the most distinct of the recognised varieties, and the numerous garden forms that have within the last few years been raised on the Continent, and are now in some cases largely grown.

Prominent among the varieties that have been introduced from Japan, and of which some have before now been looked upon as true species, is H. H. Lindleyi, one of the most distinct of all, differing as it does in many ways from the typical kind. The shoots are far more slender, and the leaves and flower clusters much smaller. The flowers are produced from the axillary as well as terminal buds, so that even should the point of the shoot be injured by frost there will be, as a rule, a fair display. The major portion of the blossoms are small, fertile ones of a bluish colour, but there are enough of the large sterile ones to make a goodly show. These last are of a rose colour, becoming, in some cases, almost crimson with age.

In H. H. Mariesi, the main feature is the immense size that the sterile blooms attain. They are of a deep pink colour, and are limited to a scattered few around the outside of the flower cluster. The variety Veitchi is a counterpart of this except that the sterile blooms are white. H. H. nigra, also known as cyanoclada and mandchurica, derives its name from the bark of the young shoots, being of a shining black tint, very different from the ordinary forms. The flowers, borne in massive heads, are of a bright rose colour. It has long been a favourite for pot culture.

H. H. Otaksa is one of the best of the Hortensia class; that is to say, it represents a very good form of the type, but does not differ in any marked manner therefrom. H. H. rosea is somewhat after the manner of Lindleyi, mentioned above, in habit, but the flowers are all, or nearly all, sterile and of a rich, bright rose colour. H. H. stellata, of rather weak growth, is remarkable from the fact that the sterile flowers are more or less double, which feature renders it quite distinct from any of the others. It forms a very pretty greenhouse plant. H. H. Thomas Hogg, a variety introduced from Japan by way of the United States many years ago, was, until Madame Emile Mouillière was sent here from the Continent a few years ago, grown almost to the exclusion



HYDRANGEA MADAME RENEE GAILLARD.

A new and distinct variety, bearing large heads of fimbricated flowers which are white tinted with green. It was well shown by Messrs. T. S. Ware, Lim., Feltham, at the R.H.S. Meeting on February 4, the plant illustrated having a flower-head about twelve inches in diameter.

of any other white-flowered kind, and it is still very popular for market culture.

Within the last few years two raisers, namely, M. Moullière, of Vendome, and M. Lemoine, of Nancy, have devoted a good deal of attention to the raising of new hydrangeas, and have put a great number of varieties into commerce. One of the first—Madame Emile Moullière, was given an Award of Merit by the Royal Horticultural Society on May 3, 1910. This variety is of good, sturdy, growth with massive heads of white flowers. It has proved to be an ideal kind for cultivation as dwarf plants in comparatively small pots, each carrying one large head of blossoms. A second variety—Ornament—received a similar award at the same time. The flowers of this are also white, a marked feature being the deeply serrated segments of the sterile blossoms.

President Fallieres, huge heads of bright pink flowers; and Ronsard, a light flower with a markedly distinct deep pink centre, much serrated at the edges, a very striking variety.

Of species other than Hydrangea Hortensia by far the most popular in gardens, both as an outdoor shrub and for growing in pots, is H. paniculata, or rather its variety grandiflora. This, which flowers naturally in the open ground in August, is by some of the growers for Covent Garden Market forced into bloom much earlier. It produces large pyramidal heads of creamy-white flowers, which, when fully exposed to the sun, acquire a reddish tinge. Though this variety is so well known, the typical H. paniculata is comparatively scarce. It differs from grandiflora in being more vigorous in growth, with darker green leaves, and especially in the flower clusters, which consist mainly of small fertile blossoms, the large sterile ones being scattered over the entire cluster. Opinions, of course, vary, but personally I prefer the type, as an outdoor shrub, to its better-known variety.

Mention must be made of Hydrangea arborescens, a North American species, which forms a vigorous bush, clothed with large heart-shaped, deep green leaves. The flowers are not particularly showy. This kind might well be passed over, but for its variety, grandiflora alba, which is of comparatively recent introduction. It originated in the United States as a sport, the main point of difference being that the flower clusters are composed of large, sterile, pure white blooms, suggesting those of the Guelder rose. It is undoubtedly of great promise.

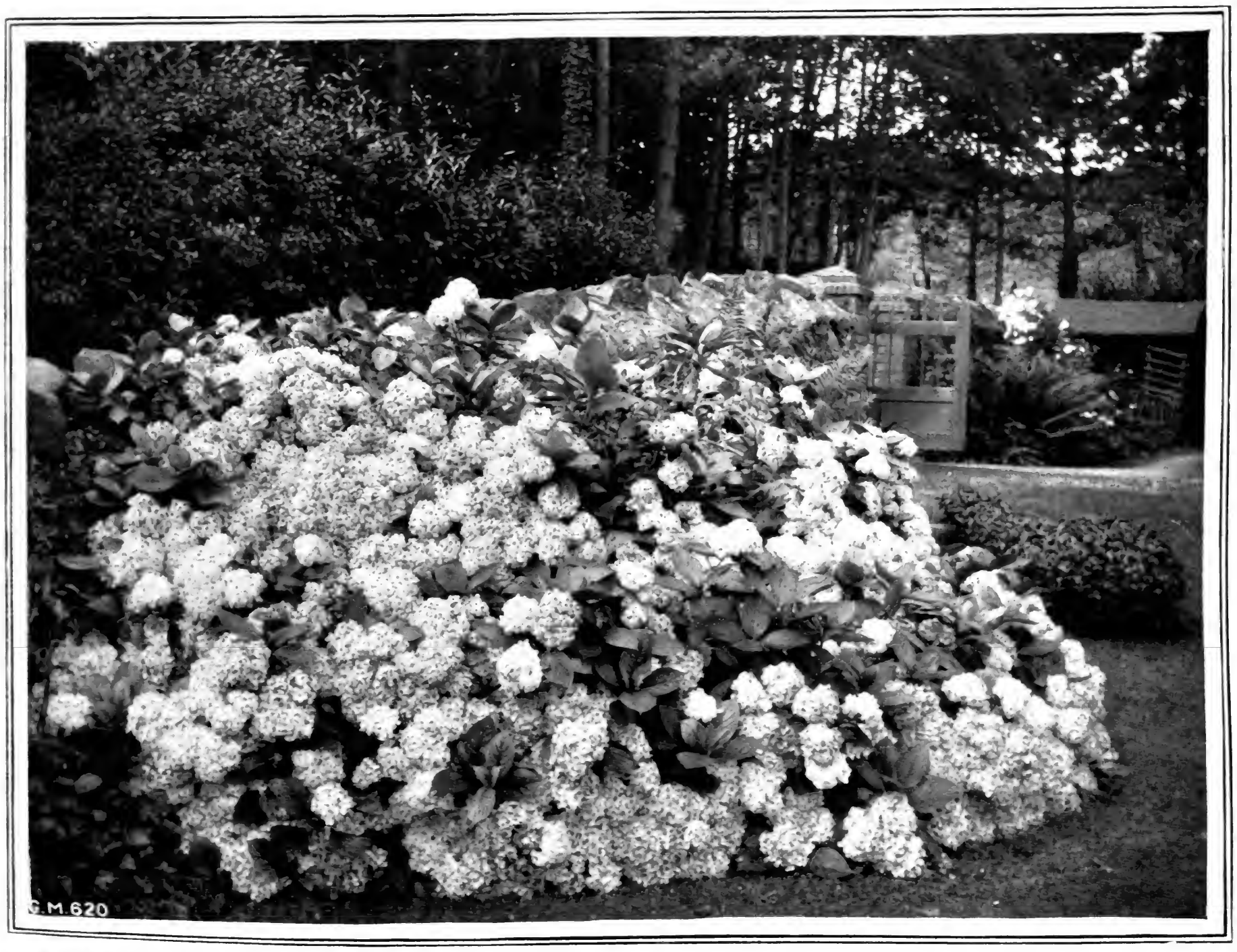
Hydrangea Bretschneideri, also known as H. pekinensis and H. pubescens, is a strong-growing bush, with flattened corymbs of whitish flowers. Though ornamental, it is less showy than most of the others.

Hydrangea petiolaris (or scandens) is remarkable for its climbing habit, and the fact that it will attach itself to a wall by its aerial roots much as the ivy does. The large flattened corymbs of flowers are not unlike those of the elder, plus some large sterile blossoms around the outside of the cluster. It is quite hardy, and makes a good wall plant.

More remarkable for its leaves than its flowers, Hydrangea quericifolia is well worth attention where a sheltered and fairly moist spot can be found, as it is of a more tender nature than the other species from North America. The leaves are deeply lobed after the manner of the American Red Oak, while the flowers are white. Hydrangea radiata is somewhat like H. arborescens, from which, however, it differs in the foliage; as in H. radiata, the undersides of the leaves are of a vivid bluish-white tint. When stirred by the wind this feature is very noticeable.

Hydrangea Sargenti, a new species which was introduced from Western China by Mr. E. H. Wilson, V.M.H., was given an Award of Merit at the International Exhibition last May. It is one of the most distinct of all hydrangeas, being a very robust grower, with exceedingly large leaves, dark green above and paler beneath, while they are clothed on both surfaces with hairs, so that they have a quite velvety appearance. A singular feature is the scale-like hairs on the stems and leaf stalks. The flowers are borne in a large flattened corymb, and consist mainly of small fertile ones of a bluish-lilac tint, the sterile and showy ones being limited to a few around the outside.

W. T.



A FINE SPECIMEN OF HYDRANGEA HORTENSIA IN THE GARDENS AT TY NEWYDD, TORQUAY.

Mdme. Renée Gaillard, which is herewith illustrated, has been several times shown at the meetings of the Royal Horticultural Society by Messrs. T. S. Ware, of Feltham, and is of much the same colour. In the accompanying illustration the deep serratures can be plainly seen. Other good varieties worthy of especial mention among these Continental forms are Bouquet Rose, deep rose; E. G. Hill, soft rose, of great promise as a market plant; La Lorraine, very large flowers of a soft rose colour; Liberté, pink, much fringed; Mont Rose, clear rose; and Richesse, bright carmine-rose.

Beside these a number of new varieties were shown by M. Moullière at the International Exhibition last May, among which the following stood out prominently: La Perle, white, deeply toothed; Lillie Moullière, rich rose, light centre: Directeur Vuillermet, rich pink, much serrated;

CULTIVATION OF ASPARAGUS.

The ever-recurring quest of the market grower is a crop that it will pay him to cultivate. At times he discovers a very profitable subject for cultivation, and is not backward in exploiting it for all it is worth. So it occurred with cucumbers and tomatoes, both of which have now had their day. And even in the case of the Kentish strawberry growers, there are not lacking signs of incipient decay in this culture in the county of nuts and hops. No doubt, the public taste creates a demand for a certain article, while in other cases the market grower himself can boldly produce a particular fruit or vegetable, and wait contentedly for the demand, which he is assured will ensue.

Yet it is not an easy matter to find a crop that will answer this purpose so easily. The Kentish strawberry growers, for instance, did not anticipate the extensive development of this industry in Hampshire, nor the consequent fall of their produce from its former high place. Certainly, strawberry growing in Kent is not what it used to be; the acreage under the fruit is rapidly decreasing, while, on the other hand, in the Southampton districts, tremendous strides are being made in the extension of the culture, it having been discovered that the soils thereabouts are particularly favourable to the production of early crops. Already have we mentioned the relation which exists between the public taste and the demand for a certain fruit or vegetable. In many cases, of course, a certain taste has to be acquired, as, for example, had that of the tomato, and so, by degrees, the culture becomes more and more prominent.

This is what is happening now in the case of asparagus. Many people have already cultivated a taste for "the soothing effects of the mucilaginous juice" of asparagus, although there are a great many others who still have that taste to acquire. It is a very wholesome vegetable, and even possesses some medicinal properties that have formerly been quite unsuspected. That very critical journal of medicine, the "Lancet," says there is no evidence to condemn this peculiarly agreeable vegetable; though we were unaware that anyone wanted to condemn it at all. However, it goes on to say that, according to certain old text-books of homely medicine, asparagus is a useful stimulant to the kidneys, and exercises a gently sedative effect on the heart, calming palpitation and nervous excitement of that organ.

Usefulness of Asparagus.

Comparatively modern research has also demonstrated that it is the asparagin, an active principle found in potatoes, marsh mallow, liquorice, belladonna, as well as in asparagus, which acts as a palliative in the heart affections which are attended with excited action of the pulse; while it is further stated that "the soothing effects of the mucilaginous juice upon the mucous membranes of the mouth and pharynx add to the virtues of the tender shoot." Altogether, it seems that scientific evidence recommends asparagus as a wholesome and valuable addition to the diet.

On the lines of the argument mentioned above in reference to tomatoes, it may quite confidently be assumed that asparagus culture will become more and more prominent as the taste for the vegetable is acquired by the general public.

Were we to assume that a few isolated examples were indicative of the ordinary value of asparagus it would certainly appear that to eat some "grass" is to eat gold. At the Evesham (Worcester) Asparagus Show, in 1912, the record price of £10 10s. was paid for a bundle of 120 heads of asparagus which won the challenge cup there. This is at the rate of 1s. 9d. per head. Usually the best quality asparagus from the Evesham market realises from 20s. to 50s. per bundle; but, of course, it is clearly evident that the profit or loss that may accompany this culture depends, to a very large extent, upon the skill and capabilities of the grower, and the fact must not always be taken for granted that the crop is one which can be grown with the certainty of returning a profit.

Asparagus Culture around Evesham.

The reader may perhaps be aware of the fact that asparagus forms the chief source of revenue for the support of many families in the fertile valley of Evesham, where there are nearly one thousand acres of land devoted to this crop. And it is stretching no point to imagine that there are in this country many tracts of land almost, if not entirely, as suitable for asparagus culture as the Vale of Evesham. Certainly, at the present day, by far the best quality "grass" that finds its way to Covent Garden, whether from home or abroad, hails from this "happy valley," although, as regards size, the French growers around Toulouse and Paris hold the palm.

Smallholders in this country have been advised to specialise in certain remunerative crops rather than attempting to grow a great many different varieties of vegetables or fruit. Here, then, is a subject which appears to be eminently suited to their requirements. The capital outlay in asparagus cultivation is not great; in fact, it is less than that involved in many other "special" cultures. In France, it is cultivated, not only in gardens, but in the open fields, in many of those districts where the soil is favourable to its production. There is little risk involved in the growth of asparagus, for it suffers much less from disease than many other crops, and on the Continent its production is found to be chiefly in the hands of the smallholders.

Old Basing. J. C. Newsham.

(To be continued.)

Broad Beans.—A sowing on a warm, sheltered position should be made as soon as the ground is in suitable order for drawing the drills. Royal Cluster is a good variety for an early sowing. Further sowings should take place according to requirements. Where the condition of the soil does not permit of outdoor sowing, the seed may be sown in given in moderation to pot plants until the young plants appear, when they should be gradually hardened off preparatory to planting out.—W. Messenger, Woolverstone Park Gardens.

DAHLIAS: THE VALUE OF AN EARLY START.

Dame Fashion generally decrees that some particular flower will be honoured by her each year, and, though she is a fickle jade, rumour has it that she has taken up the dahlia for 1913. It is quite time she smiled on this fine old flower, and now that there are several new types, with endless varieties, most of which are very beautiful, to add to the older favourites, the claims to attention are amply justified.

The object of these few notes is to emphasise what would, I am convinced, do more to make dahlias fashionable or popular than anything else. I refer to growing the plants early. One can never expect that any flower which heralds autumn to be the fashionable one of the year, yet this is the season with which the dahlia has hitherto been associated. It is time we got rid of that idea, for, as it is quite possible to have dahlias in bloom in July, and a continual display thereafter until the plants are cut down by frost, why, then, I ask, should we wait until September before reaping the harvest of pleasure which a display of these charming subjects will undoubtedly give?

To obtain plants to commence blooming early in July, it is imperative that cuttings be inserted in February or at latest very early in March. Old roots, started in moderate heat about the middle of March, and given proper attention afterwards, will come along at the same time. Because one has worked on the old rule, and started the plants in March, rooted the cuttings, and planted them out of 3in. pots towards the end of May, that is no good reason why the rule should be adhered to.

The aim should be to have plants well established in 6in. pots and upwards by the end of May, then one can reasonably hope, given proper care, to see a few blooms before July is far advanced. In gardens where convenience permits of this being carried out, there is no more difficulty, except for the extra potting, to have them in this condition than in 3in. pots.

One can sympathise with the amateur who takes up the culture of these beautiful flowers as a hobby, but who lacks facilities for giving them proper care and attention. He probably plants his old tubers straight away in the garden late enough to escape the danger of frost, or possibly purchases his plants from a nurseryman, in thumb pots, or at largest in 3in. pots, just before planting time. My advice in that case would be to decide how much can be spent in purchasing plants, and then arrange with a nurseryman to pot the plants early.

For my part, I would infinitely prefer one strong plant, well rooted in a 7in. pot at the end of May, than four plants in cutting pots. The latter may flower the same year, or they may not, but certainly not until very late. For the future popularity of the dahlia nurserymen should impress upon their customers the necessity of purchasing early plants and potting them, or they should charge a higher price and supply strong plants in 48's or 32's, which would, I am certain, in the long run, be the most profitable, and also give the maximum amount of pleasure. A. J. Cobb.

Coleus from Seed.—Given a pinch of seed from a good collection, one may raise an extensive variety of different forms. A great advantage is that they grow very quickly, so that seed sown in the spring will give a number of effective plants that will make a good display in the greenhouse during the summer.—S. W.

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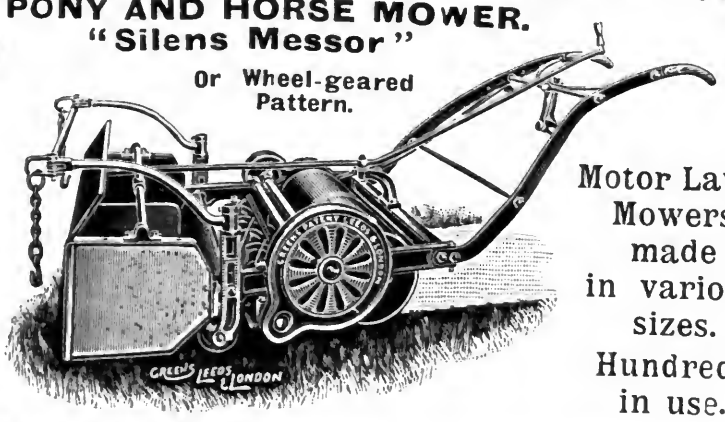

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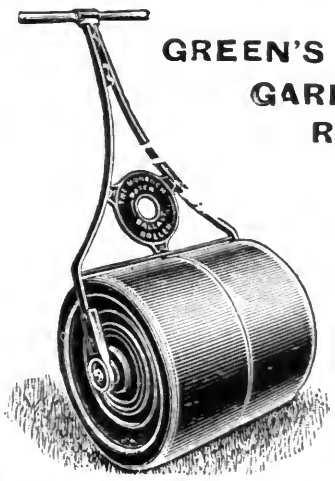

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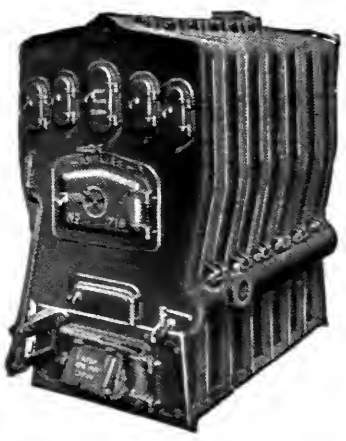

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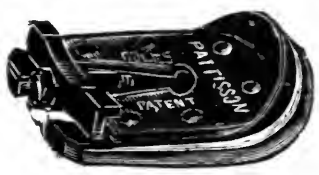

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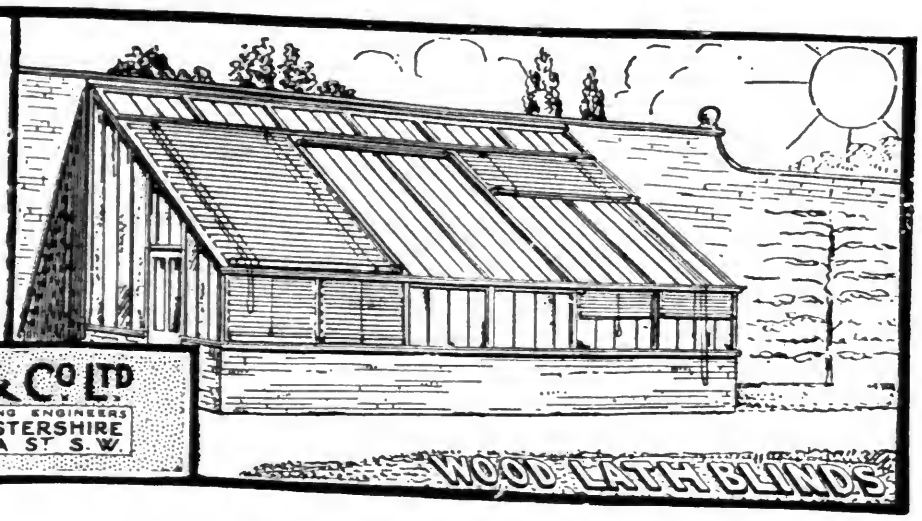

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MELON CULTURE.

The cultivation of melons is an important matter in most private gardens, for during the summer and autumn months no dessert is complete without them. Provided plenty of heat is at command their cultivation presents few difficulties, and they can be had in perfection from early in May until late October.

For early supplies a lean-to house facing due south is to be preferred, but for general crops a span-roof house is preferable. A fair amount of bottom heat is very desirable for melon growing, and this is best provided by hot-water pipes beneath the bed in which the plants are growing. Failing this a hotbed of fermenting material must be provided, but where hot-water pipes are used it is well to make up a good bed of oak leaves above these, using a perforated iron trellis to keep the leaves from the pipes.

To grow melons well, it is by no means essential to provide a large amount of root room. If the border is 18in. wide and 8in. deep, it will be sufficient. This should be composed of good turfy loam of a medium texture, the turves cut 4in. thick. Do not chop them to pieces, but make up the border with them intact. Small mounds should be placed on the bed at suitable intervals, in which to plant the melons. Loam broken up and mixed with a little old mortar rubble or wood ashes is all that is necessary. I do not advocate the use of manure, as this tends to create rank growth, which I believe encourages gumming and canker. The aim should be to build up a sturdy, vigorous plant, capable of perfecting a full crop of fruit.

Place two seeds in a 3in. pot, plunge the pots in a warm propagating case, and, when the seedlings appear, transfer them to a position near the glass. The stronger one must be retained and the weak plant cut off near the soil. Guard against cold draughts, and at no time allow the temperature to fall below 65 degrees; indeed, a rather warmer atmosphere is to be preferred. Place the young plants in 48-sized pots when nicely rooted, and encourage them to make sturdy growth. Regular syringings with tepid water during bright weather are beneficial. Should green-fly appear dip the young plants in a weak solution of quassia extract.

When nicely rooted plant out the melons on the mounds of soil already prepared; the latter should not be more than two feet from the roof glass. Stake and tie the plants and water them in with tepid water. Should the bottom-heat ever become excessive after the melons are planted, it may be necessary to slightly raise the mounds with a fork, but after a day or so press the soil down again firmly. It is best to grow early melons on single stems, so let the main growth reach the top of the trellis before it is stopped. When the plants are well advanced no harm will be done if the temperature rises to 90 degrees with the sun's heat, but the house must be kept frequently damped down. Midday, when the sun is bright, is the best time to fertilise the flowers. Always endeavour to perform this operation when there are three female blooms open together on each plant, for if they are fertilised at different times those set first will swell away and half-starve the later ones. Discontinue syringing during this period, and admit a little air to maintain a light, buoyant atmosphere. Pinch the laterals at the first leaf beyond the fruit, and carefully remove superfluous growths at an early stage, but reckless cutting away of shoots is sometimes the cause of gumming and canker.

When the fruit has set syringing may be recommenced to keep red spider in check besides encouraging growth. Feed the plants regularly with liquid manure. Some roots will probably have appeared on the surface of the bed by this time, and a light top-dressing of loam with some approved fertiliser added will be a great assistance.

If canker appears on any of the plants treat the affected parts with quicklime. Strong healthy plants grown as described are rarely, if ever, attacked by this disease. It is not necessary to shade melons at any period of their growth, unless it is necessary to retard their development. As a rule, three fruits on a plant are sufficient when good specimens are desired, and while the fruits are ripening a rather dry, airy atmosphere is essential to develop the best flavour. Good varieties are numerous, but for general use The Peer, Superlative, and The Countess can be recommended.

Batsford Gardens. J. Gardner.

KOHL RABI.

This useful vegetable is now finding more favour in private gardens than formerly, and one reason is that it has been brought into a more useful condition by drastic selection. It is now a valuable addition to kitchen garden crops, and is particularly useful if there should be a shortage at any time with turnips. When about the size of a tennis ball, and quickly grown, kohl rabi makes a tender and distinct dish. Sutton's Earliest Green is an excellent variety to grow for summer and early winter use, with Sutton's Purple for autumn and winter, as this appears hardier than the green variety.

KOHL RABI.

Sutton's Earliest Green, a useful and distinct summer vegetable.

For ordinary use sow the seeds during March for summer crops, and in August for winter crops. Sow in drills or broadcast, as winter greens are sown, and when large enough to transplant, transfer the seedlings to ground that has been well prepared, as quick growth is essential. Allow a distance of eighteen inches between the rows, and a foot from plant to plant. Hoe frequently. To economise space lines can be planted in the alleys that are usually formed between various seed beds. The winter batch, when of a suitable size for the table, should be carefully lifted and handled, and stored in a cool place.

George Ellwood.

Swanmore Gardens.

Variegated-leaved Oleander.—As a substitute for a croton, this oleander, which will thrive under much cooler conditions than crotons in general, can be well recommended. The long, narrow, deep green leaves are freely variegated with gold, and dwarf plants on single stems are well adapted for table decoration. It is an old variety, but I have of late met with it in better condition than ever before.—T.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

DECIDUOUS CALANTHES.—The stronger-growing calanthes, such as C. vestita, C. Bryan, C. W. Murray, C. Veitchi, C. Harrisi, and the more recently-introduced C. Angela, are now producing their new growths, and as soon as the roots make their appearance the plants should be repotted. It is advisable not to allow the new roots to become too far advanced, as they are easily damaged in the process of repotting. Where calanthes have been turned out of their pots and stored in boxes, as suggested in a previous note, the new roots get away into the sphagnum, and may be easily lifted and carefully repotted with the sphagnum attached to the roots. If the plants remained in the pots in which they were grown last season, they must be turned out, all the old potting compost must be carefully removed and the old roots cut back, only sufficient being retained to secure the plant in position in the new compost. Before repotting carefully examine the pseudo-bulbs for scale or other insect pests, which may have secreted themselves about the base.

THE COMPOST used may be varied according to the conditions under which the plants are grown. I cannot lay down any hard and fast rule, because, having had charge of plants in various parts of the country, and under different conditions, I have found that we have to determine for ourselves the most suitable compost. There is also the constitution of the plants to be considered. There are numerous varieties and hybrids, and some of the finest we have are very difficult subjects to manage. In the case of C. Oakwood Ruby, the late Mr. James Douglas told me Mr. Cookson had on several occasions given him plants, but he was unable to keep them for more than a year or two. I could mention many who have had similar experiences with this variety, and there are other varieties equally difficult to manage. With the weakened constitution, probably brought about by constant inbreeding, the provision of suitable potting material and conditions can only be arrived at by experience. We find a light compost the only suitable one, with ample crocks, charcoal, and sand, to render the whole porous. For the stronger-growing kinds we find a compost of equal portions of fibrous loam, peat, and chopped sphagnum moss suitable. This should be pressed moderately firm. In selecting pots of a suitable size one should always give sufficient root space unless a second potting is given about the end of June. Watering should be very carefully done until the new roots become well established in the potting compost. Then more liberal treatment may be given. To increase the stock any back pseudo-bulbs that have been removed from the plants should be laid in boxes on a bed of chopped sphagnum and silver sand, carefully labelled. These generally produce good strong breaks, and may be potted as soon as new roots appear.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

ACALYPHA HISPIDA.—Grown either as a summer or winter decorative subject, this delightful plant, with its beautiful crimson tassels, always repays good cultivation. As standards for summer use single-stemmed plants of last year's stock may be reduced to the required height, kept somewhat dry at the roots, and in a growing atmosphere until they break, when they may be repotted. Allow four or five growths to grow away unstopped, and as they produce their plumes, keep them in a temperature of 60 to 65 degrees by night and a little higher in the day, where damping between them may be frequently practised. Avoid damping overhead or the tassels will "damp off." For autumn and winter use cuttings of the young growths may be taken when available; they will quickly root in a close propagating pit, and should eventually be potted into 8in. pots. At a height of fifteen inches we pinch out the points of growth and allow the best three of the resulting growths to remain. A compost they do well in consists of four parts fibrous loam, two of leaf-mould, two of peat, one of sand, and a little well-rotted manure.

ANTHURIUMS.—These plants will now require attention, and should be repotted or top-dressed as may be necessary. The material we have recently used successfully consists of equal parts of fibrous loam, osmunda fibre, and chopped fresh sphagnum moss, with a little sand. Tall-growing kinds, such as A. Waroqueanum, A. Veitchi, and A. Andreanum, are best grown in pots, which must be well drained; the material should be worked carefully between the roots within the pot, and made firm, and from the rim of the pot to the lower leaves it should be worked in pyramidal form, and bound tightly with twine, which will last until the roots have taken a firm hold of the compost. A. Scherzerianum and its forms are better grown in pans, and when finished the crown should be slightly above the pot rim. Moist conditions, the frequent use of the syringe, and a temperature of 70 to 75 degrees, rising as the weather gets warmer, will suit admirably.

EUPHORBIA JACQUINIÆFLORA.—Good cuttings may be inserted from now onwards until the required number are rooted. Water the stock plants only when very dry, and keep them in full sunshine, but use the syringe to induce them to break freely. Cuttings should be taken when four inches in length; cut them closely to the old stem, and insert, as they are taken from the plant, in saucers of silver sand which has been previously watered. Place in a propagating frame within a house or pit, over bottom-heat of 70 to 75 degrees. Provide a close, moist atmosphere and shade in the day to prevent flagging; give a little ventilation on mild nights to prevent damping, and they will soon root. Pot singly in small pots, using soil as for acalyphas, and for a few days return them to the close frame. Afterwards they may be grown in a night temperature of 60 to 65 degrees, rising to 70 degrees by day, shading at 75 degrees. Use the water-pot very carefully.—H. Prime, Hatfield Gardens.

THE FLOWER GARDEN.

ANNUALS.—Another sowing of annuals must now be made, consisting of varieties of asters, Phlox Drummondi, ten-week stocks, Dianthus Heddewigi, cosmos, zinnias, etc.; these can be treated in a similar manner to that advised in my notes a month ago for other kinds requiring a longer season of growth, many of which will now be far enough advanced for pricking off, and should be attended to as early as possible.

TUBEROUS BEGONIAS.—Preparations for starting the corms of these useful bedding subjects must now be considered; place them thinly in boxes containing leaf-mould, in such a manner that the top of the corm is only very slightly covered; afterwards remove them to a warm house or pit, damping occasionally to keep them moist. Under these conditions they will soon commence to grow, and will then require potting, or preferably planting out into a frame or pit; one which has been used for violets will be found very suitable. For some little time after they have been transferred to a pit or frame, care must be exercised in ventilating; as much sun-heat as possible must be retained by closing up the lights in good time whenever air has been admitted on bright days. This practice will help to maintain a comfortable temperature. Very little water will be needed once they have been well watered in, until growth has advanced; a slight damping over at closing time will be beneficial to them. As the days get warmer, ventilation can be gradually increased, so that by bedding-out time they will have become accustomed to exposure to the open air.

LAWNS.—As the mowing season is approaching lawns must be well swept and rolled, in order to remove any grit or small stones which may have been left from top dressings. Owing to the mild winter, so far experienced, there appears to be more grass than usual on the majority of lawns, and it will greatly improve their appearance if the mowing is done at once. Turf edgings to beds and walks must now be trimmed, and if the latter are at all weedy or mossy the first opportunity of settled weather should be taken advantage of to dress them with a weed destroyer.—T. B. Field, Wych Cross Place Gardens.

FRUITS UNDER GLASS.

THINNING FRUITS.—This most important operation exerts a powerful influence upon colour, and where colour is imperfect, quality is generally second-rate. Evil follows over-cropping of grapes, peaches, melons, figs, apples, pears, etc., the fruits remaining more or less small, flavourless, and deficient in colour. Dropping of peaches at stoning time is often the result of overcropping; forced figs play the same tricks, and one might multiply instances of similar loss of quality from the same causes. Sufficient has been said to remind the amateur and beginners that they must be merciful; quantity alone is of no use, we must have quality also. Bad culture may sometimes cause a collapse, but in most instances overcropping is the chief cause. The thinning of grapes, peaches, and other fruits has just commenced, and all fruits will pay for judicious thinning, which will also preserve the health and vigour of the trees. Postponement of this work is also a waste of strength. Too light cropping, on the other hand, is equally bad practice, especially in the case of vigorous young trees. Any competent man should be capable of thinning sufficiently to ensure a full crop of excellent fruit without distressing the trees or allowing them to become too gross.

PEACHES.—Disbudding demands almost daily attention early in the spring, and may be carried out conjointly with thinning until each fruit and shoot has ample room for full development. The framework of young trees can only be formed by most careful and judicious disbudding. Healthy trees are fit for disbudding as soon as the fruits are set; on the other hand, if the trees break weakly, disbudding should be deferred until the roots and sap become more active; the little-and-often system is the best. Tie down the shoots as they increase in length, but do not overcrowd the trees with young growths; six inches or more apart is none too much. If the weather be mild the temperature may be advanced to 60 degrees at night in the early houses, but in cold weather be content with 55 degrees. Endeavour to secure a temperature of 75 to 80 degrees at closing time, with plenty of moisture; syringe the trees twice a day with tepid soft water. Later trees, which will come into blossom this month, should have a little fire-heat at night and during dull weather to assist the blossoms in setting and to exclude frosty air during the period of fertilisation.

EARLY PINES.—It will be necessary now to help all those Queen pines forward which have thrown up their fruits, by daily attention to the most trifling details. Once the flowering stage is passed the roots will take more frequent supplies of tepid liquid manure, guano and soot water, and very light dewings overhead on bright days may be given. March and April being so changeable, no fixed day or night temperature can be kept, but the minimum should range about 70 degrees, with 80 to 85 degrees by day when sun-heat favours ventilation.—F. Jordan, Warter Priory Gardens.

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EXHIBITIONS AND MEETINGS.

The Horticultural Club.

On Tuesday, the 4th instant, after the usual monthly dinner, at which Mr. W. B. Cranfield presided, and a good number of members and guests were present, Mr. Edward A. Bunyard gave a peculiarly interesting lecture on "The Introduction and Development of Some of Our Hardy Fruits," illustrated by a large number of lantern slides. The peculiar interest of the lecture consisted in the fact that Mr. Bunyard dealt with the subject not merely from the practical point of view, with which he is particularly familiar, but also from the historical point of view derived from a deep study of classical records, and those embraced in ancient sculpture and mediæval illustrations which have been preserved, as tangible evidence of the fruits of very ancient and more modern times. Several maps of Europe and Asia were employed to demonstrate the varied routes by which some of our familiar fruits found their way from the East, where they appear mostly to have originated, through Europe, and eventually to America. A region, of which Armenia appears to have been the centre, seems, curiously enough, to have been, so to speak, the birthplace of most of these fruits, and the records have enabled the lecturer to trace their spread from point to point as determined by emigration and immigration of the various tribes and nationalities who were sufficiently civilised to appreciate them and carry them with them as they proceeded. Singularly enough, even philology has played a definite part in these records, the names originally given being, despite marked differences, induced by their own association with foreign languages, still recognisable by the expert in their modern guise. The fig, for instance, though the F has been changed into V, H, or other letters to suit the spirit of the languages of adoption, being practically the same all over the world; while the apricot is equally recognisable through many perversions when it is known that the "a" is merely the equivalent of the Arabic "al" for "the," the rest of the word being phonetically similar to the original name as far as this can be traced.

In ancient sculpture, Egyptian and others, certain fruits are plainly shown, while in more modern but still old specimens, as well as in illustrations, some varieties even are distinguishable. After dealing with his subject from this point of view, the lecturer showed a series of photographs of the wild species of apples, pears, plums, peaches, almonds, cherries, etc., and gave some curious data as to the relative capacity of these to afford "sports" or "mutations," and so facilitate the acquisition of new varieties of which in these days we have such an abundance. Some, such as the sloe, appear to be incapable of advance, while to another member of the same genus we owe all, or nearly all, of our wealth of plums.

Such very different fruits as the peach and the almond appear to be botanically identical, and it can only be assumed that we owe the juicy flesh of the former to some such sudden "mutation" in the hard, acrid flesh or outer shell of the latter, as rendered the individual plant worthy of cultivation as a sweet, pulpy fruit rather than a nut. A flat form of peach was also shown, which can only reasonably be imputed as a similar "mutation," as a slightly flattened fruit would hardly have been considered worth collective breeding to enhance the character. The lecturer was indeed in favour of the opinion, which of late years has been largely strengthened, that "mutations" or sudden "sports," capable of reproducing themselves truly by their seed, have played probably quite as important a rôle in fruit development as simple continued selection of small differences.

In the subsequent discussion, in which Messrs. Chas. T. Druery, C. Pearson, W. B. Cranfield, and a visitor, Mr. Leonard Coates, from California, participated, Mr. Druery strongly supported the "mutation" theory, in view of his long experience of such phenomena in connection with our native ferns, in which many hundreds of such cases are recorded, and he also endorsed the lecturer's opinion that these sudden changes could not in our present state of knowledge be imputed to culture, or indeed, to any definite cause whatever. He also drew attention to the singular fact that all the fruits dealt with, and many others, belonged to the great rose family, to which we were so immensely indebted for a host of our most beautiful flowers.

Mr. L. Coates gave some interesting data concerning the introduction of fruits into North America, in California particularly, and the experiments which, generously aided by the American Government, they are carrying on with a view to increase the number of really hardy varieties, capable, by virtue of their hardiness, of being grown to advantage over much wider areas than at present.

A very cordial vote of thanks was accorded to the lecturer, and the hope expressed that the Club might speedily be favoured with further data on similarly interesting lines.

Scottish Horticultural Association.

The monthly meeting of this association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on the 4th inst. Mr. King, the president, was in the chair, and there was an attendance of 75 members. A paper on "Dry Wall Gardening," by Mr. Thomas Smith, Coombe Court Gardens, Kingston Hill, Surrey, was read by the Secretary.

Dry walls, Mr. Smith said, as a means of growing some kinds of rock plants, had much to recommend them, as the maximum of sunshine could be had, and the plants were practically immune from the baneful effects of excessive moisture in winter. Moreover, the dry wall could be introduced where there was not room for the more elaborate type of rock garden. The material necessary for its construction, too, was generally easily procurable, rejected paving stone, or even ordinary brick, serving the purpose where better material could not be obtained. The best material, however, was rough, unhewn stone, direct from the quarry, in blocks varying in thickness and length. The best form was that of the retaining wall, for the existence of which not only might natural reasons suggest themselves, such as supports to terraces, etc., but the mass of soil behind yielded a constant supply of moisture to the roots of the plants. A double-faced wall could also be adopted in order to form a boundary to something else, as was done at Carberry Tower, where such a wall bounds a geometrical garden. In building the wall, the stones should be bedded with soil, joints from one to two inches being left between them according to their size, and the plants should be inserted in the course of its erection, as much larger plants could thus be used, and their roots could be spread out better.

The correct batter for the wall was 1½ to 2 inches to each foot in height, and if the soil was of a non-porous nature some drain pipes should be laid through the base, with some rough rubble behind, to give egress to surplus water. Mr. Smith also referred to the advisability of drawing up a colour scheme before planting, as there was nothing more disappointing than a promiscuous arrangement of the plants, and he also gave a list of suitable subjects for using in dry walls.

On the motion of Mr. Berry, Mr. Smith received a very cordial vote of thanks.

The exhibits were: Camassia esculenta, var. præcox, from Mr. R. H. Cockburn, Gartmore Gardens, Perthshire; group of rose "Richmond," from Messrs. Todd and Co., Edinburgh; and rhododendrons from the open air, from Mr. A. Johnstone, Hay Lodge, Edinburgh.

At the meeting on April 1, Dr. Hamilton, of Bournemouth, will give an autochrome lantern lecture entitled "Some Gardens of Bournemouth and the New Forest."

Surbiton Spring Show.

Spring flowers have a great attraction for all of us, but their hold upon the general public is greatly increasing. One has but to notice the many spring flower shows now held as compared with a few years ago, or the advancing position of those societies that have made spring flowers a feature and are conducted on broad lines, to discover how widespread is the interest. Commenced as a quite small venture four years ago, the Surbiton and Tolworth Society now holds the finest spring flower show in suburban London. The district is a good one for gardening, the gardeners are all keen men, Mr. Zimmern is a generous president, and Mr. Lionel Perkin an indefatigable secretary, hence the success and the fine display in the Surbiton Assembly Rooms on March 11 and 12.

Daffodils are the great feature, and practically all classes of these flowers are well represented in professional, amateur, and ladies' classes, and grown in fibre as well as in soil. Hyacinths fill a large spare, but, owing to the past season, were not so good as usual on this occasion. Cinerarias, azaleas, tulips, amaryllis, primulas, and groups for effect have classes provided for them, and all help to widen the interest and add to the attractions of a vernal display.

There were no fewer than five groups in competition, and Mr. Brill, gardener to F. S. Bristowe, Esq., Chalcott House, Ditton Hill, won first place with a very light and pleasing display, composed largely of acacias, cinerarias, arums, spiræas, Primula malacoides, and daffodils; a little better finish to the margin would have improved matters. Mr. T. Smith, gardener to the Marquis of Ripon, Coombe Court, Kingston Hill, gained second prize with a rather heavy group, in which lilacs, wistarias, pyruses, etc., were leading features; Mr. A. Corp, gardener to A. Zimmern, Esq., Oak Hill Drive, Surbiton, third.

Mr. Corp scored for a dozen hyacinths, and he had splendid spikes of La Grandesse; Mr. T. Hainge, gardener to R. A. Hewat, Esq., Souachan, Surbiton, came second; and Mr. Hawkes, gardener to W. Williams, Esq., Albury House, third.

In the class for three pots of daffodils, trumpet varieties, the competition was unusually keen, and splendid blooms were staged. Mr. Burfoot, gardener to Mrs. Windeler, Dit on Hill, gained first prize with Glory of Leiden, Mdme. Plemp, and Victoria; and Mr. Hainge followed with Mdme. de Graaff, Glory of Leiden, and Victoria; while Mr. Corp had to be content with third place. There were eleven splendid entries. For daffodils, three pots, not trumpet sorts, Mr. F. Lock, gardener to Miss Price, Tandridge House, Surbiton, scored with Sir Watkin; Mr. Burfoot second; nine entries.

Mr. Lock had the best three pots of single tulips, showing Proserpine finely; while Mr. H. Mustchin, gardener to T. Salter Cox, Esq., Lovelace Gardens, Surbiton, came second with the good old Keizers Kroon; ten entries. Mr. Burfoot had the best double tulips.

Mr. G. James, gardener to Baron von Ernsthausen, Manor Farm, Ditton Hill, won Messrs. Carter's prize for a pot of King Alfred daffodil, and Mr. Burfoot won Mr. C. Bourne's prizes for six varieties of daffodils, five blooms of each, his best being Victoria, Glory of Leiden, Sir Watkin, and Beauty.

Mr. L. Perkins' prizes for hyacinths were annexed by Mr. Fielder, gardener to W. Hudson, Esq., The Lodge, Surbiton Hill; and Mr. W. H. Park, Sandilands, Surbiton.

Messrs. Cartwright and Goodwin, Kidderminster, won the silver challenge cup with a very fine group of daffodils, wherein Glory of Noordwyk, Fairy, Aspasia, Goldfinch, Horace, Castile, Southern Light, Armorel, Cordelia, Long Tom, and other good things. Mr. Christopher Bourne, Bletchley, came second with a charming set that included Stephen Phillips, Mrs. J. H. Veitch, Cornelia, Weardale Perfection, Lucifer, Gloria Mundi, and Evangeline.

Mr. Corp had a huge pot of the poetaz daffodil Elvira, carrying about a hundred spikes of its white flowers; he gained a first prize; and Mr. Hawkes came second with Victoria finely grown. The class for six vases of daffodils was an unfortunate one, as a good set was disqualified, two vases appearing to contain flowers of the same variety; so Mr. C. Burfoot led with Mdme. de Graaff, Maximus, Mdme. Plemp, Glory of Leiden, Vanilla, and Victoria.

Bulbs grown in fibre made a glorious display in the upper room where, with plenty of light, they showed up finely. We may make mention of a fine bowl of Barri conspicuus, shown by Mr. Palk, with five-and-twenty flowers; a fine pan of Sir Watkin from Miss A. C. Fuller, 9, Palace Road, Surbiton; and a superb pot of six bulbs of this variety from Mr. C. Burfoot, with twenty superb flowers; Mr. Lock's pan of Mdme. de Graaff, and Mr. Burfoot's big bowl of Glory of Leiden; Mr. James's pan of Gigantea hyacinths, and Mr. Hawke's fine bowl of the poetaz daffodil Aspasia. Mr. Park mixed tulips with his Innocence hyacinths, and so lost a first prize, because he showed two kinds instead of two varieties of bulbs.

There were thirteen table decorations, and Mrs. J. Smitt, Coombe Court Gardens, Kingston, led with pink carnations; Mrs. Harold Tronncer, Flockholme, Ditton Hill, second, with anemones; and Mrs. A. Farmer, Tolworth, third, the latter showing daffodils.

Messrs. J. Carter and Co., Raynes Park, filled a corner with a beautiful group of King Alfred daffodils, margined with crocuses, and with a retaining rockery wall in front. Mr. L. Perkin, Surbiton, displayed a collection of daffodils, and his flowers, though bright and clean, were a trifle small. Messrs. Barr and Sons, Covent Garden, had a good set of King Alfred, Aspasia, Fairy, Bedouin, Amazon, Firelight, Sunrise, Mermaid, and Southern Star. Some alpines and Chionodoxa sardensis added to the attractions of the display.

Reading Gardeners' Association.

At the fortnightly meeting, which was held in the Abbey Hall (by kind permission of Messrs. Sutton and Sons) there was again a good attendance. The President occupied the chair.

The lecturer for the evening was Mr. J. T. Tubb, The Gardens, Bear Wood, and his subject was "Roses." In opening, Mr. Tubb referred to the brief and unassuming title of his paper, stating that, although the title was brief, the subject was wide and formidable, so much so indeed that it was impossible to deal adequately with it in the course of a single evening. Touching briefly on the history and antiquity of the queen of flowers, Mr. Tubb spoke of the wonderful achievements wrought by rose specialists during comparatively recent years, which have given us the marvels to be found in large numbers among all the different groups of the rose family at the present day. Hybrid Perpetuals, Teas, Hybrid Teas, Noisettes, Polyanthas, Wichurianas, and other classes have in a couple or three generations been improved out of all knowledge. Mr. Tubb gave the benefit of his experience with reference to selecting the site for a rose garden, and the preparation of the ground; the making up and enrichment of the soil and the best manures to use. The best season for planting and transplanting was in the opinion of the lecturer from October onward, and he himself preferred the months of October and November. Very careful attention should always be given to planting; the operation should always be deferred until the ground was in a proper condition to receive the plants. No greater mistake can be made than to plant in wet soil. The subject of stocks, pruning, disbudding, protection in winter (though with the latter the lecturer had no sympathy) were all ably dealt with, and the advice given with reference to the eradication of insect pests was most exhaustive.

An excellent discussion followed the lecture, and Mr. Tubb received a hearty vote of thanks at the close of the meeting.

Mr. F. Townsend, head gardener to the vice-president, exhibited well-grown seakale.

The annual tea held recently was a great success, about 100 members and friends sitting down. At the entertainment kindly provided by the vice-president and sustained by artistes from London, an audience of upwards of 600 assembled. The varied programme was much enjoyed by all present.

Croydon Gardeners' Society.

There was a capital attendance of members at the recent meeting, when a very interesting lecture, entitled, "Then and Now," was given by Mr. J. Gregory, F.R.H.S. Mr. Gregory, from a very wide experience in horticultural matters, was able to contrast the methods of culture in use over sixty years ago with the practice of the present day. In his boyhood days the love of Nature and Nature studies claimed him as a devotee, and in the northern town where his early life was spent the enthusiasm for flowers was grafted into his mind by his surroundings. Apparently in the northern towns keen competitions were held, and, although flower shows were not then of such extensive magnitude as they are now, the rivalry amongst growers was sufficient to induce each exhibitor to produce his best. In those early days a grower had not the conveniences that he has now, and his battles were won under circumstances more adverse than they are at the present time. Dogged pluck and strenuous labour—a character always uppermost with the good cultivator—helped to surmount the difficulties, and the special cultures of fruit, flowers, and vegetables were noteworthy in the annals of gardening fame.

It is worth special notice that the auricula, carnations, tulips, and other flowers were well to the fore, whilst rhubarb and gooseberries were subjects which found favour with exhibitors at that time. Many varieties of these flowers, fruit, and vegetables are cultivated now, and find favour in our gardens, whilst it may also be said that, with the advance of science in horticulture, the hybridist has succeeded in obtaining kinds of better size and quality. Comparing the heating of greenhouses with present-day arrangements, flues were used in all structures, and the lecturer humorously described how he as a boy had to creep up these flues to clean them. One could imagine his appearance upon emerging from this ordeal. Happily for the cultivator, different methods exist now than then.

Diseases in plants years ago almost totally exterminated some kinds; for instance, the hollyhock sunk almost into oblivion through a special disease. Now we have science to help us, so that for nearly all pests a remedy is to be found. Fashions have changed considerably, too, some of them seeking revival now, but many gone never to return. One of the principal successes gained by the lecturer was a prize for melons at the International Flower Show in 1866, and he was proud of the fact that he could compare the great International Show of 1912 with that of 1866. Present-day horticulture is of a very high standard, especially in this country, and his remarks to the young men to each try their utmost to climb to the top of the ladder of fame in the various cultures were received with great enthusiasm.

Mr. Gregory had a good series of slides to illustrate his lecture, and many of the views shown on the screen were copies of the old methods adopted years ago to procure good results, in comparison with views of present-day facilities.

The proposal of a hearty vote of thanks to Mr. Gregory was received with much acclamation, each member present having spent an instructive and enjoyable evening.

Several pleasing exhibits adorned the room. A grand batch of lily of the valley shown by Mr. T. Butcher received keen scrutiny, as also did six pots of freesias staged by Mr. G. Scrivens.

Chester Paxton Society.

At the meeting held on Saturday at the Grosvenor Museum, Mr. John Weaver, of Christleton Hall Gardens, read an interesting and instructive paper on "The Loganberry: Its History, Use, and Culture." Mr. John Wynne, of Rowton, was to have presided, but was prevented through illness, and the duties of chairman were undertaken by Mr. R. Wakefield.

Mr. Weaver traced very clearly the history of the discovery of the loganberry at Santa Cruz, U.S.A., by Judge I. H. Logan, after whom it received its name. The lecturer stated that it was a cross between the "Red Antwerp" raspberry and the Californian wild blackberry "Auginbaugh," which were growing side by side in the Judge's garden; the latter predominated and got mixed in with the raspberry, and the two flowered and fruited together, and were crossed by wind or insects; self-sowed seed produced fruit in 1884. The loganberry was introduced into this country in 1893, and an exhibit by Messrs. Kelway and Son received an Award of Merit of the R.H.S. in 1903. The lecturer gave some interesting details concerning the loganberry, as to yield per acre, keeping properties, time of fruiting, taste, description of canes, leaves, and fruits, its hardiness against frosts, etc. He next spoke from personal experience on cultivation, dealing

NEWS FROM HEADQUARTERS.

PROGRESS.

If our grandparents could see the wonderful activity and development taking place in every department of business life to-day, to put it mildly, they would be astonished.

If Mr. James Carter, the late founder of the seed house of James Carter and Co., could pay a visit to Raynes Park, he would find it difficult to understand that such a great business could have developed in less than three-quarters of a century.

Endeavouring to discover the reason of it, he would be told that "Specialisation" was the keynote to it all.

To the lay mind "to specialise" in relation to seeds means very little, but to those intensely interested in gardening it means much.

Any reader of this article who would like to know what we mean by it will willingly be shown our organisation, but that will necessitate a visit to Carters Seed Establishment at Raynes Park. A hearty welcome is extended to all.

JAMES CARTER and CO.,
Seedsmen to H.M. the King,
Raynes Park,
LONDON, S.W.

with the soil, situation, planting, trailers, and trellises; and gave some good cultural hints. The enemies to the plant were the raspberry beetle, a fungoid disease in the canes, and birds, which would attack the loganberry if short of other fruits. As to its uses, the most important the loganberry was put to was bottling; it was also used for jams, jellies, tarts, wine, and syrup. The lecturer in conclusion mentioned the results of crosses between the loganberry and other berries.

An interesting discussion followed the reading of the paper, those taking part being the hon. secretary (Mr. G. P. Miln), Mr. N. F. Barnes, and the Chairman. The lecturer was accorded a very hearty vote of thanks.

TESTIMONIAL TO MESSRS. ADNITT AND NAUNTON.

The question of a testimonial to Messrs. Adnitt and Naunton, first suggested in these columns, has been taken up vigorously. Two committees have been formed, a Shropshire Committee to deal with the matter locally, and an Exhibitors' Committee, with Sir Harry J. Veitch, V.M.H., as chairman, to deal with wider interests. Mr. N. F. Barnes, Eaton Gardens, Chester, and Mr. W. G. Brazier, the new secretary of the Shrewsbury Fete, are the hon. secretaries, and to them, at The Square, Shrewsbury, subscriptions should be sent. It is of more than passing interest to notice that representatives of the GARDENERS' MAGAZINE, and the three other horticultural journals which have reported the Shrewsbury Show for so many years, have a place on the committee. The following letter is being sent out by the Committee:

"The recent resignation of Messrs. Adnitt and Naunton, after a period of 38 years of unbroken and gratuitous service, demands some tangible recognition, not only from the members of the Society itself, but from that far wider section of the community, which includes exhibitors, judges, horticulturists, and all those who are interested in any degree in the culture of flowers, fruits, and vegetables.

"The undoubted success of the annual shows has been due in a great measure to the indefatigable exertions and the unvarying kindness and courtesy of Messrs. Adnitt and Naunton to exhibitors and all others connected with the undertaking. A taste for horticultural pursuits has thus been engendered and fostered amongst the many thousands of visitors, who have annually attended the Society's exhibitions.

"Messrs. Adnitt and Naunton were amongst the original promoters of the Society in 1875, and from an unpretentious beginning, it has gone on from year to year with a record of unqualified successes, until it has now attained a pre-eminent position in the world of horticulture.

"As instancing the esteem in which these gentlemen are held by the leading horticulturists of this country, it may be mentioned that the Royal Horticultural Society has conferred upon them the greatest honour in its power, viz., the Honorary Life Fellowship of the Society.

"A very rare honour has also been paid them by the presentation to each of the Veitch Memorial Medal.

"A fund has been initiated with a view of presenting both gentlemen with a testimonial, and the Committee hope to be allowed to add your name to the list of subscribers.

Yours faithfully,

N. F. BARNES,
W. G. BRAZIER.
Hon. Secs."

GARDENING ENGAGEMENT.

Mr. George H. Emmett, foreman to Mr. Coomber at The Hendre Gardens, Monmouth, and previously at Mentmore and Rolleston Hall, has been appointed head gardener to F. Martin, Esq., The Lindors, St. Briavels, Gloucester.

THE NURSERIES, CHISLEHURST, KENT.

It is but just over four years since Messrs. Whitelegg and Page started their nursery business at Chislehurst, but such is the energy and enthusiasm of the two members of the firm that they have already built up a flourishing business, and have their nursery well stocked with a most interesting collection of choice, useful, hardy plants for both border and rock garden. Indeed, a visit to the Chislehurst nurseries, even thus early in the year, is calculated to prove enjoyable, and profitable to anyone who takes an active interest in hardy plants. It has from the outset been a policy of the firm—and a wise policy—to keep a keen look out for new and distinct varieties of popular classes of plants, and the result is that, whether it be phloxes, Michaelmas daisies, delphiniums, or pentstemons for the borders, or saxifrages, aubrietias, or primulas for the rockery, the latest introductions and most attractive varieties in cultivation are to be found at Chislehurst.

That most effective Geum coccineum Mrs. J. Bradshaw is one of Messrs. Whitelegg and Page's introductions, and it has obtained so high a degree of popularity that it is scarcely necessary to describe its particular merits and value as a border plant, or even as a subject for bedding. As might be expected, there is a very big stock of this plant at the nurseries, despite the fact that many thousands have already been sold. It will interest readers to learn that a bright yellow geum is coming along, which the firm consider will equal Mrs. Bradshow in vigour of growth, size of bloom, and freedom of flowering, and, being of a rich shade of yellow, will be a most delightful plant for growing in bold clumps.

In a representative collection of aubrietias, Violet Queen stands out prominently, being as distinct in foliage and habit as it is bright and attractive in the colour of its flowers. One is almost prepared to say we have in Violet Queen attained very nearly the ideal aubrietia, and we imagine but few collections of rock plants will long be without it. The number of pentstemons that have secured the distinction of an Award of Merit from the Royal Horticultural Society is very small, but the brilliant flowers of Gaddesden Gem raised by Mr. Gentle, and shown last year, succeeded in gaining for the variety the Award which, need it be said, it thoroughly deserved. Messrs. Whitelegg and Page have now the entire stock of this charming pentstemon, which doubtless will become a great favourite. It may be mentioned that Southgate Gem, another pentstemon which is now met with very frequently, is of Mr. Whitelegg's raising, and it has strong claims to being regarded as one of our most useful bedding plants.

A quite new race of brightly coloured mossy saxifrages has sprung up of late years, and with characteristic foresight Messrs. Whitelegg and Page lost no time in forming a collection of all the best of them. Some twenty varieties of the mossy section are catalogued by the firm, the cream of the set being Red Admiral, Pencilled Beauty, Bathoniensis, and Arkwrighti. It is good to know the firm realise that while it is desirable to stock varieties that are decided advances, a severe check must be put upon the tendency to unduly increase the number of named varieties, especially when the differences between them are so slight that identification is almost impossible. The same fault threatens the heucheras, named varieties of which have cropped up in numbers of late. A few of these are crtainly fine, but nobody wants a couple of dozen varieties of Heuchera sanguinea, which might sufficiently be described as selected forms of H. sanguinea superba.

Among the primulas at Chislehurst one finds practically all the latest introductions from China and the Himalayas. There are fine batches of P. Littoniana, P. Veitchi, P. Winteri, and P. pulverulenta, whilst such old favourites as P. japonica and P. cashmeriana are well grown in big batches. Iberis sempervirens var. Perfection is in Mr. Whitelegg's opinion the best of the perennial candytufts, and, in consequence, it is grown in large batches, as also is Nepeta Messina superba, a variety of far neater habit and superior colour to the ordinary type. Among aquilegias the charming variety Mrs. M. Nicholls is singled out for special favour, and truly it deserves it. The large, long-spurred flowers are extremely beautiful, and it is not surprising this plant is in brisk demand. The recently-introduced Wahlenbergia vincæflora has already found a place in the Chislehurst collection, and so also has the bright yellow form of Viola gracilis. The rich purple V. gracilis is largely grown, and is in increasing demand.

The bedding violas occupy much space, the collection embracing most of the up-to-date varieties. Mrs. G. G. Whitelegg is a splendid rayless yellow that can be well recommended. Throughout the nursery the same principle prevails of selecting the very choicest varieties of a family of plants, and thus we find the collections of delphiniums, phloxes—herbaceous and alpine, early chrysanthemums, pæonies, and, in fact, all kinds of plants, which are really judicious selections from the host of varieties that may be met with in all quarters of the country.

Although hardy plants are the leading speciality of the firm, there is a good range of glass on the nursery, and one of the most attractive features of the indoor department at the time of my visit was a splendid collection of Primula obconica hybrids. These range in colour from pure white to rich crimson, and there are also some pleasing lavender and blue shades.

Quite apart from all else in the nursery is the Newberry, one of the blackberry-loganberry achievements, which may certainly be described as a useful, attractive, and quite distinct fruit that is well worth growing.

That the firm's business is making satisfactory progress is evidenced by the fact that they have already found it necessary to extend their operations. A branch nursery of considerable area has been opened at Orpington, and here the bulk of the herbaceous border plants are produced. A comprehensive collection of roses is another feature at the Orpington Nursery, and there are also bush and tree fruits, forest and ornamental trees, privet and other hedging plants, and a fine lot of climbing plants for walls, arches, and trellis work. Seed-saving of choice novelties is undertaken, and an extensive cut-flower trade is done.

Landscape gardening is an important branch of the business, a staff of expert workmen being kept constantly busy with the contracts secured for laying out, remodelling, or extending gardens in various parts of the country.

VISITOR.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

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London, E.C.,

who will give the matter immediate attention.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

DICTIONARY OF PLANT NAMES.—F. J., Hampstead: Will you please recommend me one or two books giving plant names, but not cultural notes, and say where they can be obtained?—We do not know a single dictionary of plant names that has appeared in modern times without cultural notes, however brief. "Johnson's Gardener's Dictionary" (G. Bell and Sons) contains a very large number of plant names, with brief descriptions of the species listed, and a quite short cultural note for each genus. The Kew Hand Lists contain nothing but plant names and habit, and a list of these handbooks and prices can be obtained on application to the Curator, Royal Gardens, Kew. If you have not the "Encyclopædia of Gardening" (W. H. and L. Collingridge, 148, Aldersgate Street, E.C., post free, 3s. 10d.), it will be worth your while to add it to your library as it contains selections of species and varieties and a fund of other horticultural information.

GERMINATION OF VEGETABLE SEEDS.—F. G. S., Walton-on-the-Naze: I shall be greatly obliged if you will tell me the average time required for the seeds of the commoner kitchen garden crops to germinate under fair conditions of soil and climate.—Radish germinates in from 3 to 6 days; turnip, 4 to 8 days; beans, cabbage, cauliflower, and endive, 5 to 10 days; lettuce, 6 to 8 days; cucumbers and peas, 6 to 10 days; tomatoes, 6 to 12 days; beet and onions, 7 to 10 days; salsify, 7 to 12 days; celery and parsnip, 10 to 20 days; and carrot, 12 to 18 days.

PLANTS FOR A COOL GREENHOUSE.—W. B. S., Swindon.—Will you kindly give a selection of plants for a cool greenhouse, as follows: Six flowering plants, rather out of the way kinds, other than florist's flowers, azaleas, geraniums, etc.; six foliage plants, uncommon sorts, other than coleus, Rex begonias, and aspidistras; six climbers, other than cobæas, asparagus, smilax, clematis, and roses. They must all be of fairly easy culture and readily propagated from seeds.—We should have been better able to render assistance had we known the minimum winter temperature of the greenhouse. Flowering plants not very widely grown for greenhouse decoration are Lobelia tenuior, 9 to 12ins., blue, white, or rose, annual; Alonsoa Warscewiczi, 15ins., scarlet, annual; double balsams, 18in., various, annual; Calceolaria Clibrani, 2½ft., yellow; Calceolaria Veitchi, 3ft., white; Celsia arcturus, 18in., clear yellow; Datura cornucopia, 18ins., white, marked purple; Impatiens Holsti, 2ft., rose-pink; Nicotiana Sanderæ, 3ft., rose; Rehmannia angulata, 3ft., pink; Trachelium cœruleum, 18ins., bluish-mauve; Torenia Fournieri, 1ft., blue and white; and T. Bailloni, yellow and purple. There are many others, and we have given more than six so as to leave room for the exercise of taste in form, habit, and colouring. For foliage plants easily raised from seeds there are the amaranthus, particularly A. tricolor splendens, and A. salicifolia, Cyperus natalensis, Eulalia japonica variegata, variegated maize, Melianthus major, and Ricinus Gibsoni. Good climbers for the greenhouse are Maurandya Barclayana, purple; Mina lobata, red and orange; Ipomæa rubro-cœrulea, sky-blue; Abutilon megapotamicum, yellow and scarlet; Kennedya coccinea, scarlet; and Tropæolum Lobbianum, orange.

ORIGIN OF POLYANTHUSES.—A. C., Yarmouth, I. of W.: My polyanthuses are coming into bloom finely just now, and I have been wondering how these beautiful spring flowers originated. Can you tell me whether they are of hybrid origin, or of pure descent from one species?—Garden polyanthuses have been evolved by years of patient care and selection from Primula variabilis, itself a hybrid between a form of the common primrose (P. vulgaris) and the cowslip (P. officinalis). Rigid selection and high cultivation have combined to produce a very vigorous race in which there is a wide colour range.

OVERHANGING TREES.—R. W. B., Northampton: My neighbour is evidently very partial to trees of large growth, for some years ago he planted rather freely in his garden such kinds as limes, sycamores, and elms. As will be readily understood, a considerable proportion of them occupy positions on the boundaries. Several of these trees have attained a size that renders them a nuisance to me, for their branches hang over my garden, and greatly interfere with the growth of the various kinds of hardy herbaceous plants with which the borders are planted. I shall be greatly obliged by your advising me what I can do to prevent further injury.—The right of owners of gardens that are being injured by the overhanging branches of trees which are growing outside the boundaries is well defined. He can cut back the branches of the trees in a line with the boundary fence, but not beyond that. Instead of doing this without first communicating with the owner of the trees we would advise you to call upon him, and in a friendly manner explain to him the injury that is being done to your garden. If this fails, give him formal notice that you shall cut back the branches in a line with the fence unless he prunes them within a certain date. You must not prune any of the branches that do not hang over the fence.

TECOMA RADICANS.—S. E. J., Abergavenny: I have seen Tecoma radicans grown in another part of the county as a greenhouse plant, but quite recently I was told the species was hardy. Please tell me whether I was rightly informed, and whether you think this fine climber would succeed on a south wall.—Tecoma radicans is only hardy in favoured localities and in the South. It should succeed at Abergavenny if planted against a wall having a south exposure, and where there is also some shelter from cold and cutting winds.

JAPANESE DWARFED TREES.—Dufftown, Wimbledon: May I ask your assistance in the following matter? I received to-day four Japanese dwarfed trees, sent us as a present from Japan. The names on the labels are Carpinus yedoensis (beech), Tsuga Sieboldi (yew), Zelkowa Keaki (elm), and Quercus dentata (oak). I should be grateful for directions as to their cultivation. The oak has made a lot of soft growths, some of which are partly mildewed; should they be cut off? The plants were packed in moss, and so a good deal of soil has been shaken from the roots, leaving insufficient to fill the pots sent. What material should I use for potting, and have I done right in placing the plants in a greenhouse that is kept at 45 deg. during winter? The beech is rather large, so should I plant it in a border?—Carpinus yedoensis we do not know, but if the generic title is correct it is a hornbeam, not a beech; Tsuga Sieboldi is not a yew, but a coniferous tree closely allied to the abies; Zelkowa Keaki is more correctly Zelkova acuminata, and a very close relative of the elms; Quercus dentata is probably a form of Q. Cerris, the Turkey Oak. Pot them all firmly in good loam of a very fibrous character, and keep them in the greenhouse until rooted, and recovered from the journey, but lightly shade them from sunshine and afford ample ventilation—a cold frame, if deep enough, would provide sufficient shelter. During the summer stand the plants out of doors, and see that they do not lack moisture. In the case of the oak, most likely the soft growths made on the journey will prove useless, therefore in a few weeks' time, when new roots have been made, shorten the branches back to prominent buds, or to where new, clean growths may have already started. In the case of the hornbeam, if you plant it out it will quickly lose its dwarfed appearance. You had, therefore, better pot it; pinch out the growing points occasionally to prevent any great extension of branches.

NAMES OF PLANTS.

W. H., High Wycombe.—Saxifraga crassifolia.

R. B .B., Sevenoaks.—1, Ribes sanguinea; 2, Saxifraga apiculata; 3, Rhododendron Præcox.

G. B. C., Saffron Walden.—1, Abies Douglasi; 2, Cyperus alternifolius; 3, Habrothamnus elegans.

L. F., Rugby.—1, Tradescantia zebrina; 2, Fittonia Pearcei; 3, Nepenthes Mastersiana; 4, Oncidium concolor.

H. S., Worcester.—1, Mussænda frondosa; 2, Saccolabium bigibbum; 3, Galax aphylla; 4, Dendrobium nobile; 5, D. Wardianum; 6, Eucalyptus citriodora.

THE NURSERY TRADE AND UNDEVELOPED LAND DUTY.

At a meeting of the Horticultural Advisory Committee of the Land Union, a discussion took place on the Referee's decision in the case (which was brought by the Land Union on behalf of its members, Messrs. Geo. Jackman and Son), of George Jackman and Son v. The Commissioners of Inland Revenue, in which it was decided that Messrs. Geo. Jackman and Son were liable for Undeveloped Land Duty in respect of land used by them in their business as nurserymen. Subsequent thereto the following resolution was passed:—

"The Nurserymen and Seedsmen comprising the Horticultural Committee of the Land Union desire on behalf of the trade to call attention to the hardship imposed on their industry by the present state of the Law in respect of the Undeveloped Land Duty as disclosed in the recent case of Jackman and Son v. The Commissioners of Inland Revenue. They urge that at least so much of their land as is necessarily used as an adjunct to Glass Houses should be exempted from Duty (on the same basis as the site of the Glass Houses themselves, is exempt), and they are of opinion that the minimum amount required is in the proportion of 5 to 10 acres of land for each acre of glass. At the same time, they desire to point out that the Duty is in itself unfair to their trade, as it represents an annual fine for using their land for the purpose of horticulture, although every other trade is wholly exempt under all circumstances, and in spite of the fact that some of the trades so favoured employ much less capital and labour in proportion to the land occupied."

OBITUARY.

LORD TREDEGAR.

We learn with regret of the death of Viscount Tredegar, which took place at Tredegar Park, Newport, Mon. Lord Tredegar was one of the few survivors of the Light Brigade that made the famous charge at Balaclava. He was a large landowner, a great farmer, and a keen gardener. Both Newport and Cardiff have reason to keep his memory green, as both towns have received from him many benefactions, including parks, sites for churches, etc. To the University College, Cardiff, Lord Tredegar gave in princely fashion.

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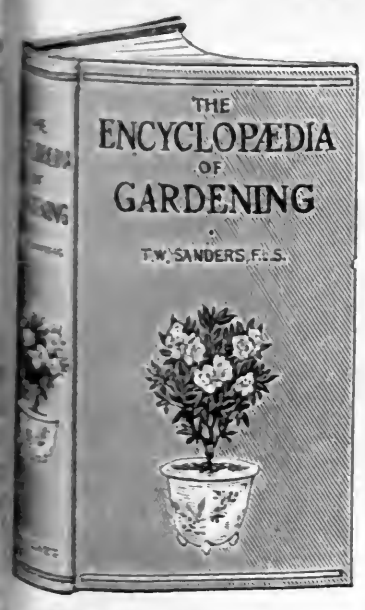

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

Date. 1913 March 2 to March 8.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Mar. 2—Sunday	7 6	46	44	52	37
,, 3—Monday	—	49	48	52	43
,, 4—Tuesday.....	—	48	47	51	37
,, 5—Wednesday..	7 36	49	46	56	47
,, 6—Thursday....	5 36	49	48	57	45
,, 7—Friday.....	1 54	43	41	48	41
,, 8—Saturday.....	7 42	37	35	47	32
	(total)				
Means	29 54	46	44	52	40

Date. 1913. March 2 to March 8.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Mar. 2—Sunday	trace	40	41	43	32
,, 3—Monday	0·04	43	41	43	36
,, 4—Tuesday.....	0·01	43	42	43	28
,, 5—Wednesday..	—	45	42	43	41
,, 6—Thursday....	0·13	45	43	43	38
,, 7—Friday.....	—	45	44	43	34
,, 8 Saturday....	—	43	43	44	22
	(total)				
Means ...	0·18	43	42	43	33

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FORTHCOMING ENGAGEMENTS

TUESDAY, March 18.—Royal Horticultural Society; Narcissus Committee meets at 11.30 a.m.; Fruit, Vegetable, and Floral Committees at 12 o'clock; Lecture at 3 p.m. on "The Romance of Weeds," by Mr. R. Lloyd Praeger, B.A.; Scientific Committee at 4 o'clock.
SATURDAY, March 29.—Paisley Spring Show.
TUESDAY, April 1.—Royal Horticultural Society; Narcissus and Tulip Committee meets at 11.30 a.m.; Fruit, Floral, and Orchid Committees at 12 o'clock; Lecture at 3 p.m. on "The Literature of the Rose," by Mr. Arthur W. Paul; Scientific Committee at 4 o'clock.
Horticultural Club, Monthly Dinner and Conversazione at the Hotel Windsor, 6 p.m.
Scottish Horticultural Association.
National Amateur Gardeners' Association.
WEDNESDAY, April 2.—Royal Horticultural Society's General Examination in Horticulture.
Liverpool Spring Show; two days.
THURSDAY, April 3.—Huntingdon Daffodil Show.
Linnean Society meeting.
SATURDAY, April 5.—French Horticultural Society of London.
New York International Horticultural Exhibition; eight days.
TUESDAY, April 8.—Cornwall Spring Show at Truro; two days.
Devon Spring Show at Barnstaple; two days.
WEDNESDAY, April 9.—Edinburgh Spring Show; two days.
Tewkesbury Daffodil Show.
THURSDAY, April 10. — Perpetual Flowering Society's Provincial Show at Leamington; two days.

FORTHCOMING EVENTS.

Epsom Horticultural Society; Rose Show, June 30, at Woodcote Grove; Summer Show, August 4, at Epsom College.
Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.
Ealing Horticultural Society, July 9.
Weybridge Horticultural Society, July 10, at Barham Lodge, Oatlands Drive.
Ulverston Rose and Sweet Pea Show, July 18.
Birmingham Horticultural Society, July 18 and 19, in Handsworth Park.
Tunbridge Wells Flower Show, July 23 and 24.
St. Quintin Horticultural Society, July 24, in the Gun Club grounds, Wood Lane, W.
City of London Rose Show, July 26, at Cannon Street Hotel.
Worth Horticultural Society, July 30.
Datchet Horticultural Society, August 4, at The Lawn.

CATALOGUES RECEIVED.

J. CHEAL AND SONS, LIM., CRAWLEY, SUSSEX.—As a reminder that the planting season is not yet over, we have received a catalogue of trees, shrubs, roses, topiary work, etc., from the Crawley firm.

THOMAS S. WARE, LIM., FELTHAM.—Ware's Begonias enjoy a high reputation, and the new catalogue of these plants shows that progress continues. The leading varieties are fully described, and many of the novelties are illustrated.

H. J. JONES, LIM., HITHER GREEN, LEWISHAM.—The Ryecroft specialities, i.e., chrysanthemums, Michaelmas daisies, and perennial phloxes, practically fill the handy catalogue before us. It will be remembered that this firm's fine collection of phloxes at Holland Park Show in 1912 was purchased for Kew.

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VOL. LVI.—No. 3,099. SATURDAY, MARCH 22, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Evesham Custom.

For some considerable period it has been well known to those who take an active interest in the commercial aspects of horticulture that one of the chief centres of the market garden industry in England is that which has been established during the past half-century in the Vale of Evesham. About forty years ago the area around Evesham under fruits and vegetables grown for market was 1,000 acres, but, according to Mr. Raymond Webb, whose paper on the "Evesham Custom," read at the recent meeting of the Farmers' Club, has evoked widespread interest, it now exceeds 10,000 acres. The remarkable development which market-gardening has undergone, more particularly of late years, in the Evesham district, has been for some time past a matter of much surprise to those who are not well acquainted with the climatic and soil conditions that obtain, but it admits of a ready explanation. The soil is, for the most part, highly fertile and readily worked, and the climate is so genial that growth is comparatively rapid, and the growers are able to market their produce at an earlier period than is possible in some districts farther south, a point of much importance in the case of crops that are marketed during the spring months. These are not the only advantages enjoyed by the growers in the Vale of Evesham. They are within a comparatively easy distance of the majority of the chief populous centres, and the railway facilities are such as to enable them to market their produce expeditiously, and in the best possible condition. It must also be stated that those who are engaged in the industry are remarkable for their industry and business ability, and also for their capacity for sustained effort, as evidenced by the long hours they work during the busy seasons. The majority of the growers, many of whom are now prosperous, began life as labourers, and commenced business on their own behalf, according to Mr. Raymond Webb, with a small area of unplanted land, usually about an acre in extent, which they cultivated early in the morning and in the evening, with an occasional day off from their usual work. In course of time the land was thoroughly cleaned, and planted with the various kinds of fruits that thrive in the district, and such vegetable crops as are found to be the most profitable. When the land began to bring in a steady income, and the growers had saved a little money, they gave up working for others, and rented another piece of newly-laid-out land, "or more often," to quote from Mr. Webb, "bargained with a neighbour for the tenant-right of a holding adjoining or near to their own." Besides

MR. RALPH HALL.

the growers who thus progressed with small beginnings, the sons of the prosperous market gardeners have engaged in business on their own account, and gentlemen's sons with capital have turned their attention to market gardening, and these, in most cases, commenced on established holdings, having purchased the tenant-right by direct bargaining with the owners. Thus has grown up the "Evesham Custom," which Mr. Webb describes as "a system of land tenure based on practically fixed rents and free sale, which has given that security without which the development of the district would not have been possible." Under this custom a tenant who wishes to dispose of his interest in a market garden holding finds his own incoming tenant, and arranges the terms for tenant-right with him direct. The landlord is not concerned with the question of compensation, but he has the option of refusing to accept the incoming tenant. Should the landlord refuse to accept the tenant submitted to him, the case is quite exceptional where the outgoing tenant has any difficulty in finding another who is acceptable to the landlord. Should all the incoming tenants that are introduced fail in obtaining acceptance, the only course open to the tenant is to serve the landlord with a notice to quit, and to claim such compensation as is legally due to him from the landlord direct at the termination of the tenancy. This, however, is a rare occurrence, for tenants are seldom refused unless they are known to be indifferent cultivators, or bad rent-payers. Professional valuers are seldom required to act between the tenants, as the amount to be paid for tenant-right is determining by bargaining in the same manner as would be adopted in the purchase and sale of produce. One of the best points of the custom is, Mr. Webb considers, the facility with which a tenant can realise the value of the tenant-right at any season of the year, as the majority of the landlords allow the transfer to be made although the tenancies are determinable by notice to quit, usually at Michaelmas. If a grower, for any reason, wishes to realise the tenant-right of a part or the whole of his holding he can usually do so in a very short time, often in the course of a few hours. This system of transfer is said to work well in practice, for it tends to maintain market garden land in a high state of cultivation, because a transfer usually takes place in such a short time that there is no opportunity for allowing the land to deteriorate. With reference to the landlord's point of view, Mr. Webb states that the system of transferring from tenant to tenant is satisfactory. It relieves him of the liability to compensate the tenant directly unless he requires the possession of the land for his own purpose. It further saves him the anxiety and expense attendant upon a valuation, and it saves him from the risk of having to pay for the tenant-right at a higher rate than he may be able to obtain from the new tenant. The compensation of occupants of land devoted to the cultivation of fruits and vegetables for market for the improvements that have been made is a difficult matter when the amount is determinable by valuation, and,

in many instances, gives rise to much friction. It is, therefore, gratifying to have such evidence as that which Mr. Raymond Webb has produced of the satisfactory manner in which the "Evesham Custom" has worked, especially as it confirms the view that it should have a much wider application.

Mr. Ralph Hall, who for the past 14 years has had charge of the gardens at Penninghame House, Wigtownshire, is a Northumbrian by birth. At Alnwick Castle he commenced his gardening career under Mr. Harris, with whom he stayed eight years, first as an apprentice, and later as journeyman in the various departments of this ducal establishment. From here he was transferred to Lowther Castle, then in charge of Mr. Clarke, as inside journeyman, and a year afterwards was promoted to foreman's position. Lowther, then as now, was renowned for its extensive flower gardens, in which, beside the bountiful seasonable embellishments, rock and Alpine plants were given a prominence that at the time proved a surprise and delight to many. Leaving Lowther Castle at the end of two years, Mr. Hall spent a short time in the nurseries of Messrs. James Backhouse and Son, of York, from whence in due course he was recommended as outside foreman to Mr. Street, at Floors Castle, Kelso, which position he held for three years. At Floors, it is perhaps unnecessary to say, gardening is carried out on a very comprehensive scale, and upon the most approved lines. With the experience thus gained in these three large and notable establishments, Mr. Hall entered upon his duties at Penninghame House, at that time in the occupancy of the late Mrs. Maxwell Blair, but now tenanted by J. W. Oxley, Esq. During his term of service here Mr. Hall has done much to improve the place, drives and walks having been opened up, and broad stretches of lawn laid out in the vicinity of the mansion, while the extensive planting of roses and herbaceous plants, and shrubs and trees for utility and spectacular effect, has received much attention. During the two past seasons renovation of the hardy fruit quarters has been in progress, many old trees, particularly those of the apple and pear, having been removed and replaced by others more in accordance with the possibilities and requirements of the present time. As an exhibitor Mr. Hall has given a good account of his abilities for many years past, and a fair share of the principal awards offered at county and other exhibitions have fallen to his prowess, more particularly in the fruit classes, for pot plants, and table decorations. The shallow soil, and liability of the situation to late spring frosts have had a rather adverse influence upon his efforts in the cultivation of prize vegetables in a district where, in more congenial sites, these are remarkably well grown.

The Hardy Plant Industry now occupies so important a position among the various branches of commercial horticulture that we shall in our next issue (March 29) publish a freely-illustrated article dealing with this interesting phase of horticultural activity. This will contain a sketch of the historical aspects of the flower garden in the United Kingdom during the past sixty years, and deal at length with the development of the taste for hardy plants, the immense improvements that have been effected in the more important kinds, and the enormous extension their cultivation in commercial establishments has undergone within the past four decades. The illustrations accompanying the article have been selected with special reference to their value as examples of the successful use of herbaceous and alpine plants and aquatics, and other moisture-loving plants in beautifying the flower garden. There will also be illustrated articles on alpine plants of recent introduction, delphiniums, gladioli, and pentstemons. As the issue will have a largely-increased circulation, we strongly advise those of our readers who require additional copies to give their orders early.

Birmingham Daffodil Show.—Mr. Herbert Smith, the secretary of the Midland Daffodil Society, writes: "We have just discussed the final arrangements for our coming Daffodil Show, and, on account of the Royal visit to Birmingham, which falls on April 23 (the date we had originally fixed for opening our show), we have decided to hold our exhibition a day earlier, therefore it will be held on April 22 and 23, instead of on April 23 and 24, as previously arranged. A notification of this alteration of date will be greatly appreciated."

Mazus rugosus.—With reference to this interesting plant, for which the Wargrave Plant Farm, Lim., were granted an Award of Merit at the meeting of the Royal Horticultural Society on March 4, Mr. B. Crisp writes: "We have much pleasure in sending you the following particulars respecting Mazus rugosus, as there appears to be some doubt existing as to whether it is a perennial. The plant originally came from the Himalayas, and spreads by means of procumbent stems, which root as they grow, and produce flowers one inch in height. The fact that each rooted stem had a flower when exhibited seems to have given the impression to many people that it was a pan of seedlings. When established it literally covers itself with flowers during the early spring months, also producing a few solitary flowers during the summer, which are of a deep mauve colour, freely spotted orange on a white ground. The plant is undoubtedly perennial. Johnson's Gardeners' Dictionary, 1868, describes both Mazus rugosus and Mazus pumilo as hardy annuals, but there can be no doubt that this description is erroneous. Respecting Mazus pumilo, this is a quite distinct plant; it produces slender underground rhizomes, and the leaves are spathulate, with slightly waved edges, which are about one inch long, and only produces its flowers during the summer months, whereas Mazus rugosus, as we have before stated, flowers during the early spring and summer months. As to the date of introduction we are not quite sure." We gave a characteristic illustration of this charming plant in our issue of March 8.

National Diploma in Horticulture.—The committee appointed by the Royal Horticultural Society, in co-operation with the Board of Agriculture, Horticulture, and Fisheries, met for the first time on Thursday, March 13. A question at once arose, "What is Horticulture?" which was answered as follows: "Horticulture is a definite craft of itself, and not a department of agriculture. Horticulture as differentiated from agriculture includes the more intensive cultivation (as usually practised in gardens) of fruit, vegetables, flowers, shrubs, and ornamental trees." The committee formulated the following statements: (1.) "In view of the acknowledged demand on the part of horticulturists for an official recognition of professional ability, the Royal Horticultural Society, acting in co-operation with the Board of Agriculture, has decided to establish a National Diploma in Horticulture, and a jointly-appointed committee has been asked to formulate a scheme." (2.) "Among those for whose benefit the diploma is established are the following (in alphabetical order): Florists, fruit growers, gardeners, horticultural inspectors, horticultural instructors, market gardeners, nurserymen, public park gardeners, and seedsmen." (3.) "The diploma will be available for men and women on equal terms." Information as to the qualification of candidates, the method of examination, and the subjects of the syllabus, will be published as soon as determined upon. Prospective candidates are requested not to make inquiries of the secretary until such further publication has taken place.

Seed Potatoes.—In the report issued by the East Anglian Institute of Agriculture, Chelmsford, on the field trials conducted in 1912, it is stated that the value of the change of seed was demonstrated in a striking manner, the crops obtained from Irish and Scotch seed being almost double those from seed grown locally. Seed from Lincolnshire, although not so good as Irish and Scotch seed, was distinctly superior to that from Essex. Seed from Scotland which had been grown one year locally was found to be markedly inferior to seed obtained directly from Scotland in the case of each of six varieties which were so tested. With reference to the most suitable size of tuber for planting, it is reported that large seed, consisting of the smaller tubers from the "ware," gave a better crop than small tubers of the ordinary seed size.

Horticultural Research.—The scheme for the promotion of research and the provision of technical advice for agriculturists and horticulturists in England, in respect of which the Treasury sanctioned a large annual grant, has been in operation several months, and now definite arrangements have been made with a number of institutions which have undertaken to carry out the scheme. The objects aimed at are to aid research in certain definite groups of subjects, and the concentration at one institution, or at institutions working in combination, of the scientific work in each group. The institutions and the subjects selected include plant physiology, Imperial College of Science, South Kensington; plant breeding, Cambridge University and John Innes Institution, Merton, Surrey; plant pathology, Royal Botanic Gardens, Kew; fruit growing, including the practical treatment of plant diseases, Bristol University, in conjunction with the National Fruit and Cider Institute; plant nutrition and soil problems, Rothamsted Experimental Station, Harpenden, Herts. In addition to research work, in fruit growing, to be carried out at Bristol University, arrangements have, as we have already announced, been made for establishing an experimental fruit station in Kent, which will be under the supervision of the South-Eastern Agricultural College, Wye, Kent.

Horticultural Club.—The report of the Horticultural Club for the past year forms a neat brochure, and is of much interest. It contains, as a matter of course, the report and balance-sheet for 1912, and summaries of the lectures given at the house dinners during the year, and a list of members which is of much greater length than that contained in any previous report. The lecture by Mr. H. R. Darlington on "The Rose as a Flowering Shrub" is given in full, and will be found of much interest by those who appreciate the distinctive characteristics of the more beautiful of the roses having specific rank.

Flowers from the Scilly Isles.—The supplies of narcissi flowers from the Scilly Isles are much smaller than for many years past, and the returns to the growers can hardly prove satisfactory. Owing to the excessively wet weather experienced during the summer the bulbs failed to ripen properly, and many decayed in the soil, hence the shortage in the flowers at the present season.

Importation of American-raised Fruits.—It is reported that one of the most recent of the developments in English fruit farming is the importation from America of trees of the fruits raised by Mr. Luther Burbank, who produced the edible cactus for the use of cattle in the desert, and other new varieties of plants. Scions, or lengths of new wood, for grafting are imported in large numbers, and many new varieties of fruits are being imported by Messrs. Chivers and Sons, fruit growers and preservers, of Histon, Cambridge, for the purpose of comparing these new fruits with the standard varieties of English growth.

French Horticultural Society of London.—The anniversary dinner of this society, which has now reached its twenty-fourth year, will take place on Saturday, April 24, at the Café Royal, 68, Regent's Street, at 6.30 p.m. Mr. P. Rudolph Barr will preside, and those who are desirous of being present can obtain tickets (6s. each) and all particulars of the society, and the excellent work it is doing on behalf of young gardeners, from the president, Mr. George Schneider, 11, Great Newport Street, London, W.C.

The National Chrysanthemum Society continues the even tenour of its way. The schedule of prizes and list of members for 1913 is before us, and we find that there will be an early autumn show at the Crystal Palace on October 1 and 2; the great show at the same place, on November 5, 6, and 7; and a late exhibition at Essex Hall, Strand, W.C., on Wednesday, December 10. On this latter date a conference will be held, when papers will be read as follows: "The Evolution and Development of Outdoor Chrysanthemums," by Mr. Norman Davis; and "Chrysanthemums for Outdoor Decoration," by Mr. Thomas Bevan.

HARDY FERNS.

As it is in March that our native ferns commence, like most other vegetation, to resume the actively growing disposition which has lain dormant since the previous autumn, and since they are far more easily handled now than when in full foliage, there is no better time than the present to plant, divide, and replant, pot and repot, or deal generally with them to secure their well-being in the coming season.

Most of them, all indeed of the deciduous persuasion, like the lady ferns, most of the buckler ferns, and others are now represented by mere frondless stumps; while the evergreen species, hartstongues, shield ferns, spleenworts, and blechnums bear more or less damaged and discoloured fronds, which are destined very shortly to be replaced by new sets, and therefore a little damage by the processes above alluded to only constitutes temporary disfigurement. It is, however, not advisable to remove the old fronds, which are still green and full of sap, as there is no doubt that so long as this state exists the still active chlorophyll assists in some measure in stimulating the formation of the new root system, which

PRIMULA PURDOMI.

A distinct Chinese species, the flowers rose-lilac. F.C.C., R.H.S., March 18. Messrs. J. Veitch and Sons, Chelsea.

springs from the bases of the new fronds, and is the main factor in establishing the new growth.

The old fronds, too, if the plants be in the open, play a protective part to the crowns, which under natural conditions are swathed or buried in the debris of previous growths. If we lift up such debris, and examine the crowns of the ferns, we shall find a multitude of new roots, with delicate, whitish feeding points, creeping down from close to the growing points in which the new fronds are coiled up, and until these have reached the soil and penetrated it, exposure to drying winds may seriously damage them, and materially check the growth for the season.

In planting, the habit of growth must be considered. Ferns fall roughly into two main categories, viz., those which form definite crowns, whence the fronds rise more or less on shuttlecock lines, and those which have creeping rootstocks, whence the fronds spring singly. The first class is typified by the lastreas or buckler ferns, of which the common male fern is the more familiar example; and the second by the common polypody, which grows on old walls and in hedges. A third type is a somewhat intermediate one, exemplified in the spleenworts, which form tufts. The shuttlecock class are the boldest growers, with the exception of the royal fern and the bracken, which have these special peculiarities, the former developing a great rootstock covered with short aerial roots, whence the sometimes immense fronds arise in close association on "clump" lines, while the bracken has long, deeply-pentrating, travelling rootstocks or rhizomes, which send up huge fronds at long intervals, and in such a fashion that it is almost an impossibility to transplant it.

To return to the shuttlecocks, these are very apt to imitate the clump formers by producing young plants from the sides of the old ones by means of buds, and these in time become as large as the parent, and by competition tend to check its growth, so that in time a bush is formed. On examination, however, it is found that the clump is nevertheless made up of independent members, so that if the plant be lifted each one can be separated, and will have its own independent roots and frond-system, thus permitting of easy propagation. With some, too, such as the lady fern, this shuttlecock growth in time will develop two or more centres, which gradually grow apart, and eventually, when a decided neck is produced, can be severed by a shallow cut in the depression between them, and then, if carefully forced asunder, each will come away with its own roots, as with the lastreas above described. All that is then needed is to plant or pot the divisions with the crowns just above the soil surface, but not buried.

The creeping ferns, such as the polypodies, can be propagated by severing portions of the creeping rootstocks bearing a frond or two and a growing point, and planting this shallowly, when it will soon establish itself and form an independent plant. As regards soil, a rather lumpy, open compost of loam and leaf mould practically suits all the species usually cultivated, and in pots it is well to provide plenty of drainage so as to avoid sourness by stagnation, which, fond as ferns are of moist conditions, is likely to be fatal.

So much for general treatment. We cannot, however, take leave of the subject without pointing out the practical foolishness of devoting such care to what all those who really know our native hardy ferns regard as mere weeds—i.e., the common forms, which are obtainable for a few pence from the hawkers, or even from many nurserymen. Nature has endowed these weed forms with a capacity of sporting into far more beautiful ones, tasselled, and frilled, and fringed, and beautifully divided on extra feathery lines. Such forms, of which there are hundreds, are catalogued by the trade, who make a speciality of them. Most of them cost but little, and we cannot too strongly advise those who grow ferns to send an order for a few dozen, ignoring the bugbear of long names, and simply saying: "Good tasselled and frilled varieties of the lastreas, hartstongues, lady ferns, shield ferns, and polypodies," and leaving selection to the seller. They will then surely appreciate the benefit of growing varieties, instead of devoting good ground and special care to scores or hundreds of "all alikes," instead of a collection in which "variety is indeed charming."

C. T. Druery, V.M.H., F.L.S.

SUBSTITUTES FOR THE LARCH.

Owing to the partial decline of the larch in this country several likely trees have at various times been brought forward as substitutes, such as the Douglas fir, Corsican pine, Sitka spruce, giant arborvitæ and others. Many of these trees have been planted in masses in various parts of the country, chiefly in an experimental way, but after a fair trial not one has proved itself a worthy substitute for the larch, althought doubtless some of those whose claims have been set forth may reflect one or more of its valuable qualities, but this is the widest limit of comparison.

The fact is, the larch has no equal as a profitable coniferous timber tree in this country, and I make this statement after thirty years of note-taking and comparison of its merits with some others whose admitted valuable qualities place them well ahead in the rank of such as are suitable for economic planting. Some points in favour of the wood of the larch may be briefly pointed out, such as value in a young state; for, comparatively speaking, from the youngest stages of its growth it can be utilised for stakes, fencing of a temporary kind, and other purposes, and this cannot be said of any other conifer grown in our woods, at least the durability of the timber of no other tree would be sufficient to repay the cost of erecting or otherwise converting.

The trunk of the larch is neither knotty nor crooked, but usually straight, and destitute of branches for three-fourths of its height, for above all trees the larch is one that is least inclined to throw its vigour and substance into the formation of heavy side branches. Then, a greater quantity of useful larch timber can be grown to the acre than is the case with any other conifer I know, excepting, perhaps, in the case of the native Scotch Pine. The durability of the wood of the larch is about double that of any other coniferous timber that can be recommended for afforesting purposes, while its extreme lightness—a cubic foot only weighing 34lb. —still further enhances its value.

Some years ago the merits of the timber of the Douglas fir were exploited by the then forester at Scone Palace, in Scotland, but of late little has been heard of the timber, and the numerous experiments carried out at Penrhyn Castle, in Wales, not with immature timber either, have demonstrated that although a large quantity of wood can be grown to the acre, yet its value by no means compares with that of the larch. It is a more expensive tree both to purchase and handle, while it cannot be compared with the larch either for planting in exposed situations or general hardihood.

The Corsican pine, too, has hardly come up to expectation as a substitute for the larch. It grows very rapidly, is perfectly hardy, and almost immune from the attacks of game, but it is expensive, and hard to transplant. Neither has the timber, even of trees of from fifty to seventy years' growth, been found as durable as could be desired, and it is too heavy and resinous for general use. A number of experiments were made with the timber some twenty years ago, both for indoor and outdoor purposes, and the results were as first stated. It certainly grows quicker than either the larch or Scotch pine—in one instance exceeding these in height by six feet in twenty-three years. But this is a common occurrence all over the country, and though the tree is a valuable one from many points of view, yet, as a timber producer, it will never approach the larch.

Then the giant arborvitæ has found favour with planters on account of its hardihood, rapid growth and quality of timber produced, but experiments carried out in Wales hardly warrant us in saying that it is to be generally recommended for afforesting purposes. The Sitka spruce, too, has its admirers, from a commercial point of view, but we must wait for some time before pronouncing on its behaviour as a tree for filling the place at present occupied by the larch.

Speaking candidly, after a long experence of many trees for profitable planting in this country, I am inclined to hold the view that the Scotch pine comes next to the larch as a profitable coniferous tree. It is cheap, readily transplanted, perfectly hardy, and when of mature age produces a large quantity of fairly valuable timber. Admitted that the wood of immature trees is not very lasting, it does well for temporary fencing, and, as compared with that of any other coniferous tree, most nearly approaches that of the larch. The tree is little subject to disease, and covers a vast range of soils, thriving and producing probably its best quality of timber on that of a poor gravelly texture. It is very questionable, when everything is taken into account, whether any other coniferous tree that is cultivated in this country can so nearly approach the larch, from an economic point of view, as the Scotch pine.

There are other useful coniferous trees of old standing, such as the common spruce, that must not be passed by in the search after substitutes for the larch, while the silver fir has its value in a particular line. Neither, of course, for general utility can compare with the larch, but when placed side by side with later-introduced species they are well worthy of attention. It is certainly much to be regretted that the larch has become diseased of late years, but there are hopes that the worst stages have been passed, and, as the owner of some of the largest larch plantations said to me the other day, "the disease is not to be dreaded as it was twenty years ago."

A. D. Webster.

Choisya ternata.—This, popularly termed the Mexican Orange Flower, is in many places greatly appreciated as an outdoor shrub. It is, under such conditions, much hardier then may be supposed. This, however, is not its only claim to recognition, as, grown in pots, it will flower freely in the greenhouse or conservatory during the spring months. In these structures its fragrant flowers and neat green leafage are always admired.—W.

CHOICE SUCCULENTS.

The term succulent is applied to plants in a general way to all those which provide against a period of drought by the development of aqueous or water-storing tissue, which serves to carry them over a time of scarcity of moisture, which may vary from a few days or weeks in the smaller kinds to even several years in the case of some of the larger kinds, such as the giant species of echinocactus and cereus. The aqueous tissue may be developed in the roots, stems, or leaves, either singly or collectively. Speaking generally, the amount of the development of succulent tissue is a useful guide as to the amount of water required during their resting period.

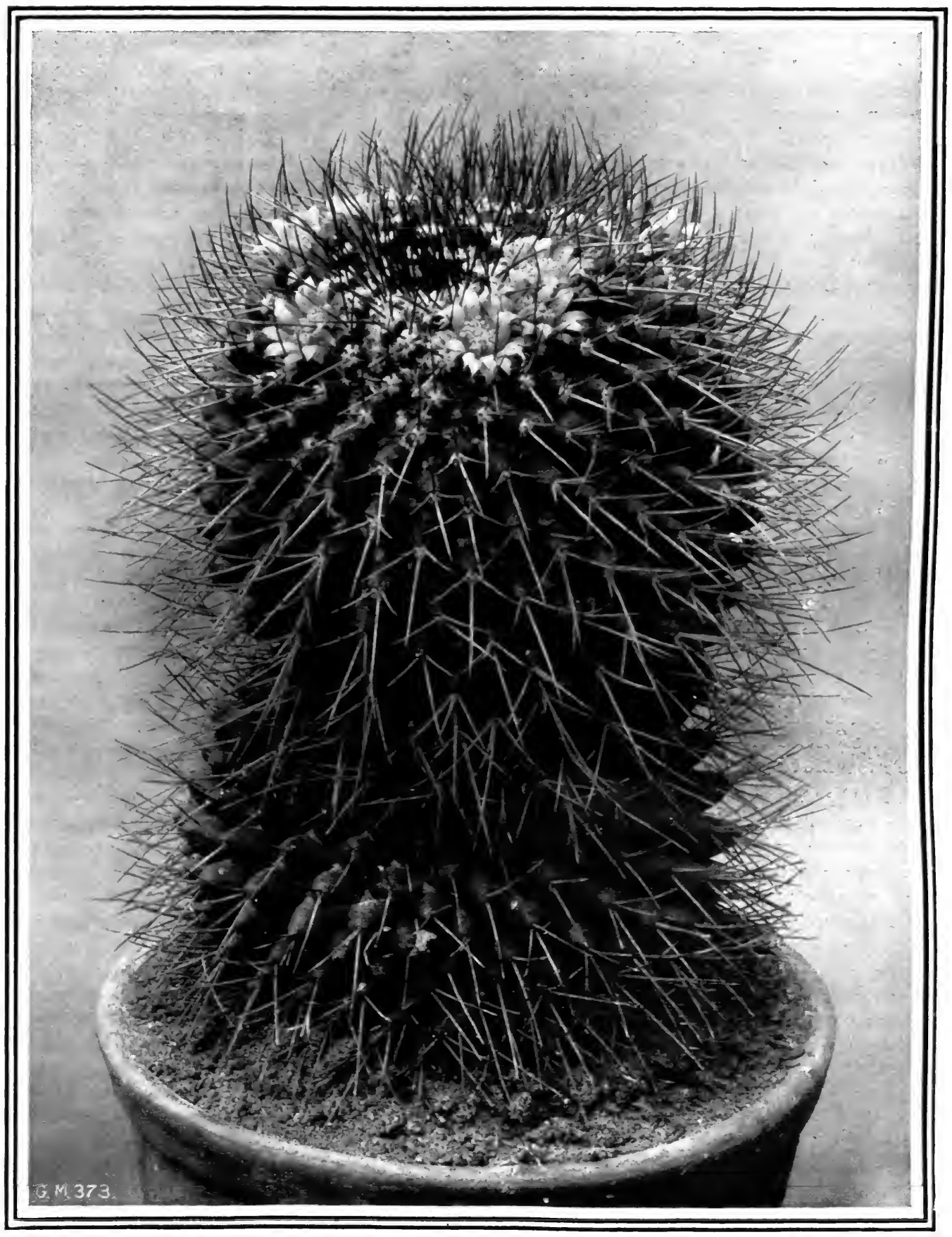
The greater the degree of succulence the longer the period of rest, and, inversely, the smaller the plant and the smaller the amount of water-storing tissue, the shorter the periods between each watering. Many of the shrubby kinds of mesembryanthemum, sempervivum, crassula, and rhipsalis, also such plants as stapelias, and most seedlings of the larger succulent plants in their early stages of development, must not be allowed to become thoroughly dry at the roots for many days at a time. It must be borne in mind in the treatment of succulent plants, as a whole, that one of the principal, if not the chief, points in their culture, is a healthy, buoyant atmosphere in the house in which they are grown. A stagnant state of the air, especially in winter-time, is the cause of many losses in collections of these plants. Such watering that is needed in the winter period should be done early in the morning, so that any excess of moisture may be eliminated during the rest of the day, either by ventilation or by giving additional heat. During the growing season (usually during the summer months) abundance of air should be given, both night and day; the water supply must also be proportionately increased. In fact, with many of these plants, the summer treatment is the same as for any ordinary greenhouse plant, both for watering, syringing, and ventilation. During favourable summers many succulent plants are considerably improved by being stood out in the open air. Practically all the agaves, cotyledons, yuccas, sedums, mesembryanthemums, and many opuntias are well suited for this treatment. It is not advisable in our changeable climate to risk many of the choicer kinds out of doors, as a spell of wet or cold weather may carry off some pet plant as the result. The damage may not be apparent for many months afterwards, and may not even be noticeable until the whole plant is a mass of decay. And this may only happen during the winter period, and be attributed to some other cause. With practically all succulents the growth which is made slowly and under fairly dry conditions is by far the best, and is better adapted to withstand the adverse conditions of our climate during the winter period, than the sappy, luxuriant growth which is made under moister conditions.

Any necessary repotting should be done from February to April. As a rule, most succulent plants thrive in a soil containing a fair amount of lime, Most of the cactaceæ contain a large amount of oxalate of lime, and this is best supplied to them in the form of crushed brick and mortar rubble mixed up in the potting compost. A suitable soil for the majority consists of the following ingredients: Two parts good turfy loam, one part of sand, and one of broken brick and mortar rubble. For stapelias the mortar is best left out, as they all grow on what is known as acid soils. Replace the mortar in this case with some granite siftings, and also add a little leaf-mould.

Propagation is a fairly easy matter with most succulents. The commonest method is by cuttings, and in the case of all the large, fleshy kinds, such as the cacti, euphorbias, aloes, and gasterias, they are best taken off and laid on a dry shelf for a week or so to allow the cut surface to dry and commence to callus. They may then be put into small pots in a very sandy mixture, and very carefully watered until rooted, when they should be potted up in the mixture, as previously advised for the majority of these plants. Cuttings of stapelias should not be inserted in the soil, but merely pegged down with a forked twig on the surface. The roots are emitted from the underside of the stem in contact with the soil. If inserted in the soil, as for ordinary cuttings, they are apt to damp off badly. The method advised is by far the best. Tall plants of almost any succulent which have become too large may be cut off at any length desired, and potted up again in the way advised for ordinary cuttings. This operation, if performed in early spring just previous to their normal period of growth, may be safely accomplished with many large plants. Such quick-growing plants as aloes and agaves appear to experience very little check in their development, and soon become established again.

Division is only of service in the dwarf tufted kinds of mammillaria, gasterias, Haworthia, a few of the echeverias, cotyledons, cereus, etc. Seeds, when obtainable, quickly germinate in a little heat and moisture. Seeds of most succulent plants retain their vitality for many years, and germinate in a few days. The reason of this is that they have to make the best of the rainy season when it does arrive, and obtain sufficient size and store up enough moisture in their tissues to carry them safely over the following period of drought. Any seed which delayed germination the moment the rains come stands but a poor chance in its struggle for existence.

Many species of agave, furcræa, stapelia, aloe, and mesembryanthemum are best increased from seeds; these grow rapidly, and soon make nice, serviceable plants. Most of the nurserymen dealing with these plants offer seeds of many kinds, and even the beginner will find very little difficulty in obtaining good results in the raising of seedlings. The point to bear in mind is not to allow them to become dry in their early stage of growth.



MAMMILLARIA CENTRICIRRHA.

The cactus family is a very extensive and variable class of plants, some of them reaching enormous proportions and weighing several tons; others are almost microscopic by way of comparison. With the exception of the Mistletoe Cactus (Rhipsalis cassytha) which is found in the African forests, all the genera and species are natives of the New World. The principal genera represented in gardens are cereus, mammillarias, echinocactus, opuntia, echinocereus, phyllocactus, and epiphyllum. The genus echinocactus is a very large and extensive one, containing hundreds of species and numerous varieties. They require somewhat warmer conditions than the majority of succulents, and very little water at any time of the year. They are usually of very slow growth, and often reach enormous proportions. They are densely clothed with stout and often brightly-coloured spines, arranged in clusters at intervals all over the rounded stems. The flowers are variable in colour, from white to yellow, orange, red, pink, or purple. They are comparatively small for the size of the plants, and are borne on the fasicles of spines near the top of the plant. A few of the best and most easily obtained are the following: E. Grusoni, with large, globose stems covered with bright yellow spines and bright red and yellow flowers. E. ornatus, with bright straw-coloured spines and deeply angular stems, of a rich green colour, and beautifully spotted and transversely barred with white. E. longitamatus, with rounded or slightly elongated stems, and long, hooked spines. E. Pfeifferi, similar to E. Grusoni, but longer and narrower in the stem. E. Williamsi, a small species of free-branching habit, and greenish flowers, tinted with rose. E. pilosa, a large, gouty-stemmed species with many angles, and covered with stout pink or rose-coloured spines. E. Wisleyeni, or Fish-hook Cactus. Plants of this species are obtainable from the tiny seedling stage to the giant adult specimens often half a ton in weight. The centre spine of each fasicle is much longer than the rest, strongly curved, and of great strength. These large spines are reputed to be used by the North American Indians as fish-hooks, hence the common name for this plant. The flowers are sulphur-yellow, and freely produced on large specimens. Many other most beautiful kinds could be included did space but permit.

The mammillarias are mostly dwarf, free-branching, or tufted cacti, the stems of which are covered with numerous outgrowths resembling mammæ, the apex of which bears a cluster of slender spines, varying in number in the different species, which number over 300. The members of this genus are amongst the most beautiful and symmetrical objects of the floral world. The flowers are rather small, but freely produced, and are usually some shade of yellow or rose, and a few are pure white. A few useful species for small collections are the following: M Grahami, Heyderi, eriacantha, macromeris, longimamma, micromeris, centricirrha, pusilla stellata, multiceps, lasiacantha, and Eichlami.

C. P. Raffill.

Begonia fuchsioides.—Tuberous-rooted begonias are so much grown that some members of the fibrous-rooted section are not met with as often as they well might be. This Mexican species, which is a quite old garden plant, is very beautiful when in good condition, the small, deep green leaves being disposed in a flattened frond-like manner on the shoots, and the deep scarlet flowers are borne in great profusion. It needs a warm greenhouse for its successful culture.—W.

THE USE OF ROSES.

"Roses everywhere" should be the practice, as well as the motto, of the ardent rose-lover, and, strange to say, gardeners who are ambitious of making every possible use of the Queen of flowers must begin by making summer purchases of pot specimens. Experiments have proved that the season of rose blooming, without artificial heat, can be wondrously extended, and with heated greenhouses the supply can be constant all the year round. To attain a simple success, the delight of a harvest of blossom during November and December, fine pot specimens of the best autumn-flowering roses should be bought in August, and entirely disbudded. Two methods should be adopted, as occasionally one produces better results than the other, and experiments have not yet been sufficiently numerous for proof to have been afforded of the style suited to special varieties.

Some of the new shoots that would naturally bloom in autumn should be removed, some only disbudded, and this should be done on the same plants in some cases, on separate plants in others, and a strict record be kept of the ultimate triumphs and failures. The pots may be kept in semi-sunshine in the open. Probably, positions between fruit trees, or where tall perennials, or rows or clumps of sweet peas, give occasional light shade, are best, as to range them against a fence or wall prevents healthy development on all sides of the bushes, and renders them more liable to disease and insect pests.

If the trees are fed with weak liquid manures in variety twice a week the grower will be well rewarded later on. Now disbudding can be variously performed, too; on some specimens it may be discontinued early, on others it has been continued until the beginning of October, but those were trees that could be housed by the middle of the month in an even temperature of 60 degrees. If the pot trees can only be placed in sunny, unheated greenhouses, the yield of bloom will be most satisfactory during November and early December. Gardeners who habitually force roses under glass will know that these are the months when there is a dearth of flowers, and experience is daily teaching the lesson that it is by the prolongation or retardation of the flowering of outdoor-grown roses in pots that the need is most easily met.

Window culture of roses deserves more consideration than it has yet received. Not only may the summer window-boxes, if made deeper than the ordinary, contain admirable rows of the dwarf Polyanthas, but these will flourish splendidly in pots inside rooms where ample ventilation is afforded. In short, the really wonderful displays that even cottage gardeners boast with such window plants as geraniums, primulas, fuchsias, and cacti, can be repeated solely with roses. The greenhouse favourites, Marechal Niel, Niphetos, etc., will flourish in tubs stood on the floor inside bay windows, as excellently as in glass porches or unheated conservatories. Even cold windows may be utilised for growing hardy roses in, Chinas and rugosas, during summer heat, the result being, with the first class, that the vigour of the trees is undiminished by late autumn, and if they are removed then to warm windows the blossom harvest will continue many weeks in perfection.

A garden all of roses is a glorious possibility, for there seems no use to which roses cannot be put. All that is needed is originality of conception and the pluck to run a few risks in experimenting. Hanging baskets of Wichuraiana roses, slung high on wires between poles that are themselves rose pillars, make a splendidly novel feature, especially appreciated in gardens visible from roadways; a long range of pillars on either side of a walk to a house entrance, with taut wire, or slightly slacked wire, between them, and on each wire such a basket, either of painted wire or rustic wood, creates an effect of dazzling beauty. Rockery banks may be sprawled over by the same class of rose, or afford perfect sheltered homes for the most delicate pegged-down teas, while hardier bushes can crown the summits. Grass banks may have a tree here and there in the turf sides, and shrubberies of wind-resisting varieties on the tops. A six feet bank, with a hedge of rugosas on the summit, is a screen equal in time, to a twelve feet wall.

A marvellously effective rockery mound in a front garden last year was simply planted at the top with one Gruss an Teplitz, the boughs of which had been bent over and pegged down here and there among the stones, forming miniature arches, from which lateral growths freely uprose.

A rose pavilion can be made for summer by planting the preceding autumn fine trees of the Dawson rose, against ten feet pillars, placed two yards apart, in a semi-circle. So prodigious is the growth of this species of weeping habit that the branches will prove sufficient to stretch across to form a roof, supported then by a twelve or fourteen feet pillar in the centre of the pavilion. To secure autumn florescence a climbing hybrid tea rose may be grown on four pillars between the original ones, if desired.

Roses for edging beds may be employed. The peach-blush Ma Filette, or the dwarf Scotch rose, answer the purpose admirably, as would other low-growing species, or varieties, that flower freely when clipped. Of the beauty of rose hedges, roses by the water, rose glades, and arbours, no mention need specially be made. Roof tops may be overhung by trailing Wichuraianas, urns, vases, and raised beds of roses are singularly effective. Lastly, a glass pavilion as a lawn centrepiece, devoted solely to the culture of roses inside and out, can be recommended as a picturesque novelty that should be summer-prepared for winter filling.

M. H.

The Seed Industry of the United Kingdom.—The interesting article on the above subject, and the numerous illustrations that accompanied it in the Gardeners' Magazine, serve to show the great pains that are taken to clean and test the germinating power of seeds before they are sent out. Visits to trial grounds during the season will serve to further emphasise the care taken, for beds of seedlings may be seen in which it is quite the exception to find a single rogue. I never spent a more enjoyable afternoon than one last summer at Messrs. J. Carter and Co.'s trial grounds at Raynes Park. The general invitation is to come and see, and my experience is that not only is there a great deal to see, but every facility is given for the visitor to inspect all objects of interest. The grounds being given up to trial purposes, one does not meet with hugh stretches or fields of one particular kind, but rather with beds of a variety planted in order to show whether there is any tendency to break away from the type. In the case of most of their own stocks the regularity of the plants was remarkable, but with those that had been submitted to them and were therefore strictly under trial, the same, in some cases at least, could not be said. This shows the necessity of a rigid supervision such as that carried out by the leading firms, and by means of which the correctness of stocks is fully ensured.—S. W.

CULTIVATION OF ASPARAGUS.

Raising Young Plants.

Large growers of asparagus usually sow seed from their own plants, and so there is no question of new seed or new varieties. Cultivation is, in the opinion of experts, a much more important factor in determining the value of the crop than the variety grown. However, it may be said that the chief kinds are Connover's Colossal, Argenteuil (Early Giant and Early Giant French), and Palmetto. Perhaps the best method of raising a stock is to use one-year-old seedlings, raised at home, making preparations for seed sowing as early as possible, and committing the seed to the ground in March. Purchased two or three-year-old plants are sometimes used in order to save time, but this plan would not do for market culture, as they do not travel well, and the slightest injury to them usually means disaster in the end.

Formerly asparagus was grown in narrow beds containing two rows of plants, but the modern method consists of a single row culture, allowing as much space as possible for the plants to develop. In France, where size is the chief consideration, a space of 4ft. is allowed between the rows. The March sowings should be made in a carefully-prepared seed bed in drills nine inches apart, and when the seedlings are a year old they are lifted and planted in rows from three to three and a-half feet apart, and one foot apart in the rows. It is well not to overcrowd the plants in any way, for this can only end in their starvation.

Formation of Beds.

Manuring and the preparation of the soil is, of course, extremely important to the success of the culture, but a very great deal also depends on the selection of the plants, which, it may be remarked, retain their own characteristics during their whole existence. In other words, it is important to select the strongest one-year-old plants, which appear to bear a small number of strong shoots, and have all their roots intact. Then the soil on which they are planted must of necessity be fairly moist, but not by any chance waterlogged. A deep, sandy loam seems to be best suited to asparagus culture, but damp shallow soils are naturally unsuited to the crop unless they are thoroughly drained and deepened by judicious cultivation. In the Vale of Evesham it is customary to dig the ground very thoroughly in the autumn, meanwhile breaking up the subsoil below, and incorporating with it a generous admixture of well-rotted manure. Natural manures of a somewhat cold and heavy nature, such as cow dung, or a mixture of cow dung and horse manure, are well suited for poor, sandy soils that are lacking in humus, while the debris from mushroom beds also fulfils a very useful purpose in this direction.

After Cultivation.

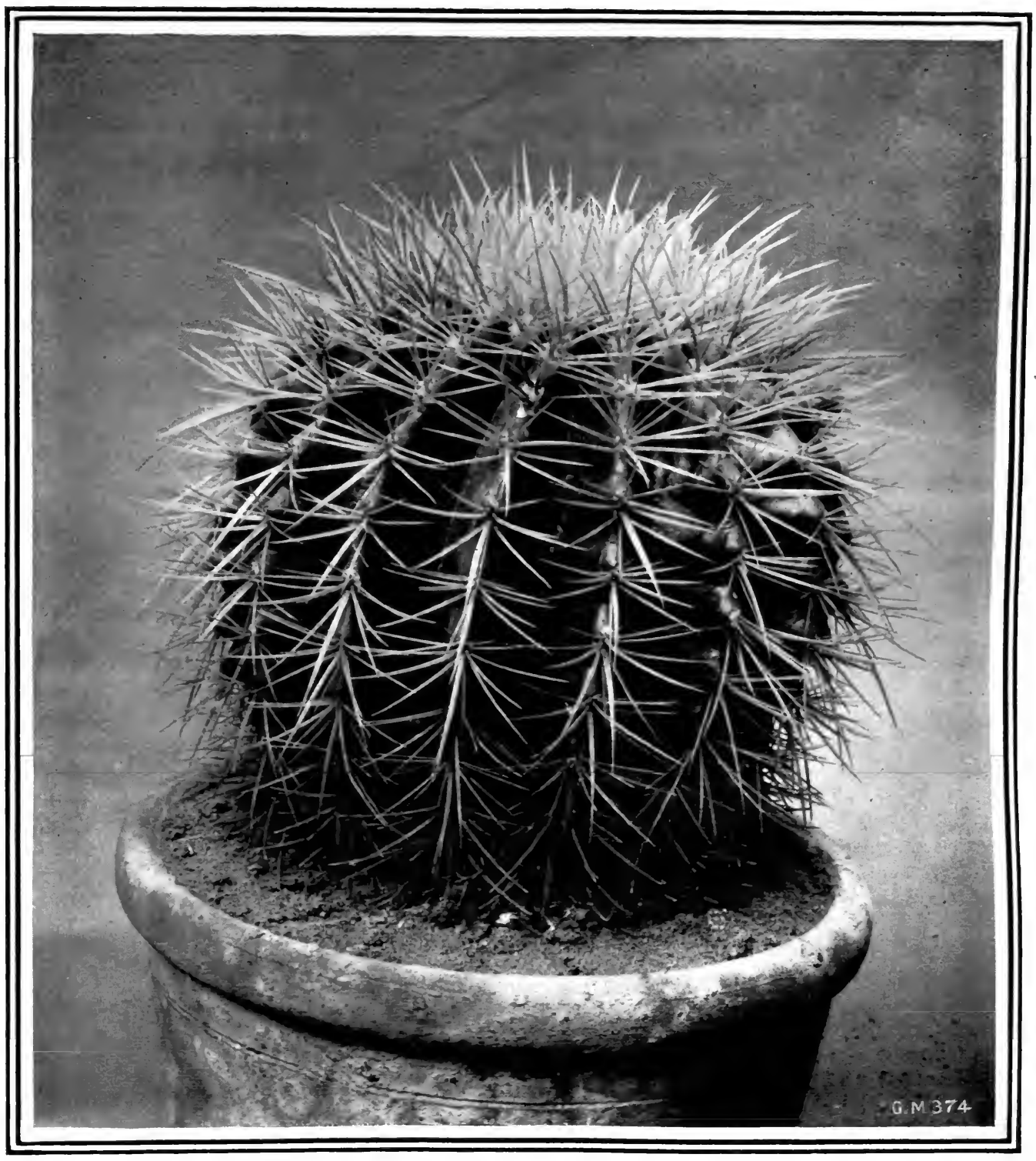
Asparagus, it may be remarked, requires an abundance of moisture, especially in summer, and, if the soil appears to be too light and porous, an attempt must be made to increase its retentiveness by adding a suitable quantity of manure. Usually, when the soil is dug and manured in the autumn, soot is added at the rate of one ton per acre, and this dressing is subsequently repeated every alternate year.

The after cultivation of asparagus consists chiefly in manuring, hoeing between the rows, earthing up, and cutting. For the first year the hoe should be used assiduously between the rows in order to keep down weeds, and care should be taken to prevent any ravage by the asparagus beetle. In November, the stems are cut down and the ridges levelled, while in the second autumn a slight ridge is formed about the plants by drawing a little soil up with the hoe, leaving the stalks so protected until the following spring.

There is, first of all, however, the question of manuring the crop before and after cutting to be considered. Of course, no feeding will be required for the first year after planting, but in the case of established beds it will be advisable to give a liberal dressing of farmyard manure every year in June or July, after cutting. On light soils this annual dressing of farmyard manure is extremely beneficial, because it helps to keep the land retentive of moisture, besides putting it in better heart for a succeeding crop. Nitrate of soda, applied as a top-dressing at the rate of from two and a-half to three cwts. per acre, is also a valuable stimulant to the asparagus plant in spring. It should be given at intervals of two weeks in three dressings, commencing with the springing of the heads. Sometimes guano or sulphate of ammonia is used instead of nitrate of soda, and fish meal and dried blood are also utilised for a similar purpose by some growers.

On poor or light sandy soils salt is used very extensively as a fertiliser for asparagus, but kainit would be better. Spring applications of salt are usually made at the rate of two pounds to the square yard before the new shoots commence to break; it not only assists the asparagus, but also destroys weeds of all descriptions, and at the same time serves as a valuable insecticide where the asparagus beetle is troublesome. As a good liquid stimulant for asparagus, to be applied in summer, there is nothing better than a mixture of one pound of salt, one pound of guano, and twenty gallons of water.

Old Basing. J. C. Newsham.



ECHINOCACTUS GRUSONI.

A Valuable Handbook, designed to supply sound, practical information on the profitable cultivation of Asparagus, is published from the office of this journal. Included within the volume will also be found details as to the growing of Beans, Cardoons, Celery, Artichokes, Seakale, Peas, etc. It contains the knowledge needful to cultivate crops successfully, and may be procured from the Publisher, 148, Aldersgate Street, London, for 1s. 2d., post free.

PERPETUAL CARNATIONS.

The spell of rather dull, rainy weather experienced some weeks since has been inimical to perpetual carnations, and blossoms have not been either so good in quality or in numbers as would have been the case if the weather had been brighter and drier. The conditions which have militated against our carnations on this side of the Atlantic have also exercised the same effect upon the stocks of the American growers, and many complaints are heard concerning the short crop of blossom obtained of late. A spell of bright weather will speedily put a better aspect upon things, but one is impelled to note varieties which give the best results during these days of cloud, fog, and rain.

My heaviest cut of blossoms since Christmas has been from Pink Elegance, but probably this will not get into general cultivation by reason of the blossoms lacking a little in size, but at this season it is always my brightest and freest variety. It is just what that old American raiser, F. Dorner, would have called an "ever-blooming, bread and butter carnation." It has colour, a splendid stem, and, unlike so many carnations, it goes straight for blossom. Our next largest crop was obtained from Indian Robe, smaller and brighter than Afterglow. This is of bushy habit, stiff wiry stems, and gives a warm touch of Indian red, which, like the old Mrs. Theodore Roosevelt lights up splendidly under artificial light. It is a question whether we shall retain Indian Robe after another season or two, as we have seedlings of the same shade which throw larger blossoms. Mrs. C. W. Ward and May Day are both valuable at this time, and the pretty pink and white Alma Ward may also be noted.

In scarlets the best has been Andrew Carnegie, which is valuable for winter use, while Harlowarden seems still the freest crimson, though a little on the small side. Speaking of scarlets, the old discussion of the best will soon doubtless again be raised. The merits of Beacon, Bonfire, Scarlet Glow, and the newer St. Nicholas will be surveyed. Soon we shall have the new American scarlet, The Herald, to swell the list. This is doubtless a splendid thing as grown in the States, and it scored 87 points out of a possible 100 at St. Louis, and 89 points at the Chicago Florists' Club last year. In addition to this, it was first for 100 blooms of a scarlet variety at Cincinnati in 1911, and first at St. Paul and Cleveland in 1912. Its colour is clear, the flowers well formed, stem and calyx very good. Commodore, another new scarlet, has a good character for the quantities of blooms produced in the winter, and should be given a trial on this account alone.

Another scarlet which is being put on the market in the States is Comfort, a variety which promises well, and is being propagated in large quantities. Two new red carnations are Red Springs, a variety recently certificated in Nassau County, and William Eccles, which was well shown on January 13 by Scott Brothers at the New York Florists' Club.

Another notable feature of carnation culture in America is the commanding position taken by the new forms of Enchantress. Of these Enchantress Supreme, a fine salmon-pink sport, a very attractive shade, calls for attention. It is identical in growth with its popular parent, but is reputed to hold its colour better. It has a longer calyx, and is non-bursting. Another sport, Salmon Beauty, is going ahead rapidly. This has rather more of the salmon hue, and may be regarded as a really good all-round variety.

A New York grower has a variety very near to Enchantress under the name of Improved Enchantress, but whether this is a good selected sport, or a natural seedling, I am unable to say. The fine dark pink Northport received a Certificate of Merit on January 13, with the report of 86½ points in its favour. This is undoubtedly a coming carnation, and will quickly find its way into English gardens.

The new white, Matchless, is very favourably regarded, and gained 89 points under comparative tests, being pure and free.

It would be interesting, too, to know just how a member of the Fairfield Society (America) obtained what was shown as the yellow sport of Mrs. C. W. Ward. It seems hardly feasible that this favourite carnation should give a clear yellow sport, and I, for one, would like to know a little more of the history of this new variety. One thing is certain, that if it will produce good yellow blossoms of the size and form of Mrs. Ward, it is assured of a good reception.

The new pink carnation Philadelphia, is attracting much attention among American growers. It was raised, and has been grown for four years, by Mr. T. Browne, of Greenfield, Michigan, but its merits have attracted other growers, a few of whom recently combined and secured the whole stock for a large sum. It is of a soft, shining shade of pink, quite distinct from any variety in commerce. It is strong in growth, continuous, and the calyx is very good, and has been favourably commented upon by many leading growers. The owners intend to wait another year before placing it in commerce, by which time the stock will have reached a very large number.

P. S. Hayward.

CINERARIAS.

The garden forms of Cineraria are now almost endless, many of them showing a marked divergence from the cinerarias of a generation or two ago. Among the newer forms there is a great tendency towards the production of a lighter and more graceful class than formerly existed. The Star Cinerarias, often referred to as C. stellata, are by no means the only ones of this section. Among the Star kinds there is a much greater variety in colour than was at one time the case, and for general decorative purposes they increase in favour year by year. The class known as Feltham Beauty is remarkable for the light and elegant disposition of its flower heads, each one standing almost, if not quite, clear of its neighbour. The plants are of comparatively dwarf habit, and many distinct shades of colour occur amongst them. There is also a cactus section, in which the florets are rolled back at the edges, thus giving the blooms a very singular appearance. In colours, too, we have such marked departures, as the velvety-red Matador, the curiously-striped Pompadour, and the first steps towards a yellow-flowered variety. At present the distinct shade of Matador is to be found only in dwarf, dense growing plants, but we shall no doubt in time find it associated with the lighter and more elegant forms. W. T.

ROSES IN POTS.

All the pot roses should now be in full healthy growth, except it be a few kept back as far as possible to maintain the supply in the event of later flowers than usual from the wall plants in the open. Being in full growth, they will naturally need careful and constant attention. This is more particularly the case when a second crop of blooms is looked for from a few of our best and freest flowerers, not numbered among the climbing sections.

Such constant flowering hybrids and true teas as Sunset, Sunburst, Madame Abel Chatenay, Liberty, Richmond, Niphetos, Bridesmaid, Mrs. Aaron Ward, Catherine Mermet, Sunrise, and others most often found in the market at this season, will need considerable care to produce their second crop to the best advantage. If the flowers have not been used for decorations, they should be cut back as soon as over, paying due regard to the retention of the most promising and best situated young growths, that are generally to be found pushing out below. To leave the whole of these growths often results in a mass of wood, much of which is so overcrowded that only a small number of bloom buds can form. Even these cannot do themselves full justice under such crowded conditions, and judicious thinning is rather more necessary here than in the open.

As the younger growth advances, not a little benefit arises from the judicious removal of some older leaves that may be past their prime; but I would not overdo this, simply cutting away what would probably have been sufficiently matured to fall off through weather influences had the plant been growing in the open. We want to encourage as much air and light as possible to aid these younger growths to develop their flowers, and, simple as this removal of old and worn-out leaves may appear, I have had reason to think it did good.

When our roses are in this stage it is also a great help if some form of top-dressing can be afforded. Both Clay's and Thomson's manures have proved good here, and, not being so forcing as some, are ready for assimilation at the very time when most needed by the prospective flowers.

The question of cleanliness should really not need mentioning, for surely we all have experienced the absolute necessity of this if a good crop of any quality is to be secured. I am merely reminding readers once more of the great efficacy found in a steady and persistent use of some well-tried wash at a safe strength. A headlong rush to annihilate the enemy is seldom satisfactory, nor can there be any need for extreme measures if we but commence early and safely. Personally I do not regard this frequent use of the syringe upon all suitable occasions as directed solely against insect enemies. For from it. Quite a lot of good is done by the mere cleansing of the foliage. The leaves become dusty under glass, with no natural rains or movements of the air to remove the dust and dirt, as in the open. We cannot fail to note the freshness imparted by a genial summer shower, and if we can imitate this as far as possible inside, with just a little of some solution that insects dislike, we have a fine preventive against them and such insidious diseases as mildew.

We cannot give too much care and consideration to the application of liquid manures to pot roses. What would have room to spread and percolate in the open ground will not always be a safe strength for pot roses where the whole must necessarily come into direct contact with the

roots. It is far safer to use the manure weak and often, than strong and at intervals.

The question of shade is important. Roses enjoy ample light, but a clear sun shining through clean glass is often very fierce and scorching. Much of this will depend upon the aspect of the house. If built north to south the bars will form a considerable break to the sun's burning influence at midday and thereabouts. But if the building is more or less the other way—running east to west—the mid-day sun has no check, and consequently some artificial shading is often necessary quite early in the summer. The lighter this can be, with efficiency, the better. Damping down among the plants, with a careful avoidance of wetting the foliage, helps against the temporary distress of a more than usually bright day, such as we often experience during late spring.

I would not try for a third crop of flowers under glass. It seems too exhausting, and seldom allows the plants sufficient time to recuperate for next season's forcing. By the time the second crop is realised, too, the weather will allow of the pot plants having a steady rest outside. The old idea of forcing ripeness by withholding the water supply, even to the point of shrivelling the wood, does not find much favour now. For one thing, we have a different character of growth to deal with than was the case with the old hybrid perpetuals, which generally ripened off during the later summer months even when not exhausted by being forced. On the contrary, the present-day hybrid teas continue to grow and flower just as long as frost will permit them. Standing the plants upon a firm base, half plunging the pots where possible, and keeping them rather dry, is certainly conducive to a better maturation of the more valuable lower eyes we should cut back to when pruning once more. A sunny and fairly open position assists the ripening more than the older method of putting the plants upon the north or shady side of walls and hedges.

ROSARIAN.

Humea elegans.—For supplying plants for flowering next year a sowing should made now. Sow the seeds in pans in a compost of loam, leaf-soil, and sand. The soil must be passed through a fine sieve, and the seeds be only lightly covered. Place a sheet of glass over the pan, and shade from bright sunshine until the seeds have germinated. Afterwards keep the seedlings growing steadily in a greenhouse temperature. Keep the old plants in a cool house, and shade them during the hottest part of the day.—E, HARRIS.

Raspberries.—Assuming that the old canes were cut out soon after they ceased bearing, and the young, sturdy growth carefully secured to the trellises, the only work necessary at the present time is shortening the tips to the required height, cleaning the beds, and mulching if necessary. Raspberries require plenty of feeding to keep them in a fruitful condition, and especially when growing on light, porous soil. New beds may now be made; the land should be well trenched, adding plenty of thoroughly decomposed manure as the work proceeds. Plant in lines 6ft. apart, and set the young canes about 9in. apart in the rows. See that the roots are not buried too deeply. Work plenty of fine soil among the fibres, and tread moderately firm. As soon as the fresh growth appears, cut the canes down to within a few inches of the ground-level, and encourage strong growth for the next season's crop. Raspberries intended to fruit in autumn should be cut down without delay; with this treatment very good crops are sometimes produced late in the season. Our most dependable variety here is Superlative.—H. MARKHAM, Wrotham Park Gardens.

ARENARIAS.

The Sandwort family consists of dwarf creeping plants, many of very weedy habit and small flowers. There are a few kinds, however, that are extremely useful and ornamental for ledges and pockets in the rock garden.

One of the prettiest members of the genus is the Majorca sandwort (A. balearica), a moss-like plant, which forms a dense green carpet, studded in summer with small white flowers, and forming a sheet of white. Although it is a native of the warm islands in the Mediterranean—Sardinia, Corsica, and the Balearic Islands—it is quite at home in this country, surviving our winters without any trouble. It will grow almost anywhere, but it is the most happily placed when climbing over moist, half-shady rocks, its trailing stems clinging to the stones. While it will thrive either in sun or shade, the latter must not be too dense, or it will fail to flower freely. A northern aspect, with full exposure to light, will suit it admirably. The vivid green carpet that it makes is very attractive clothing the faces of the rocks, and then, in the spring, the star-like flowers commence to appear, gradually becoming thicker as the season advances. This plant is also useful as a carpet for such small bulbs as the bulbous irises, scillas, narcissi, such as N. minimus and N. cyclamineus, and others that require, or look better with, such a groundwork.

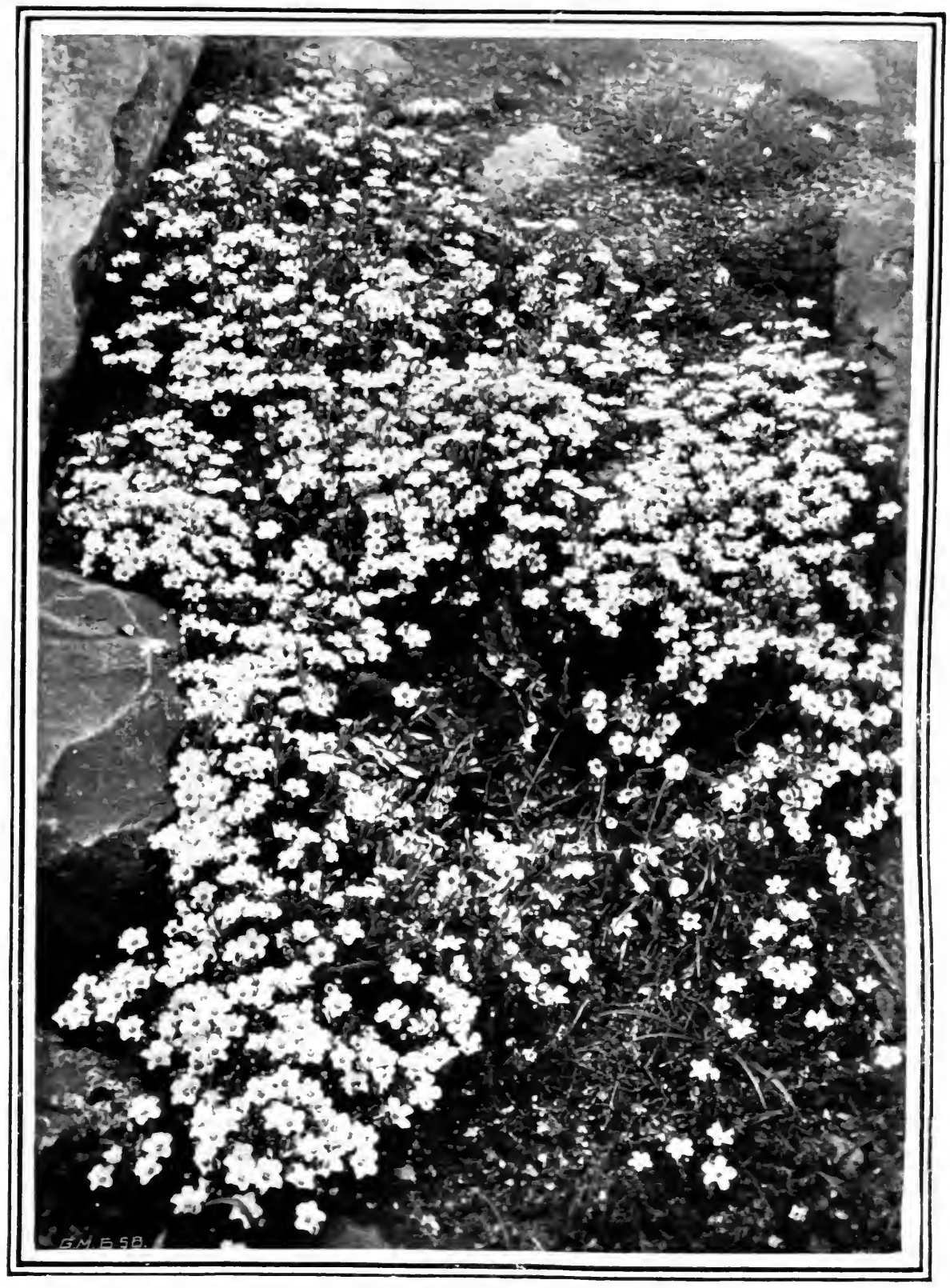
One of the best is A. montana, which is shown in the accompanying illustration. The mountain sandwort is unquestionably one of the most charming of the earlier-flowering kinds. It is a prostrate, spreading plant, equally at home as a carpeter on flat ground, or hanging over ledges in the rock garden. As a subject for wall gardening it cannot be surpassed, forming a draping carpet or curtain of large pure white flowers. It is an old garden favourite, having been in cultivation for over 300 years. Two forms of this are met with; one called grandiflorum, being of compact habit, and having rather more hairy leaves than the type, but the flowers are no larger.

A. purpurascens, a native of the Pyrenees, and, like most of the other kinds, of prostrate, spreading habit, is an interesting, if not showy, plant. The purplish-coloured flowers are freely produced throughout the summer, and it is a useful plant for the rock garden.

There are several other sandworts in cultivation, amongst these being the following: A. verna, which makes tufts of deep green foliage, covered with white flowers. A. v. cæspitosa is a valuable carpeting plant. One of the most distinct is A. tetraquetra, with the leaves set in four rows on the stems. It makes a compact tuft, but the flowers are of a dull white.

The cultivation of the various arenarias is very easy, as they are all readily propagated by means of cuttings in summer, or by seeds, which most of the species produce freely.

W. IRVING.



A FINE SPECIMEN OF THE MOUNTAIN SANDWORT (ARENARIA MONTANA).

TEN-WEEK AND OTHER STOCKS.

The garden stocks occupy a foremost position among the most select of our garden flowers. They have originated from a few wild kinds, of which Matthiola annua, M. incana, and M. sinuata are the most important, and from thes have been derived the Ten-week, Brompton, and Intermediate sections.

Ten-week Stocks.

The earliest type to flower in the open is the Ten-week, which is represented by dwarf, intermediate, and tall kinds, with numerous shades of colour, of which violet, mauve, lilac, blue, white, crimson, rose, pink, and pale yellow art the most distinct. The dwarf kinds rarely exceed a foot in height and are chiefly useful for low, flat beds of a formal character, or as edgings to taller plants, as their compact habit and uniform height give them rather a stiff effect, and places some restriction on their general use. Those of intermediate height have greater freedom, as the central spike is usually about 18 inches high, and with the lateral branches will cover an equal width when well grown. The Giant Perfection is the tallest of the Ten-week type. In this the central spike reaches a height of two feet, with numerous laterals of equally massive proportions. It is the best type for large beds, or for supplying cut flowers. In beds wholly set apart for a display of stocks the latter form should occupy the centre, and if the intermediate type is arranged in front, with the dwarf forms as a margin, an ideal arrangement, as regards height, will result.

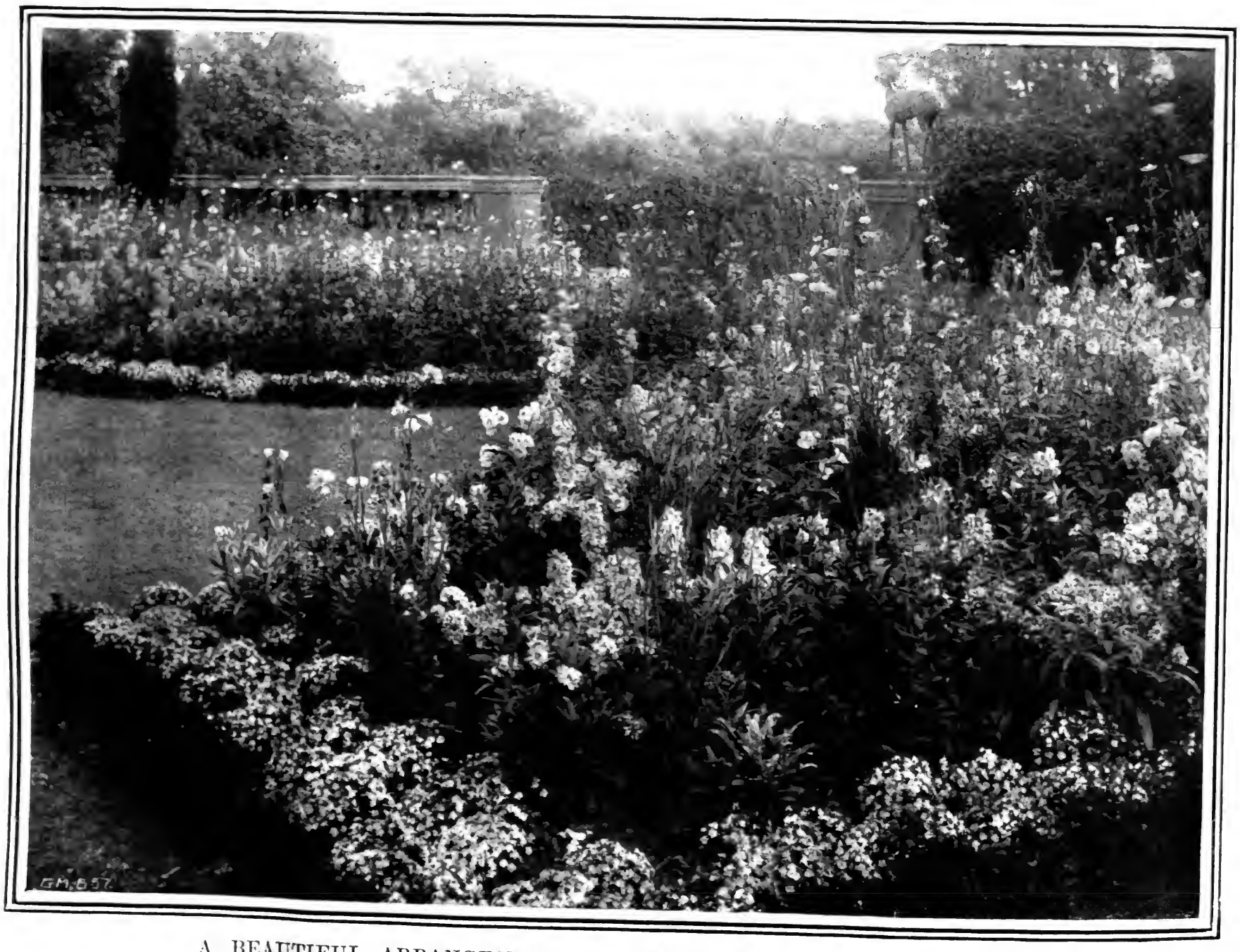
Ten-week stocks sown under glass in the first fortnight of March will furnish plants to flower in the open during June and July. The seeds germinate readily with sun heat, and as soon as the seedlings appear the pans or boxes should be given a position close to the glass, admitting abundance of air, so that hard-grown, stocky plants may result. When the seedlings are large enough to handle, they are best transplanted into boxes of rougher soil, and again into unheated frames, protected by lights, finally planting them in their permanent positions during May. Frequent transplanting induces a much-branched root system to develop, which is of great benefit when the final planting out takes place. A succession to the earlier batch is made by sowing again in unheated frames in April, and these seedlings, if transplanted once before being placed in their flowering positions, will bloom in the open during July and August.

Intermediate and East Lothian Stocks.

These are practically forms of one type, and require a longer growing season than the ten-week set, while their flowering season is correspondingly longer. They are characterised by being dwarf, bushy, and much hardier than ten-week varieties.

For earliest spring flowering in the open it is necessary to sow during July and August, transplanting the seedlings to frames or boxes, or potting them singly or in threes in small pots, and wintering them in a frost-proof structure, finally planting them where they are intended to bloom during March.

For a display from June onwards the seeds are sown in gentle warmth during the early part of February, and the plants grown in a light, airy, and moderately warm pit until the end of March, when they are transplanted to unheated frames. This type of stock succeeds best in the cooler parts of these islands, and is nowhere seen to better purpose than in the north, particularly in Scottish gardens, where it forms a special feature in the autumn displays.



A BEAUTIFUL ARRANGEMENT OF STOCKS AND OTHER ANNUALS.

Brompton Stocks.

Unlike the foregoing, all of which are of annual duration, the Brompton and Emperor stocks are biennial, and require to be sown in June or July of the previous year. Treatment as indicated for the intermediates is advisable, because, unless on well-drained soils, stocks are best protected during winter; not that they are very tender, but an excess of moisture in winter works more havoc among them than either frost or snow. Brompton and Emperor stocks form huge bushes, and are most effective in large beds or grouped along with herbaceous perennials in beds and borders.

In addition to the foregoing we have in the Beauty of Nice stock a type that combines the erect, vigorous habit of the Brompton with the elegance and floriferousness of the ten-week. They are idea-

stocks for cutting or pot culture. Seeds sown in July give plants to commence flowering at the New Year; an early September sowing flowers towards the end of March, while, if sown about the middle of February, the plants flower towards the end of June and onwards. This latter class includes a number of beautiful varieties, all characterised by handsome branched, pyramidal heads. The most distinct are Abundance, rose-crimson: Almond Blossom, delicate carmine: Beauty of Nice, flesh-pink; Crimson King, crimson: Empress Elizabeth, bright rose-carmine: Mont Blanc, white; Queen Alexandra, rose-lilac; and Summer Night, dark violet.

Several of the finest white-flowered stocks are known by distinctive names, three of the best being All the Year Round, a glossy green, wallflowered-leaved variety, with heads of purest white flowers, on 18-inch stems, that remain effective for some two months. Princess Alice has grey-green leaves and enormous spikes, that reach a height of two feet. Bismarck is a newer variety with grand spikes of enormous double white flowers. These white stocks are all specially good for furnishing cut flowers in quantity.

Culture.

Stocks attain their highest development in ground that is deeply trenched and liberally manured. After placing them in their flowering quarters, every attention should be given by affording copious supplies of water during dry periods, and, if augmented by an occasional watering with liquid manure, the results will more than compensate for the additional labour bestowed.

Thomas Smith.

Coombe Court Gardens.

CHOICE TREES AND SHRUBS IN WESTERN GARDENS.

The view in the Japanese garden at Watermouth Castle that we have the pleasure of illustrating herewith possesses much beauty, and is of considerable interest as an object-lesson of great practical value in the creation of distinct and pleasing effects in the garden. It admirably shows that in the formation of this feature of the grounds, which forms so delightful a setting to this fine Devonshire seat, the planter did not select from trees that properly belong to the woodland. It is not less evident that he also avoided shrubs whose chief merits consist in their robust habit and capacity for thriving under adverse conditions. We are, indeed, able to see at a glance that those only which attain dimensions suited to the positions they occupy, and are more or less ornamental, were utilised. Few of the many kinds that have a place in the Japanese garden can, for obvious reasons, be seen, but these few include the Japanese maples, pittosporums, dracænas, bamboos, and palms, all of which are well suited for gardens in the more favoured districts of the United Kingdom.

VIEW IN THE JAPANESE GARDEN, WATERMOUTH CASTLE.

The pittosporums are distinct in character and highly attractive, but there is considerable difficulty in growing them with a full measure of success, other than in the western counties of England and some parts of Ireland—Castlewellan, for example—where they are within the influence of the sea air. In the gardens of Devon, Cornwall, and other counties where they thrive without other than ordinary attention, such species as P. Mayi, P. undulatus, and P. ugenoides variegata attain a large size and form an attractive feature. Dracæna indivisa, which is represented at Watermouth Castle by finely developed specimens, requires genial climatic conditions, and the area over which it can be successfully grown is restricted. In gardens where it is known to thrive, this graceful dracæna should be planted, but it is a waste of effort to attempt to grow it where the conditions are not particularly favourable. The palm of which a leaf is seen peeping over the shrubs is Chamærops excelsa, and this handsome species is hardy enough to be grown over a wide area, provided sheltered positions are assigned the specimens in the less favoured districts.

The Japanese maples are remarkable for their elegance and the diversity of both the form and colour of their leaves, and, as they are hardy, they form a highly valuable group from which to select for garden planting. They are all of moderate growth, and are therefore suitable for gardens of quite moderate size, as well as for those which extend over a considerable area. The following forms of Acer palmatum are of quite exceptional merit, namely atropurpureum, dissectum, linearilobum, atropurpureum, palmatifidum, and sanguineum. Then in gardens that have the advantage of a kind climate might be planted more freely than has yet been the case such shrubs and small-growing trees remarkable for the beauty of their flowers as Eucryphia pinnatifolia, Fremontia californica, Carpenteria californica, Halesia tetraptera, or Snowdrop Tree; magnolias such as M. conspicua, M. Lennei, M. Soulangeana, M. stellata, and M. Watsoni, Styrax obassia, and S. japonica. Ceanothus azureus, C. dentatus, and C. thyrsiflorus may be mentioned as useful, free-flowering, and attractive.

RECENT ADVANCES IN HORTICULTURE.

(Continued from page 139.)

Horticultural Education.

Lastly, I come to what is, perhaps, after all, the most important aspect of the matter, viz., the education of the young gardener, for on the keeping up of the supply of capable, well-trained young men a great deal of the future success of horticulture will depend. I need not say very much about this, for last session we had a discussion on this important matter, introduced by Mr. Comfort, with a paper on the practical training of the gardener, and one by the secretary on their technical education. I will therefore merely refer here to what is being done by way of providing facilities for horticultural education.

As you are aware, the setting up of educational machinery for the teaching of horticulture is of comparatively recent date. For generations agriculture has been taught in our universities and colleges, and even forestry, under the name of arboriculture, had a place in these courses; but horticulture had no such position. Nevertheless, horticulture, so far as the practice of it went at any rate, has always taken the lead, and even agriculture has been indebted to it for much light and leading. Forestry has now been separated from agriculture in our teaching institutions, and recently horticulture has also received due recognition in this way. In Edinburgh we have, perhaps, the best equipped college—the Edinburgh and East of Scotland College of Agriculture—in the country for the teaching of the subject, and quite recently a demonstration garden, with an efficient staff, under the direction of Mr. Berry, has been added to its equipment. It is right, I think, that Edinburgh should take the lead in this, for it has long been associated with horticulture, and in no other city or town of Scotland has gardening and nursery work been so extensively pursued as they have been in its vicinity. But all over the United Kingdom horticulture is being taught, if not in colleges, then in schools; in fact, school-gardening is becoming universal all over the country. One excellent feature of the teaching of the practice of horticulture in the colleges in this country is that it is to a large extent in the hands of practical men, and in this respect it is a long way ahead of forestry, which, in Scotland at any rate, is almost entirely in the hands of men who know nothing, or next to nothing, about the practice. So far as horticulture is concerned, this is as it should be, for no practical subject, such as horticulture is, can be efficiently taught unless the teacher himself has gone through the mill, and knows all the details of it.

Individual Application.

But there would be little use for technical training, little use, in fact, in trying to improve the education of the gardener in any way, unless he can effectively utilise the knowledge which has been imparted to him. Unless he can use his reasoning powers and his powers of observation, as the old gardeners did, his technical education will avail him nothing. Gardeners' wages, compared with the remuneration given in many other callings, demanding not more intelligence, and certainly not more skill, are low. This is a matter which we hope will soon right itself, but it is quite obvious, if the position of the gardener is to be improved, that he must not rest on his oars and allow everything to be done for him. He must do something for himself. He must not rely on being spoon-fed in his education. It was not thus that the old gardeners won their way to the front rank in their calling, and it is not thus that the young gardeners will succeed. I have said that a great deal of the future success of horticulture will depend on the keeping up of the supply of capable, well-trained young gardeners. It therefore behoves them to embrace every opportunity to improve themselves if there is to be an advance all along the line in the future as there has been in the past.

Conclusion.

I have laid before you some of the main facts regarding the progress of horticulture in recent years. What of the future? Is this progress to be maintained? I have no fear for the future. I believe that, great as the progress in the past has been, the progress in the future will even be greater, for with all the advantages we now enjoy in the way of improved methods, with all the accumulated knowledge acquired from practical men who have gone before us, and with the scientific knowledge which is being imparted to us by our teachers of the present day, it cannot be otherwise. Horticulture, I believe, has a great future in store for it, and in its development I believe that this association is destined to take a leading part.

GARDEN DAHLIAS.

(Continued from page 130.)

We have several more sections that suit our purpose, and will next take the "Pompon."

This, admittedly, is quite another style of bloom to any of the former, but nevertheless quite suitable for the garden, providing they are grown naturally. It is a wide step between the pæony-flowered and these, but their very dissimilarity makes them a happy change. In growing the various types one may be tempted to use them as an edging to taller growers, but that is not advisable. These perfectly-formed and charming little flowers have a character all their own, and as such should be given beds to themselves.

Where tub gardening is practised they are ideal. If so used, strict attention must be paid to staking, and still more to watering. The dwarfer growers should be selected for this purpose. A good dozen are Bacchus, Bonella, Evelyn, Tommy Keith, Little Beeswing, Pink Beauty, Blush Gem, Ideal, Darkest of All, Daisy, White Aster, and Nerissa, and, just mentioning that the first four are the best for tubs, we pass on to the "Singles."

These are beautiful old favourites, and the newer giant forms look very attractive when arranged for exhibition. The singles, in addition to being an undoubted asset to the dahlia garden, are probably the best of all for associating with other plants, such as in the herbaceous borders.

I do not think, however, that they will increase in favour (as the collarettes have supplanted them for the garden) unless the new giant forms alluded to above, and of whose habit I am unfamiliar, should reinstate them. A few we liked last year were Snowdrop, Crimson Prince, Mrs. W. Wood, Nimrod, Mrs. W. W. Merry, Peggy, Princess of Wales, Serita, and Little Othello. The latter, with its very dark foliage and scarlet flowers, makes an uncommon and effective bedding plant.

Our next section is the new "Star," which are not, I believe, very well known. We had the nine varieties last year, which so far as I know are all that exist. The flowers are single with curled florets, and all have a white or cream ground, with picotee-like edging of different colours. They are exceedingly pretty and of good habit. These should make a useful addition to the singles for beds or mixed borders. They are appropriately named, each representing a star—Aries, Atus, Orion, Jupiter, Mercury, Neptune, Polaris, Saturn, and Venus. The favourite with us appeared to be Jupiter.

Now, in conclusion, I should like to refer to a sweetly pretty section known as the "Dwarf Bedding Cactus."

These we procured from Messrs. Dobbie, and are, I believe, of Continental origin.

A more delightful subject for bedding it would be impossible to imagine, and I anticipate that when better known they will become immensely popular. In habit the plants are dwarf and bushy, growing about twenty inches high and for the most part flowers of extreme delicacy of colouring. The varieties are Amanda, Citronenvogel, Goldperle, Edelweiss, Faunkonig, Gluchant, John Mortenson, Perkeo, Quelle, and Zwergsonne, with a new introduction named Marianne.

Though not strictly of this type, a favourable word must also be given for Barlow's Bedder, a scarlet variety of much merit. And here a passing reference to the dwarf show bedders, noting the variety Rising Sun, as being especially good, concludes my list.

From this list it must be admitted we have ample choice for all tastes and gardens. For large gardens, where a bold display is necessary, the pæony-flowered take pride of place, followed by the decoratives and collarettes, the others being used discriminately. For small gardens it may be necessary to omit the giant decoratives and taller pæonies.

If I may give my ideas as to what would increase the popularity of garden dahlias, I would say grow them early, so that they reach the flowering stage before autumn. If the same attention which is ungrudgingly given to many summer bedding plants were bestowed on the dahlia, I feel sure they would soon be much more largely grown. I overheard some ladies remark at the R.H.S. Hall the last week in August that it was sad to see so many dahlias, naturally inferring that we were reaching the end of the season. That seemed to sum up the situation. They are looked upon as typically autumn flowers, and often late autumn at that. It is quite possible to have a good sprinkling of bloom early in July, but not if they are planted out of 3in. pots the first week in June. To me it is sad to see them commencing to bloom at the end of September, with the possibility of their being cut down any night by frost.

We endeavour to have our cutting plants well established in 5in. pots up to 9in. according to size, by planting time. They are then ready to grow right away without a check. Amateurs with little convenience should make efforts to pot their plants on after receiving them from nursery. I should also like to mention that I do not agree with digging in a lot of manure. Our ground had a mere scattering of colliery manure last year, and none in 1911, but during that memorable year of sunshine we gave repeated mulchings of grass from the mowing machines. I trust that many, who like myself look forward to a good dahlia season will not be disappointed.

Potatoes.—For affording an early supply sets of a quick maturing variety may now be planted on a warm border, the soil of which was dug or bastard trenched two months or longer ago; it is advisable to prick over the surface with a fork to provide a fine tilth. In planting the border deep drills should be drawn or chopped out at 2ft. apart, the sets being dropped at a distance of 1ft. apart and five or six inches below the ground level; fill in the soil so that a slight ridge be left to mark the row. Medium-sized sets, which have been sprouted under cool conditions, are the most suitable. The following varieties are excellent earlies to select from: May Queen, Ringleader, Sharpe's Victor, Sharpe's Express, and a good type of the old Ashleaf.—W. Messenger.

Late planted Standard Fruit Trees.—These will need to be shortened more or less, according to the length and strength of the growth and quantity of the roots. Cut the shoots just above an eye pointing in the direction the following season's growth is required, and spur the inner shoots to within two eyes of the base. If the weather should prove dry, mulch well over and about the roots, and see that ample moisture is applied until the fresh roots have taken to the new soil. Any trees yet to be planted should be thoroughly immersed in water for some hours before planting, otherwise failures may occur. Stake and make all trees secure against movement by wind, taking care to allow for the bark swelling when tying the stems to the supports.—H. Markham.

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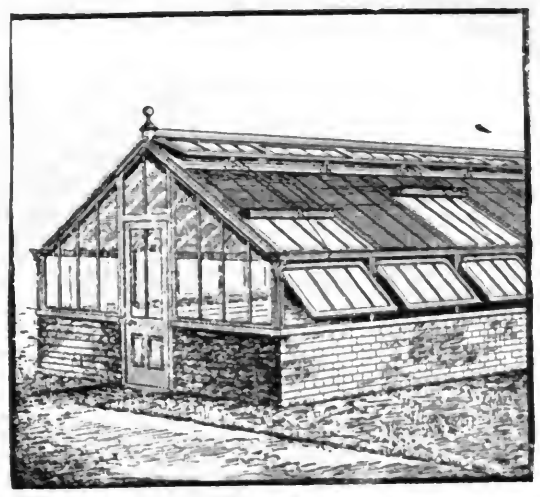

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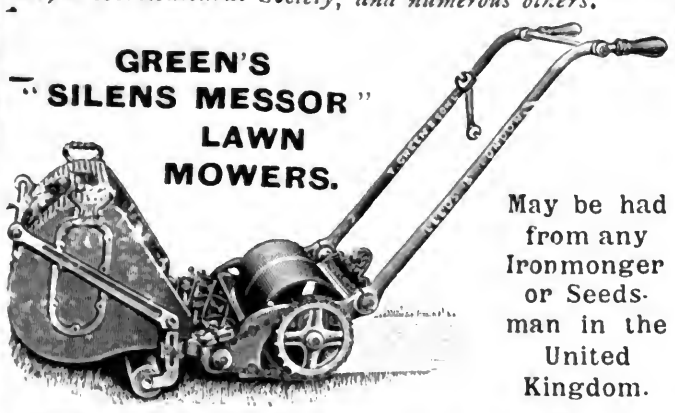

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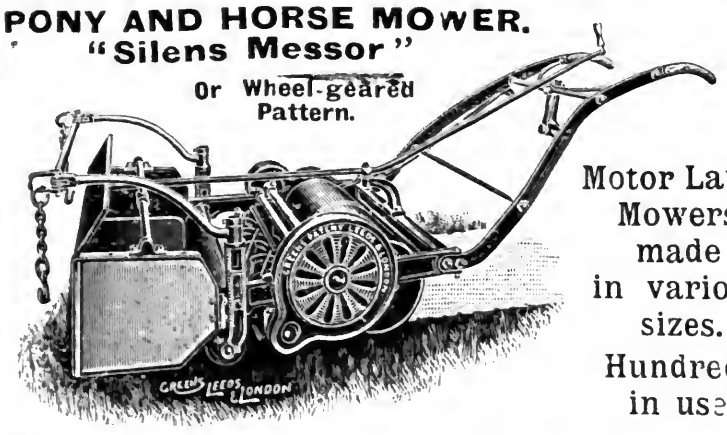

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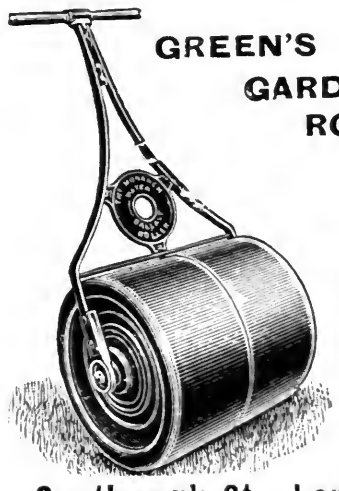

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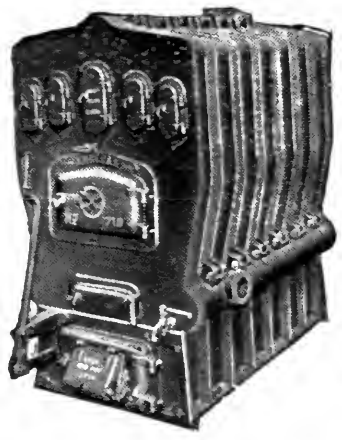

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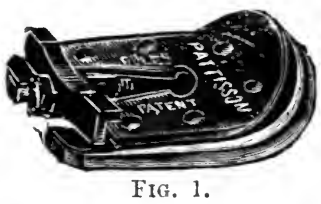

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GUANO

TREES AND SHRUBS FOR WINTER EFFECT.

During the dark winter days, when but few flowers except Christmas roses and the Algerian Iris stylosa are obtainable in the open air, any subjects that impart colour to the landscape are valuable. Of these no more effective examples can be cited than the red dogwood and the golden and cardinal willows, the bright tints of whose leafless branches afford exquisite colour harmonies. What good use can be made of these willows is exemplified at the Royal Gardens, Kew, where they are glowing on the island in the lake, and create a charming winter effect.

Jasminum nudiflorum, though, being a climber, it is ineligible for inclusion among trees and shrubs, can scarcely be passed over, since its wealth of golden blossom is produced in the depth of winter, and is particularly valuable for effect. The Winter Sweet (Chimonanthus fragrans) and Nuttallia cerasiformis, with small pendant flower clusters, winter and early spring bloomers, are not, although naturally desirable, especially effective, and this may also be said of the typical Mezereon, though the white-flowered variety is a more conspicuous object. The Witch hazel (Hamamelis) is an attractive winter-flowering small tree or shrub, its blooms, with their waving primrose-yellow petals and claret-coloured centre, on the leafless branches, being quaintly pretty, while early in February, before the first of the ordinary almonds, Cornus Mas produces its yellow, thin-rayed flowers, the effect at a little distance of a tree in full blossom being distinctly ornamental.

Wyndham Fitzherbert.

THE PLANTING OF TREES.

The question is raised in your issue of March 8 whether "careless" or rough planting, with the trees rammed into the soil, would be as beneficial in the case of forest trees as it has been found to be with fruit trees. If the explanation given of the results in the latter case is correct, it certainly should be so, and the following experiment, the details of which have not yet been published, bear this out.

In the early part of 1909 a plantation consisting of about 400 Scots firs, 700 larch, 200 spruce, 100 oak, and 100 elm was made at Milton Bryant, in Bedfordshire, half of the trees being planted in the most approved manner by the Duke of Bedford's forester, and the other half by ourselves in the rough manner indicated. The ground was divided into five alternating sections, two being planted by one of the parties, and three by the other. The choice of ground was given to the forester, as also was the selection of trees, after these had been divided into two equal groups. He was also given the advantage of settling the days when he considered that planting could be done, though, owing to labour arrangements, we could not always avail ourselves of good weather. Half of our trees were planted when there was water and snow standing in the holes, and when ordinary planting would have been out of the question.

The ground was exceptionally heavy, and the growth made by the trees was not good, but the rammed trees showed an excess of growth over the unrammed ones in the two seasons during which measurements were made, though not so great as the average found in our many experiments with fruit trees; it amounted to 4 per cent. in 1909, and 12 per cent. in 1910. The beneficial effect of the ramming, however, became more conspicuous when the mortality amongst the trees was recorded, this being, in 1909, 7.6 per cent., against 12.4 per cent in the forester's plots; and, in 1909 and 1910 together, 12.4 per cent., against 24.4 per cent. The treatment of the trees and ground after the planting was the same in both cases, and this was left entirely in the hands of the forester.

Of course, when discussing "careless" planting, it must be remembered that some forms of carelessness may produce very bad results, and injury to the roots, if carried beyond a certain point, will do so likewise. This has been dealt with fully in our reports.

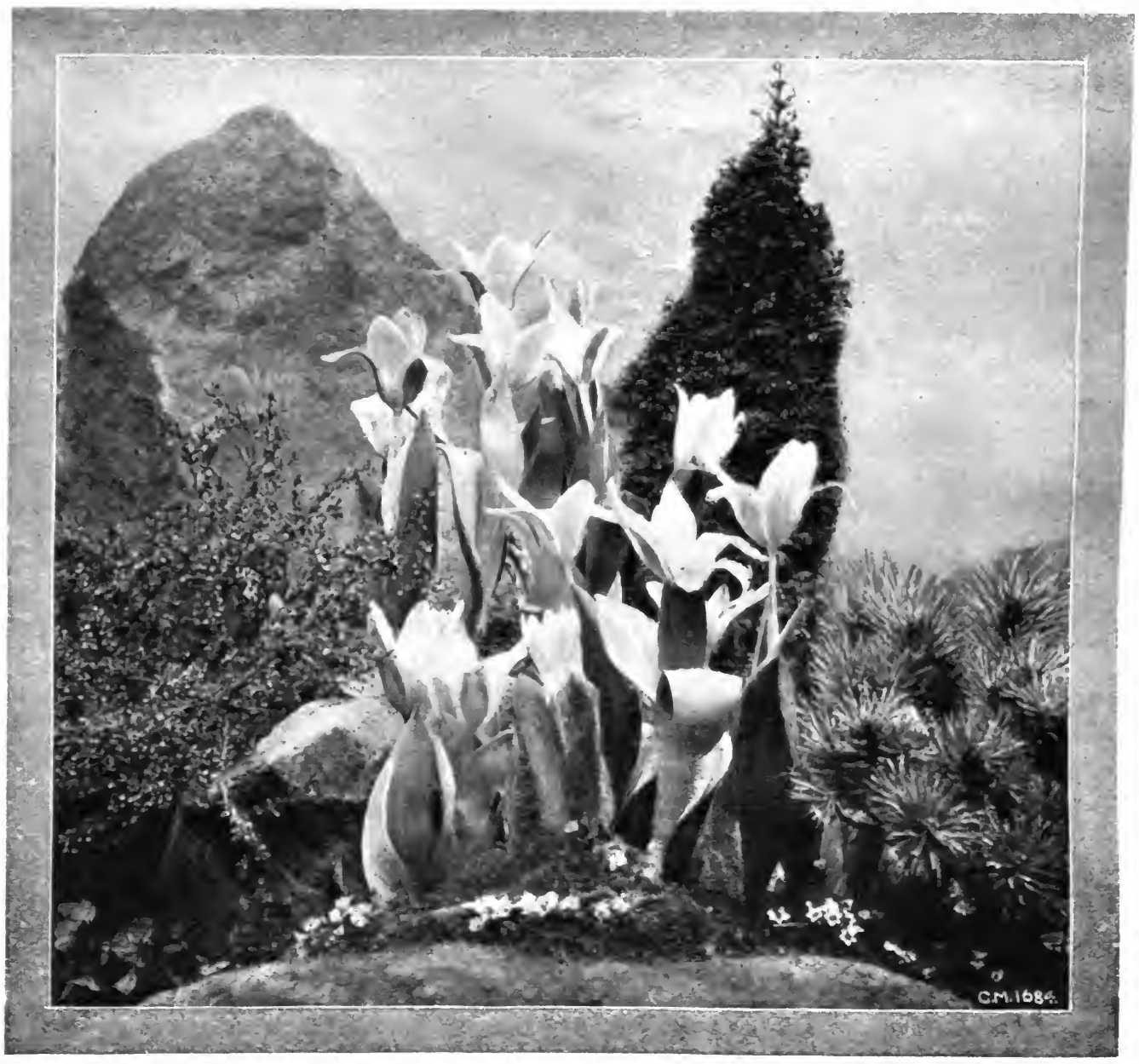
Spencer Pickering.

KAUFMANN'S TULIPS.

For some years subsequent to its introduction to European gardens Tulipa Kaufmanniana failed to produce much impression upon cultivators of hardy, bulbous and other plants, and, as a consequence thereof, a comparatively long period elapsed before it was generally distributed. This is not altogether surprising when we consider that for some years a dependence had to be placed upon imported bulbs, which were somewhat expensive, and not always quite satisfactory. Moreover, the species had, when growing in the garden, to compete with early varieties that were more showy in colouring, and obtaining at a small cost. Now that the bulbs are plentiful and inexpensive, and the distinctive characteristics of the species fully understood, it has obtained much favour from cultivators, and is annually planted in large numbers, more especially in warm, sheltered positions in the rock garden.

For several years past it has been freely staged by exhibitors at the early spring meetings of the Royal Horticultural Society, and, arranged in small groups, in association with other hardy plants that produce their flowers at the same season, they present an attractive appearance, and invariably receive a full share of attention. Messrs. Wallace and Co., of Colchester, invariably show this tulip with much success on the rockeries they arrange at the Horticultural Hall, and at the first of the meetings held this month the groups of tulips contributed materially to the interest and attractions of their rockery. Their arrangements, although always good, have evinced considerable diversity, and one of the greatest successes of the firm in presenting Tulipa Kaufmanniana to public notice on a small rockery is probably that illustrated herewith. It need hardly be said that the small coniferous trees which served the purposes of a background were of very small proportions.

Tulipa Kaufmanniana is a native of Central Asia, from whence it was introduced to cultivation in 1877, and it has improved materially under cultivation. The flowers are rather large in size, and elegant in aspect, and the broad reflexing petals are cream-white, marked and suffused with bright red on the reverse, and having a yellow base on the inner side. There are several distinct varieties, the most notable being aurea, a superb form, with deep yellow flowers; and miniata, an effective variety, with large red flowers. Both the species and its varieties are quite hardy, but as they bloom at an early period of the spring it is a decided advantage to plant them in rather sheltered positions, and thus avoid the risk of the flowers being injured by keen easterly winds.



A PRETTY EXHIBIT OF TULIPA KAUFMANNIANA,
Arranged at the Horticultural Hall by Messrs. Wallace and Co., Colchester.

Erica candidissima. — Of the greenhouse heaths that flower during the spring months, this is one of the best. It forms rather a bold, upright-growing bush, which bears a profusion of tubular-shaped blossoms of the purest white for some distance along the shoots. The foliage is rich dark green, and serves admirably as a setting to the pretty flowers.—S. W.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

THE COOL HOUSE.—The odontoglossums are now making a good display in the cool house, and one cannot help noticing the great difference the hybrids have made in adding colour to this division. Up to about 5 or 6 years ago we depended almost entirely on imported species and natural hybrids for colour effect, and white flowers were always predominant. The many beautiful coloured hybrid odontoglossums, and the odontiodas have altered these conditions, and it is really surprising how rapidly this change can be brought about where the process of hybridisation is practised, even in private gardens. The costly kinds of a few years ago are now procurable for modest outlays, and, unless there are some special characteristics, the hybrids and coloured forms are as cheaply procured as the imported plants. I am enlarging on this point to some extent, because until the reasonable price of odontoglossums is fully realised there will be the unnecessary delay in their more general cultivation. It will be pretty generally realised in private gardens that, for all cut flower purposes, it is impossible at this season of the year to have anything more serviceable than good spikes of odontoglossums. The durability of the flowers and their decorative characteristics render them most useful at this season. Now that the plants are better understood, and greater satisfaction is obtained from their more successful cultivation, they are becoming more generally cultivated. There can be no doubt but that the cool treatment afforded during the winter months, when the bulk of the plants were in their more active growth, was the chief cause of failure in past times. A temperature of 50 degrees during winter has proved to be the more desirable treatment. There is one thing that should be at all times guarded against at the flowering season, and that is, leaving the spikes for too long a time on the plants after the flowers have expanded. Consideration is necessary, and the spikes should be removed before the plants show signs of distress by the shrivelling of the pseudo-bulbs.

POTTING.—At this season some of the plants may require potting as they pass out of flower, and others may have new growths and new roots. We have found that some of the plants call for attention at all seasons, and, with ordinary care, providing the new roots are ready to push into the new compost, very little trouble is found. The surroundings should be kept as moist as possible, and shade from strong light must be given until the plants have become re-established. The compost we find most suitable is equal portions of fibrous peat, finely chopped sphagnum moss, and broken oak or beech leaves, with sufficient sand and broken crocks added to render the compost porous.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

GHENT AZALEAS.—As these pass out of bloom the dead flowers must be picked off and the plants placed in a warm, moist atmosphere to finish their growth. Put other plants into the forcing house to keep up the supply of flowers; they will bloom in about three weeks from the time of placing them into heat.

INDIAN AZALEAS.—These must also be encouraged to make strong, healthy growth after flowering, and any repotting necessary may be done when they have passed out of flower. A compost of peat, fibrous loam, leaf-soil, and coarse sand will suit them. Azalea indica is very subject to red-spider and thrip, and to make sure they are clean they should be laid on their sides and thoroughly syringed with an insecticide, after flowering. Other shrubs which need attention at the same stage are lilacs, viburnums, laburnums, deutzias, etc. These must be given the protection of a cool house until they are plunged out of doors in May. Lilacs may be pruned hard back, and planted out in prepared ground. They will be ready for forcing again in two years.

FORCED BULBS.—When tulips and narcissi have flowered they should be placed closely together in cold frames. In the autumn they may be planted out in suitable places in the pleasure grounds.

IMANTOPHYLLUMS.—When well grown these are most useful subjects for the conservatory during the spring and early summer months. They are now throwing up their flower spikes, and will need plenty of water, which must be supplemented occasionally with stimulants. Liquid manure, soot water, and some approved fertiliser may be used alternately. When they have flowered any repotting necessary must be attended to. If well cared for in the matter of watering and feeding at the proper time, the plants will not need repotting for several years. They may be readily increased by division directly they have flowered. Provide a rich compost, and pot firmly. Place them in a warm house for a few weeks after flowering to encourage fresh growth.

WATERING AND SHADING.—The watering of plants under glass will require more frequent attention now that the days are longer and the sun's rays more powerful. Nevertheless, it will still be necessary to exercise judgment when applying water, and especially to plants flowering in the greenhouse or conservatory. The blinds will have been adjusted to houses containing flowering plants several weeks ago, and it will be necessary now to fix the blinds to all houses containing tender plants.—E. Harriss, Lockinge Gardens.

HARDY FRUITS.

PEACH AND NECTARINE TREES.—It is important to complete any further pruning and training that remains to be done, as the buds are now fast moving, and may yet be damaged when carrying out the work. Allow ample room for the full development of the coming season's growth. Keep the main branch straight from the tree stem at different angles to form an even-balanced head, and the young shoots straight from the base, so that when finished the whole of the wall space is covered with suitable fruiting wood, but do not be in too great a hurry to disbud when the new growth commences. If the trees are large, and have produced annually heavy crops of fruit, and extra nourishment is desirable to keep the trees in vigour, top-dress with good loam and bonemeal, first removing a portion of the top soil; on light well-drained land a good mulching with rich farmyard manure may be applied much earlier in the season than when the soil is of a heavy and retentive nature. Put late-planted young trees in order; first tread the soil over and about the roots, and prune and train to form a shapely head; do not train a shoot up the centre if a good fan-shape tree is required, and watch and regulate very carefully any shoot much stronger than the rest. In some cases it is the best to cut away entirely a strong growth which may (if left) completely spoil the whole of the future tree. Attend now to protecting materials should the weather prove severe.

FIGS.—Trees in bearing will need some amount of pruning annually, and those trained on walls should have their branches rather thinly trained, and be given ample room for extension. Aim as far as possible to secure plenty of short, sturdy fruitful wood, and, should the growths become too coarse, cut back some of the roots. Figs thrive best when the roots are somewhat restricted, and the soil firm, with plenty of old mortar added. In the more favourable parts, and where the soil is of a chalky nature, figs may be grown either as standards or in the form of bushes with success, and the most dependable variety in the open is Brown Turkey.

STRAWBERRIES.—The land intended to be cropped with plants that have been forced should be made ready, so as to allow for the soil to settle, as strawberries require a firm grip. Trench and manure heavily if the land is poor and gravelly, and give less manure if the soil is in good heart. Keep the permanent beds free from weeds, and mulch if desirable.

GRAFTING.—Whenever the sap is on the move, and the bark parts freely, grafting may be done. Pear trees on walls, horizontally trained, will need to have the branches cut back to within six inches of the stems, and the grafts inserted on the upper side, and should any of the grafts fail train a young shoot where desired, and bud when the right time arrives.—H. Markham, Wrotham Park Gardens.

THE KITCHEN GARDEN.

PEAS.—Seed may now be sown on open quarters, and by selecting varieties which will form a succession several rows may be sown at one operation. The practice of sowing in well-prepared trenches is to be strongly recommended, and the enhanced return amply compensates for the extra initial time and labour spent. The seeds should be sown thinly, and sufficient space between the rows be allowed for due admission of light and air; overcrowding tends to spindly growth and inferior crops. Plants from the autumn sowing will be sufficiently advanced for sticking, and protection may be necessary from the ravages of birds.

SPINACH.—Sow on a warm border to follow the winter crop. The soil should be in good condition, and well pulverised. Before sowing afford a dressing of soot and wood ashes, which should be well raked in. Sow in drills a foot apart. Thin out the young plants as soon as they can safely be handled. Further sowings may be made on open quarters any time during April and onwards, according to requirements.

TOMATOES FOR OUTDOORS.—To have good, sturdy plants for putting out in the open by the end of May a sowing should be made forthwith. Sow the seeds thinly in pans or boxes, in light sandy soil; cover with fine soil, and place in a temperature of 60 deg.; providing the soil is moist, no water need be applied until the seedlings appear. Cover the seed boxes with a brown paper, removing this as soon as the young seedlings come through the the soil. When two rough leaves are developed, put the seedlings singly into 4in. pots, using a mixture of three parts loam, one part leaf-soil, one part spent mushroom bed manure, and a little wood ashes and mortar rubble or sand.

REMARKS.—The time will soon be at hand for the outdoor sowing of various kinds of vegetable seeds, and the preparation of the surface soil should be carried out a few days previous to sowing time. Soils which readily provide a good seed bed should have a dressing of soot and wood ashes well raked in. In dealing with those of a heavy, retentive character, it will be necessary to have in readiness a good supply of finely-sifted soil for covering the seeds. It is a good plan to roll the seeds in slightly moistened red lead, as this acts as a deterrent to the attack of mice and birds, and also enables the sower to note the quantity of the seeds sown. A slight dressing of nitrate of soda or sulphate of ammonia will materially assist quick growth in young cabbages, but care must be taken to avoid touching the plants with this manure.—W. Messenger, Woolverstone Park Gardens.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

From one end to the other the Royal Horticultural Hall was packed with exhibits on March 18, and even the annexes were well filled. The attendance was good, but scarcely so large as on recent occasions. Daffodils figured largely, and orchids were brilliant. Hardy flowers and forced flowering shrubs bulked largely, and were very showy, and there were numerous rock gardens. Carnations and tulips were also very much in evidence. One daffodil, five orchids, and two hardy plants gained awards; probably the most interesting plant was Primula Purdomi, a quite new species from China, and supposed to be hardy. It has rosy lilac flowers, and mealy stems and leaves, and it was shown by Messrs. J. Veitch and Sons, and gained a F.C.C.

FLORAL COMMITTEE.

A glorious group of flowering shrubs from Messrs. J. Veitch and Sons attracted general attention because of its mass of gorgeous bloom. Pink Pearl and White Pearl rhododendrons filled up the centre, and round these were grouped golden laburnums, white viburnums, mauve wistarias, orange and yellow Mollis azaleas, deutzias, lilacs, pyruses, amygdalus, and forsythias. Unusually brilliant were the handsome trusses of rhododendrons which Messrs. Gill and Sons, Falmouth, staged with a colony of Primula Winteri, and a few flowering plants of the rare Myosotidium nobile. Among the rhododendrons the outstanding varieties were R. corrubia, R. ciliatum, R. barbatum, R. Harrisi, and R. arboreum.

Tree peonies were well exhibited by Mr. Amos Perry, Enfield, with a background of Japanese maples; Archiduc Ludovic, pink; Elizabeth, salmon; and Louis Monchelet, lilac, were three first-rate varieties staged. Forced pyruses and cherries were grouped in the orchid annexe by Messrs. J. Piper and Sons, Bayswater and Barnes, with bamboos and maples.

Messrs. Wills and Seegar, Onslow Crescent, South Kensington, who seldom exhibit, had a brilliant group of Mollis azaleas, blue hydrangeas, pyramidal and dwarf standard Indian azaleas, a sheaf of pink, buff, and red gerberas, and some grand examples of Phœnix Roebelini. From Messrs. W. Cutbush and Son, Highgate, came a fine bank of forced shrubs, which were arranged in masses.

Messrs. Wm. Paul and Son, Waltham Cross, were represented by roses in pots, grouped with small plants of Choisya ternata in bloom. Juliet was the rose most extensively shown, and its freedom was amply demonstrated. Mrs. Chas. Hunter, a deep reddish rose H.T. variety, was also well shown, and its shapely buds were much admired. Early roses from Mr. G. Prince, Longworth, made a pretty display.

The group from Messrs. H. B. May and Sons, Upper Edmonton, contained a large variety of clematises arranged in panels, which were broken up with nephrolepis and other ferns, and presented a highly attractive appearance. Messrs. H. Cannell and Sons, Swanley, had a bright display of zonal pelargoniums, chiefly single varieties, arranged in pans. A few of the most conspicuous were Uranus, Eldebert Hawes, Lady Warwick, St. Louis, Sir R. Ball, Countess of Jersey, and Dublin.

Acacias, notably A. armata, A. Drummondi, and A. armata pendula, were conspicuous in the group of greenhouse plants set up by Messrs. Stuart Low and Co., Enfield. Boronia megastigma added fragrance, and a good set of carnations with Baroness de Brienen and British Triumph as the great features. Cactus-flowered cinerarias from Messrs. Jarman and Co., Chard, showed a considerable range of colour, and the attention paid them gave evidence of the popularity of this strain.

Mr. A. F. Dutton, Iver, Bucks, had a nice display of baskets and vases of his new carnation Mrs. A. F. Dutton, which was in fine form and colour; while Mr. C. Engelmann, Saffron Walden, staged good examples of Carola, White Wonder, Sunstar, Triumph, and Lady Northcliffe carnations arranged in tall stands; also vases of Rex, Fanny, Benora, and Elektra. Messrs. W. Wells and Co., Merstham, were represented by a small exhibit of carnations. The best forms were Northport, R. F. Felton, Salmon Enchantress, and Benora.

Messrs. Young and Co., Cheltenham, had some good carnations, which were very fine in colour. The most conspicuous varieties were Empire Day, Lady Neild, Mikado, Hon. J. Boscawen, Duchess of Devonshire, and Wivelsfield Wonder. Messrs. W. Cutbush and Son, Highgate, staged a bright group of carnations, in which the red variety, Mrs. Mackinnon, was particularly attractive.

Carnations from Mr. H. Burnett, Guernsey, were very fine, and Baroness de Brienen, Marmion, Mrs. C. F. Raphael, Lady Northcliffe, and Mrs. Tatton were varieties of great excellence and beauty. A gay group of perpetual carnations from Messrs. Allwood Brothers, Haywards Heath, contained large vases of fine flowers of Mary Allwood, Marmion, Triumph, Scarlet Glow, Wivelsfield White, Rosette, and Mrs. C. W. Ward.

Mr. R. d'E Day, Sutton Scotney, Hants, gave a fine display of Spanish irises, staging about twenty feet run in large vases. They were remarkably well developed for the early period. The varieties were Raphael, Louise, Flora, Belle Chinoise, Monche d'Or, and Bronze King. Messrs. Thompson and Charman, Bushey, Herts, also contributed a pleasing exhibit arranged with stone. A pleasing patch of Daphne cneorum major was attractive, as were also the groups of primulas, ericas, and Corydalis Halleri.

In the annexe Messrs. J. Cheal and Sons, Lim., also had a nice exhibit of hardy plants arranged in a natural style. Various conifers were employed on the mounds raised, as did also acers, rhododendrons, and genistas; while in the nooks were primulas in variety, aubrietias, Lithospermum prostratum, and hepaticas. The ericas employed here were very good. Mr. G. Reuthe, Hardy Plant Farm, Keston, Kent, sent a fine display of hardy flowers and shrubs. Rhododendrons figured largely both as cut flowers and plants. Saxifragas were to be seen in large variety, as were also hepaticas, narcissi, Anemone pulsatella, and some camellias.

A remarkably bright exhibit of hardy flowers came from Mr. M. Pritchard, Christchurch, which were arranged in masses. Primula Sieboldi was represented by several varieties, while the aubrietias included such varieties as Mrs. Lloyd Edwards, Lilac Queen, Hendersoni, and deltoides grandiflora. Primulas capitata, frondosa, and viscosa were excellent, while the saxifragas were nicely flowered and tastefully grouped.

Messrs. R. Tucker and Son, 16, George Street, Oxford, contributed a display of these plants. Primulas were exhiited in good form, as was also Soldanella montana. The saxifragas, too, were interesting. From Mr. G. W. Miller, Clarkson Nurseries, Wisbech, came quite a spring display, which included polyanthuses and primroses, giant daisies, hepaticas, and narcissi. The polyanthuses were remarkably fine, and especially as they had not been sheltered.

The Wargrave Plant Farm, Lim., Twyford, Berks, also exhibited a double rock garden, or, in other works, a display that occupied a double table. The best features were Ranunculus creticus, pale yellow; Draba azoides, Primula Winteri, P. megasæfolia, Myosotis Ruth Fischer, Mazus rugosus, and Megasea Strachyi. The dwarf conifers employed were tastefully arranged. A distinct style was adopted by Mr. H. Hemsley, Crawley; he relied rather more on his plants than on his exhibit of sandstone. Some of the most prominent features were Lithospermum purpereo cœruleum, Viola gracilis, Gentiana acaulis, Hepaticas in variety, some fine examples of saxifragas grown naturally, with an appropriate background of berberis in variety, pinus, and dwarf-growing conifers.

Mr. Clarence Elliott, Six Hills Nursery, Stevenage, again presented a bold display, which did not contain examples of everything in the nursery, but a natural display which was much admired. Saxifragas apiculata, S. Boydi, S. oppositifolia, and S. o. splendens were all well represented, as were also Anemone Pulsatilla, Morisia hypogæa, Viola gracilis, and aubrietias. From Messrs. G. Bunyard and Co., Lim., Maidstone, came a naturally-built rock garden, which occupied a broad space, and was not overcrowded. Some of the most attractive plants were the fritillarias, saxifragas in variety, anemones, aubrietias, and primulas. The hardy ericas and Andromeda floribunda were effectively used.

Mr. Jas. Box, Lindfield Nurseries, Haywards Heath, occupied one of the corners of the hall with a fine rock garden display, which was admirably staged. In the background were to be seen acers in variety, berberis, cedrus, and bamboos, while grouped lower were to be seen Primula denticulata, P. malacoides, P. Winteri, P. viscosa, and a variety of P. acaulis. Hepaticus, Anchusa myosotidiflora, saxifragas, and Phlox pilosa all contributed to the general good effect. From the Burton Hardy Plant Nurseries, Christchurch, came a nice display of hardy plants, tastefully arranged. The primulas being quite a feature, various forms of P. denticulata were staged, while P. nivalis alba, P. frondosa, P. integrifolia, P. viscosa purpurea, and P. Kitaibeli were also in good form.

Bedded in moss, associated with a few dwarf conifers, and planted in goodly colonies among rocks, Messrs. J. Piper and Sons, Bayswater and Barnes, presented Primula frondosa, a sweet little alpine, P. denticulata, and P. d. alba, P. rosea, P. Winteri, Ranunculus amplexicaulis, and Caltha palustris fl.-pl. Morisia hypogæa was a fine feature of the group of alpines set up by Messrs. G. Jackman and Son, Woking; Thalictrum anemonoides, with its dainty white blossoms, and Anemone pulsatilla alba were other specially good things.

Messrs. Whitelegg and Page, Chislehurst, had a rock garden exhibit of considerable extent; choice subjects planted in the cosy corners were Primula Forresti, P. J. J. Wilson, P. Veitchi, and aubrietias. Of special interest was Viola gracilis lutea, a soft yellow form of the popular V. gracilis. Messrs. T. S. Ware, Lim., Feltham, also contributed a rock garden exhibit, and furnished it prettily with Thalictrum anemonoides, Gentiana acaulis, Saxifraga Faldonside, Silene Hookeri, Erysimum helveticum, trilliums, and primulas. The Guildford Hardy Plant Company, Guildford, sent saxifragas, New Zealand veronicas, Primula frondosa, and many dainty alpines.

The little exhibit of alpines, etc., arranged in the form of a rockery mound by Messrs. Barr and Sons, Covent Garden, was furnished with Anemone pulsatilla, Primula denticulata, fritillarias Narcissus triandrus albus, N. Bulbocodium saxifragas, and scillas. Fragrant violets and rich-hued primroses and polyanthuses were displayed by Messrs. Blackmore and Langdon. Among the former the new single Askania, deep purple, was especially prominent, and is a large variety.

Messrs. Sutton and Sons, Reading, presented a display of growing grasses that attracted more than ordinary attention from the visitors. The various species were growing separately in boxes, on specially-prepared fabric, which was evidently to their liking.

for they were most striking. Dried specimens were also exhibited to illustrate their root action; while in front were to be seen examples of soils best adapted for their growth. A collection of fertilisers and pest destroyers was also exhibited, and, as most people are troubled with their lawns in some way or other, the attendants were kept quite busy.

ORCHID COMMITTEE.

An interesting exhibit from Messrs. Armstrong and Brown, Tunbridge Wells, contained a number of very pretty dendrobiums, and though most of the plants were somewhat small, they were splendidly flowered. Cymbidium Ballianum, with three spikes of white flowers, and C. ebuneo-Lowianum, with three spikes of creamy flowers, formed a centre round which some odontoglossums and a number of yellow lælio-cattleyas were arranged. Among these latter there were L.-c. Myra and L.-c. Ernesti, both very bright hybrids. Some good odontiodas were also included in the exhibit. Messrs. Hassall and Co., Southgate, exhibited the ivory-white, long-tailed Angræcum sesquipedale, with various odontoglossums, the Brasso-cattleya Menda, and the huge-lipped B.-c. Veitchi.

Messrs. Sander and Sons, St. Albans, contributed Cymbidium insigne and a number long spikes of odontoglossums. Cattleya Schroderæ was very well shown, and Brasso-cattleya Mrs. Leeman was in good form. A batch of Renanthera Imschootiana lent brilliant colouring, as also did Masdevallia Pourbaixi, of which a large plant was shown. Trichopilea suavis and odontiodas were other prominent features. Mr. H. A. Tracy, Amyand Park, Twickenham, had a group of orchids that was gay with the golden Oncidium concolor, and included Oncidium Cavendishianum and Odontoglossum Pescatorei album. Mr. Edward V. Low, Haywards Heath, sent Lycaste Skinneri alba, and a fine form of Cattleya Schroderæ. Mr. E. H. Davidson, Twyford, showed the very handsome Cattleya Suzanne Hye, Orchid Dene var.

A fine group of orchids from Messrs. Charlesworth and Co., Haywards Heath, had many very handsome things in it. Odontioda Charlesworthi was beautiful, and O. Bradshawiæ with five good spikes, the lovely Phaius simulans, and the rich purple Lælio-cattleya Dominiana Prince of Wales, Cattleya Suzanne Hye, and some capital dendrobiums. In Messrs. Stuart Low and Co.'s group of orchids Cattleya Schroderæ, C. S. alba var. Purity, L.-c. Dominiana, C. intermedia alba, were associated with dendrobiums and oncidiums. De Barri Crawshay, Esq. (gardener, Mr. Stables), Rocefield, Sevenoaks, exhibited Odontioda carnea, O. Charlesworthi, O. Bradshawiæ, the graceful Odontoglossum Nerissa, and the yellow O. Harvengtense.

F. Menteith Ogilvie, Esq., The Shrubbery, Oxford, gained a F.C.C. for Brasso-cattleya Cliftoni magnifica, and an A.M. for the handsome purple and gold-lipped C. Tityus Shrubbery var. Sir George Holford (grower, Mr. Alexander), Tetbury, Gloucester, showed Cattleya Magnet (C. Mossiæ x C. Whitei), a deep rose-purple hybrid, that gained an A.M.; Brasso-cattleya H. G. Alexander, a novel hybrid between Brassavola Digbyana and C. citrina, was also shown from the Westonbirt collection. A small group of cut flowers of dendrobiums was arranged by Mr. Collier, gardener to Sir J. Colman, Bart., Reigate; D. Lady Colman was one of the finest varieties. A grand plant of Odontoglossum crispum Cobb's var. was exhibited by Walter Cobb, Esq. (gardener, Mr. C. J. Salter), and gained an A.M.; the flowers are white with a brown blotch on each sepal.

Large specimens of Odontoglossum Rossi majus and O. pulchellum from Sir Trevor Lawrence, Bart., Dorking (grower, Mr. W. H. White), consisted of plants that have been about 30 years in the Burford Lodge collection. A Cultural Commendation was awarded.

DAFFODIL AND TULIP COMMITTEE.

Messrs. Barr and Sons, Covent Garden, had a brave show of daffodils, and besides staging beautiful blooms of well-known sorts they set up fine flowers of King Alfred, Lord Roberts, Sycovax—a beautiful cyclamineus hybrid; Golden Arrow, another attractive golden cyclamineus seedling; a considerable number of unnamed new seedling Ajax and incomparabilis varieties, the brilliant Blazing Star, and the orange-cupped Gadfly. A bright exhibit of daffodils and tulips from Messrs. R. H. Bath, Wisbech, was notable for the wonderfully fine flowers of Madame de Graaff, Ivernia, Princess Ida, and Bernardino it contained. La Reve was conspicuously good among the tulips.

A beautiful group of daffodils, chiefly new varieties, and many of them as yet unnamed, was set up by Mr. Alex. Wilson, Shovell, Bridgwater. Rubellite, which we figured last year, was in fine form; Cedric, a giant incomparabilis; Sunflower, with a wide crown-like cup, nearly as broad as the perianth; Judith, a giant Leedsi, with sulphur-yellow crown (A.M.); Elizabeth, a lovely triandrus hybrid; and Dragoon, white with orange-red crown, were but a few of the many lovely things in this group.

Messrs. Jas. Carter and Co., Raynes Park, had a beautiful and novel exhibit. It was another of their spring gardens. In front of a yew hedge, and on a raised bank, hundreds of lovely flowers of the golden-trumpet daffodil, Sir Francis Drake, were grouped with a margin of blue squills. At either end tulip La Reve was massed. In the centre a paved court had a pool and fountain, and on either side were huge leaden vases of Sir Francis Drake daffodil; while all along the foreground extended grass of the loveliest green imaginable. Flambeau is a brilliant daffodil, and, provided a bit of rare colour in the small group exhibited by Robert Sydenham Limited, Birmingham; Potent was another good thing; Victory and White Slave were in fine form, and a pot of N. calathinus was charming with its twenty, white, drooping flowers.

Messrs. Cartwright and Goodwin had an admirably arranged group of choice daffodils, with isolepis between the vases. A few outstanding varieties were Mdme. de Graaff, Incognita, Marshlight—rich orange cup; Van Waveren's Giant, Glory of Noordwyk, Salamander—very rich, and Gloria Mundi. Mr. F. H. Chapman, Rye, brought up a number of seedling daffodils, as well as charming flowers of Castile, Van Waveren's Giant, White Queen, Bernardino, Victory, Tennyson, Firebrand, and Bennett Poe. Mr. Chapman also showed a few of his unnamed triandrus hybrids, a group in which he has been very successful.

A splendid group of tulips came from Messrs. R. and G. Cuthbert, Southgate. These were arranged on the floor of the hall, but built in undulating groups, the whole presenting a fine appearance. Some of the brightest were Queen of the Netherlands, Prince of Austria, Maes, Ophir d'Or, Brilliant Star, Lady Borcel, La Grandeur, Le Reve, Adeline, and President Taft. Mr. W. A. Watts, Bronwylfa, St. Asaph, had beautiful blooms of several Welsh-raised daffodils, with Welsh names. Cenig, with broad, orange-rimmed crown; Hengan, yellow with orange-yellow crown; and Medlys, white with rich orange cup, were a few of the best.

Some very pretty daffodils were exhibited by Mr. Christopher Bourne, Bletchley, and among the many good things we noted Lady Moore, White Countess, Roxana, with broad orange cup; Sunrise, Orange Buffer, Fairy Queen, Duke of Bedford, and The Earl and The Doctor, two refined yellow trumpet varieties, quite new and beautifully frilled at the apex of the trumpet. Miss Warren, Canterbury, exhibited a number of seedling daffodils raised by the late Rev. G. Haydon.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. Westmacott and Co., 368, Strand, W.C., exhibited Cape fruits, that included capital melons, fine William pears, Hannepoot and Barbarossa grapes, pine apples, peaches, and plums.

Messrs. Sutton and Sons displayed a very fine lot of seasonable vegetables and set out in very tempting form a splendid lot of broccoli, cucumbers, radishes, lettuces, sea-kale, chicory, etc., that almost converted the visitors to vegetarianism.

CERTIFICATES AND AWARDS.

First Class Certificate.—To Primula Purdomi, from Messrs. James Veitch and Sons, Chelsea; to Brasso-cattleya Cliftoni magnifica, from F. Menteith Ogilvie, Esq., The Shrubbery, Oxford.

Award of Merit.—To Odontoglossum crispum Cobb's var., from Walter Cobb, Esq. (gardener, Mr. C. J. Salter), Rusper, Horsham; to Cattleya Trianæ alba var. Sour. de Louis Verdonck, from M. Jules Hye de Crom, Ghent; to Cattleya Tityus Shrubbery var., from F. Menteith Ogilvie, Esq., Oxford; to Cattleya Magnet, from Lieut.-Col. Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury; to Narcissi Judith, from Mr. A. Wilson, Shovell, Bridgwater; to Omphalodes cappodocia, from Mr. Maurice Prichard, Christchurch, Hants.

MEDALS.

Silver-gilt Flora. — To Messrs. James Veitch and Sons, Chelsea, for cinerarias and flowering shrubs; to Messrs. Barr and Sons, Covent Garden, for daffodils; and to Messrs. R. and G. Cuthbert, Southgate, for tulips in pots.

Silver-gilt Knightian.—To Messrs. Sutton and Sons, Reading, for seasonable vegetables and salads.

Silver-gilt Banksian.—To Messrs. Cartwright and Goodwin, Kidderminster, for daffodils; to Messrs. Westmacott and Co., Strand, W.C., for Cape fruits.

Silver Flora.—To Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Mr. H. Burnett, Guernsey, for carnations; to Messrs. H. Cannell and Sons, Swanley, for pelargoniums; to Messrs. James Carter and Co., Raynes Park, for a spring garden; to Messrs. W. Cutbush and Son, Highgate, for flowering shrubs and carnations; to Mr. G. Prince, Longworth, for roses; to Mr. L. R. Russell, Richmond, for clematis, etc.; to Messrs. Wills and Segar, South Kensington, for flowering shrubs, etc.

Silver Banksian.—To Mr. James Box, Haywards Heath, for rock garden; to Mr. Day, Sutton Scotney, for irises; to Mr. Clarence Elliott, Stevenage, for alpine plants; to Messrs. R. Gill and Sons, Falmouth, for rhododendrons; to Messrs. Stuart Low and Co., Enfield, for greenhouse flowering plants; to Messrs. H. B. May and Sons, Edmonton, for clematis and ferns; to Messrs. J. Piper and Son, Bayswater and Barnes, for alpine plants; to Mr. M. Prichard, Christchurch, for hardy flowers; to Mr. G. Reuthe, Keston, for hardy plants; to Messrs. Sutton and Sons, Reading, for grasses; to the Wargrave Hardy Plant Farm Company, The Arcade, Liverpool Street, for alpine plants; to Messrs. Hassall and Co., Southgate, for orchids; to Mr. H. Tracy, Twickenham, for orchids; to Mr. C. Bourne, Bletchley, for daffodils.

Bronze Flora.—To Messrs. R. H. Bath, Lim., Wisbech, for daffodils and tulips; to Mr. F. H. Chapman, Rye, for seedling daffodils.

Bronze Banksian.—To Messrs. Allwood Brothers, Haywards Heath, for carnations; to Mr. G. Jackman and Son, Woking, for hardy plants; to Mr. Amos Perry, Enfield, for pæonies; to Messrs. Reamsbottom and Co., Geashill, King's Co., Ireland, for anemones; to Messrs. Young and Co., Cheltenham, for carnations.

SCIENTIFIC COMMITTEE.

Present: E. A. Bowles, Esq., M.A. (in the chair), Sir J. T. D. Llewelyn, Sir H. J. Veitch, Canon Fowler, Prof. W. Bateson, Messrs. J. T. Ledger, R. H. Pearson, E. M.

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There is no Fertilizer equal to Canary Guano for the Garden and Greenhouse. Compare its results, its analysis, and its fine condition with any others, and you will be convinced of this. Canary Guano immensely improves the colour and size of all Flowers, and doubles the yield of all Fruit and Vegetables. It is particularly suited to lawns, golf greens, and cricket grounds. Canary Guano is manufactured by The Chemical Union, Ltd, in conjunction with their associated company, Joseph Fison and Co., Ltd, Ipswich, Fertilizer Manufacturers to the King, who are the largest Special Fertilizer Manufacturers, and whose goods are used all over the World.

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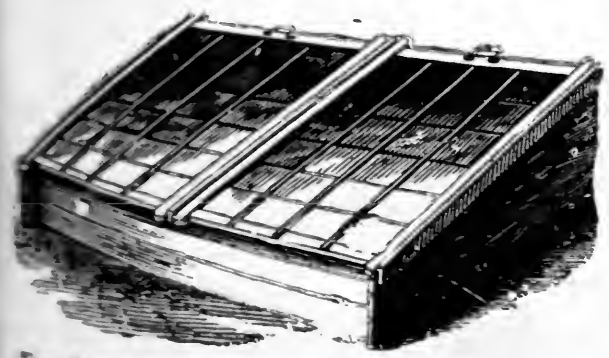

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Light 4 ft. by 6 ft.	CASH PRICES.	2	0	0
Light 8 ft. by 6 ft.		3	0	0
Light 12 ft. by 6 ft.		4	2	6
Light 16 ft. by 6 ft.	CARRIAGE PAID.	5	5	0
Light 20 ft. by 6 ft.		6	7	8
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Larger sizes at proportionate prices.

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PRUDENTIAL ASSURANCE COMPANY, Ltd.

Chief Office: HOLBORN BARS, LONDON.

INVESTED FUNDS EXCEED £84,000,000.

Summary of the Report presented at the Sixty-fourth Annual Meeting, held on 6th March, 1913.

ORDINARY BRANCH.—The number of policies issued during the year was **59,854,** assuring the sum of **£5,586,153,** and producing a new annual premium income of **£346,592.** The premiums received during the year were **£4,826,993,** being an increase of **£14,725** over the year 1911. In addition, **£5,893** was received in premiums under the new Sickness Insurance Tables issued during the year. The claims of the year amounted to **£3,626,469.** The number of deaths was **8,872.** The number of endowment assurances matured was **21,981,** the premium income of which was **£125,991.**

The number of policies in force at the end of the year was **901,838.**

INDUSTRIAL BRANCH.—The premiums received during the year were **£7,792,562,** being an increase of **£161,154.** The claims of the year amounted to **£3,070,271,** including **£324,797** bonus additions. The number of claims and surrenders, including **5,282** endowment assurances matured, was **382,734.** The number of free policies granted during the year to those policyholders of five years' standing and upwards, who desired to discontinue their payments, was **155,582,** the number in force being **1,809,171.** The number of free policies which became claims during the year was **52,296.**

The total number of policies in force in this branch at the end of the year was **19,140,743;** their average duration exceeds twelve and a half years.

The assets of the Company, in both branches, as shown in the balance-sheet, after deducting the amount written off securities, are **£84,571,932,** being an increase of **£3,332,250** over those of 1911.

In the Ordinary Branch a reversionary bonus at the rate of **£1 16s.** per cent. on the original sums assured has again been added to all classes of participating policies issued since the year 1876.

In the Industrial Branch a bonus addition will be made to the sums assured on all policies of over five years' duration which become claims either by death or maturity of endowment from the 7th of March, 1913, to the 5th of March, 1914, both dates inclusive, as follows:—

Premiums Paid for.	Bonus Addition to Sums Assured.
5 years and less than 10 years	**£5** per cent.
10 ,, ,, ,, ,, 15	**£10** ,,
15 ,, ,, ,, ,, 20	**£15** ,,
20 ,, ,, ,, ,, 25 ,, ...	**£20** ,,
25 ,, ,, ,, ,, 30 ,, ...	**£25** ,,
30 ,, ,, .. ,, 40 ,, ...	**£30** ,,
40 ,, ,, ,, ,, 50 ,, ...	**£40** ,,
50 ,, ,, ,, ,, 60 ,, ...	**£50** ,,
60 ,, and upwards.	**£60** ,,

The rate of bonus declared for last year has thus been maintained, and in the case of policies on which 25 and less than 30 years' premiums have been paid, and those on which premiums for 60 years and upwards have been paid, an increased bonus of £5 per cent. and £10 per cent. respectively will be distributed.

The Company took a leading part in forming Approved Societies under the National Insurance Act, 1911—Six Societies were founded, viz.: for Men, Women, Domestic Servants, Laundresses, Miners, and Agricultural and Rural Workers.

These Prudential Approved Societies have received a large accession of members, and as they will be administered in connection with the Prudential Assurance Company, the Directors regard their future growth and welfare with every confidence.

Messrs. Deloitte, Plender, Griffiths and Co. have examined the securities, and their certificate is appended to the balance-sheets.

A. C. THOMPSON, General Manager.
D. W. STABLE, J. SMART, } Joint Secretaries.

THOS. C. DEWEY, Chairman.
W. J. LANCASTER, W. EDGAR HORNE, } Directors.

The full Report and Balance Sheet can be obtained upon application.

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1 cwt., **20/-**; ½-cwt., **10/-**; ¼-cwt., **6/-**; 14lbs., **3/6**; 7lbs., **2/6**; Tins, **2/6, 1/-** and **6d.** Carriage paid on 1 cwt. anywhere.

SPECIAL TOP-DRESSING MANURE.

½-cwt., **20-**; ¼-cwt., **11/-**; 14lbs., **6/-**; 7lbs., **3/6**; Tins, **1/-**. Carriage paid on ½-cwt. anywhere.

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Have held the premier place for over 70 years. The favourites of all gardeners—amateur and professional. Used on the best golf courses in the world. Of all ironmongers and seedsmen.

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BEST STOUT FRUIT NETS.—Do not be misled by so-called cheaper nets. Do not pay until you have seen and approved of nets. Send your order only. Netting, good strong, and small mesh. Will not rot. As supplied by me to the Royal Gardens. 25yds. by 1 yd., 1s.; by 2yds., 2s.; by 3yds., 3s. Any length or width supplied. Orders over 5s. carriage paid. List of testimonials and samples free. Only address, H. J. GASSON, The Net Works, Rye. Established 126 years.

Holmes, J. O'Brien, A. Worsley, G. Wilson, and F. J. Chittenden (hon. secretary).

ODONTOGLOSSUM x "SATURNE."—Mons. H. Graire, of Amiens, showed this curious hybrid between O. nebulosum and O. x Harryano-crispum. It closely resembles O. nebulosum in the form of the flowers, which are white closely spotted with light brown and rose.

ODONTONIA x "CYBELE." — Messrs. Charlesworth showed this cross between Odontoglossum cirrhosum and Miltonia candida grandiflora. Mr. O'Brien, with the aid of illustrations of both parents, called attention to the fact that the tubular labellum of Miltonia candida did not appear in the slightest degree, the broadly ovate spathulate labellum of the hybrid being perfectly flat. The colouring of the petals and sepals (broad bands of brown) were from the Miltonia, but the apiculate reflexed tips of the segments were as in Odontoglossum cirrhosum. The dark red lines characteristic of cirrhosum also appeared at the base of the labellum. A certificate of appreciation to Messrs. Charlesworth was proposed and carried nem. con.

NARCISSUS TRIANDRUS ALBUS x N. CYCLAMINEUS. — Mr. Chapman, of Rye, showed this pretty hybrid in which the cup was slightly paler than the perianth. It had a straight corona slightly cut at the mouth, while the perianth was reflexed. It flowered four years after the seed was sown, and Mr. Chapman's experience was that four or five years practically always elapsed between seed-sowing and flowering in these miniature narcissi.

HIPPEASTRUM "RUNNERS."—Mr. A. Worsley showed two small bulbs of a garden hippeastrum which had developed at the ends of short stolons bearing nodes and roots. Similar growths are normal in montbretias, and occasionally occur in snowdrops and leucojums.

VARIATION IN SEEDLINGS.—Mr. G. Wilson showed flowers of two orchid hybrids from the same seed pod. They were totally different in colour, one being of a brick red the other white with a few red spots.

EPIPHYTIC CYRTANTHUS.—Mr. W. E. Ledger showed some bulbs of a new species of cyrtanthus called C. dendrophilus from its being found wild on trunks of trees, such as species of podocarpus. Mr. Medley Wood wrote that it rooted among the moss on the trunks on which it grew.

CHIONOSCILLAS.—Mrs. Backhouse sent various chionoscillas with the original parents, Chionodoxa sardensis and Scilla bifolia, for comparison. The first generation showed no white in the filaments such as the chionodoxa shows, while they were midway in breadth between the two parents. The perianth colour contained just a suggestion of violet in the blue, giving it a different tone from that of the chionodoxa. The perianth pieces were about equally broad with those of chionodoxa. The seedlings from these varied a good deal in shade, some being quite blue, others purplish blue, and occasionally one appeared with white or whitish filaments, but these were usually coloured like the scilla. The flowers in the second generation were mostly broad petalled.

NARCISSUS WITH FRILLED TRUMPET.—Mr. Bowles showed flowers of a white narcissus with a frilled corona, and remarked that when the plants were newly divided the frill was as a rule not developed until two or three seasons of growth had been passed and the plants had become established.

Elstree and Boreham Wood Horticultural Society.

There was a capital attendance of members on the evening of the 13th inst., when Mr. E. Molyneux, V.M.H., of Swanmore Park, gave a lecture on "Herbaceous Plants" before the above society. The large dining hall at the Schools at Elstree was gratuitously placed at the disposal of the society by E. L. Sanderson, Esq., who also kindly consented to take the chair, which office he ably filled. As may be expected, the lecturer dealt with his subject throughout in a capable and efficient manner. His opening remarks referred to the definition of the word "herbaceous," and he advised those present who were exhibitors to carefully peruse their schedules, and make quite sure that only those plants were exhibited that complied with the regulations.

The herbaceous border, he said, might be in almost any position so long as overhanging trees were avoided. The question of size depended entirely on the circumstances, and unless the borders were very large planting in masses was not to be recommended. Climbing roses at the back of the border were, in the lecturer's opinion, some of the most suitable subjects to form a screen, or fruit trees could be used with advantage. The border, especially if the ground was heavy, should be trenched 3ft. deep, but on light soil this was not so necessary. Add plenty of light material and manure, and, if the subsoil was poor, leave it in the same place—the bottom. Planting on heavy soils was best deferred till spring, but on light soils the necessary division and planting was best carried out in autumn, preferably October. He also advised lifting some plants of such things as lychnis and chelones and storing them during the winter in boxes in a cold frame, especially if the soil was cold and heavy.

Mr. Molyneux strongly advised the inclusion of plenty of bulbs, such as narcissi, crocus, and snowdrops, for a spring display, and he urged the inclusion of the better varieties of Michaelmas daisies, montbretias, Chrysanthemum maximum, herbaceous phloxes, etc.

Numerous questions were put to Mr. Molyneux at the close of his lecture relating to suitable plants, choice of varieties, division and planting, etc. A vote of thanks was proposed by Mr. E. Beckett, V.M.H., and was warmly accorded. Several new members were elected during the evening.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the R.H.S. Hall on Monday, March 10. Mr. Thos. Winter presided, and six new members were elected. The sick pay for the month, on the ordinary side, was £65 4s. 4d., and for the State section £22 3s. 4d. The committee deeply regretted to learn of the death of their old colleague, Mr. Wm. Woods, who for nearly thirty years was a member of committee. A vote of condolence was passed to the widow, and the sum of £46 19s. 9d. standing to his credit was passed for payment to his nominee. The sum of £48 8s. 2d. standing to the credit of the late Mr. Wm. Ford was also paid out. One member residing in the U.S.A. having reached the age of 70 was allowed to withdraw the sum of £104 12s. 9d., still leaving a balance of £10 standing to his credit. One lapsed member was allowed to withdraw £38 0s. 8d. standing to his credit. These sums give further evidence of the stability of the society. The annual meeting is to be held on April 14, 1913.

FORTHCOMING EVENTS.

Epsom Horticultural Society, Rose Show, June 30, at Woodcote Grove; Summer Show, August 4, at Epsom College.
Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.
Ealing Horticultural Society, July 9.
Weybridge Horticultural Society, July 10, at Barham Lodge, Oatlands Drive.
Ulverston Rose and Sweet Pea Show, July 18.
Birmingham Horticultural Society, July 18 and 19, in Handsworth Park.
Tunbridge Wells Flower Show, July 23 and 24.
St. Quintin Horticultural Society, July 24, in the Gun Club grounds, Wood Lane, W.
City of London Rose Show, July 26, at Cannon Street Hotel.
Worth Horticultural Society, July 30.
Datchet Horticultural Society, August 4, at The Lawn.
Oswestry Flower Show, August 4.
Ranmoor Floral and Horticultural Society, Aug. 4.
Swanage Horticultural Society, August 4.
Westbury Horticultural Society, August 6.
Horsley Horticultural and Cottage Garden Society, August 16.

THE R.H.S. FORTNIGHTLY SHOWS.

The sameness of the rockwork exhibits at Westminster has been referred to many times in the Gardeners' Magazine reports of the R.H.S. meetings, and that by no means without just cause. To my mind, the worst point of all in connection with these groups is that they are so freely furnished with plants that have been forced prematurely into bloom, and thereby convey altogether a false idea of the display furnished by an outdoor rockery at this season. In many instances the plants must have been subjected to a good deal of artificial heat in order to have them in bloom, while those that flower naturally at this season have apparently, in most cases, been protected by frames.

This is altogether misleading to those who go to these meetings for inspiration, and no doubt leads to a great deal of disappointment, with totally uncalled-for blame falling on the poor gardener. A query often put is, Are these plants really hardy? and the questioner is, as a rule, assured that they are, which is partially correct and partially otherwise. Grown naturally, the plants may be hardy enough, but to imply that on an open rockwork they would be in the condition shown is quite another matter, and, as stated, is calculated in every way to mislead. No one can gainsay the floral beauty of many of the groups, but that is outside of the question altogether, as the exhibit is not what it purports to be, namely, a reproduction of a natural scene. S. W.

OBITUARY.

MR. GEORGE CLARK.

With much regret we record the death of Mr. George Clark, which recently occurred at his residence at Dover in his 62nd year. Mr. Clark, who was the senior partner and managing director of the firm of Messrs. G. and A. Clark, nurserymen, of Dover, took a keen interest in hardy plants, and was instrumental in bringing into prominence several possessing much merit.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

Date. 1913. March 9 to March 15.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Mar. 9—Sunday	0 6	42	41	49	33
,, 10—Monday	—	48	47	51	42
,, 11—Tuesday	2 6	46	44	54	44
,, 12—Wednesday	5 42	40	39	51	28
,, 13—Thursday	4 12	38	38	56	31
,, 14—Friday	—	50	49	52	38
,, 15—Saturday	9 0	40	38	48	37
Means	(total) 21 6	43	42	51	36

Date. 1913. March 9 to March 15.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Mar. 9—Sunday	—	41	43	44	33
,, 10—Monday	0·02	43	43	44	41
,, 11—Tuesday	—	45	43	44	30
,, 12—Wednesday	—	42	43	44	16
,, 13—Thursday	0·02	43	43	44	28
,, 14—Friday	0·09	45	43	44	30
,, 15—Saturday	0·28	44	44	44	30
Means	(total) 0·41	43	43	44	31

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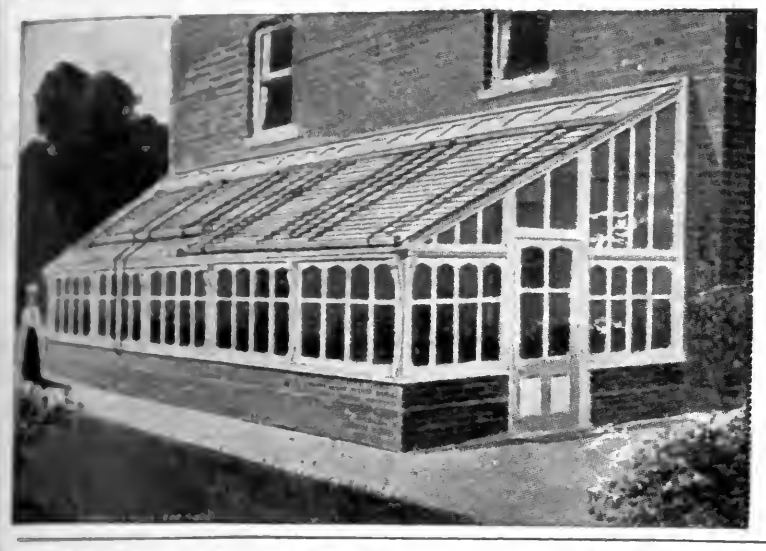

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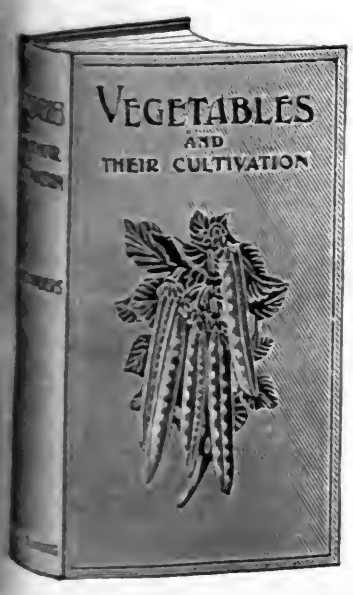

By T. W. SANDERS, F.L.S., Editor of "Amateur Gardening," etc., etc.

Formation of the Vegetable Garden.
Soils and Their Treatment.
Manures and Their Uses.
Crops and their Rotation.
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ROOT-PRUNING BY DYNAMITE.

The writer witnessed an interesting experiment a few days since, which should be of value to some of the fruit growers. A number of healthy young apple trees are growing upon strong loamy soil, but they were growing too luxuriantly and did not fruit owing to their excessive root action.

For some time horticulturists in Australia and Canada, and the keen growers in the United States, have sought the aid of dynamite in breaking up subsoil for such purposes as planting trees, and also for further increasing the fertility of the soil, and in some cases had found the value of this agency for lifting the trees for root pruning. Mr. Holmes, ever on the alert, came across this method, and decided to become proficient in the use of the explosive. He sought practical advice upon the subject, and he is now master of what at first sight seemed a dangerous method of treating soil.

On the occasion of the experiment thirty-two trees were bodily lifted. It may seem rough treatment to the trees, but where a large number have to be done time and labour count for much, and furthermore, observations have proved that the plan answers just as well as the methodical way of digging round and cutting under the tree.

The method adopted is to bore with a stout crowbar a hole about 15 inches from the trunk to a point about 2 feet 6 inches deep, in a slanting direction, to about the centre of the tree. A cartidge with a long fuse is inserted, and the hole filled up and the soil rammed hard. A light is applied, and the operator has ample time to move away, just a few feet being sufficient. At the explosion there is an upheaval of soil, and the thick roots are torn asunder. It then takes but a few minutes to adjust the soil and make it firm again.

One could see that the force of the explosion descended as well as ascended. Thus, to make a hole for any purpose where hard soil exists the operation should prove beneficial. It would also be useful for removing old tree stumps that needed clearing. For these purposes it is certainly a labour-saver. The whole operation of lifting thirty-two trees took less than one hour. AYTCH PEA.

Prudential Assurance Company, Lim.—The annual report of this important company for the year ended December 31, 1912, is, as usual, of a highly satisfactory character, and affords evidence of remarkable activity in all the branches of its work. In the ordinary branch, the number of policies issued during the year was 59,854, assuring the sum of £5,586,153, and producing a new annual premium income of £346,592. The premiums received during the year were £4,826,993, being an increase of £14,725 over the year 1911. The claims of the year amounted to £3,626,469. The number of deaths was 8,872. The number of endowment assurances matured was 21,981, the premium income of which was £125,991. The number of policies in force at the end of the year was 901,838. In the industrial branch the premiums received during the year were £7,792,562, being an increase of £161,154. The claims of the year amounted to £3,070,271, including £324,797 bonus additions. The number of claims and surrenders, including 5,282 endowment assurances matured, was 382,734. The number of free policies granted during the year to those policyholders of five years' standing and upwards who desired to discontinue their payments, was 155,582, the number in force being 1,809,171. The number of free policies which became claims during the year was 52,296. The total number of policies in force in this branch at the end of the year was 19,140,743—their average duration exceeds twelve and a-half years. The assets of the company, in both branches, as shown in the balance-sheet, after deducting the amount written off securities, are £84,571,932, being an increase of £3,332,250 over those of 1911.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

RUST ON PELARGONIUM LEAVES.—M. K. M., Bedford.—I enclose some pelargonium leaves, which have a peculiarly rusted appearance on the underside. Is the trouble caused by fungi or insects? As many of the leaves have fallen, as a result, apparently, of this attack, I shall be very grateful for any information that will help me to cure the disease.—The rusty appearance is due to the presence of one of the rust mites, similar to, if not identical with, the one that often proves so troublesome with begonias. Remove and burn the badly-infected leaves, and dip the plants in tobacco water or a nicotine preparation, following this up with frequent dustings of all affected parts with tobacco powder.

BRITISH GARDENERS' ASSOCIATION—F., Liverpool: Will you be good enough to let me know the name and address of the secretary of the British Gardeners' Association?—With pleasure; Mr. Cyril Harding, Ulysses, Fortune Green, London, N.W.

LICHEN ON LAWN.—R. W., Broughty Ferry.—I shall be very pleased if you will let me know the cause of and the cure for a fungus (specimens enclosed), which appears in patches over the lawns. Our lawns appear, otherwise, to be in good order, and they receive a good dressing of bone-meal every second year. — The specimens are examples of a lichen, not a fungus, and the species is Peltigera canina. Its presence on the grass indicates a need for better drainage. Treat the infested patches as you would for moss, using an iron rake to remove the lichen, and scarify the soil. Follow this with a good watering of a solution made by mixing 1lb. of iron sulphate in three gallons of water. Subsequently dress the treated area with a finely-sifted sandy mixture of leaf-soil and old hotbed manure. We have been told that soot is useful in combating lichen growth in lawns; try frequent dressings on one of the patches, and let us know the result; in any case, soot is a fine fertiliser for lawns.

MEASUREMENTS OF A TENNIS COURT.—A. S., Rothesby: Will you kindly let me know in your next issue the proper measurements of a full-sized tennis court, and greatly oblige me?—This is a perennial question, one we have answered every year for many years past, and which we expect to be asked every succeeding year, especially as we all wish to spend as much as possible of the summer time out of doors, and lawn games are helpful in that direction. A full-sized tennis court is 78ft. long and 36ft. wide, but there must be a reasonable space outside these lines, especially at the ends, or good play will be impossible. The net divides the court in half, and should be attached to posts about 4½ft. outside the side line. Parallel with each outside line, and 4½ft. inside it, are the inside lines. Measure 21ft. from the net along each inside line, and join the points thus found; repeat this on the other side of the net, and then join up these cross lines (which should be 42ft. apart) by means of a central line. Where the latter joins the cross line it should be 13½ft. from each inside line. Be careful to check all the measurements before marking out the court, and make certain that all the angles are right angles. If space permits arrange for the court to run north and south, rather than east to west; a great deal of tennis is played in the afternoon and evening, and those who have to play facing westward are at a disadvantage because they will have to play with the sun shining in their eyes—provided there is any sunshine.

FLOWER BEDS IN SUMMER.—A. W., Lenton.—I have five beds, in grass, running parallel with a gravel path, and I wish them to be as varied and attractive as possible during the coming summer. There is an abundance of greenery, such as rhododendrons, near at hand to form a suitable background, therefore, I should like brilliant and striking plants in the beds. The central and two outer beds are oblong, while the intermediate beds are circular. The beds are 7ft. by 4ft. I do not want the beds to be paired, but would rather have each one filled differently, and have each one filled with a mass of one colour with a suitable edging. If you can assist me by suggesting suitable subjects for filling these beds, I shall be very greatly obliged.—Fill the central bed with Paul Crampel pelargonium, and provide an edging of Mr. Pollock or other good golden tricolor pelargonium, kept dwarf. In one of the outer beds place orange or orange and yellow tuberous begonias, and use the variegated Cocksfoot grass as an edging. At the other end use pink and rose or pink and white begonias, and edge with light-blue lobelias. In the circular beds plant tall fuchsias, keeping blue corollas next the pink begonias, and red ones at the other end. Plant these thinly, with a few bushy examples of the old golden-leaved Wave of Life around them, and a carpeting of the white Alyssum maritimum over the whole bed. A standard fuchsia, a standard heliotrope, or a Streptosolen Jamesoni, rising from the centre of a mass of the double white Marguerite Mrs. Sander, would provide an alternative filling for the circular beds.

NAMES OF PLANTS.

C. M., Earl's Colne.—1, Begonia Haageana; 2, Eupatorium ianthinum; 3, Cyrtomium falcatum; 4, probably a Cystopteris, send again a little later; 5, a form of Anemone fulgens.

NEWS FROM HEADQUARTERS.

BEGONIAS.

In every garden there is sure to be some particular spot which appeals to the owner more strongly than any other part.

It may be a bed in the centre of the lawn, which is in full view from your dressing-room, or the border outside the window of the room you frequent most during hot summer afternoons. The planting of these favourite sites, which you desire shall look bright and fresh from early summer until late autumn, often proves a serious problem, especially should one wish to break away from the stereotype Geranium, Calceolaria, and Lobelia.

An ideal plant for such positions is the Begonia, either in separate colours or carefully blended to suit individual tastes. A beautiful and lasting display can be easily obtained at a very low cost, the cultivation being particularly simple. Carters bedding Begonias have been specially selected for this purpose, and only bright colours and pleasing shades are contained in our mixtures, whilst the delightful separate colours meet with universal approval.

Where a brilliant effect is desired, bright scarlet, crimson, or yellow may be used, pink, copper, rose, and white being suitable for subdued effects. Write for our Spring Bulb Catalogue, which gives prices and full cultural directions. We shall also be pleased to suggest colour schemes and bedding effects, or give you any other information you may require.

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VOL. LVI.—No. 3,100. SATURDAY, MARCH 29, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Procession of the Flowers.

In another part of the present issue we have been able to show that within a comparatively short period such immense advances have been made in the more important classes of plants that belong to the herbaceous border as to very greatly increase their utility in giving beauty and interest to the flower garden. There have been improvements in the constitution and habit of many plants, there has been an increase in flower production, and an extension in the range of colouring in the majority of the several sections. In some cases there has, in addition, been a marked improvement in the quality of the individual blooms, both as regards form and substance, and if in the case of plants grown for the production of colour effects in the garden form is a quite secondary matter, it assuredly is no detriment, provided the formality is not such as to suggest heaviness when the flowers are seen from a short distance. With a full acquaintance with what has been accomplished since the restoration of hardy plants to public favour, and with a knowledge of the work that is now in progress, we feel it quite impossible to regard finality in the development of hardy plants as being within a measurable distance. On the other hand, there appears ample justification for anticipating that in the near future there will be advances equal to those which have already been made, and that some will be from directions which the most observant may not expect. Already the raisers have in the course of their activities shown that they fully appreciate the desirability of extending, as far as may be practicable, the flowering season of the chief kinds, and have also made some progress along this path which is full of promise. In answering to the call of the garden, we find in the flower-bedecked beds and borders assigned to hardy plants much to attract, and not a little that is of interest. We are, for example, reminded that, as a consequence of the additions that have within recent years been made to the irises, it is possible, given favourable weather, to have a procession of these exquisitely beautiful flowers from quite early in the year until July, when the elegant Siberian iris and the magnificent forms of Kæmpfer's iris contribute with prodigal liberality to the charms of the bog garden and waterside. Much also has been accomplished in the lengthening of the season of daffodils. This has been chiefly due to the introduction of varieties flowering somewhat earlier than those of older date; and evidently the raisers, as they enjoyed the charms of their favourite flowers, felt as did Herrick

MR. A. R. ALLAN.

when he sung, more than three centuries ago:

> "Faire daffodils, we weep to see
> You haste away so soone";

and then resolved to do their best to extend the season of these delightful flowers in another direction. Whatever may have been their feelings in this matter, some of the leaders in this interesting work turned their attention to the breeding of narcissi for late flowering. Hence it is the daffodil season covers a wider period than it used to do, and, indeed, wider than is at the present time apparent; for not until the newer varieties have been freely distributed will it be possible to fully appreciate the work that has been done in this direction. In referring to the daffodils, we are reminded of the herbaceous pæonies, for they are frequently grown in association for the purpose of extending the attractiveness of the beds and border over as long a period as possble. As we call to mind the glorious displays of colour produced by these stately flowers in gardens where they are largely grown, we feel that it would be an immense advantage if the season of flowering of the Chinese varieties could be extended into May. It would probably be a long and somewhat tedious task to obtain, by selective culture, an early-flowering race with flowers that by reason of their large size and fine form would make a strong appeal to cultivators; but the matter is well deserving of consideration. Progress has been made in the development of forms of Pæonia officinalis, which has long had a place in British gardens; and these might be planted rather more freely in spacious borders than has yet been considered desirable, because of the touch of colour they give to the garden in May. Not only has the season of the various classes of flowers been lengthened, but the season of flower production in the border, as a whole, has been extended considerably within recent years. More especially have the attractions of the herbaceous border been increased from the end of the summer onward by the introduction of large numbers of chrysanthemums, that bloom during September and October, and of Michaelmas daisies that yield of their flowers from August until quite late in the autumn. Until within a recent period the early-flowering chrysanthemums were by many regarded as belonging to the florists' flowers rather than to hardy plants, but now they are generally recognised as invaluable for giving colour and brightness to the mixed border during the greater part of the autumn, the period of effectiveness being determined by the character of the weather. The Michaelmas daisies are hardly less valuable, for they assist in maintaining the procession of flowers after the glory of the chrysanthemums has departed, and the number of really first-class varieties has been so largely increased as to enhance their usefulness a hundredfold, and afford another proof of the judgment and enterprise of those who are specially interested in hardy flowers.

Mr. A. R. Allan, head gardener to Lord and Lady Hillingdon, at Hillingdon

Court, Uxbridge, is the son of Mr. Allan, who has so long and ably managed the gardens at Gunton Park, Norwich. Mr. A. R. Allan had, therefore, the advantage of first-rate tuition at the beginning of his career, and subsequenly added to his experience in several of the most famous gardens in England. He has done excellent work at Hillingdon, and our pages have portrayed the roses, water lilies, summer bedding, and other features of the gardens he has charge of. Needless to say, with such an enthusiast in roses as Lady Hillingdon, these flowers are extensively and finely cultivated. But Mr. A. R. Allan is in no sense a specialist, but whatever he takes in hand he does well. At Hillingdon Court he has carried out a scheme of planting in which deciduous and evergreen trees and shrubs with brightly-coloured leaves have a large place. Borders of flowers of one colour are a feature, especially the red and the blue borders, and this at once indicates the extensive cultivation of herbaceous and annual plants. Spring-flowering bulbs in the grass are very beautiful at Hillingdon Court, and fine varieties of daffodils have been planted in this way with excellent effect. Both indoor and outdoor carnations occupy considerable space, and are capitally managed. Few have been so successful as Mr. A. R. Allan in the cultivation of the semi-tuberous winter-flowering begonias, and for exhibits of these in 1910 he has gained Silver-gilt Flora and Silver-gilt Banksian Medals at Westminster. He has also gained medals at the Royal Horticultural Hall for nymphæas, hardy fruits (Hogg Medal), Malmaison and border carnations, pears, strawberries in April, Darwin tulips, Zygopetalum Mackayi, and Lachenalia Nelsoni. Mr. A. R. Allan is a member of the R.H.S. Fruit and Vegetable Committee, and is a very energetic member of the governing body of the Gardeners' Orphan Fund.

Amenities of Kew Gardens.—For some time past the Richmond Corporation has been busily engaged with town planning schemes that have been prepared with a view to the preservation of the amenities of the town. The famous view from Richmond Hill has been already secured, and the scheme now in hand includes a long stretch of land on the Middlesex side of the Thames, and for some distance opposite to the Royal Botanic Gardens, Kew. An inquiry relating to this scheme was held at Richmond by the Local Government Board on the 19th inst., when a statement in support of the proposals was made by Sir David Prain, director of the Royal Gardens. In the course of the statement it was pointed out that the Royal Botanic Gardens is a scientific and technical institution, maintained for the promotion of botanical study and the increase of botanical knowledge. In order to fulfil the objects of the institution, a garden is required. Since there must be a garden attached to the institution in order that its scientific objects may be attained, advantage has been taken of this fact to utilise the garden as a means of fulfilling its technical object. To this end the garden is employed to illustrate practically the methods and principles of landscape gardening. One of the principles underlying the art and craft of landscape gardening is that, in the treatment of an area, account must be taken of its surroundings. In doing so, undesirable features have to be screened from view, while desirable features may be utilised in adding to the amenity of the area under control. The æsthetic value of Kew as at present laid out depends, in Sir David Prain's opinion, very largely upon the existence of open spaces beyond the Thames on the Middlesex side, and if the natural and unchecked consequences of modern industrial conditions lead to the conversion of these open spaces into a continuation of the less pleasing features that mark the corresponding tract of land to which Brentford is at present limited, then the necessity will arise for screening in, instead of utilising the spaces which at present so largely increase the amenities of Kew. It was also stated that the conditions over against Brentford, with its smoke, are unfavourable to plant life, as compared with those that prevail at the Richmond end of the gardens. Also that if these conditions extend along the river throughout the full extent of the garden boundary, the necessity will probably arise for the transfer to some other site of the institution as a whole.

The Literature of the Rose is both extensive and entertaining. Some of the older works are very beautiful, rare, and expensive, and the same may be said of some modern books dealing with the Queen of Flowers. Some idea of the vastness and interest of the literature of the rose will be forthcoming on April 1, when Mr. Arthur W. Paul, of Waltham Cross, will deliver a lecture on this subject at the meeting of the Royal Horticultural Society. Mr. A. W. Paul has an unusually fine horticultural library, and, naturally, has specialised in rose literature, consequently no one is better able to lecture upon it. His lecture will be illustrated by lantern views, and should attract a large audience.

Birmingham Botanical Gardens.—The beautiful gardens at Edgbaston, Birmingham, attract more people than formerly. In addition to the horticultural faetures there is now the added attraction of a small and interesting collection of animals, reptiles, and birds. Considerable expense has been incurred of late by the repair of the large range of glass-houses, reconstruction of bandstand and refreshment pavilion, and the increase of space and new flooring at the lower end of the exhibition hall. An increase of subscribers and a considerable advance of income from admissions have not, however, met the expenditure on renewals and construction, and there is now an accrued deficit of £1,500. Fortunately no less than £1,130 of this amount has already been subscribed by the committee and their friends, and an appeal has been made for the balance, so that the financial position of the institution may be made quite sound. It is anticipated that if the deficit is cleared off future annual expenditure may be kept within the limits of income.

The Easter Holidays.—The earliness of Easter this year suggested possibilities of bad weather for the holidays, and these were fulfilled, because, for the most part, the weather was gloomy and cold, with a rain and thunderstorm over London on the Saturday afternoon, and a terrific wind-storm in the evening and night of that day. So strong was the wind that great damage was done in various parts of the country, a notable item being the destruction of the pier at Worthing. Many seaside resorts suffered badly from wind and sea, while inland large numbers of fine old trees succumbed to the fury of the gale. In spite of a northerly wind and a temperature of about 46 degrees, large numbers of people visited the parks and open spaces in the London district on Bank Holiday, but the numbers were small as compared with a fine Easter. For instance, at Kew there were 62,000 visitors, as against 127,000 on Easter Monday of 1912. The closing of the apartments at Hampton Court and Windsor reduced the visitors there, and the Zoological Gardens did not attract as many people as usual. On the other hand, the British Museum, Natural History Museum, Victoria and Albert Museum, were all visited more freely than usual. At the Natural History Museum 13,904 visitors were recorded.

Horticultural Club.—There will be a house dinner of the Horticultural Club, at the Hotel Windsor, Victoria Street, Westminster, on Tuesday, April 1, at 6.30 p.m., to be followed by a lecture, entitled "Some Nature Notes in South Africa," by Mr. J. Edmund Clark. The lecture will be illustrated by lantern slides, prepared from photographs taken in South Africa by the lecturer.

Preservation of North London Views.—The Home Office has sanctioned the enforcement of bye-laws for the preservation of the beauty spots in the Enfield district from disfigurement by advertisements. From now onward no advertisement of any kind may be erected so as to be visible from Albany Park, Bush Hill Park Pleasure Grounds, Chase Green, Durants Park, Enfield Town Park, Hilly Fields, and North Enfield Recreation Ground, and no illuminated advertisement near these open spaces may exceed a height of 20ft. Further, provision is made to prevent the display of advertisements in such a way as to disfigure the natural beauty of the views to Northaw, Cuffley, Goff's Oak, Epping Forest, Winchmore Hill, Trent Park, Beech Hill Park, and The Ridgway. These bye-laws, which will be enforced by the Metropolitan Police and the officers of the Enfield Urban District Council, secure practically every park, open space, view, and vista in the district from disfigurement by advertisements.

Royal Gardeners' Orphan Fund.—We are officially informed that Col. the Right Hon. Mark Lockwood, C.V.O., M.P., has kindly consented to preside at the 25th annual dinner of this excellent charity, which is to take place at the Hotel Cecil on Thursday, May 15.

Co-operation at Pershore.—Co-operation in the matter of grading and selling has proved highly successful, as practised by the fruit growers and market gardeners in the Pershore district, so much so, indeed, that the Board of Agriculture is taking a keen interest in the undertaking. The co-operators handled 107,892 packages in 1912, and sales amounted to £14,816, as against £10,799 in 1911. A bonus has been given to the employees, and the shareholders have benefited in similar fashion according to the value of the produce sent for sale. After allowing for depreciation a substantial profit remains, and this is all in addition to the extra advantages resulting from prompt sales and distribution.

Daffodils and Easter.—As in previous years, the Lincolnshire growers of daffodils for the production of flowers for market were able, during the week preceding Easter Day, to send large consignments to London and the principal provincial towns, but the supplies were considerably below the average. In some instances this falling off in the quantities of flowers marketed has been attributed to the inclemency of the weather that had been experienced. The weather may have had some effect in bringing about a shortage, but the cause of the deficiency has been the early date on which Easter has fallen this year. Easter Day

may fall upon any date between March 22 and April 25, and consequently this year it fell upon the earliest possible date, or a fortnight earlier than in 1912. During the second and third weeks of April there is usually an abundance of daffodils, as was the case last year, and owing to the large demand for flowers for church decoration, they invariably command a remunerative price.

Colchester Challenge Cup for Roses.—Mrs. Egerton-Green has presented a challenge cup of the value of 40 guineas to the Colchester Horticultural Society. The cup will be known as "The Claude Egerton-Green Challenge Plate," and is intended to commemorate the interest taken by the late Mr. Egerton-Green in the society and its work.

A Profitable Workhouse Garden.—At a recent meeting of the Cardiff Board of Guardians it was stated that four acres of land, close to the Ely Workhouse, had been cultivated by the Master, Mr. Moore, solely with the labour of the workhouse inmates, with the result that the year's working showed a profit of £200.

The Floral Parade of Honolulu was held on February 22 last and is described by the "Sunday Advertiser" of that city as the most successful of the parades that have been held in the capital of Hawaii since their institution eight years ago. From the starting of the first floral car at 2 p.m. until 4.30 p.m., the procession of cars was continuous, and although the decorations varied in merit, all the cars were more or less attractive. Judging from the large number of illustrations published by the "Sunday Advertiser," some of them must have evinced much taste on the part of those who had carried out the floral arrangements. It appears that the cars decorated with the silver sword plant and with cherry bloom were the most beautiful of the many cars that had a place in the procession. This latter was provided by Japanese residents, and was in the true style of their native land. Of the other cars one was decorated with brilliantly-coloured poinsettias, another with golden and red crotons, a third with bougainvilleas, a fourth with chrysanthemums, a fifth with roses, a sixth with carnations, a seventh with pineapples, and so on. The decorations were not only attractive, but they were of interest as evidence of the manner in which the flowers that belong to the spring, summer, and autumn may, in this tropical region, be seen in association at the beginning of the first of the three seasons.

Norwich Spring Show.—Owing to the earliness of the season the committee of the Norfolk and Norwich Society caused inquiries to be made amongst exhibitors as to the best date for the spring show, with the result that they now announce it for Thursday, April 17, instead of the 24th, as at first fixed.

Lime-sulphur Wash for American Gooseberry Mildew.—During the season of 1912 experiments were carried out, under the direction of Mr. E. S. Salmon, F.L.S., the mycologist of the South-Eastern Agricultural College, Wye, for the purpose of ascertaining at what strength (specific gravity) lime-sulphur wash can be used on the foliage of the gooseberry without causing injury. The varieties selected for experiment were Warrington, Valentine's Seedling, Whinham's Industry, Lancashire Lad, Berry's Early, Crown Bob, Rifleman, Yellow Rough, and May Duke, the experiments being carried out on certain fruit farms in the Swanley district. A full report on the results appears in the current issue of the "Journal" of the Board of Agriculture, and the conclusions arrived at are as follows: Different varieties of gooseberries differ to a marked degree as regards the susceptibility of the foliage to injury from the lime-sulphur wash. It is possible with some varieties, e.g., May Duke, to spray repeatedly throughout the season with lime-sulphur, at a strength (1.01 sp. gr.) sufficient to prevent the attacks of American gooseberry mildew, without causing any injury to the foliage. Under ordinary summer weather conditions the "strength" of the lime-sulphur wash should be as follows: For Whinham's Industry, Rifleman, Warrington, and May Duke: 1.01 sp. gr. Lancashire Lad: 1.005 sp. gr. Crown Bob. 1.005 sp. gr. early in the season; later in the season some injury may be caused. Berry's Early: 1.005 sp. gr. early in the season, and when the bushes are more or less shaded; later in the season injury is caused by the wash at this, and at lower, concentration. Valentine's Seedling and Yellow Rough show so marked a susceptibility to injury that they cannot safely be sprayed with lime-sulphur. For the present—until further experiments have been carried out—the "half-strength" wash (1.005 sp. gr.) should be used (except where indicated above), and the spraying done on an experimental scale.

NEW ALPINE PLANTS.

The increasing favour shown to rock gardening has given encouragement to introducers of new alpine flowers, and the past year has witnessed the introduction of a number of plants of real novelty, together with the recall of some which had gone out of cultivation. In the present notes a few of the latter will appear, as these are practically new, and generally worthy of the notice of purchasers.

Anemone pulsatilla rosea Mrs. Van der Elst, from the Royal Tottenham Nurseries, Holland, is a lovely rose-coloured Pasque flower, and well worthy the Award of Merit from the National Hardy Plant Society.

[Photo: Bees, Lim., Liverpool.

CODONOPSIS MELEAGRIS.

A distinct species; the flowers porcelaine blue with chocolate-coloured reticulations. Introduced by Messrs. Bees, Lim.

A few dwarf species of asters have been brought forward. Among these are the following: Aster brachytrichus (Bees, Lim.), a Chinese species, little more than nine inches high, with narrow leaves and narrow light lilac ray florets. A. Purdomi (J. Veitch and Sons) is another Chinese species, about six inches high. The flowers are pale violet. A. yunnanensis atroviridis (Bees, Lim.) is superior to A. brachytrichus, is about nine inches high, and has broad, light blue florets.

Astilbe simplicifolia is a capital novelty (G. Reuthe), and well deserved its Award of Merit from the R.H.S. It is six inches high, and has a graceful habit and white

flowers. Keeley's variety of Cheiranthus mutabilis, about nine inches high, has flowers varying from almost mahogany-brown to crimson and purple on the same truss.

Codonopsis meleagris (Bees, Lim.) is one of the best, though not the most striking of new flowers. It grows to a height of about nine inches; rather less on a dry rockery. The flowers are of a light porcelain blue, netted chocolate. It is good for the higher parts of the rockery.

Cotoneaster divaricata, shown from Aldenham House, is one of the few new Chinese shrubs for the rock garden. It is of low growth, and has plenty of red berries. Its value is attested by the First Class Certificate it secured from the R.H.S.

Crocus chrysanthus E. A. Bowles, so well shown by Messrs. Barr and Sons, a short time since, is a beautiful early yellow crocus for the rock garden. It was sent out by Mr. G. C. van Tubergen, jun. Few dwarf dracocephalums have appeared lately, so that D. bullatum, resembling D. grandiflorum, but purple instead of blue (Bees, Lim.), will be appreciated; it is easier to grow than the older species, and is of trailing habit. Ephedra Garrardiana (Bees, Lim.) will only be suitable for dry walls or rockeries. It is a rush-like plant with scarlet flowers in the axils, and flowers late. About a dozen new varieties of Erica carnea were distributed in the autumn by Messrs. J. Backhouse and Son. They were selected by Mr. Richard Potter, and, though some are much alike, there is sufficient variety to please lovers of this winter-flowering heath. Fostera Bidwilli (Bees, Lim.) I have not seen in bloom, nor can I find any record of its flowers. It has felt-like white tomentum on the leaves. Helichrysum frigidum is not a novelty, but has been brought into prominence again. It is a dwarf white-flowered silvery plant.

Lewisia Howelli (M. Prichard) is not new, but is really good. It will possibly be short-lived, save in dry places, and will suit the moraine. It is creamy-apricot and rose. Lithospermum Frœbeli (M. Pritchard), from the same nursery, is a good trailer, with deep blue flowers; and shown from the same quarter has been the golden-yellow Lysimachia Henryi, a good prostrate plant.

Mazus rugosus (Wargrave Hardy Plant Farm), figured in the Gardeners' Magazine of March 8, 1913, is a splendid acquisition, with low, creeping growth, and lovely violet flowers. As shown, it appears distinct from the annual M. hornemannia, with which it is said to be synonymus. Oxytropis yunnanensis (Bees, Lim.), a tufted blue-flowered plant, will appeal to some; while the low-growing Omphalodes cornifolia, shown in London last summer, is another blue-flowered plant worthy of notice.

Oxalis adenophylla, a Chilean species, was shown by Mr. H. J. Elwes last year, and is practically new, though in cultivation for a year or two. It is superior even to O. enneaphylla, and has pale pink flowers with a blue line down the centre. At the same show (the Royal International) Mr. Clarence Elliot exhibited O. enneaphylla rosea, a pleasing rose form of a favourite plant. Patrinia palmata (Miss Willmott) figured in the Gardeners' Magazine of July 7, 1912, is a yellow-flowered hardy plant only a few inches high. It is hardy with the writer in the moraine.

New primulas can only be briefly referred to, so numerous are they. P. Winteri (R. Gill), of 1911, has come well to the front; and now P. Knuthiana (J. Veitch and Sons), about four inches high, after the style of capitata, and blue, with P. Juliæ, from the Oxford Botanic Gardens, have become popular. The latter is rosy-lilac. P. Warleyensis (Miss Willmott) is of doubtful hardiness. It is two and a-half inches high, and is rosy-lilac. P. angustidens, purple-violet, after the style of Poissoni; P. farinosa Beesi, rosy-pink; and P. secundiflora and P. pulchelloides, the two last of the sikkimensis character in colour and habit, emanate from Messrs. Bees, Lim. A number of other Chinese primulas, such as P. yunnansis and P. membranifolia, have been exhibited before committees of the R.H.S., but have not yet been sent out. P. pulverulenta Mrs. Berkeley (J. Veitch and Sons) white, was much admired at the Chelsea exhibition. Romanzoffia Suksdorfi, white, is a saxifraga-like plant.

Quite a crowd of new varieties of saxifrages have appeared, as well as some good species. Mrs. Lloyd Edwards' hybrids, Comet and Mrs. J. F. Tottenham, both white, are very fine. S. burseriana elegans rosea, rose: S. Aizoon Rex, and S. Primrose Bee, yellow, may be named specially, and of the crowd of new red mossy and silver saxifrages it may be said that they are legion.

Silene Hookeri, a lovely plant, though not new, caused a sensation at Chelsea. It is a handsome alpine, with rose-pink flowers. Tanacetum adenanthum, about ten inches high, yellow, with silvery leaves, promises well; as also does Veronica pirolæformis (Bees, Lim.), another lovely Chinese plant, about five inches high, and porcelain blue. Viburnum Davidi (Veitch), white, is a promising hardy shrub for the rockery.

In Wahlenbergia vincæflora, shown also as W. gentianoides, we have a lovely pale blue plant, not new, but hardly ever seen. Though about eighteen inches high, it is excellent for the large rock garden. If the Mexican Weldenia candida, which was one of the plants with which Messrs. Bees won the Farrer Cup for alpines, proves hardy, it will be keenly sought after. It forms a rosette of pretty leaves, above which are the lovely white crocus-like flowers.

Such are some of the best of the novelties or reintroduced plants which have appeared within the last twelve months or so.

S. Arnott.

[Photo: Bees, Lim., Liverpool.

OXALIS ADENOPHYLLA.

A Chilian species with pale pink flowers. From a photograph of a plant grown by Messrs. Bees, Lim.

EXCESSIVE USE OF STIMULATING MANURES.

We hear a great deal about the deterioration of many classes of garden plants, and of varieties quickly wearing out. Added to this, new diseases continually crop up, and prove a source of worry to the gardener. There is no gainsaying the fact that highly stimulating manures are now used to a far greater extent than they ever were before, and the question arises whether this excessive manuring is not the cause of a good deal of the trouble. I am inclined to think that it is, for, in the case of many diseased plants a return to more rational diet will serve to restore them to health. Take ivy-leaved pelargoniums, for instance; some varieties, at least, are very subject to a blotchy disease of leaf and stem (gouty eczema, if you will) which arrests both growth and flower development. Highly-fed plants are far more liable to this than any others, and even when badly affected they will, if potted or planted in some good sweet soil, without manure, gradually grow out of it. Experience has led most cultivators to discontinue the propagation of chrysanthemums from highly-fed plants, as their constitution is so much weakened by the stimulants employed. It seems to me a parallel case to a man kept up by spirits to go through some great ordeal, which he may accomplish successfully, but after the excitement has worn off he is physically a far worse man than he was before. A plant such as a cucumber, which simply plays a part and then dies, may be liberally fed, although an excess may influence the seed, but to keep a plant in permanent health my advice would be—use stimulating manures with a niggardly hand.

W.

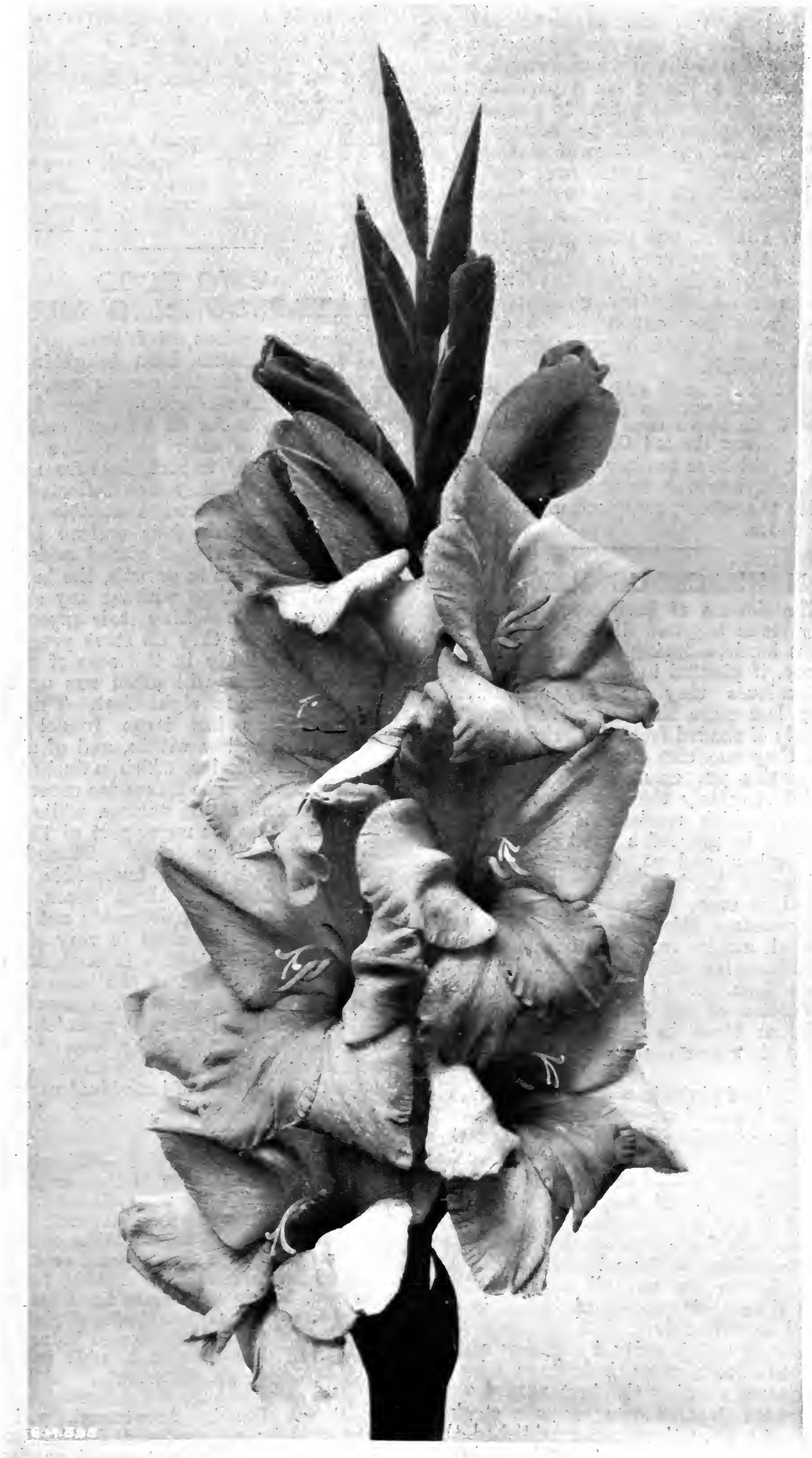
ADVANCES IN GLADIOLI.

The Iridea—the Order of the Flag—is very rich in good garden plants, and of special interest because so many of its genera have been taken in hand by raisers, to the very great improvement of our gardens. One has only to mention such families as the iris, crocus, and gladiolus to show how valuable the Flag order is horticulturally.

Dean Herbert, who was such a keen hybridist, had large numbers of hybrid gladioli at Spofforth prior to 1836, "with every shade of colour from white to scarlet, rose, peppery, and blackish-purple, and some are exquisitely speckled in consequence of the cross with tristis." Curiously enough however, the good Dean considered it was not "by crossing different species or local varieties of plants only that the cultivator may add to the beauty of his collection. Much may be done undoubtedly by crossing judiciously the finest seminal varieties of such plants as have been already improved in our gardens, and are disposed to break into a multiplicity of forms and colours." Unquestionably, this method has been the means by which our gardens have been greatly enriched by gladioli, but for the production of new races a species or a hybrid has been necessary in combination with garden forms of a good type.

For instance, the Childsi group, which comprises strong growers with large blooms, was raised by the late Herr Max Leichtlin, in 1882, by crossing selected varieties of the Gandavensis group with the crimson, light-spotted G. Saundersi. The Ghent gladiolus, G. gandavensis, is a very mixed race, though it was originated by crossing G. psittacinus and G. cardinalis. G. blandus, G. oppositifolius, and G. ramosus have also been used, probably in the earlier years of the race, to improve it, and add variety of colouring. In 1857 Mr. Kelway commenced work upon this group, and now most gardens show some evidences of the splendid results of his labours, and that of his successors. From white to maroon, from pink to purple, and salmon to orange, the whole gamut of colour shading and marking seems to have been laid under contribution in these stately flowers. Fully as robust, and giving an even wider colour range than G. gandavensis, is the race known as G. Kelwayi, evolved from it, by various intercrossings, by the Messrs. Kelway. In these varieties the colour combinations are striking and beautiful, the flowers large, well expanded, and finely set on remarkably handsome spikes. Latterly the production of fawn and yellow varieties has received special attention, and, for the moment, the acme of perfection in this direction has been reached by Golden Measure, a variety that was the great centre of attraction at the meeting of the National Gladiolus Society in 1912, when it gained for the Langport firm the silver cup as the best yellow variety in commerce. This is a superb, clear bright yellow gladiolus, and one that all lovers of these flowers will desire, but, as in the case of a very distinct new daffodil, the price is a trifle prohibitive at present, i.e., ten guineas per bulb—but well worth it. Fortunately, for most of us, there are varieties that are very beautiful, but not quite the same shade of rich colour, at moderate rates.

M. Lemoine originated the G. Lemoinei race, which have broad flowers, characterised by large yellow blotches on a ground colour that ranges from creamy-white to blood-red. Here again the Messrs. Kelway have added their touch of improvement to a beautiful group that began with the crossing of G. purpureo-auratus with G. gandavensis. The G. nanceianus group has descended from G. Saundersi, and selected varieties of G. Lemoinei, and is more free-blooming than the true gandavensis forms, while it yields varieties with purple, claret, and violet colouring. It may be mentioned here that several gladioli have blue colouring, but the bluest of blue varieties is Baron Jules Hulot, of violet-blue shade, and a gladiolus that always fixes attention upon itself wherever grown or shown.



GLADIOLUS GOLDEN MEASURE.

The finest yellow gladiolus yet raised; it gained for Messrs. Kelway and Son the silver cup offered for the greatest advance in this colour by the National Gladiolus Society in 1912.

There are several other races, such as Colvillei, which gives us such charming plants for pot culture and early flowering, and the later set of Princeps hybrids, and the quite new family produced by crossing Kelwayi forms with the pollen of G. primulinus, the latter coming from near the Zambesi Falls.

Gladioli are not nearly enough grown, nor are they sufficiently well grown in many gardens. They love rich soil, and a fairly heavy one, if well drained, and though they provide splendid colouring in a mixed border, they too often have to compete there with strong-growing and voracious herbaceous subjects. If every lover of the genus would plant a few dozen of the better varieties in a plot of land deeply worked and freely manured the previous autumn, or on soil heavily manured for a previous crop, the capacity of the plants to produce fine secondary spikes would be better appreciated. The old practice of placing some sand just under and just over each corm at planting time has much to recommend it, especially in retentive soils. Gladioli are sunshine lovers, but when grown for exhibition it is necessary to shade the lower part of the spike, so that the first-opened flowers may remain fresh until many of the upper ones have expanded. A carpeting plant of some kind is generally advisable under gladioli.

"And the small wild Pinks from tender
Feather-grasses peep at us;
While above them burns on slender
Stems the red Gladiolus."

We should have to alter these lines of Lord Lytton's, however, to make them fitly describe the robust, many-coloured gladioli of our times. C. K.

HERBACEOUS PÆONIES.

The flowers of herbaceous pæonies not only make a grand display in the herbaceous borders during the summer months, where, if planted in bold groups of separate colours they are very attractive, as they last some time in perfection, particularly if shaded from the bright sunshine, but they are also useful for cutting for decorative purposes.

Unfortunately these pæonies have large foliage, which renders it necessary for them to be planted a good distance apart to develop, and so, when grown in the herbaceous borders, after the flowering period is over, there is always a blank. To overcome this the roots ought to be allowed ample room to admit of some later-flowering subjects being planted between them. When grown specially for the production of cut flowers it is preferable to plant them in a plot by themselves, where they can be liberally treated while growing.

Pæonies delight in a deep rich loam, and an abundance of moisture at the roots while growing, therefore it is best to plant them by themselves, where, during dry weather, they can be mulched and liberally watered. If left for several years they throw up strong flower stems, which, in many instances, are from two to three feet long, carrying three or four blooms each. As these flowers do not all expand at the same time their season of bloom is prolonged considerably.

There is no difficulty in raising a stock of plants from seeds, but those who are desirous of growing the best named varieties would do well to procure a stock of roots, and when these are established they may be increased by root cuttings, in the same way as seakale and many other plants. The cuttings take some time to callus, therefore the plants will be small the first season, but when they have once formed crowns they grow away rapidly. Care will be needed with the cuttings until new roots are formed, as they are liable to rot if the soil is too wet. Though pæonies may be planted at any time during the winter, after the foliage has died down, I have always found plants grow away more vigorously if planted early in the autumn, before the crown buds are too prominent. If some of the tubers are taken off them and made into cuttings these will have made crowns by the following autumn, but it is well to allow them to remain in the nursery beds for another season to become thoroughly established.

There is now a long list of choice named varieties of pæonies, ranging from white to deep crimson, and not a few of them are very sweetly scented. I will just name a few for the guidance of those who may not have grown them: Albert Crousse, soft blush; Duke of Cornwall, bright crimson; Gloriosa, white, tipped with pink; La Perle, flesh colour; Snowball, pure white; Lutea plenissima, soft yellow; Beauty of Tokio, pure white, and very large.

H. C. Prinsep.

TWO GOOD LATE-FLOWERING LILIES.

The importations of Lilium nepalense and L. sulphureum, both delightful late-flowering lilies for the greenhouse, appear this year to be remarkably fine. Neither of them are, so far as I know, cultivated for the sake of their bulbs, the supply being kept up by importations from Upper Burmah, where they are collected in a wild state. A somewhat notable feature in connection with their culture is that after being potted and placed under conditions favourable to growth, the bulbs remain for some time without any signs of the young shoots making their appearance. When, however, they do start progress is rapid, particularly in the case of L. sulphureum, which will often run up to a height of six to eight feet. This last-named species has large funnel-shaped flowers, rich yellow within, and of a paler tone on the exterior, which is flushed with reddish-brown. The leaves are exceedingly numerous, and rather narrow, while in the axils thereof on the upper part of the stem bulbils are freely produced. These bulbils are large, and, under favourable conditions, will flower in three years. The other species—L. nepalense—is not so tall a grower, and the stem is very slender. The flowers, which reflex in a Turk's cap-like fashion, but not to the same extent, have the basal portion of the segments deep purple, and the upper part greenish-yellow or yellowish-green. In the tone of colour and the extent of the purple marking there is a certain amount of individual variation.

W. T.

Freesia Ragioneri.—This strain of freesias is, I believe, of Italian origin, and shows a more decided range in colour than we have hitherto been accustomed to see. True, ever since the introduction of Freesia Armstrongi (now a dozen years or so ago), coloured forms have been making their appearance, but in most cases the tints represented have been various shades of pink, rose, and lilac. In these new-comers bronzy tints occur, and there is also a wide range in pinks, orange, pale-blues, etc. All these varieties seem to have the rather attenuated growth of Freesia Armstrongi, and another, and by no means desirable, feature inherited from this last named species, is that they are to a great extent wanting in the delicious fragrance which constitutes one of the greatest charms of the popular Freesia refracta alba.—S. W.

CLARKIA ELEGANS.

It is not surprising that Clarkia elegans should gain in estimation with the years. It is a hardy annual that presents beauty and utility in the highest degree. It is probably in the open border that its elegant habit and warm, rich tones of colour appear to the best advantage, while its utility is also demonstrated by the fact that it succeeds as readily in pots as in the open border. The flowers are not ephemeral, and either upon the plants or in a cut state they retain their brightness and freshness for some considerable time.

Clarkias do not reach such early maturity as some others, nor is their flowering season of such brief duration. For the earliest display it is usual to sow in the open during autumn, transplanting the seedlings into pots or boxes, and wintering in a light, airy, and frost-proof structure. With increasing sunshine in spring, they are potted into larger sizes, and subsequently into their flowering pots, or planted in the open some time in March. In the case of pot-grown plants, these flower toward the end of April and during May, while the open ground plants flower during June and July. The earliest spring sowing should be made in boxes under glass, and the seedlings grown steadily in a cool structure, transplanting them into prepared soil, protected by handlights, and finally planting out in their flowering quarters during April. Where clarkias are wanted for a late summer display, the seeds should be sown during April where the plants are intended to flower. Thinning must be taken in hand early, and is best performed in two or three operations, with an interval of ten days between, allowing 15 to 18 inches between the plants at the final thinning. Staking should have early attention, for all the forms of Clarkia elegans attain a height of three feet in the open, and a light bamboo support prevents the plants from breaking down under the influence of rain or wind.

The most popular variety of Clarkia elegans is Salmon Queen, in which the double flowers are delightfully coloured salmon-rose; in Vesuvius the salmon shade is almost displaced by orange-scarlet; while in Orange King we have even a brighter selection; Brilliant is a variety with glowing rosy-salmon flowers; in Purple Prince the colour is a rich rose-purple; in White Queen the flowers are white, and Queen Mary is a lovely shade of rose-carmine, one of the loveliest shades in the whole group; Scarlet Queen is exceedingly brilliant in colour, and is an effective shade to employ for distant effect. Thomas Smith.

Coombe Court Gardens.

The Water Garden. — Located around most water gardens are steep banks and hillocks, and these invariably provide sites for numerous plants associated with water, such as bamboos, gunneras, astilbes, spiræas, and senecios. The fact must not be overlooked that such positions, although more or less near the water, sometimes become very dry during the summer, and, therefore, should at that season receive a heavy mulching of rotten cow manure, which greatly helps to retain moisture, as well as to produce luxuriant growth. I do not mean to infer that these subjects only require mulching when situated in such positions, as they at all times respond to such treatment. It also proves very beneficial to Iris Kæmpferi, if there has been any recent planting of this popular Japanese iris; the soil must be kept moist round the roots should we experience harsh drying winds. This more especially refers to imported roots recently planted.—T. B. Field.

PENTSTEMONS.

The varieties of pentstemons are very variable in character both in habit of growth and in their flowers. Some species only grow to a few inches in height and among these are some gems for the rock garden, such as Pentstemon glaber and P. humilis, while others form good bushes. Undoubtedly the best known and by far the most serviceable for furnishing display lasting over a period of several months are the hybrids.

The wide range of colour they provide, shading from white to scarlet, and from purple to lilac, bordering on blue and quite reaching a true blue, makes them very attractive, and whether planted en masse or separate shades in beds and borders or when blended they are alike effective. Their habit of growth again adds to their merit as desirable bedding plants, and with a little judicious management it is possible to produce any number of well-grown plants for bedding purposes with a minimum of trouble.

The usual method of raising plants are from cuttings or seeds. The former is the one most practised, as it is the only method of keeping a true stock of any particular colour or variety. Seedlings usually show much variation, but if raised from seeds which have been selected from a good stock they prove both interesting and useful when one contemplates planting for a mixed effect.

A feature in these cultivations which has an important bearing on their successful flowering from June onwards is to have good plants ready to put out at the end of March or early in April, and to obtain these it is essential that cuttings be put in early in September. Choose young shoots growing sturdily from the base of the old plants, and after preparing them as follows put them in a shallow frame containing a few inches of light sandy soil. If space is not limited allow about 3 inches each way between the cuttings so that will give sufficient room for the young plants to develop without having to disturb until planted out in the spring, otherwise put 4 inches apart; then water in, and keep the frame close and shaded from bright sun for a few weeks until the cuttings have taken root, afterwards they should be given all the sunshine except when the temperature falls to freezing point. The lights can be pulled back on all fine days when mild, as this will prevent the young plants from becoming drawn.

When raising stock from seeds sow in August and when the seedlings are large enough to handle pot them singly into small pots and treat in a similar manner to that advised for cuttings. Those sown now early in the new year, and placed in gentle heat to germinate, form good plants ready for planting out in May, but those in the ordinary way will not flower as early as the autumn raised plants.

Occasionally some little trouble is experienced with plants dying off in an inexplicable manner and somewhat spoiling the effect of the beds; this can be overcome by a frequent dressing of soot and also by a free liberal dressing of rank manure being dug into the ground when preparing it for receiving the plants. The very hard and stiff ones are objectionable, leaf and coarse ones are good should be given to make it friable and more suitable to their requirements. Be occasionally examining the plants during the flowering season, and pinching out the leading shoots as soon as the flowers are over, cause growths are induced to develop and blooms are more freely produced.

There are now many named varieties in commerce that are of quite exceptional merit. Of these the following may well be made a selection: Cerise Queen, Queen Victoria, Sutton's Scarlet, Pink Gem, Mrs. Sinkins, Purple Gem, Mrs. Kingsmill, Mrs. Holden, Mrs. Neal, Mrs. Watts, Marchioness of Tullibardine, Sir J. Shackleton, and Ware's Fire Dragon, for best groups in borders.

T. B. Field.

PENTSTEMON FIRE DRAGON

Flowers bright scarlet with white throat. A fine variety that has been raised by Messrs. T. S. Ware Ltd., Feltham.

SPIRÆAS AND ASTILBES.

The merest mention of spiræas and astilbes bring to mind summer-tide pictures of garden beauty, and one's thoughts are rapidly conveyed to the bog garden and the environs of the water garden, the places "par excellence" for the successful culture of these two distinct, beautiful, and easily-grown classes of plants.

Taking the spiræas first, I would urge upon all who have a sufficiency of garden space to cultivate S. gigantea and S. gigantea rosea. These are striking plants of noble appearance, often attaining a height ranging from eight to ten feet. The foliage is bold and effective, while the blossoms of the former are white, and rosea carries a pleasing pink colour. S. venusta, or lobata, is a very pretty rosy-hued species, tall and stately in growth, and of exceeding merit; it is essentially a species for all gardens. Several good varietal forms are in existence, and of these I may note Magnifica, with larger blossoms and richer colouring than the type; Blushing Bride, a pretty white, tinged with pink, and having showy red anthers; and Alba, pure white, the snowy heads being relieved by the rosy-hued anthers.

The Goat's-beard Spiræa, S. aruncus, is a bold, imposing plant, rather more fond of shade than the majority of spiræas. The variety S. Kneiffi is dwarfer, but in many ways is more beautiful. The elegant leafage is daintiness supreme, and with its mass of feathery, branching flower plumes it makes a most attractive subject for massing by the watersides.

The free-growing native S. Ulmaria is best represented by the fine snowy-white double form, known as flore pleno. This makes a bold group, but I do not advise the single form for garden planting. S. palmata produces an unsurpassed glow of rosy-red colouring. It is best planted in drifts by the sides of a stream, or in a selected spot in the bog garden. The pure white form of this, palmata alba, is first-rate for contrasting, though, of course, not so valuable as the more brilliant type. S. filipendula, and the double-flowered S. filipendula plena, give snowy drifts of white blossom above the pretty ferny foliage, but these can only be used where the superior height and vigour are not desired, but for a miniature water-side they are delightful.

Astilbes are even more popular than the spiræas, and are being largely planted for effect, a point worth noting by all intending planters. Big bold masses and really telling breadths of each variety are necessary if one is to gain the fullest effect. When established, and in full blossom, the beauty of the masses of dainty spires, in white, pink, and rose, with the rich greenery of the foliage as a setting, is almost indescribable.

Of astilbes there is practically no end. The arrival, a few seasons ago, of A. Davidi and A. grandis marked a new era for the genus. The deep rosy-red plumes of Davidi, and the white-flowered grandis, winning their way into popular favour, have opened the way for the new Arendsi hybrids, and Messrs. Lemoine's fine introductions. The coming of those splendid astilbes, Queen Alexandra, rose-pink, and Peach Blossom, also materially assisted in the work of popularising the genus.

Of the Arendsi group I may briefly commend Ceres, a pretty rosy-pink; Salmon Queen, a splendid tall salmon-pink of decided beauty; Pink Pearl, a soft pleasing pink; Venus, a deep pink, with almost a tone of purple in it; and Cream Pearl, a pretty creamy variety of pleasing appearance. There is much of the character of Davidi in many of these varieties, but all are worthy of the garden-lover's attention.

A few of the more notable of Messrs. Lemoine's introduction are, briefly, as follows: Carminea is a tall pleasing carmine variety, with just a touch of violet in its composition; Rubella, a bright rich rosy-pink, is a splendid plant, and produces a heavy crop of blossom; Rutilans, the "shining astilbe," is capable of exquisite effects, its rosy-carmine colouring being very appealing to the eye; Olympic gives tall spikes of soft rosy-pink, a pretty gem; Mousseline is a dainty, compact, rosy-lilac form; Gerbe de Neige is a grand pure white, of fine appearance, and has splendid spikes of blossom.

Of other astilbes, such as the varieties of A. rivularis, of which gigantea, a splendid erect creamy-white, and major, a large showy pure white, are about the best, and the extremely useful A. chinensis a sterling decorative subject, together with the varied forms of A. japonica, A. astilboides, etc. (a group which are often referred to as spiræas), are all of first-rate importance for the moist margins of the water garden.

P. S. Hayward.

ASTILBE RUBELLA.

A beautiful hybrid with bold spikes of pink flowers, as growing in the nurseries of Messrs. Wallace and Co., Colchester.

THE HARDY PLANT INDUSTRY.

As we recall to mind the many distinct, beautiful and rich colour effects which are produced by the hardy plants that have a place in well-arranged borders, as they pass in procession during the period between the opening days of the season of spring and the close of the autumn, we cannot but feel that few probably appreciate the importance of the industry which enables us to furnish our beds and borders at a minimum of expense and trouble with the most beautiful

A BOLD SWEEP OF HARDY HERBACEOUS PLANTS (DOWNSIDE, LEATHERHEAD).

plants from all parts of the world. The industry has been developed at a somewhat rapid rate, and those who are engaged in it have taken advantage of the opportunities the horticultural exhibitions afford for presenting their specialities to public notice, and thereby enabling visitors to become acquainted with the beauty and effectiveness of many kinds.

Lovers of hardy plants have not been startled by the introduction of new forms, commanding large sums on their introduction, but they have been fully satisfied by the steady flow of novelties, and they have expressed their satisfaction in such manner as to compel all the leaders of the industry to enlarge the sphere of their activities. It is now far too late to institute comparison between the hardy flowers now beautifying the flower garden and the showy tender plants that for a time occupied their place, although writers now and again suggest they are under the impression that in large numbers of gardens zonal pelargoniums, calceolarias, and similar subjects still predominate. A quarter of a century ago such reference would have been appropriate, but now we need only concern ourselves with the hardy plants, for they hold undisputed sway, and where it is not found desirable to wholly banish tender plants from the flower garden during the summer months the great superiority of the hardy kinds is fully recognised. This is as it should be, for their strong individuality in habit of growth, in the form of their flowers, and in the varied shades of colour, render them not less valuable for their absorbing interest than for effectiveness.

Hardy Plants in the Early Victorian Days.

In the early Victorian days the flower garden was in a rapid state of transition, as at that time there was a reaction in favour of greater brightness than that which had prevailed for some years previously. In the early part of the last century very close attention does not appear to have been given to the ornamental features of the garden that depended more or less upon flowering plants. There was considerable interest in flowers, but it was chiefly shared by the auriculas, carnations, pinks, polyanthuses, ranunculuses, tulips, and other florists' flowers, that were then grown in considerable numbers for exhibitions. For the embellishment of the flower garden the chief dependence was upon hardy annuals and perennials, and, according to the author of an important book published about the middle of the last century, ten out of twelve kinds of each class were worthless trash, being weedy in appearance and unattractive in colour.

At this period cultivators appear to have wholly failed to appreciate the importance of so grouping the several kinds as to produce distinct and tasteful colour effects. Hence beds and borders were singularly lacking in attractiveness. The endeavour on the part of the greater proportion of growers was to form collections of species and genera, rather than study the beauty of individuals, or the effect they were capable of producing. The formation of collections was not so pronounced in England as in Scotland, where a considerable number of gardens might have been found containing from 500 to 1,000 species and varieties. When the reaction set in against the dull and unattractive borders the change was effected with great rapidity, and, it should be added, with but little discrimination. Good and bad kinds were turned out of the borders without differentiation, and many hardy plants of great value in garden decoration were practically banished from cultivation. In the days anterior to the appearance of the brilliantly coloured Tom Thumb pelargonium above the horticultural horizon

considerable attention was paid to the more beautiful of the alpine plants then in cultivation, and the collections in some of the Scottish gardens were retained until after the massing of brilliantly-coloured tender plants in the flower garden had become general.

A BEAUTIFUL BORDER OF HERBACEOUS PLANTS (CARBERRY TOWERS).

Eclipse of Old-fashioned Border Flowers.

The eclipse of the old-fashioned hardy perennials was not total, but although in some of the old gardens in remote country districts the borders of perennials were defended from the inroads of the showy tender bedders, it came dangerously near thereto. If we turn to the periodic literature and the gardening books that were published about the middle of the last century, we find but little space given them. The hardy and tender plants to which the florists of that period were devoting their skill and care received a full share of attention in the various publications, but alpine and hardy border plants were given the scantiest of notice.

The opinion was held by a considerable proportion of the past generations of cultivators that hardy plants, when once planted, are so well able to take care of themselves as to require but little, if any, attention. As the result the borders in gardens wherein no attempt was made to form collections were, for the most part, given up to kinds of so strong a growth as to have been successful in the struggle for existence killing the major portion of those of moderate growth, and, it may be, possessing great beauty. This idea is still entertained by some owners of gardens, and given expression to by a few writers, and, as a consequence, we now and again meet with borders in which the plants present a weedy and otherwise unsatisfactory appearance. To obtain the full beauty and interest from a border that has been well furnished with hardy plants, there must be constant care, and the exercise of some skill. It is well this should be so, for were hardy plants independent of the cultural art much of the pleasure, and not a little of the interest associated with them would be lost. There are, however, no great difficulties in the cultivation of by far the greater proportion of the kinds, and flower lovers may plant them in their beds and borders with the assurance of achieving success of a high order.

Revival in Hardy Plants.

The commencement of the revival of interest in hardy plants takes us back about forty years, and a reference thereto recalls to mind many pleasant incidents in connection therewith. Possibly some of those who read these notes may consider that a later date would possibly be more correct. It must, however, be remembered that this revival, with its far-reaching effects, did not have its genesis coincident with the time when owners of gardens and those engaged in their management, began to buy and plant hardy perennials in considerable quantities. Such activities were a manifest proof that a great change was being made; but we have to go back some years anterior thereto for the purpose of finding the initiation of the work that rendered the revival possible. There had to be some years of persistent advocacy of the claims that hardy plants had upon all who were concerned with the decorative aspects of the garden, before any considerable proportion of them could be diverted from the various tender plants that had for many years been regarded with much favour. Moreover, some thirty-five years or so ago so little was known of the finest of the hardy plants that much educational work had to be accomplished before any material change could, with success, be effected. In this work the Gardeners' Magazine rendered valuable service in various directions.

Hardy Plant Improvement.

Another important factor was the splendid service rendered by those members of the trade who had never lost their faith in them, but had continued the improvement of some of the kinds throughout the period in which the interest in hardy flowers was at its lowest ebb. For example, the late Mr. William Kelway had become greatly interested in the herbaceous pæonies before the massing of tender bedding plants in the flower garden had made much progress, and, gathering up all the most meritorious varieties he could obtain, he went steadily on with his work in improving the form and increasing the size of the flowers and developing new shades of colour. In this he achieved a high degree of success, and by his example induced others to take up the work of cross-fertilisation, some of the most noteworthy achievements being such distinct and beautiful varieties as Exquisite, Lady Curzon, Lady of the West, Lord Rosebery, Madame Calot, and Soltatara. Some years later the pyrethrums were taken in hand by Mr. Kelway, and, as the result of this pioneer work, large collections of flowers of both kinds were exhibited both at South Kensington and Regent's Park, and these assisted in obtaining for hardy plants the attention that had for so long a period been denied them.

Taking down from my bookshelves some trade catalogues that were issued in the early fifties. It is found that, concurrently with the progress that was being made in the West of England in the improvement of pæonies and pyrethrums, some of the Scotch growers, notably the late Mr. John Downie, were busily engaged in the development of herbaceous phloxes, pansies, and pentstemons. It is exactly forty years since the late Mr. John Forbes established

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Buddleia macrostachya yunnanensis.

Adenophora megalantha (Illustrated). This is a hardy perennial growing about 18in. in height, and producing with wonderful freedom, along two-thirds of the upper part of the stems, large handsome bells of a particularly pleasing shade of pale porcelain blue. Its habit will fit it for either border or rockery. It needs no staking unless it is grown in very rich soil. If well exposed to the sun the growth is sturdy and erect. It is quite the handsomest of the Adenophoras, and we recommend it to our clients with the fullest confidence. **Strong flowering plants, 5/-.**

Buddleia macrostachya yunnanensis (Illustrated). The young leaves and undersides of the older leaves are covered with pure white woolly tomentum; flowers mauve, **fragrant,** in erect spikes. **Strong plants, 10/6.**

Codonopsis meleagris (Illustrated elsewhere in this issue). The habit and character of this striking species is well shown in the illustration. It is a strong growing alpine, and reaches a height of 9 or 10in. On the rockery, in a sunny or dry position, it will probably not be more than 6in. tall. The flowers bear a very striking resemblance to those of the Snake's-head Fritillary. The ground colour is a very, very pale porcelain blue, the reticulations are rich chocolate purple, and the centre or base is green. The habit of the plant is semi-erect. On the rockery we recommend it to be planted in a similar position to that which is recommended for C. ovata, that is where one can peer into the inside of the bells without stooping. **Strong plants, 7/6; a few extra strong, 12/6.**

Adenophora megalantha.

Delphinium lichiangensis. This hardy perennial species grows somewhat taller than D. chinense, but is not so heavy in appearance as D. formosum. The colour is a bright Salvia blue, the flowers are of good size, and are freely produced on strong, erect stems. It will prove very useful for cutting, and will make handsome groups in the border. Growing amongst other Delphiniums, although bearing some resemblance to chinense, it strikes quite a distinctive note by reason of its distinct colour and habit. **Strong plants, 5/-.**

Dracocephalum bullatum. When this species was shown at the Royal International Horticultural Exhibition in London, it created a very considerable amount of interest. It is a plant much in the way of the splendid D. grandiflorum, but rather more lax in habit, and with the foliage of a softer texture, while the flowers, instead of being blue, are of a very refined shade of purple. It is a plant which to show itself at its best must be planted in a sunny, well-drained position on the rockery, or even on the border, and be allowed to remain undisturbed for several years. It will then form a dense mat of shoots, clothed with foliage, and each shoot will be tipped with a large head of richly-coloured flowers. Strong flowering plants, **7/6;** a few extra strong specimens. **12/6.**

Dracocephalum tanguticum (Forrestii). The habit of this very striking species is shown in the illustration, which represents, by the way, a rather poor specimen in a 3in. pot. Plants in the open grew into bushes 12in. or 18in. in height, and as much through in a couple of seasons. When in bloom they were a really splendid sight. The flowers, as will be seen, are produced in dense spikes. From nearly the base of each shoot to the very top, the flowers are produced in rapid succession for a period of several weeks. It flowers in late summer and autumn, and like other species of this genus it delights in a sunny position. The colour is a glowing shade of violet-purple, giving off some striking wine-red and purple tints in strong sunshine. **Strong plants, 7/6; a few extra strong at 12/6.**

Incarvillea brevipes. We first offered this plant—which, by the way, was one of Mr. Forrest's first introductions—several years ago, and the demand, owing no doubt to the plant's attractiveness and value, rapidly exceeded the supply, so that for a season or more we have been unable to execute orders for it. The plant very much resembles I. grandiflora, but it is far superior to that species, as well as quite distinct. Perhaps the most notable feature is its habit of flowering in early summer. In May, while the other Incarvilleas have hardly commenced to make growth, this plant, from established roots, is a mass of bloom. Brilliant rosy crimson is a very scarce colour at that time of the year, and no doubt this fact contributes largely to the success and popularity of this fine plant for herbaceous borders. The plant does not imitate I. Delavayi in that habit of occasionally lying dormant for a whole season. Out of the thousands we have grown we have never known a solitary plant which did not grow freely every season The colour, a brilliant rosy crimson, is accentuated by the pale yellow of the throat. **Strong roots, 1/-; a few extra strong, 1/6.**

Incarvillea lutea. The illustration which... by Mr. Forrest of a plant flowering in... very vigorous growth, some of the ... that I. Delavayi when well-established... will not need to be told that I. lutea ... siderably. The flowers themselves ... will be seen from the illustration, ... Nurseries at Sealand. **Strong roots,**

Iris Bulleyana. An interesting species ... Irises in its general habit. The foli... striking, are of pretty form, and a ... **plants, 2/6.**

Iris Forresti. This is a much more sh... habit. The flowers are yellow with ...

Lonicera Henryi hirsuta. This variety ... guished from the type by having fo... same habit and bears similar flowers ... agency of Mr. Wilson; flowers choco...

Oxytropis yunnanensis. This is quite ... foliage, and pale blue flowers, which ... habit of growth is tufted. It will ... plant. **Strong flowering plants, 5/-;**

Pæonia Delavayi. In everything but ... sembles the splendid P. lutea. The ... of P. arborea, while the foliage ... bush about 2ft. in height; it may, ... the normal height. The colour of ... red, not such a red as one usually ... win tulips, such as "Sultan" and ... **flowering specimens, 21/-.**

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...is reproduced from a photograph taken ... habitat. As will be seen, it is a plant of ... a yard long, and anyone who knows ... flower stems 3ft. or more in length, ...pected to exceed these dimensions con... of yellow, very freely produced, as ...sent the plant has not flowered at our

...one of the very fine North American ..., and the flowers, though not ... pale blue; height about 9in. **Strong**

... the preceding, although of similar ...ions. **Strong plants, 3/6.**

...collected by Mr. Forrest, is distin... hairy character, otherwise it has the ...es which was introduced through the ... **Strong plants, 2/6.**

... alpine with characeristic pinnate ... one of the Bird's-foot trefoil. The ... prove to be a very attractive rock ... **specimens, 7/6.**

... its flowers this striking species re... ...-shrubby, very much like the growth ... handsome. The plant forms a compact ... taller with age, but this appears to be ... rather difficult to describe. It is a deep ..., but similar to the deeper reds of Dar... **...rong healthy young plants, 10/6; larger-**

Potentilla Veitchii. This shrubby Cinquefoil was sent home by Mr. Forrest as P. fruticosa alba; it proves, however, to be identical with one sent home previously by Mr. Wilson. The white flowers are very freely produced, and the effect of a well-grown bush is quite excellent. It will probably obtain similar dimensions to P. fruticosa, which it very much resembles in habit of growth. **Strong plants, 3/6 and 5/-.**

Primula angustidens. This species resembles P. Poissonii to a considerable extent, but is recognised as distinct by the botanical authorities. The difference from the horticultural point of view is that it is more free flowering; the plants instead of producing a solitary spike often throw up from one crown several stems bearing several whorls of the brilliant purple-violet flowers, each flower measuring 1in. across. Like P. Poissonii, the foliage is bright and glossy, and the plant itself is a very vigorous, thrifty grower. There is no danger of this plant "going off" in the winter; it seems to revel in a moist situation, and will, no doubt, make an excellent bog plant. **Strong plants, 5/- and 7/6.**

Primula farinosa Beesii. This plant was raised from seed sent home by Mr. Forrest, and is an interesting instance of the wide distribution of the British Bird's-Eye Primrose. It is, however, a very well-marked variety, much larger in all its parts than we have ever seen the type attain under cultivation, while the flowers are a very bright shade of rosy pink. **Strong plants, 1/6.**

Primula pulchelloides. This primrose belongs to the class of which P. sikkimensis may be taken as a type. The flowers are more or less collected together in a head at the apex of a slender stem, and droop slightly. The leaves, stems, and even the flower calyces are covered very thickly with a yellow farina which forms a pleasing combination with the pretty pale lilac flowers, more or less flushed with rose. The plant will reach a height of 6in. to 9in. **Strong flowering plants, 3/6 and 5/-.**

Primula Beesiana. Velvety purple. **1/6.**

Primula Bulleyana. Buff, orange, apricot, and scarlet. **1/6.**

Primula Forrestii. Golden yellow. **1/6.**

Primula malacoides. Rosy lavender. **6d.**

Primula malacoides alba. New, white. **1/6.**

Primula secundiflora (Illustrated). The illustration which we reproduce is from a photograph taken by Mr. Forrest of plants growing wild on the Lichiang Range, at an altitude of 13,000 feet. It is a vigorous-growing species, with much the same habit as P. sikkimensis, but the colour of the flowers is quite unlike any other Primula we have seen. It may be readily described as a dull but rich purple. It is such a colour as would be well set off in contrast with brilliant orange. The flowers are scented, quite large in size, and are produced with wonderful freedom. It is interesting to note that the botanists consider this species to be identical with P. vittata, but the plants which are in cultivation under that name are totally distinct from this plant, which we are now distributing for the first time, and which is a vastly superior thing. It appears to be a lover of damp places, but ample drainage is essential, and we consequently recommend that the plant be grown on a raised mound, which would permit of the roots descending into a moist sub-strata beneath. **Strong plants. 7/6.**

Primula secundiflora.

Roscœa cautlioides. This is a new Chinese plant of absolutely faultless beauty. It was sent home by Mr. George Forrest while on one of his earlier plant hunting expeditions on our account. The colour is a pale yellow, very soft and delicate, fuller in tone than "primrose," infinitely more refined than "canary"; in short, quite as charming a tint as we ever expect to see. In texture, the petals are worthy of comparison with the Poppy. The leaves remind one of an Iris, springing from the base of the 9 to 12 inch stems, which carry as many as 6 or 7 blooms and buds. The roots are fleshy, almost tuberous, and, if planted 4 or 5 inches below the surface in sandy loam, will prove hardy. Test plants in the open ground have come safely through the past winter on our exposed Nursery in N. Wales. **Price for flowering-size plants, 7/6; a few extra strong, 12/6.**

Dracocephalum tanguticum.

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himself in business at Hawick, and entered on the improvement of phloxes and pentstemons, and certain other classes of hardy plants.

The aim of these pioneers and of the other raisers of new forms of these beautiful plants has been to improve the form and increase the size of the flowers, and extend the range of colouring. How well they have succeeded in effecting their object is evident in all gardens in which these perennials are grown. In the case of the phlox, the flowers of the present-day varieties have a circular outline, and in diameter exceed by at least 50 per cent. the blooms of the older forms, and the development in colouring is little short of marvellous. In proof of this we have only to refer to the orange-red Cocquelicot, the orange-scarlet Etna, the pure white Freifraulein von Lassberg, the salmon-pink Elizabeth Campbell, and the deep violet-blue Le Mahdi. In the case of the pentstemons the efforts of the raisers have resulted in the production of a race with the plants more robust, the flower spikes of greater length, and the flowers larger and more horizontal than in the varieties now far removed from the type. Countess of Aberdeen, Fire Dragon, Lord Northcote, Mrs. L. Pullar, Mrs. E. Smith, and Talma may be mentioned as representing the highest type of the present-day pentstemons.

The Earlier Hardy Plant Nurseries.

Forty years must also have run their course since the late Mr. Robert Parker, who had for some time been in partnership with the late Mr. B. S. Williams, at Holloway, left the orchids and the stove and greenhouse plants, for which they were famous, established a nursery at Tooting for hardy plants, and gave the whole of his time to their development. For a considerable period he used to contribute large and interesting collections to the London shows; these stimulated much interest, and brought into prominence many plants that were comparatively unknown. He also did excellent work in connection with the Michaelmas daisies, which at that time contained a considerable number of varieties that were weedy and of little value for beautifying the garden. A few years subsequently the late Mr. T. S. Ware, imbued with a strong affection for hardy plants, gave up the business in which he had been so long engaged, and established, on a large scale, a nursery at Tottenham for their cultivation for commercial purposes. These two nurseries were the first that were established specially for hardy, herbaceous, and alpine plants, after their restoration to public favour, rendering valuable service in making the various kinds known, and distributing them amongst those who were desirous of enjoying the individuality of the many beautiful hardy plants.

Ascendancy of Hardy Plants.

Subsequent to these two nurseries having been established the taste for hardy plants increased at a rapid rate, and concurrently with this there was a remarkable extension in their cultivation, both in trade establishments and private gardens, and this extension has, happily, continued without a halt until the present time. In the course of time, and that of no great length, collections of hardy plants were to be found at all the nurseries of any considerable extent. Under the stimulus thus given, and the ever-increasing demands for novelties, new and rare species and varieties were introduced from various parts of the world, and strenuous endeavours were made at home, and with much success, to develop the leading kinds by cross-fertilisation. For evidence of this we have only to turn to a catalogue of hardy plants issued within the last few years, and compare it with one that was published about a quarter of a century ago. It will at once be found that there have been large increases in a number of instances that have resulted from judicious cross-fertilisation and careful selection. To mention but a few, there are the delphiniums, which now form a magnificent group; the plants stately in growth, the spikes of great length, the flowers, both double and single, of large size ranging in colour from the purest white to the deepest purple on the one hand, and to the most brilliant blue on the other. These we chiefly owe to the efforts of Messrs. Kelway, Perry, and Blackmore and Langdon. Conspicuous among the more recent of the additions that have been made to the delphiniums are Daniel Osiris, Excelsior, Monarch of All, Phyllis Kelway, Rev. E. Lascelles, and Statuaire Rude. The Michaelmas daisies, for which we are, in a large degree, indebted to Mr. Ernest Ballard, an enthusiastic amateur, Mr. E. Beckett, Messrs. Barr and Sons, and the late Rev. Wolley Dod, include exceedingly beautiful forms of Aster cordifolius, A. ericoides, A. novæ-angliæ and A. novi-belgi, especially notable being the double Beauty of Colwall and the remarkably fine Climax in the last-named group. The garden iris, amongst which the late Sir Michael Foster did such excellent work. The Oriental poppies, which have been contributed chiefly by Mr. W. J. Godfrey and Mr. Amos

AN ORNATE FOUNTAIN BASIN WITH WATER LILIES (DOWNSIDE, LEATHERHEAD).

Perry, comprise several distinct shades of colour, as the salmon Edna Perry, the terra-cotta Lady Roscoe, and Perry's White. The garden pinks, raised, for the most part, by the late Mr. James Douglas and Mr. B. Ladhams, include several

AN ATTRACTIVE ROCKERY ARRANGED WITH CHOICE ALPINES OF MODERATE GROWTH (LEONARDSLEE).

perpetual varieties, as Ernest Ladham and Progress. The spring-flowering alpine phloxes, of which many originated with the late John Nelson have been so greatly improved as to form an important group of rock plants. Many well-marked varieties of species of campanulas and other plants have been obtained by selection, and greatly enrich collections. The early-flowering chrysanthemums that now form so valuable a group of hardy plants for beautifying the garden in September and October may be said to have had their foundation laid by the late Mr. Piercy, who raised a few, but the chief value of his work consisted in the persistent efforts he made to keep them before the gardening community. Especially noteworthy among these being Carrie, Goacher's Crimson, Madame Marie Masse, and its numerous colour sports. Montbretias, as we now know them, are quite modern introductions, and the finest of the varieties we now have were raised by Mr. G. Davison, of Westwick, his most noteworthy production being the orange-yellow Star of the East.

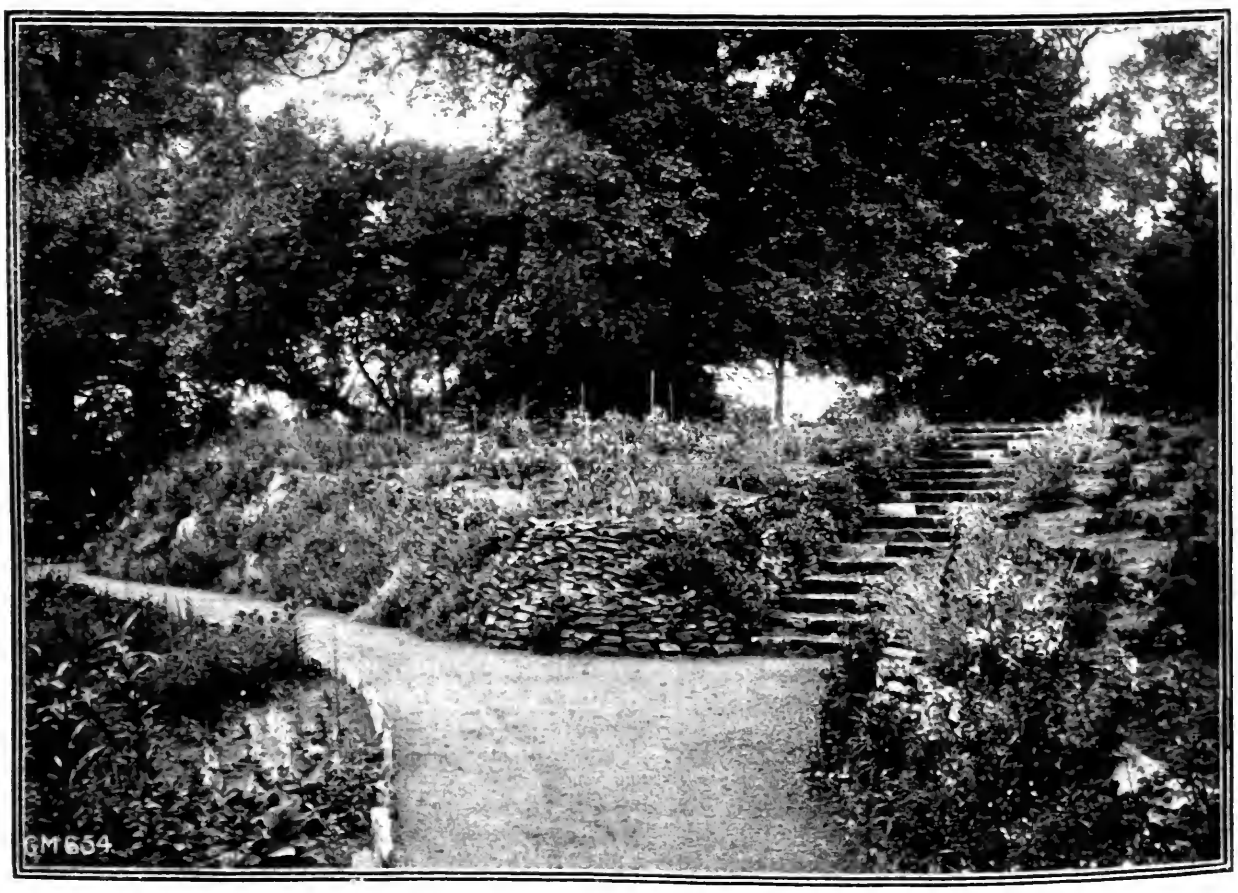
With the introduction of new and little-known plants from abroad, the improvement of certain genera by cross-fertilisation, and the prominence assigned to the finest kinds at the exhibitions, the development of hardy plants proceeded apace, and it has now assumed proportions of which but few have an adequate idea. It is not possible to set out in detail the number of nurseries in which hardy plants form a special feature, the area devoted to them, or the number of persons engaged in the industry. It can only be said, and that will probably be sufficient, that hardy plants grown for sale must, at the present time, occupy an immense area, and that those engaged in looking after their needs and dispatching them to purchasers would make a respectable army.

Important as have been the results obtained from cross-fertilisation and selection, they by no means exhaust the activities of those engaged in the hardy plant industry that have had for their object the increase in the number of forms deserving of general cultivation. Within a short time of the industry having been placed in a position that promised well for its future, plants of known merit that had not been introduced to this country in any considerable numbers were obtained from other parts of the world as quickly as possible, and multiplied as rapidly as the art of the propagator would permit. Collectors were sent in quest of choice alpine plants to the mountains of Central Europe, the Caucasias, and the Pyrenees, and, as the result of their activities, immense numbers were annually sent to this country. In addition a large number of new Chinese plants of a quite distinct character have been introduced to cultivation, of especial interest being the beautiful primulas, notably P. Bulleyana, P. Forresti, and the exquisite P. Littoniana introduced by Messrs. Bees, Lim., P. pulverulenta, and P. Knuthiana, introduced through Messrs. J. Veitch and Sons, and now generally grown. Some important additions have been made to the hardy primulas by the exercise of the hybridists' art.

There are not wanting hardy plantsmen who regard the management of a nursery devoted wholly or in part to their favourite flowers as a pleasant pastime. Pleasant it may be, but it can hardly be described as a pastime. An ordinarily good collection will include about two thousand species and varieties, and of a large proportion of these the stocks will consist of many hundreds of plants. To keep a collection containing so large a number of units in such order that the risk is reduced to a minimum of the different kinds becoming intermixed, requires a well-devised system and constant watchfulness. Not less necessary is it to exercise such care that the several classes of plants are placed under the conditions favourable to their healthy growth, and the difficulties there may be are somewhat accentuated by the plants having to be grown in small pots to meet the requirements of business.

Rock Gardening and Alpine Plants.

One of the most interesting features in the growth of the hardy plant industry has been the remarkable development of a taste for alpine and other plants that thrive on well-planned rockeries. At no period in the history of gardening in this country has the interest in the exquisitely beautiful flowers of the Alps been so great, or such strenuous endeavours made to cultivate them with a full measure of success as at the present time. No longer is it assumed that anyone who has some knowledge of gardening can construct a rockery adapted to the requirements of a wide range of plants from mountainous regions as was the case in the olden days. This is now recognised as work that requires taste, a knowledge of the conditions under which the several classes of plants thrive, and experience in the building of rockeries. Accordingly this is now entrusted to those who have afforded ample proof of their ability in dealing with it, and the success



AN INTERESTING WALL GARDEN (NUNEHAM PARK).

that has been achieved as a consequence thereof has contributed in a marked degree to the high degree of popularity that rock plants now enjoy. The construction of rockeries has almost assumed the position of a fine art, and those who visited the Royal International Horticultural Exhibition held at Chelsea last year will remember with pleasure the splendid examples of rockery construction that were carried out by Messrs. Pulham and Son, Messrs. R. Wallace and Co., Messrs. J. Cheal and Sons, and also by Messrs Backhouse and Son, Messrs. T. S. Ware, and others. In the modern rockery we have two types, one formed with large rock masses for the accommodation of strong-growing plants, that attain a large size, and are capable of producing a bold effect; and the other constructed with ledges and fissures specially adapted to the smaller-growing kinds which constitute some of the most beautiful of the denizens of alpine regions.

Water and Bog Gardens.

Hardly less noteworthy than the advances that have been made in rock gardening has been the development of a taste for moisture-loving plants during the past quarter of a century. Well within the recollections of many of those who read this brief sketch the only water lily found floating on the glassy surface of lake and pool in British gardens was Nymphæa alba, which has its home in this country. Now the number of water lilies in cultivation is very large, and, although differing in merit, all are more or less beautiful. There are varieties so strong in growth as to require a small lake or spacious pool for their proper development, and there are others so moderate in growth that they can be successfully grown in the basin of a quite small fountain, or in the simplest of pools. Indeed, there are several, such as some of the varieties of N. Leydeckeri, and those of N. pygmæa, that require so little room as to admit of their being grown in shallow tubs three feet or so in diameter. On the other hand, there is a host of varieties available for those who have ample water space at their command. There are, for example, the varieties of Marliacea, which afford a wide range of colour, the pure white Gladstonei, the pink John Brydon, the rich purple Robinsoniana, and the rich crimson Sanguinea, to name but a few of those in general cultivation. Water gardens of wondrous beauty may be formed with nymphæas and other aquatics suitable for growing in association with them. It would be both pleasant and interesting to refer to some of the newer varieties, but it must suffice to say that nymphæas now form an important feature in hardy plant collections, and that for the greater proportion of those available for cultivation we are indebted to M. Latour-Marliac.

The development of bog gardening has given added interest to hardy plant culture, and the bringing into prominence of the many beautiful plants that thrive in moist situations has rendered it possible to materially increase the charm of the margins of lakes and ponds, and the low banks of streams that have a fall so slight as to proceed slowly on their way through the garden. Very different is the appearance of a lily pool, whether large or small, with a fringe formed with such plants as the Water Violet, the Bog Bean, the Arrow Head, the forms of the Marsh Marigold, the Water Soldier, and other plants thriving under similar conditions. For planting in bogs, artificial or otherwise, there is a wide range for selection, and the lists that are to be found in the trade catalogues show that their importance is recognised both by owners of gardens and those who are engaged in the hardy plant industry.

GEORGE GORDON.

DELPHINIUMS.

As the result of much enterprise and perseverance on the part of those who have taken an active interest in cross-fertilisation among hardy herbaceous plants, the perennial larkspurs form a group that is remarkable for its distinctness and beauty, and quite unsurpassed for the production of striking colour effects in the hardy plant garden. Within quite recent years they have undergone an immense improvement in habit, in the flowers, and flower spikes, and in the range of colours, which is now very great. The varieties are now of so high a degree of excellence that a hardy flower border would be very indifferently furnished if it did not contain a selection from them. Delphiniums are now to be obtained in numerous shades of colour, varying from the palest silvery-blue to the deepest indigo, while some of them possess a pink and purple tinge, with their centres ranging from pure white through cream and brown. There are also varieties with white flowers.

DELPHINIUM CORONATION.

One of the many beautiful varieties raised by Messrs. Kelway and Son, Langport. The flowers are rich purple and blue.

Delphiniums are at their best during June and July, but, in a number of instances, a second display of bloom can be had by cutting down the old flowering stems, when new growths will quickly take their place, and carry the display of blossom on into the autumn. Delphiniums are not very particular as to soil or situation, as in almost any good garden soil they will attain to a high state of development. A deeply-cultivated and richly-manured loam suits them the best, and, given such a rooting medium, they frequently attain a height of eight or ten feet. A sunny position is preferable, but they will succeed in partial shade, the latter frequently causing them to continue in bloom for a longer period. Very attractive borders can be planted with delphiniums alone, but when the flowering season is over they appear rather dull and uninteresting. Probably delphiniums appear at their best when tastefully arranged in bold groups in the herbaceous borders in conjunction with other hardy perennials.

Planting should be accomplished in the spring, and preferably before growth commences, although it can be successfully performed until the end of March. Cuttings of young shoots may be taken at this season of the year, or later in the summer, and when it is required to increase named varieties this method or division of the root must be practised, as seedlings seldom come true to character. Delphiniums can be raised from seeds sown at the present time in a cold frame, or they may be sown as soon as ripe in the summer.

It is important to keep the plants correctly staked and tied, and support should be given them in the early stages of growth so that the flower stems may be kept erect from the first.

Varieties are very numerous, and the following will form a selection admirably adapted to the requirements of those who are commencing the cultivation of these effective flowers under name. Albion, semi-double, pure white: Bella Donna is a beautiful form, with sky-blue flowers, but Persimmon is an improvement upon it, and the handsome Bella Donna semi-plena is a charming variety with semi-double flowers; Capri is a bright azure-blue; Coronation is a handsome variety, the flowers deep blue and rich purple; Dorothy Kelway, deep sky-blue, suffused rosy-plum; Goliath, deep violet-blue; Lady Rowena, indigo-blue; Moerheimi, white; Rev. E. Lascelles, dark blue, with light centre; Statuaire Rude, rich blue; and True Blue, bright blue, with dark centre.

J. GARDNER.

SHRUBS FOR DRY BANKS.

Mounds and hillsides where the ground is naturally dry and sandy are among the most difficult positions to clothe satisfactorily with shrubby vegetation, especially when the introduction of better soil is impossible, and only a comparatively small sum of money can be expended on the undertaking. But that it is possible to effect this may be noted in various directions where bare and ugly sites have been transformed in the course of a year or two into positions of beauty by the use of the right kind of plants.

The preparation of such ground for the reception of plants usually means the removal of all coarse herbage, such as weeds and grasses, the forking out of undesirable roots such as nettles or couch grass, and forking the ground over 9 or 12 inches deep. In fact, for some of the most suitable shrubs for the position it would be unwise to dig the ground deeply or manure it, as such treatment would encourage rapid and rank growth, the roots would be deficient in fibres, and flowering would suffer. On the other hand, the poor and moderately hard soil tends to keep the plants dwarf and bushy, the roots fibre well, and the maximum amount of flower is obtained. A point to remember, however, is that small plants stand a better chance of success than large ones, therefore it is advisable to use quite young stock rather than try to create an effect at once by planting older specimens. It is also necessary to keep the plants watered during dry weather for the first year, and, if possible, give the ground a mulch of leaves to keep it from drying rapidly. Weeds must be kept down until the plants are vigorous enough to crowd them out, otherwise some of the little shrubs may be smothered before they are in a position to compete with the natural vegetation.

By exercising a little care and forethought in the arrangement of the plants, a natural effect may be obtained which will be more in keeping with the character of the ground than any formal distribution of plants would be. Thus, there should be no hard line between one kind of plant and another; rather let the outline of each group be irregular, and encourage the different sorts to intermingle. Neither should a formal border or margin be allowed, but let grass and plants meet, and arrange for the shrubs to form a broken outline. Then the proper arrangement of tall and dwarf shrubs adds much to the general appearance. By allowing tall-growing subjects to approach the front, and groups of dwarf plants to recede here and there, a broken and irregular effect is produced, which adds greatly to the appearance of the plantation as it advances in age. The presence of large stones about the ground is not a great disadvantage, for a piece of rock standing in the midst of a mass of gorse or patch of heath adds a picturesque touch to the scene.

In districts where pine trees abound it is sometimes possible to provide a very pretty feature by underplanting a group of mature pines. This may be effectively accomplished by using the various kinds of erica and culluna. The spring-flowering and autumn kinds can either be used separately or intermingled, but in either case bold groups of each kind should be formed. In the milder parts of the country a wide selection of species is available, for all the semi-tender, Southern European ones may be used, and these, by their greater size, add considerably to the effect of a group composed chiefly of the British species.

For general planting, however, other subjects are perhaps more generally useful than the heaths. The double-flowered gorse is one of the best, and the poorer the ground the better it seems to do. In light, sandy, or gravelly soil, it forms short growths, grows about 2½ feet high, and blossoms profusely. Its great advantage over the single-flowered gorse is that there are no disfiguring seed pods to follow the flowers. Another useful plant is found in the French gorse (Ulex Galli). On poor soil this forms dense cushion-like masses a foot or so high, each clump appearing as a ball of gold in September. Associated with late-flowering heather and ling it is most attractive, and many hillsides and commons in the south and west counties are ablaze with these associated plants every autumn. On chalky soils the common juniper (Juniperus communis) and the savin (Juniperus sabina), with its several varieties, may all be used.

Lavender grows well in combination with gorse, also the Cotton Lavender (Santolina chamæcyparissus), whilst the various rock and sun roses, species of helianthemum and cistus, are excellent for the purpose. They, more particularly the latter, thrive excellently in the poorest soil, and certainly stand the winter and flower better in poor than in rich ground. The Brooms, species of cytisus and genista, especially the common Cytisus scoparius, are excellent for the purpose, but it is a good plan to cut them over annually after the flowers have faded, otherwise they become leggy. There is one broom, however, Genista virgata, which may well be used as a dot plant to give height here and there. In quite poor soil it attains a height of 10 or 12 feet with a like spread, and blossoms finely. Berberis aquifolium is a good evergreen for the purpose, and it may either be allowed to attain a height of 3 or 4 feet, or be kept quite dwarf by an annual pruning. Prunus spinosa serves for a group where a tall-growing plant is required, whilst its double-flowered form would also be excellent for the purpose could it only be obtained in larger quantities. Cydonia Maulei is another shrub which deserves attention, although it is less at home in quite poor soil than some other subjects. Should the planter desire to introduce trees into the group, then the common birch might be used with effect, for the silver trunks standing amongst the greenery of the undergrowth is always attractive. The mountain ash is another effective tree for such a position, whilst the white beam tree (Pyrus aria) is also suitable. Both these are very attractive during late summer and early autumn, when laden with bright-coloured fruit; they, however, lack the graceful outline of the birch, and are, perhaps, less effective than the mature trunks of Scots pines, though still beautiful.

Kew. W. Dallimore.

Agathæa cœlestis.—This, popularly termed the Blue Marguerite, is an easily-grown and pretty greenhouse plant. It is of bushy growth, and the daisy-like flowers are about an inch across, the spreading florets being of a pleasing shade of light blue. It will flower for months together, and is very useful for cutting from.—W.

MAIN CROP AND LATE POTATOES.

Special care should be taken in the preparation of the seed tubers, some time previous to planting, by encouraging strong and sturdy growths. This alone will prevent those unsightly gaps so often observed in plots that are planted direct from the seed sacks. At the time of planting such tubers appears to be quite as perfect as those boxed up, but they may possess no living eye, hence the blank spaces. No growth will result, and the tuber, if lifted, will be as sound as the day it was planted.

To guard against this, place the tubers eyes upwards, thickly, in boxes, or on shelves in a light and airy fruit room or other store-house. It will take longer to plant and require more care if this method is followed, but the ultimate result will amply repay the trouble taken. Therefore, for the garden crop, the time taken up will not be spent in vain.

A very important factor in the production of good heavy crops of potatoes is to procure all, or part, of the crop for seed purposes from a distant source each season, whether it be from Ireland, Scotland, or neighbouring counties, as an appreciable and pleasing difference will be noticed in the results.

The middle of April is early enough for maincrop planting, and the ground should have been brought into good condition either by ridging (a good plan) or trenching, and any manure used should have been buried quite two months previous to planting. Fresh manure is liable to force sappy top-growth, foredoomed to disease, hence it should be avoided. Potatoes vary greatly in various localities, and in different soils, therefore it is difficult to name "the best" late varieties. A potato that has stood, and is standing, the universal test, is a good selection of Up-to-Date, and for flavour and cropping, with good disease-resisting powers, it is still the chief variety to grow in quantity. White City is good in flavour and a long keeper.

Plant late varieties in rows two feet six inches apart, and allow eighteen inches from plant to plant. Ply the hoe frequently, lightly earth at the first sign of growth, and apply a dressing of superphosphate, or potato manure, between the rows, previous to earthing, if the growths are at all weak. G. Ellwood.

Swanmore Gardens.

THE ORCHARD HOUSE.

As a rule the orchard house contains a miscellaneous assortment of peaches, pears, apples, plums, etc., in pots; but it would be an advantage if the several kinds could be grown separately; certainly peaches and nectarines require a compartment to themselves, for the earliest crop will now be stoning, if the fruits have not already passed this trying ordeal, and very little progress will be noticeable. Disbudding and pinching having been carried on conjointly with thinning, vigorous trees will still require constant attention in the pinching of shoots and laterals. Top dressings and careful feeding, which may be described as the mainsprings of success in pot fruit culture, must be continued until the fruits are nearly ripe. Whatever is used—rich top dressings, liquid manure, guano, or soot water—changes are necessary, and supplies of moderate strength applied at frequent intervals give the best results. Plenty of water is necessary at this stage, and if once the balls of pot trees become dry the effect on the crop is fatal. Syringe the trees twice daily with soft water, and half a bag of soot immersed in the tank will improve and stimulate the foliage, and help to keep red spider and other pests in check.

Warter Priory Gardens. F. Jordan.

EUCHARIS GRANDIFLORA.

Twenty or more years ago no collection of stove plants was considered complete unless it contained several specimens of Eucharis amazonica, as it was then termed. But more recently its culture has unfortunately greatly declined, and healthy floriferous plants are the exception rather than the rule. This decline may be attributed largely to the appearance of the bulb mite (Rhizoglyphus echinopus), which, in many gardens, spread rapidly among the eucharis, and, in many instances, did much injury to both large and small plants.

Probably no plant parasite, even including the ubiquitous mealy bug, received so much journalistic attention. Successful cultivators stoutly contended that the presence of the bulb mite was the effect of unhealthy plants and not the cause, whilst those whose plants were infested declared themselves equally positive that the dreaded mite was the cause of all their trouble and anxiety. As always, the scientists were mostly on the side of the pest, declaring that the mite was the person to be considered, and forthwith busied themselves in the endeavour to formulate remedial sprayings and dressings. It seemed, however, that in many cases the greediness of the cultivator was to blame. For in his anxiety to obtain three crops of flowers each year he had to resort to excessive dryness at the root so as to reduce the necessary period of rest to a minimum, thus weakening the constitution of the plants. In its native state the eucharis, no matter how parched the soil may appear to be during the dry season, finds sufficient moisture within the reach of its long, fleshy roots to sustain it until the rainy season arrives. This being so a very little consideration will show the folly of drying off pot plants, for here the roots are curled round and round the insides of the porous pots, and if water is withheld the plants must quickly suffer.

It is only reasonable to infer that if nature had intended the eucharis to live under desert conditions for a portion of each year she would have given it deciduous bulbs of a different structure. An examination of a eucharis bulb will show that it is composed of thick, fleshy scales packed comparatively loosely—a form of structure not at all adapted for withstanding tropical drought.

The bulbs of many liliums have even fleshier scales, which are also more loosely disposed, but these are plants of temperate regions, yet they are deciduous, and have not to support foliage during the dry season.

The most suitable and common-sense methods of culture of the eucharis plants are to treat them as evergreens, and consequently at no time to allow them to become quite dry at the root, and to flood them with water during the comparatively brief period of growth. At that season the eucharis may be considered as a tropical bog plant, and treated accordingly. Shade from direct sunshine during the summer months is essential, and the best soil is fairly stiff loam, with a little leaf-mould and sufficient sand to permit air to reach the roots. Whilst new leaves are being made frequent applications of diluted cow manure are beneficial. When repotting becomes necessary great care should be exercised to avoid mutilating the roots, for the eucharis resents root disturbance. If the pots are over-full of bulbs the roots should be washed in a tub of lukewarm water until the old soil has been removed, and the roots may then be disentangled without injury, and, if carefully handled, will suffer but little in being repotted.

Cecil Aubrey.

BUSH HARROWING LAWNS.

When tennis courts, bowling greens, hockey grounds, and all kept lawns are well managed they are a pleasure to look at and a joy to play upon. Unfortunately in many instances the amount of money required to keep them in a highly satisfactory condition, especially club greens and courts, is lacking, and whenever play ceases in autumn the lawns are left to look after themselves.

Several examples of greens of this kind have come under my notice lately, greens where the coarser grasses have been allowed to smother the finer ones, and the surfaces covered with worm casts. The worm casts serve as a top-dressing to lawns, and an excellent top-dressing they make if the grass has been kept short, and they are well broken up and distributed over the surface in March. More often, however, than otherwise, no heed is taken of this rich manurial earth until the time arrives for play, and then, instead of spreading the casts, a roller is applied, with the result that the surface of the ground becomes so rough as to be very like the outside of an orange-skin.

Besides creating an uneven surface by rolling the ground while the worm casts are present in their natural form, another evil is created. The holes made by the worms are useful in carrying off surface water and airing the soil, and when the ground is rolled without an attempt to distribute the casts, the holes are sealed up. On heavy soils this method of treating greens and lawns often leads to sourness, the death of all the finer grasses, and a growth of obnoxious weeds. The grasses should, of course, be kept cut close during the autumn and early winter months to allow light and air to reach the dwarfer forms, and at the same time to expose the worm casts, so that they may be properly utilised for the benefit of the ground. This is best accomplished in dry weather in March by bush harrowing.

There are various kinds of bush harrows employed for this purpose, and perhaps the best of the old sorts are gates, or something like gates, with brooms fastened between the spars. Birch comes next in point of value, and then the twigs of beech. Harrows made of these, and pulled over the surface of the ground will not only break up and distribute the casts, but will also leave the larger portions of them in the hollows, thereby aiding in levelling the ground. The holes made by the worms will be left intact to drain off the water, and when the roller does go over them no harm is done. Lawns well cared for in this respect usually retain a healthy and vigorous growth of grass, with a complete absence of acidity in the soil, and but little, if any, moss under normal climatic conditions.

Even although bush harrowing of lawns in spring is of considerable value in retaining the soil and herbage in a fit condition, it is only within the last few months that I have met with any special appliance for the purpose. This is something like what we call a "yard brush," made about five feet long, and with a cross-bar at the end of the handle for pulling it by. When these become known and sufficiently appreciated, especially in the neighbourhood of towns where substitutes are scarce, there is a likelihood of finding the tennis courts and bowling greens in a much happier condition than many of them are at present, both in private gardens and public parks, and in not a few club grounds.

Hibernia.

PYRUS JAPONICA.

This old favourite, which was introduced from Japan in 1815, is now a gorgeous sight, with its branches, on which the leaf points are just showing, thickly covered with bright crimson-scarlet flowers. In the south-west its first blossoms often expand in January, but, generally, it is not until the month of March that it presents a really striking effect. This year, when everything is so early, however, it is already in full bloom. It is commonly met with in cottage and farmhouse gardens, and the sight of a large plant trained on a whitewashed wall, with hundreds of scarlet flowers clustering on every spray, and glowing in the morning sunlight against their white background, is brilliant in the extreme.

Though generally trained on a wall, this pyrus will make a handsome lawn shrub if allowed to grow naturally, and will attain a height of ten feet or more. When grown in this manner it is rather later in flowering than if given wall protection, but in open positions blooms with equal freedom. After hot summers it generally produces fruit, but rarely in such abundance as Pyrus Maulei, nor does the fruit assume such decorative colouring.

There are several varieties of this shrub with flowers ranging in colour from pure white, through flesh, pink, and red, to deepest crimson, but it is doubtful if any exceed the type in ornamental qualities. Pyrus japonica is possessed of great vigour of constitution, and often contrives to live and thrive under the most unfavourable conditions. A large shrub that was rooted up when in full leaf in the month of June, on account of the rock above which it was growing having to be quarried away, and with its bruised roots shortened to a quarter of their length, was planted, as an experiment, in good soil, recovered entirely in the following year, though it lost all its leaves after its transplantation, while the roots left in the rock-wall subsequently threw out growths about four feet from the summit, which developed into fine bushes that stood out from the perpendicular rock, and both grew vigorously and flowered profusely. It is also known as Cydonia japonica.

Wyndham Fitzherbert.

Lilac Hugo Koster.—Size counts for a great deal nowadays, and in this new lilac, which was given an award of merit by the Royal Horticultural Society on March 4, it was very manifest. The flowers were single, but individually very large, while they were borne in massive clusters, far surpassing in both respects the varieties shown with them for the sake of comparison. The flowers were of a lilac shade, but, having been brought on under glass, one cannot say much on this point. It is, I should say, more likely to be of value as an outdoor shrub than for forcing under glass, as it seems to be of very vigorous growth, and the flowers are borne on stout, erect stems.—S. W.

A Pretty Plant for a Small Vase.—Some vases do not allow of a sufficient depth of soil for plants that need liberal treatment, particularly if the spot is a sunny one. Having a couple so situated, I tried during the summer several different things with, at best, only fair results. At last I planted them with the variegated-leaved form of Sedum Sieboldi, and found this by far the most satisfactory of the different subjects tried. The beautiful glaucous leaves, with their central yellow blotch and the pleasing rose-coloured flowers later on, and finally the rich red that the leaves acquire in autumn furnished several distinct phases of beauty.—W.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

IN THE WARM HOUSE.—Such plants as Ærides, Vandas of the V. tricolor section, Saccolabiums, Rhynchostylis, and allied orchids are now commencing to show signs of renewed vitality, and repotting or top dressing must be attended to. Plants that have lost their lower leaves become unsightly, and it is desirable, where this is the case, to turn the plants out of their pots. If they are watered a few hours previously the roots that have become attached to the sides of the pots are more easily removed than when the compost is in a dry state. After having shortened the stems to the desired length, a stick sufficiently strong to hold it in position should be tied to the plant. The drainage used should be clean. After fixiug the plant with the stick attached in the centre of the pot, work crocks about the base sufficient to secure it in position. As these orchids practically derive their sustenance from the atmosphere, live sphagnum moss, intermixed with charcoal and broken crocks, will be found ample for their potting material. T sphagnum should be well chopped and pressed moderately firm, and if mounded to the centre this adds to the good appearance of the work. Newly potted plants must be kept carefully shaded from bright light and be allowed a temperature as even as possible with ample moisture. In bright weather frequent dampings are desirable, and syringing the plants overhead will be found beneficial.

VANDA SANDERIANA is one of the most delightful species, but, unfortunately, the large plants that have been introduced during the last twenty-five or thirty years seem to have become "small by degrees," and one seldom sees a plant comparable with the large specimens exhibited and figured in years gone by. The difficulty of growing V. cœrulea has been surmounted by Mr. Alexander and Mr. G. Hunter, and it is probable that similar treatment will also be found successful for V. Sanderiana. There can be no doubt that the hot, steamy atmosphere so generally practised and advocated has been the cause of failure. I have frequently noticed that the cooler conditions of the intermediate house have enabled the plants to keep their vigour for a considerably longer period than has been the case under warmer conditions.

VANDA TERES, V. Hookeri, and the hybrid V. Miss Joaquin will also be showing signs of new growth, and the first-named is developing flower scapes. These should all have the full benefit of all available light, with ample heat and humidity. Whenever the outside conditions are favourable the plants may be freely syringed, and every encouragement given to assist them to produce their flowers to the best advantage. The decayed moss on the surface of the compost may now be removed and new material be added.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

B. GLOIRE DE SCEAUX.—These plants, after flowering, are best reduced to about half their length and rested. We do not use stem growths for cuttings, preferring to wait for the strong sucker-like growths which are usually forthcoming by the middle of April. When three to four inches in length these are inserted singly in 60's, and left in the propagating frame until well rooted. They are then put into their flowering pots (large 32's), and treated similarly to the above, and frequently fed after the pots have become filled with roots. Under these conditions they make fine pyramidal specimens, about three feet in height, and flower wonderfully well after the Lorraine varieties have finished their season.

SEMI-TUBEROUS VARIETIES.—These should have their growths left at full length after flowering, and when resting must by no means be allowed to become dry. They will now be producing young growths, which may be taken as cuttings, while from the leaf axils they will also produce tuber-like growths, which, inserted in pans or small pots, will soon make nice plants. Given liberal treatment they will flower freely in 48's. Of this section, Ensign, Julius, Emily Clibran, and Bank Hall Glory are worthy of cultivation for their fine display during the dull winter months. The compost we use for all the above begonias consists of two parts fibrous loam, one of leaf-mould, one of peat, and a little silver sand, burnt earth, and dried cow manure.

PLUMBAGO ROSEA.—This beautiful subject provides useful material for conservatories or house decoration, and its flowers may be utilised either for vases in rooms or for table decoration. It may be propagated by means of cuttings of the young growths, or by roots cut in pieces and inserted, as is practised in the case of bouvardias. Our practice is to propagate a batch of young plants, which are eventually flowered in 48's. Having taken the required number of cuttings, a batch of the year-old plants are cut back, allowed to break, then shaken out, and put into eight-inch pots. The points of both young and old plants are pinched occasionally until October, when they are allowed to flower. The soil and conditions we afford them are similar to those provided for begonias, and as they are gross feeders, when the pots are filled with roots they receive occasional top-dressings.

THYRSICANTHUS RUTILANS.—Having finished flowering, these may be cut back to the hard wood, to induce them to break into growth that will provide cuttings.—H. Prime, Hatfield House Gardens.

FRUITS UNDER GLASS.

PEARS.—A goodly number of pot trees of these is most valuable, especially in the North, where good pears are not over plentiful. They enjoy the best of food, and give excellent returns for liberal treatment, although many complain that fruits are difficult to set under glass. They must not be coddled in any way while in blossom. Guard against undue excitement, neither must syringing be indulged in too liberally; at the same time a dry, parched atmosphere must be guarded against, as this weakens the flowers and causes the fruits to drop later. Attend to pinching and disbudding, and thin the blossom buds where placed too thickly.

CHERRIES AND PLUMS.—The earliest of these which have finished stoning may have the temperature increased to 55 or 60 on mild nights with a corresponding rise during day for an hour or two with sun-heat, allowing the temperature to decline to 60 or 55 deg. afterwards. Keep a sharp look-out for weevils, as these pests will soon damage both fruits and foliage if not detected. The best method to get rid of them is hand picking, curled leaves should be picked off as soon as seen and burnt, as fumigation has little, if any, effect on them. Later trees of these fruits must be brought on under identical treatment as regards temperature, free ventilation, syringing, and watering. If the weather is favourable, the houses freely ventilated, and the trees kept clean, insects will generally pollinate these late varieties.

MELONS.—Where melons must be grown in pits heated with manure, now is a good time to commence operations. Fresh stable litter and equal parts of oak or beech leaves should be well mixed and turned over two or three times before making up the beds. Sow the seeds in 3in. pots, and by the time the plants are ready, violent heat will have subsided, and the ridges of compost will have become thoroughly warmed through, when planting may be carried out. Rich and very light soils must be avoided, as rampant growth follows with but few fruits. Melons cannot have too much sun and light; two plants to a light are sufficient. Place more soil firmly up to the plants as the roots appear, when in about fourteen or fifteen weeks ripe melons should be obtainable.

CUCUMBERS. — Spring-sown plants will now be in full bearing, and will require attention almost daily in pinching, tying, and thinning of fruits. Nothing is more injurious to the crop than to neglect to thin the young shoots and fruits when necessary. As the weather improves, and frames get cleared of bedding plants, they should be cleansed, and made ready for cucumbers, as recommended in a previous calendar.—F. Jordan, Warter Priory, York.

THE FLOWER GARDEN.

ROSES.—There has been unusual activity among roses this season, and many ramblers have made young shoots several inches in length. Such unseasonable growth is not at all satisfactory, as it is liable to damage from cold winds and frosts, which cannot help but have a serious effect on flowering. Fortunately, with hybrid teas, teas, and perpetuals, this premature growth is checked by pruning, as, usually, the buds nearest the tips of the shoots are the first to become active, while those close to the base remain more or less dormant after the shoots have been cut back in pruning. If the operation has been deferred until about the present time there is not much fear of the young growths becoming damaged. When pruning, one has to be guided by the habit of each variety; in the first place all weak and dead wood should be cut out entirely, then shorten back the stronger shoots to four or five sound buds. This will be found to suit most varieties of hybrid teas and perpetuals, also some of the stronger-growing teas, while others of this latter class, which are not so robust in habit, will not require such hard pruning. A dressing of rose manure lightly forked into the surface of the beds and borders after pruning will prove most beneficial, and the dressing should be repeated several times during the season. In many districts attacks of mildew are most detrimental to successful rose growing, but by spraying at intervals of a week to ten days, from the beginning of April throughout the season, with a solution obtained by dissolving one ounce of sulphide of potassium in three gallons of water, the effect of such attacks will be reduced to a minimum.

BAMBOOS.—These graceful subjects are usually planted in the vicinity of water, and in bog gardens, where they always produce a pleasing and sub-tropical effect, their green foliage imparting a freshness to the surroundings, especially valuable through the dull months of winter, when the majority of their neighbours are devoid of foliage. It is well known that it is not a necessity to have a pond or lake before one can grow bamboos, as these will thrive in any deep, rich soil, and when once established require very little attention beyond giving them a good mulching of cow manure annually in the spring. The selection of sites calls for a little judgment. They are quite at home in any woodland part of the pleasure grounds, if sheltered from the north and east winds. At no time should bamboos be planted in open and exposed positions, for although their hardiness may ensure their existence, in such places they are never effective. The next few weeks is a suitable season for planting and moving bamboos. When dealing with soil of a heavy nature add plenty of leaf-mould, as in this they will root freely and soon become established. During the first season after planting they will require close attention in hot, dry weather; never allow them to lack moisture at the roots, while a spraying once a day will assist them.—T. B. Field, Wych Cross Place Gardens.

CARNATION SHOW.

The SPRING SHOW of the PERPETUAL CARNATION SOCIETY will be held at LEAMINGTON SPA.
APRIL 10th, 12 noon to 10 p.m.
APRIL 11th, 10 a.m. to 5 p.m.
Schedules and particulars from the Hon. Secretary.
T. A. WESTON,
Floradale,
Orpington.

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EXHIBITIONS AND MEETINGS.

Dumfries and Galloway Gardeners' Association.

This association held its usual fortnightly meeting in St. George's Hall, Buccleuch Street, Dumfries, on the evening of March 2. Mr. S. Arnott, Sunnymead, presided over a fair attendance. After the usual formal business, which included a summary of the income and expenditure and liabilities to date, the chairman called upon Mr. J. MacDonald, Cargen Gardens, to give his paper on "The Greenhouse."

Mr. MacDonald gave an excellent paper, erring, perhaps, on the side of brevity, but an admirable and comprehensive review of his subject, and one which was much appreciated by those present. Several questions connected with the plan, construction, and arrangement of the staging, and the plants, were dealt with, and stress laid upon those the essayist considered of most importance. Following this was a concise review of the best plants for the greenhouse, in which Mr. MacDonald included the greater number of the favourite subjects of the day, with a few others not so much in vogue. The use of climbers for the decoration of the structure was recommended, and suitable plants suggested. Hanging baskets were also advocated in reasonable numbers, and plants of worth for this purpose named.

An interesting discussion followed, in the course of which other plants were suggested. The leading speakers were Messrs. Hutchinson, Joss, Murray, Hunter, Sturrock, and Nicholson. Mr. MacDonald made an excellent reply, and was accorded a hearty vote of thanks.

Chester Paxton Society.

The last of the series of lectures for the winter session took place at the Grosvenor Museum on Saturday last, when Mr. N. F. Barnes, of Eaton Gardens, delivered a highly interesting lecture, entitled "The Royal International Horticultural Exhibition of 1912: Its Object, Attainments, and Lessons." Mr. Barnes had the distinction of being appointed one of the jurors, and was an exhibitor of some competitive entries from Eaton Gardens. His lecture was the outcome of his personal experiences. Mr. J. Stubbs, of the County Asylum Gardens, presided over a large audience, composed mainly of practical horticulturists, who followed the lecturer's remarks with the closest interest.

In explaining the objects of the exhibition, the lecturer stated that prior to 1910 there had been a feeling among horticulturists that the time had come when there should be an attempt made to hold an international display on a scale that should do justice to British horticulture, and emulate, if not excel, the fine exhibitions held at Paris, Berlin, Brussels, Ghent, and Chicago. With this object in view, the Council of the R.H.S., in March, 1910, called a public meeting, and at this meeting a formal resolution was passed deciding to hold a show. The question of site presented some difficulties, which were overcome by the selection of Chelsea Hospital Grounds, the Commissioners of the Hospital (for a handsome consideration) granting the use of twenty acres of ground, which proved an almost ideal site. The early preparation of the schedule of the exhibition (which was held from May 22 to May 30) followed on, and was not so easy a task as it at first may seem. It consisted of 428 classes; divided into twelve sections and subsections.

Having outlined in brief some of the objects, the lecturer proceeded to some of the attainments by showing on the screen and describing a series of about a hundred lantern pictures.

The lecturer stated that the finest feature outside the tents was the rock gardens, and words failed him to describe the artistic effect of some of these, the only regret being that the work was only put up for a temporary period—that of eight days. Some beautiful examples of these were shown on the screen.

What were the lessons? First, that British horticulture is capable of holding its own among other nations, whether in the evolution of new and improved varieties, or in the cultivation of old types of plants, etc. Secondly, that exhibitions of this kind are a great stimulus to the craft of gardening. Thirdly, that an exhibition of this kind does not stand alone; it is related to a past and to a future; it is for certain reasons the harvest of a past seed time and the seed time for a future harvest. Fourthly, it shows there are patient workers in scientific research scattered over the field of horticulture, who were capable of even greater efforts.

In conclusion, the lecturer emphasised the importance of three things to be done. To organise, specialise, and standardise. A hearty vote of thanks was, on the proposition of Councillor Walter Welsby, supported by Mr. G. P. Miln and Mr. R. Wakefield, accorded to Mr. Barnes for his able lecture.

THE FUTURE OF THE DAHLIA.

The following is the text of the lecture delivered by Mr. Fred. G. Treseder, of Cardiff, at the recent dahlia conference:—

As dahlia lovers we have a plant which, for diversity of form, ease of cultivation, rapidity of growth, and freedom of flowering, is unequalled. We have our singles, single cactus, cactus, dwarf bedding cactus, anemone, pæony, star, decorative pompon, pompon cactus, show and fancy, as well as several other pretty distinctive sections. We all remember Juarezi appearing in 1880, and, later, a set sent out by one of our leading dahlia firms. What a marvellous improvement there is in this class to-day; such varieties as H. H. Thomas, Dr. Roy Appleton, Flora, etc., are a great advance on the older varieties. Can we hope for such improvement in the future? It depends entirely upon whatever our affections may claim. For exhibition, I see no reason why we should not obtain, even yet, greater diversity of form and colour, as each year's seedlings have proved so. We are all of one opinion in striving to obtain a sturdier race, more particularly as to freedom of bloom and rigidity of stem. Must we, however, sacrifice our exhibition varieties, many of which are, unfortunately, weak in the stem? These, however, will at all times claim their supporters among show board exhibitors and floral decorators, who are satisfied with beauty of form and colour.

The gardener must have a type we all desire for bedding. The cactus dahlia, in my opinion, with few exceptions, is too heavy in the flower, and not sufficiently free to ever become really popular for bedding. The two types must always remain distinct. If we do condemn the weak stem, which no one really likes, we shall at once do away with many beautiful forms and varieties, and we shall certainly reduce our supporters, whether amateur or professional. We all know that many working men and others spend an enormous amount of time and attention on producing blooms for the show board, and they are as critical in the selection of varieties as any first-class exhibitor. At the same time, I do not say that raisers should relax their efforts to obtain more sturdy varieties, and those which have stiff, erect flower stems.

We are badly in want of a real good bedding scarlet. Amos Perry is certainly the best we have, but what we want is a scarlet with a glowing colour of the old Gloriosa. We want varieties suitable for bedding, and more particularly for cutting purposes.

In the singles, and here I do not refer to the pæony-flowered, I do not see that we shall get much improvement. In this section, we have one good quality, that is freedom of flowering, with a wonderful range of colour, and perfection of form; a type that has great charm either for decorative use or for bedding.

These remarks will also apply to the pompons. Here we have ideal bedders, somewhat stiff, but of great decorative value. Greater length of flowering stem is certainly to be desired, but longer flower stems can be had by planting out the old roots than those from cuttings. This section will always be in demand by florists, owing to its great freedom, and more especially the lasting qualities of its flowers, and the amount of rough usage which they will withstand.

A pompon cactus, Mary, which I sent out many years ago, received an A.M. from the Royal Horticultural Society, and is an ideal type as a bedder. There is room for improvement in this section, as one must admit that this form of flower has a much lighter appearance, either when used as a bedder or for cut purposes, than the older pompons.

We have not had much experience with the anemones, but under the hand of the hybridist we are bound to obtain diversity of colour, habit, and form, here, as in other sections. The Star dahlias are admirable subjects as dwarf bedders, or for edging where latter varieties are used, but a much more ideal habit is that of the Dwarf Bedding Cactus sorts, and here I cannot see that we need wish for a more desirable form.

Of many of the bedding and decorative forms I cannot speak from first-hand experience. In the giant decorative section the flowers are too large for floral work, and the plants are not sufficiently free flowering for use as bedders. Unless well staked they are liable to damage by rough winds. One variety in the decorative section, Kaiserin Augusta Victoria, certainly gives a wonderful display of bloom, but this type is too short in the flower stem, and too regular in its habit of flowering to ever become popular with those who prefer a light and irregular habit of flowering.

It is in the pæony-flowered dahlias that the future will yield us striking improvement; here we have the ideal bedder, the flowers being practically single and semi-single, and of a charming irregular form, so different from that of other types. They have fine, stiff, rigid stems. These, when seen in their prime, are certainly one of the most striking forms, unsurpassed for effect, for cutting, bedding, or floral work. With reasonable attention this section can be had in flower in July; in the early part of August one can be sure of a very plentiful supply of flowers.

Where one has a piece of ground which, owing to the lateness of the season, or other causes, may not have been planted, and if one is desirous of making a transformation, this section, if arranged to colour, and in their respective heights, with a little design shown in the arrangement of the garden, and the ground roughly turned up, will reward one with the most striking picture it is possible to obtain in a short time, in any department of the garden. The effect is much enhanced should your dahlia garden be made in a slight hollow, in its general effect; from the higher ground, it is surprising what a wonderful picture is produced.

The collarette section, which, I remember staged in 1902 or 1903, has certainly improved since that day, and it is pleasing to

note that some of our British raisers have made vast improvement in the habit over that of our Continental raisers. We have varieties which make handsome bedders; they have wonderful long, rigid stems, which will always make them beloved for any bedding or decorative purpose. At the same time, I do not think that the future will see this section anything like so universal as the pæony-flowered class, as I believe we prefer flowers of a decided form and colour to the bizarre forms which we get in this class.

In the show and fancy section, such varieties as Arthur Rawlings, Prince of Denmark, Merton, and Mrs. Ormerod will always be useful as bedders or for decoration. The charm of these dahlias will never be realised until we get a more ideal way of exhibiting them, say half a dozen blooms in a vase in distinct colours, shown in a similar manner to that in which we see large blooms staged at our chrysanthemum shows. Have we advanced in this class? I cannot say that we have, particularly when we see such a fine old variety as Mr. Gladstone still one of the best, and most beautiful. There is no reason why the future should not give us a type with more rigid stems, and of more decided colour, particularly a good white.

Will the future give us more supporters for our favourite flower? Yes, it will; particularly so if growers, when selecting their favourites at exhibitions, would state whether the flowers are wanted for exhibition or for bedding. The majority, in selecting varieties, believe that they will obtain a plant of good habit, and which will produce a flower like that which they have in their mind's eye at the time of purchase. Disappointment more than often follows, with the result that the plant does not get such a good name as we would desire. Information by practical men is freely given, but is not acted upon, except on rare occasions.

Can we influence those in public gardens to give the dahlia greater prominence than heretofore? There is no flower which gives us such a remarkable change in the tints of its flowers from the early blooms to that of late autumn; in fact, the shades of colour during the months of October and November are quite distinctive to those of August and September.

For house decoration in any form we shall see the dahlia more frequently used in the future; owing to the varied range in the shades of colour, it is possible to please the most fastidious. How much longer the flowers would last (foliage also if cut separately), if a little more thought were given as to the time of cutting, viz., early morning! When cut, stand them in water in any cool place until wanted. The dahlia, when associated with autumn foliage, is very effective. In no flower can we find such a range of delicate shades of colour as that which will be found in the dahlia.

It would be as well if we had annual tests of the various sections; we should then have varieties impartially judged, and the public would get first-hand information, and would be more inclinel to go in for dahlia culture.

The future of the dahlia no one can foretell. If we take into account the great number of seedlings which have been staged each year, there seems no reason why we should not obtain types which will at all times find favour in someone's sight, and wil always be found suitable either as bedders or for exhibition or floral art.

Annuals.—Many annuals can now be sown in the open ground, but where the soil is heavy and lays cold it is advisable to defer this operation for a week or so still. In preparing the ground care should be taken to work it into a fine condition, so that the seeds can be covered by lightly raking over the surface; should the ground be retentive, use fine light soil when preparing for sowing, and also for covering the seeds. Watering will be necessary should the ground become dry while the seed is germinating.—T. B. Field, Wych Cross Place Gardens.

NEW BOOKS.

CULTURE OF VEGETABLES AND FLOWERS.

By Sutton and Sons. (Simpkin, Marshall, Hamilton, Kent, and Co., Lim., London.) Price 5s. net.

Several times during the past twenty years it has been a pleasure as well as a duty to refer in appreciative terms to the excellent work by Messrs. Sutton and Sons on the cultivation of vegetables and flowers, but on no occasion has the warmest expression of praise been more highly deserved than now. The book has reached its fifteenth edition, and this should be a sufficient proof that its merits are recognised, and that practical expression has been given to this recognition, by those who are in need of the information it contains adding it to their library. Brightly written and thoroughly sound, the book at once became popular, and this popularity has been increased by the several editions that have been issued. This increase is explained by the fact that the authors have been careful to subject each edition to so thorough a revision that it has been practically a new work, but more perfect than any new work well could be. The book is so well known that there is no occasion to refer to its contents in detail, but special reference may well be made to the chapters on the rotation of crops in the kitchen garden, the chemistry of garden crops, and the making of lawns and tennis grounds from seeds, for they are not less remarkable for their interest than for the information they contain on these practical details of garden management.

THE WELSH DAFFODIL.

By W. Davis. (W. Davis, Doneraile, Exmouth.) Price 2s.

On the occasion of the installation of Prince Edward as Prince of Wales at Carnarvon Castle in July of last year, the daffodil was adopted as the floral emblem of Wales. As a consequence of the high position thus given the flower, Mr. Davis undertook the task of explaining how the Tenby daffodil (Narcissus obvallaris) first came to Wales, and for this purpose the book, which consists of ten pages, has been published.

PLANT DISEASES.

By Dr. Werner F. Bruck. (Blackie and Son, 50, Old Bailey, London.) Price 2s. net.

During the past quarter of a century much attention has been devoted to the investigation of plant diseases, and as the result some new forms of diseases have been brought to light, and an immense amount of information relating thereto has been published. In the study of the various forms of disease to which plant life is subject, they have been regarded from quite different points of view, some investigators chiefly concerning themselves with systematic descriptions, while others have directed their attention specially to devising remedies that may be readily applied by cultivators. Each set of investigators have rendered good service. It is, however, necessary to take a greater breadth of view in the study of plant diseases, and to carefully consider atmospheric influences, and the chemical composition and the physical condition of the soil, for, as the author states, they are of the greatest significance in the development of diseases. Since the beginning of the present century much attention has been given to the investigation of the conditions which predispose plants to disease, and the inclusion of the results that have been obtained greatly enhances the value of the book to the cultivator.

The diseases to which the chief cultivated plants grown in the garden and on the farm are liable are passed under review, and the progress of development of the numerous forms, and the results that follow attacks are concisely and clearly stated. The information that is given in the reference to the several diseases is indeed such that the cultivator who has carefully read the book will not have much difficulty in recognising the enemy which he has to combat, or in having a clear idea as to the best means of warding off an attack. While scientific, both in plan and execution, the book is written in a clear and pleasant style, and will be found of much value as an introduction to the study of the all-important question of diseases of plant life. On the other hand, those who may not desire to do more than obtain an elementary knowledge of the subject will find it most useful.

OBITUARY.

LADY DOROTHY NEVILL.

Within a few days of her eighty-seventh birthday, Lady Dorothy Nevill passed away on Easter Monday, full of years and of honour. A foremost figure in society for half a century, she made friends on every side, and to her house in Charles Street, Berkeley Square, there came all who occupied high positions in social life, politics, art, finance, science, and letters. Her three volumes of "Reminiscences," published a few years ago, show how intimate she was with all the notable people of the Victorian era, and prove beyond all else what a gracious and witty lady she herself was. She took a lively interest in horticulture, and until lately she was a frequent visitor at the fortnightly meetings of the Royal Horticultural Society. Indeed, horticulture, botany, and the fine arts were her hobbies. At Dangstein, near Midhurst, in West Sussex, she created a beautiful garden, and, among other things, grew orchids and tropical plants successfully. The latter included nepenthes, crotons, economic plants; and the former contained anæctochilus, and a fine range of species. Even as far back as 1874 the Dangstein collection of rare plants was regarded as one of the finest in cultivation. In 1879 Dangstein estate was broken up, and the orchids were sold; and it is of interest to notice that at the sale Cattleya labiata vera realised from £10 to £30; Masdevallia tovarensis, £13; Sobralia macrantha, from £11 to £13; Angræcum caudatum, £15; Masdevallia Estradæ, £9 10s.; and Dendrobium Griffithianum, £16.

MR. F. G. HEATH.

We record with regret the death of Mr. Francis George Heath, whose works on ferns and sylviculture are well known, which occurred at Weymouth on the 21st inst., in his seventieth year.

Mr. Heath, who was a native of Totnes, entered the Civil Service in 1862, and attained to the position of a surveyor in the Customs Outdoor Department, from which he retired in 1904. Many years since he began to take a keen interest in open spaces and the countryside, and between that period and the close of his active life he did good service in connection with the movement for securing open spaces for town dwellers, and wrote many books on ferns, trees, etc. He specially interested himself in securing Burnham Beeches and Epping Forest as open spaces, and in enlarging Victoria Park. Chief among his books were "The Fern Paradise," "The Fern World," "Our Woodland Trees," and "Sylvan Spring." He also edited a new edition of Gilpin's "Forest Scenery."

Hyacinth Starlight. — This hyacinth, shown at a recent meeting of the Royal Horticultural Society, merits a note by reason of its distinct appearance. The flower spike is long, and rather narrower than in many other varieties, while in colour the blossoms are of a deep rich blue, with a conspicuous star-like centre of pure white. At a little distance, the flower spike bears a great resemblance to a delphinium, such as the Rev. E. Lascelles. The hyacinth in question is certainly a decided departure from the forms generally grown, and in a group it at once attracts attention.—W. T.

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

R.H.S. EXAMINATION.—W. E., Cheshire: Will you kindly give me information concerning the ordinary examination of the Royal Horticultural Society, i.e., the date of the examination, etc.?—When your communication arrived it was already too late for you to enter for the R.H.S. examination, which is to be held on April 2. We would have written or telegraphed had there been a chance for you to enter. The regulations (previously published in our columns) are that—"County Councils, lecturers, etc., must send in to the Society the names and addresses of candidates at least fourteen days before the examination takes place. They must at the same time send a cheque at the rate of 5s. a head, otherwise the entries cannot be received. No entry fees can be returned. Gardeners and students wishing to sit for the examination, who have not attended any particular series of lectures, must send in their name and address, and also the name and address of some responsible person willing to conduct the examination to the Secretary, R.H.S., Vincent Square, Westminster, at least three weeks before the date of examination. The Society is willing to hold the general examination and school teacher's examination wherever a magistrate, clergyman, schoolmaster, or other responsible person accustomed to examinations w consent to supervise one on the Society's behalf, and in accordance with the rules laid down for its conduct." You can obtain the complete list of questions set at all the R.H.S. examinations from 1893 to 1912, in book form, for 2s., on application to the Secretary, R.H.S., Vincent Square, Westminster, and we advise you to obtain the list, as it will indicate the range of the examination.

POOR ASPARAGUS BEDS.—F. G., Shiplake: Could you please tell me if the soil, of which I send sample, is suitable for asparagus culture? The beds are raised, and have been planted upwards of twenty years. The flavour of the asparagus is all that could be desired, but the heads come so very thin every year. My employer tells me the crop has never been strong, though every encouragement has been given. I am of opinion that the drainage is at fault.—The soil is not of the best, but if the crop is well fed there seems no good reason why excellent produce should not be obtained from the beds. It is possible that the lower soil is not in so good a condition, but this you can ascertain by taking out a deep trench at one end of the beds. As the beds have never been a great success it would be a good plan to at once set about the preparation of new beds that would eventually take the place of the old ones. You would then make sure of efficient drainage, and add to the staple soil an equal bulk made up of decayed manure, flaky leaf soil, turfy loam, or turf trimmings, and some sea sand. We may add that it is really wonderful how much can be done to improve asparagus beds by the use of nitrate of soda or salt in early spring, and the free use of liquid manure as soon as cutting ceases for the season. The application of heavy mulches of wet manure in early winter is seldom a good plan, but anything that tends to encourage strong growth after cutting ceases will also tend to the production of strong crown buds that will yield stout, succulent heads another season. It is a great mistake to cut asparagus too severely, and it is a further mistake to allow seedlings to grow in permanent beds.

SHRUBBY VERONICAS.—E. T., Birkenhead: Will you please inform me when is the best time to cut back the shrubby veronicas, such as V. Traversi, V. cupressoides, etc.?—Veronica Traversi may be cut back in spring or immediately after it has flowered; if the plants are at all straggly the pruning had better be done at once. V. cupressoides so seldom grows more than a foot or so in height that it rarely needs any pruning beyond the removal of a few growths that may exceed the allotted space. All the sturdier shrubby kinds may be treated as suggested for V. Traversi if they have become ill-shapen. It is a good plan to put in a few cuttings in late summer, inserting these in sandy soil in a frame; these root readily, and, if protected from frost during the winter, they will be ready to plant out the following spring.

GREENHOUSE FLOWERING PLANTS FOR THE SUMMER SEASON.—E. T., Prenton: Please oblige me with a list of good flowering plants for providing a succession of bloom from May to September. These are needed for a cold greenhouse, and should be kinds that can be raised from seeds.—This seems, at first sight, a very simple question, but to answer it with any degree of fulness would occupy a large amount of space. Many plants that may be, and are, flowered in a cold greenhouse are raised in a warm house or pit; therefore a little heat is necessary if full advantage is to be taken of the many beautiful plants available. Further, one or two cold frames are essential to a continuous display. As for the greenhouse itself, a small heating apparatus sufficient to keep out frost would prove of immense service. We commend to your consideration the various articles on greenhouse plants that appear in our columns; and also the calendar notes, under "Work for the Week," dealing with the greenhouse and conservatory. We would also suggest that you obtain "The Amateur's Greenhouse" (Gardeners' Magazine office, 148-9, Aldersgate Street, E.C.; post free, 5s. 6d.), as you would find it very helpful. Dealing more directly with the question, Primula obconica is a host in itself, and practically perpetual flowering; one or two batches of plants should be raised every year, in spring and in late summer. For Chinese primulas and begonias you have not sufficient warmth, though the latter might be sown in May, and if the seedlings did not flower much the same year they would give tubers which would start into growth the following spring. Sow calceolarias in May and June, to flower the following summer; they must be kept free from frost during winter. Treat cinerarias similarly, to flower the following spring and early summer. Sow clarkias in September in pots, and grow them in a cool frame, bringing them into the greenhouse in early spring to flower in May and June. You will have to depend largely upon such annuals as chrysanthemums of the segetum type, Collinsia bicolor, Phlox Drummondi, petunias, and asters for flowers; the latter may be planted out, and lifted and potted in August. Do not despise forget-me-nots for spring flowering. Sow schizanthuses in March, and again in August, to secure a succession. Sow intermediate stocks in March or April for autumn flowering, and in August for spring flowering. Canterbury Bells and Chimney Campanulas must not be omitted; they can be wintered in a cold frame. Here, then, are a few subjects that, if carefully attended to, would provide flowers during the period indicated, especially if two or more small sowings were made of clarkias, collinsias, mignonette, etc. As already stated, given a little artificial heat, and no objection to plants raised from cuttings, the greenhouse could be kept gay with greater ease and certainty from spring to autumn.

LAND INFESTED WITH YELLOW RATTLE.—R.H.B., Gloucestershire: In addition to the charge of the garden, I have the management of the home farm, and growing on some parts of the arable land is a yellow weed which has greatly perplexed me. It appears to be injurious to the cereals that we grow, for where the weed is prevalent the crop of corn is unsatisfactory. I have no doubt that, with the aid of the dried specimen sent herewith, you will be able to give me the name of the weed, and whether it is hurtful to the cereal crops. I would mention that the plant bears yellow flowers, and that these are followed by large seed pods in which the seeds become loose when ripe, and make a rattling noise when the flower-spike is shaken.—The dried specimen that you have sent is much appreciated, because it enables us to recognise the species at once, and give you the information you require. The plant is Rhinanthus major, and is commonly known as the Yellow Rattle. There can be no doubt whatever that it is injurious to cereal crops grown on land that is infested with the weed, and that it is the cause of some portions of your crops being less satisfactory than you could wish. The Yellow Rattle is parasitic on certain of the cereals, and also on some of the composite and umbelliferous plants, and instead of obtaining its food from the soil by means of its roots, it becomes attached to the roots of its host plant by means of organs that are commonly designated as "suckers." The roots of host and parasite spread through the soil, and when they come into contact pad-like swellings are developed on the roots of the latter, and the outer cells of these lengthen and penetrate the tissues of the host plant. When the Yellow Rattle has become established it draws its food supplies from its host, and so impoverishes it as to prevent satisfactory development. Owing to the Yellow Rattle being attached to the cereal plants, it cannot be eradicated by the usual methods of dealing with weeds. The best method of procedure where the land is badly infested is to allow the ground to remain fallow for one year, and plough it two or three times, and in the year following take off a root crop. If you act upon this suggestion your fields will be free from the weed in two years.

NAMES OF PLANTS.

R. B. A., Bedford.—A garden-raised variety of Phyllocactus.

E. G., Teignmouth.—1, Isolepis gracilis; 2, Epidendrum variegatum; 3, Cattleya Schroderæ.

A. D. N., Chesterfield.—1, Adonis amurensis; 2, Saxifraga Burseriana; 3, Anemone blanda; 4, Prunus divaricata.

M. E. J., Dorking.—1, Acalypha Macafeeana; 2, Acacia Drummondi; 3, a cypripedium, not recognised, evidently of C. Leeanum parentage.

F. W., Wolverhampton.—1, Boronia megastigma; 2, Saintpaulia ionantha; 3, Pelargonium Mrs. Pollock; 4, Cyperus alternifolius variegatus; 5, Irisene Herbsti.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

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GARDENING ENGAGEMENTS.

Mr. H. Burson has succeeded the late Mr. William Bennett as head gardener at Rangemore, Burton-on-Trent, the seat of the Dowager Lady Burton.

Mr. H. Fishenden, general foreman at Billown Gardens, Castletown, has been appointed head gardener to C. C. Black, Esq., Cranham Holme, Upminster.

COMING EVENTS

Epsom Horticultural Society, Rose Show, June 30, at Woodcote Grove; Summer Show, August 4, at Epsom College.

Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.

Ealing Horticultural Society, July 9.

Weybridge Horticultural Society, July 10, at Barham Lodge, Oatlands Drive.

Thornton Rose and Sweet Pea Show, July 18.

Birmingham Horticultural Society, July 18 and 19, in Handsworth Park.

Tunbridge Wells Flower Show, July 23 and 24.

St. Quintin Horticultural Society, July 24, in the Gun Club grounds, Wood Lane, W.

City of London Rose Show, July 26, at Cannon Street Hotel.

Perth Horticultural Society, July 30.

Datchet Horticultural Society, August 4, at The Lawn.

Coventry Flower Show, August 4.

Seamoor Floral and Horticultural Society, Aug. 4.

Swanage Horticultural Society, August 4.

Westbury Horticultural Society, August 6.

CATALOGUES RECEIVED.

R. A. LISTER AND CO., LIM., DURSLEY.—This firm makes a speciality of tubs for palms and shrubs. Oak and teak are the materials used, with brass hoops. The range of pattern is very considerable, and most of the patterns are illustrated.

VILMORIN, ANDRIEUX, AND CO., PARIS.—The plant catalogue just received covers a particularly wide field; many novelties, including Chinese plants, are listed, and the dahlia and chrysanthemum lists are especially full; in connection with the latter, the varieties are grouped according to colour, time of flowering, and style of flower, as well as in alphabetical order.

L. REYMOND, VILLEURBANNE, LYONS.—In this catalogue a large number of the newer continental roses are described in English. The varieties are placed in their respective groups, and a full index facilitates reference.

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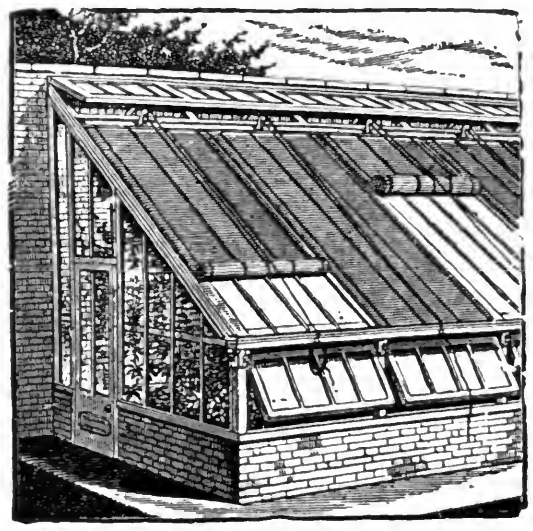

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ROCK GARDENS and ALPINE PLANTS. —A new work and a complete guide to the Formation and Management of Rockeries, by E. H. Jenkins, F.R.H.S. Many Illustrations. Cloth, 2s. 10d., post free, from Publisher, 148, Aldersgate Street, London.

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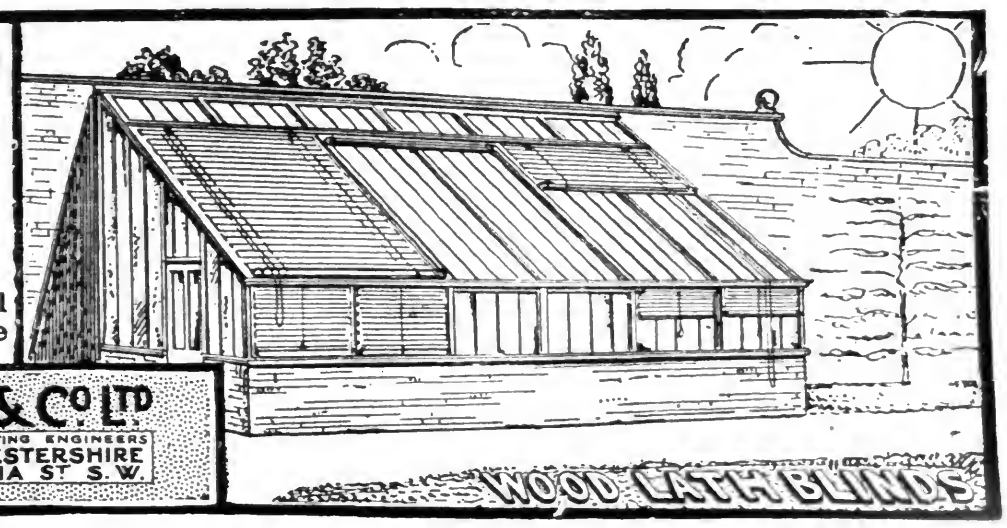

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		s. d.		s. d.
Acacia	per bun.	0 6	to	1 0
Anemones	per. doz. bun.	1 0		1 6
Arums	per doz.	2 6		4 0
Adiantum cuneatum	per doz. bun.	4 0		6 0
Asparagus plumosus	per doz. bun.	8 0		16 0
,, Sprengeri	per doz. bun.	8 0		12 0
Azalea	per doz. bun.	2 6		3 0
Bouvardias	per doz. bun.	4 0		6 0
Camellias	per doz.	1 6		3 0
Carnations	per doz.	1 6		2 6
,,	per doz. bun.	10 0		15 0
,, Malmaison	per doz.	12 0		15 0
Cattleyas	per doz.	9 0		15 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz.	2 0		3 0
Daffodils	per doz. bun.	1 6		3 0
Eucharis	per doz.	2 0		4 0
Freesias	per doz. bun.	1 6		2 0
French fern	per doz. bun.	2 6		4 0
Gardenias	per doz.	3 0		5 0
Lapageria	per doz.	2 0		2 6
Lilac	per bunch	3 0		4 6
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per doz.	1 6		2 6
,, longiflorum	per bun.	2 0		3 0
Lily of the Valley	per doz. bun.	6 0		18 0
Margnerites	per doz. bun.	1 6		2 6
Odontoglossums	per doz. blms.	3 0		5 0
Pelargoniums	per doz. bun.	4 0		8 0
Roses	per doz.	2 6		8 0
Smilax	per doz. trails	2 0		3 0
Spiræa	per doz. bun.	2 6		6 0
Tulips	per doz. bun.	5 0		12 0
Violets	per doz. bun.	1 6		3 0
Wallflowers	per doz. bun.	1 0		1 6

Fruits.

Apples are in fair demand, and oranges sell well. Grapes and Cape fruits are good.

		s. d.		s. d.
Apples, English	per bush.	4 0	to	8 0
,, American	per bar.	18 0		30 0
,, Californian	per box	5 0		8 6
,, Nova Scotian	per bar.	10 0		18 0
,, Oregon	per box	7 0		10 0
Apricots, Cape	per box	9 0		12 0
Bananas, Canary	per bar.	7 0		12 0
,, Jamaica	per bun.	3 0		5 6
Cobnuts	per doz. lbs.	3 6		5 0
Cocoanuts	per 100	18 0		23 0
Cranberries	per case	8 0		9 0
Dates	per doz. boxes	2 9		3 6
Grape Fruits	per case	8 0		18 0
Grapes, English	per lb.	1 6		12 0
,, Almeria	per bar.	16 0		25 0
,, Cape	per box	5 0		6 0
Lemons	per case	15 0		22 0
Nectarines, Cape	per box	6 0		12 0
Oranges	per case	9 0		32 0
,, California	per box	10 0		14 0
,, Jamaica	per case	4 0		9 0
Peaches, Cape	per box	3 0		6 0
Pears, Cape	per box	4 0		6 0
,, French	per box	2 0		5 0
,, Californian	per case	12 0		15 0
,, American	per case	5 0		8 0
Pineapples		2 6		5 0
,, Cape	per doz.	4 0		8 0
Plums, Cape	per box	3 0		7 0
Strawberries	per lb.	4 0		8 0

Vegetables.

Forced vegetables and early salading arrive in increasing quantities, and meet a steady demand.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 0	to	3 0
,, Ground	per bush.	3 0		4 0
Asparagus, Paris	per bun.	3 0		4 0
,, English	per bun.	2 6		3 0
Beet	per bush.	1 6		3 0
Beans, Guernsey	per lb.	1 0		1 6
,, Madeira	per basket	3 6		4 6
,, English	per lb.	1 0		1 6
Broccoli, Sprouting	per bush.	1 0		1 6
Cabbage	per tally	3 0		5 0
Carrots	per doz. bun.	2 0		2 6
,, French	per doz. bun.	7 0		10 0
Cauliflowers	per tally	8 0		10 0
,, Cornish	per crate	3 0		4 6
Celery	per doz. bun.	9 0		16 0
Celeriac	per doz.	1 0		2 0
Chicory	per lb.	0 2		0 2½
Cucumbers	per doz.	6 0		10 0
Endive	per doz.	2 0		3 6
Horseradish	per doz. bun.	10 0		12 0
Leeks	per doz. bun.	1 0		2 0
Lettuce	per doz.	1 0		2 0
,, French	per crate	2 6		3 6
Mint	per doz. bun.	3 0		6 0
Mushrooms	per doz. lbs.	6 0		10 0
Onions	per bush.	2 0		3 0
,, Spanish	per case	4 6		6 0
Parsley	per doz. bun.	2 0		3 0
Parsnips	per bush.	2 0		3 0
Peas, French	per pad	4 0		5 0
Radishes	per doz. bun.	1 0		2 0
Rhubarb	per doz. bun.	0 10		3 0
Savoys	per tally	4 0		7 0
Seakale	per doz. bun.	8 0		15 0
Spinach	per ½-bush.	2 0		3 6
Tomatoes, English	per doz. lbs.	10 0		15 0
,, Canary	per case	10 0		14 0
Turnips	per doz. bun.	2 0		2 6
,, French	per doz. bun.	4 0		6 0

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

DATE. 1913 MARCH 16 TO MARCH 22.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Mar. 16—Sunday	0 48	40	38	47	38
,, 17—Monday	5 6	37	36	45	35
,, 18—Tuesday	8 0	33	31	50	28
,, 19—Wednesday	4 54	49	48	52	34
,, 20—Thursday	5 50	46	43	52	41
,, 21—Friday	2 40	47	45	51	39
,, 22—Saturday	3 12	47	45	56	42
	(total)				
Means	30 30	42·5	40·6	50·3	36·5

DATE. 1913. MARCH 16 TO MARCH 22.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Mar. 16—Sunday	0·33	45	44	44	33
,, 17—Monday	0·02	44	43	44	33
,, 18—Tuesday	0·13	42	43	45	12
,, 19—Wednesday	0·09	43	43	44	28
,, 20—Thursday	0·30	43	43	44	34
,, 21—Friday	0·16	43	43	44	33
,, 22—Saturday	0·28	43	43	44	35
	(total)				
Means	1·31	43·2	43·1	44·1	29·5

FORTHCOMING ENGAGEMENTS.

TUESDAY, April 1.—Royal Horticultural Society; Narcissus and Tulip Committee meets at 11.30 a.m.; Fruit, Floral, and Orchid Committees at 12 o'clock; Lecture at 3 p.m. on "The Literature of the Rose," by Mr. Arthur W. Paul; Scientific Committee at 4 o'clock.
Horticultural Club, Monthly Dinner and Conversazione at the Hotel Windsor, 6 p.m.
Scottish Horticultural Association.
National Amateur Gardeners' Association.
WEDNESDAY, April 2.—Royal Horticultural Society's General Examination in Horticulture.
Liverpool Spring Show; two days.
THURSDAY, April 3.—Huntingdon Daffodil Show.
Linnean Society meeting.
SATURDAY, April 5.—French Horticultural Society of London.
New York International Horticultural Exhibition; eight days.
TUESDAY, April 8.—Cornwall Spring Show at Truro; two days.
Devon Spring Show at Barnstaple; two days.
WEDNESDAY, April 9.—Edinburgh Spring Show; two days.
Tewkesbury Daffodil Show.
THURSDAY, April 10. — Perpetual Flowering Society's Provincial Show at Leamington; two
MONDAY, April 14.—Annual meeting of the United Horticultural Benefit and Provident Society at the Royal Horticultural Hall, Westminster.

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NEWS FROM HEADQUARTERS.

THE SECRET OF BEAUTIFUL LAWNS.

An American, "The Practical Greenkeeper" tells us, was struck with admiration of the really wonderful lawns at the Universities. Hoping to pick up a wrinkle or two, he asked one of the gardeners how it was done. The gardener replied, "They rolled 'em and mowed 'em and mowed 'em and rolled 'em for 300 years."

But that was only half the truth. "They" certainly "weeded 'em and top-dressed 'em" for the same period, for without that no lawn can be brought to a state of such perfection.

A perfect lawn is "a thing of beauty and a joy for ever," the ideal setting for cottage and mansion, and the pride of the possessor of a perfectly-kept lawn is decidedly pardonable.

Now, of all seasons of the year, time spent on the renovation of worn or poor turf and overlooking lawns is sure of a liberal reward later in the year. Mow the lawn with a mowing machine, cutting the grass as short as possible, dress the lawn or green with Carters Complete Grass Manure, at the rate of 2oz. per square yard, then rake and cross rake the surface with an iron-toothed rake so as to work in the manure, and thoroughly open up the surface soil.

"The Practical Greenkeeper," published by James Carter and Co., Seedsmen to His Majesty the King, deals with the care of the lawn, golf courses, cricket fields, and the like, in a manner that is as simple and interesting as it is thorough. This fine 100-paged book is published free, and a copy will be sent to anyone interested upon application to

JAMES CARTER & CO.,
Seedsmen to H.M. the King,
Raynes Park,
LONDON, S.W.

Situations Wanted—*continued.*

MR. W. GREENTREE recommends YOUNG MAN as Single-handed Gardener; 10 years' experience; good references; willing and obliging. Hawley House Gardens, Blackwater, Hants.

NURSERYMEN.—GARDENER, knowledge Inside and Out; good grower; Ornamental Planting, Landscape, Jobbing, etc. BEGLIE, 22, Sadler Street, Mansfield, Notts.

JOURNEYMAN (First), age 20, seeks Re-engagement; Fruit and Plant Houses; good references; well recommended; Bothy preferred; nearly three years present place. J. EDWARDS, 2, Lake Cottages, Witley Park, Milford, Surrey.

JOURNEYMAN, Kitchen Garden and Pleasure Ground; age 21; good references. R. SCUTT, 14, Park End, Bromley, Kent.

YOUTH (17) seeks SITUATION in private Garden under another Gardener, Highgate or Hampstead district preferred. W., 13, Cochrane Street, St. John's Wood.

Situations Vacant.

UNDER-GARDENER required for Nursery Grounds in Midlands, good at Herbaceous and Propagating. Chiefly outside. State age, experience and salary required, by letter only to WEBB and SONS, Royal Seedsmen, Wordsley, Stourbridge.

WANTED, a YOUNG MAN, age from 24 to 30, experienced in Pleasure Ground, Kitchen Garden, general routine of gardening; wages 18s. per week. nApply, HEAD GARDENER, Bursledon Towers, Southampton.

WANTED, Experienced YOUNG MAN for garden, also little housework; age about 20; wages, 18s. a week; letters only. G. R., The Lodge, Redroofs, Broom Road, Teddington, Middlesex.

WANTED, Strong Active SINGLE MAN to look after, and do work with garden horse, fill up time in garden; one who is willing to make himself useful, and also understands the usual work in a private garden; Sunday duty in turn; no Bothy. Full particulars to E. SMITH, Falcon Wood, Shooter's Hill, S.E.

VOL. LVI.—No. 3,101. SATURDAY, APRIL 5, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Glass Shelter in the Garden.

For a long series of years subsequent to the use of glass becoming general in gardens as a consequence of the cheapening of the cost of manufacture, the predominant desire of the majority of those who were actively engaged in garden management was the possession of structures equipped with a well-devised system of heating by hot water. So strong was this desire that, in most cases, when the question was under discussion of providing additional glass accommodation for ornamental plants or fruits, it was contended that glass structures should invariably be fitted with a heating apparatus, because of their utility being increased nearly, if not quite, a hundredfold thereby. It was further suggested by many that a heated structure should be of dimensions that would admit of the occupants receiving the attention they required from the inside, and thus obviate the risk of injury from the cold air to which they are necessarily exposed when the lights are raised or drawn off to allow the watering, training, and other details to be carried out from the outside. Hence it was that for a considerable period comparatively few pits and frames were included, even in comprehensive schemes, for the cultivation of plants under glass. As a consequence, when the turf pit, so fully utilised by past generations of cultivators, and other makeshift shelters, had gradually, but surely, disappeared, frame accommodation became so limited as to greatly increase the difficulties of maintaining successional supplies of various kinds. Unquestionably pits and frames, as in the case of glasshouses, have their utility appreciably increased by their being in direct connection with a hot-water boiler; and it is equally true that the work of the garden is assisted by an area of heated pits. While these two points are indisputable, it does not necessarily follow that the whole of the pits and frames should be heated. It was not necessary, or desirable, in the early days of hothouse building on a large scale, and it is certainly not so at the present time. Then the greater proportion of the plants grown for garden decoration, as well as for other purposes, were more or less tender, and required artificial heat at certain stages for their successful cultivation, and early vegetables and spring salads were not extensively grown. Now the greater proportion of the plants grown for beautifying the flower garden, apart from those occupying the herbaceous border, are hardy, or nearly so, and there is a strong demand both for early vegetables and salads. From thirty to fifty years ago it may have been a convenience to have had the greater number of the pits heated, as thereby the thousands of bedding plants, as they came from the warm houses in which they had passed through the

MR. ARTHUR J. COBB.

initial stage, could be placed in them without risk of injury from a sudden drop in the temperature, and be kept safe from frost with no more covering than mats laid singly on the glass. It is probable that even in these days a few lengths of unheated frames would have been an immense advantage. At the present time they are a necessity, and, in the majority of gardens, the accommodation they afford falls short of the requirements of the case. It will be an advantage to have a certain proportion of these shelters heated, but the service of pipes and boiler adds so materially to the cost of pits and frames that they need not be provided unless there will be occasion for their use over the greater part of the year. Concurrently with a large and rapid extension in the cultivation of hardy flowers there has been an increased demand for the accommodation afforded by unheated shelters, and, in not a few gardens, an endeavour has been made to provide space proportionate to requirements. The necessity for the increase in the glass shelter is explained by the fact that where hardy plants are successfully cultivated young plants of a number of kinds have to be annually raised from seeds and cuttings, and that the greater proportion derive some benefit when kept in a freely-ventilated cool frame during the first winter. Consequently space is required during the summer months for rooting cuttings and raising seedlings, and nursing the young plants through the first stage of growth, and, in the winter, for the accommodation of such plants as may suffer from the inclemency of the weather if planted in their permanent quarters, this risk being the greatest where the soil is close in texture and retentive of moisture. A considerable area of frame room is also essential in gardens where there is a rockery of some size, and the choicest of the alpines are grown. Some of these suffer during the winter from the high degree of humidity in the atmosphere, others from heavy rains, and not a few are liable to injury from slugs when commencing to make new growth early in the year. Therefore, unless there is a reserve of young plants safely sheltered in the unheated frame there will be a difficulty in maintaining the ledges and slopes of the rockery in a flowery state, and in ensuring the proper representation of the less robust kinds. Moreover, in gardens where there is no rockery for the cultivation of the flowers of the Alps, a goodly number of kinds of great beauty might, with the aid of a few unheated frames, and a small span-roof house of an inexpensive character, be grown with great success, and their charms, more especially of the earlier-flowering kinds, be enjoyed under the most favourable conditions. To the value of the cold frame in the preparation of the hardy and half-hardy annuals, and other plants for the embellishment of the flower garden during the summer months there is no occasion to refer except to say that they should, as far as practicable, be equal to the requirements, because of the desirability of avoiding overcrowding during the preparatory stages. The utility of unheated frames is by no means limited to the service they are able to render in so many ways in the

flower garden. They are equally useful in the kitchen garden, and their value cannot well be overestimated as aids in the maintenance of a supply of salading from late in autumn until the spring is well advanced, and in the production of supplies of early vegetables. So far these accessories have been referred to in generic terms, but, as so well known, there are many forms of these, and especially useful are the span-roof frames, which can be obtained with wooden sides and complete in themselves, or with a framework to rest on walls, of varying heights. These frames may be had of various lengths and widths, and are superior to the ordinary garden frames, because of the fuller exposure to light and air they afford their occupants. The sizes are, of course, selected according to the purpose for which they are required, and if they are to be moved about for the protection of various subjects in different positions, those having sides of wood are selected because of their lightness. In addition to the several garden frames there are numerous protectors, of varying shape and size, that are useful for placing over single plants or small colonies, and these should be taken full advantage of. With an available supply of these, vegetable marrows, tomatoes, early cauliflowers, and other vegetables can be planted out a week or two in advance of the usual time, and with the shelter they afford the growth is so greatly accelerated as to make a difference of two or three weeks in the time they are ready for sending to the table. Glass has such remarkable power in sheltering vegetation from cold and wet, and of collecting warmth about the plants for which it is used as a covering, that we would suggest that its peculiarities be carefully studied, and its protective properties fully utilised.

Mr. Arthur J. Cobb, whose articles on dahlias have recently appeared in our columns, is head gardener at Duffryn, near Cardiff, where R. A. Cory, Esq., has a most charming garden, and cultivates the largest private collection of dahlias to be found in this country. Mr. Cobb commenced his gardening career as a boy at Cirencester House, where, under Mr. T. Arnold, he spent ten years in the various departments. For several years he was first journeyman there, and when he left it was to become foreman at Poulton Priory, Fairford. After two years' experience he entered a London nursery, and presently passed on to become foreman at Hartpury House — recently described and illustrated in our pages. Four years later he was invited to take charge of the Duffryn Gardens, where he has now been about six years, and during that period great alterations and extensions have been made, both Mr. and Miss Cory being keen gardeners. At Duffryn there are particularly fine collections of nymphæas, herbaceous plants, succulents, and the newer trees and shrubs. There are thousands of roses, including all the Wichuraiana varieties; while summer bedding plants and the dahlias are great features. The latter are grouped in a slightly-hollowed space, and, under Mr. Cobb's method of cultivation, they commence to bloom in July, and provide a dazzling display in August and September, and on until the frosts come. Mr. Cobb has also raised large numbers of hippeastrums from the finest named varieties, and the Duffryn collection of these glorious flowers numbers over a thousand flowering bulbs. Both Mr. Cory and Mr. Cobb are enthusiasts, and, given health and strength, they will place Duffryn in the front rank of British gardens.

Guide for Kew.—In another part of this issue we refer in detail to the arrangements now made for the conduct of parties of visitors through various parts of the Royal Gardens, Kew. Mr. S. T. Dunn, M.A., F.L.S., formerly at Hongkong, appears to be the appointed guide, as he conducted the first party, of three, on the morning of April 1.

London Daffodil Show.—Unless very warm weather occurs during the next ten days or so, there is likely to be a very interesting exhibition of daffodils at the Royal Horticultural Hall, Westminster, on Tuesday and Wednesday, April 15 and 16. The daffodil season is an early one again this year, but the dull and cool weather of late has steadied the flowers. The London Show is arranged by a sub-committee of the R.H.S. Narcissus and Tulip Committee, and, while the Royal Horticultural Society gives cups and medals, the cash prizes are raised by subscription. If everyone interested in this show competes, there will be a goodly display both of well-known varieties and new seedlings. We may remind readers that the daffodil schedule is included in the R.H.S. "Book of Arrangements."

The King's Cup for Roses.—The King has presented a silver challenge cup to the Windsor Rose Society to replace King Edward's Cup, which was won outright last year. The new challenge cup will be offered under different conditions to the trophy which preceded it, and will be held only from year to year, and cannot be won outright. His Majesty has also sent an annual subscription of £5 to the society, and has given permission for the exhibition to be held on the slopes of Windsor Castle, the date fixed being June 28.

Weather and Vegetation at Glasgow.—We have much pleasure in acknowledging the report by Mr. James Whitton, V.M.H., Superintendent of Parks and Curator of Botanic Gardens, Glasgow, on the weather during 1912, and its effects on vegetation in the open spaces under his control, for, as usual, it is of much interest. In the summary of the records of the twelve months Mr. Whitton observes: "In comparing the records of the year with those of its predecessor, we find a sharp contrast between them as to the weather conditions in favour of 1911. That year was generally fine and 'ideal' for these latitudes, whereas 1912 was conspicuous for heavy rainfall and low temperature, with a marked absence of brilliant sunshine. The earlier part was the best and driest, April and May being the sunniest also. Consequent on the well-ripened condition of growths on trees and shrubs, vegetation readily responded to the quickening agencies of Nature's forces. The storm on April 8 damaged the young growths on the earlier leafing trees and shrubs, and the frost on the 12th of the same month spoiled the bloom on the early-flowering rhododendrons. Apart from these mishaps, the development of growth and flower afterwards was extremely satisfactory. The bloom on most of the ordinary hardy plants was above the average, plums, cherries, pears, apples, laburnums, lilacs, hawthorns, ribes, rhododendrons, etc., being specially fine. With the rains in June vegetation made rapid headway, and the development of growth was somewhat remarkable on many species of trees. Unfortunately the wet, sunless weather was prolonged, with the result that much of the fine growth was indifferently ripened. The great bulk of hardy trees and shrubs have not set flower buds freely, so that a great display of bloom in the woodlands cannot be expected this season.

Primula Conference.—A Primula Conference will be held in the Lecture Room at the Royal Horticultural Hall, Vincent Square, Westminster, on April 16, when the chair will be occupied by Sir John Llewelyn, Bart. The conference will open at 11 o'clock, and will close at about 4 p.m., with an hour for luncheon at 1, which will be served in the Committee Room (2s. 6d.). The following are the papers to be given: Morning session—(1) "European Primulas," by Dr. John McWatt; (2) "European Hybrids in Nature," by Mr. R. Farrer; (3) "Himalayan Primulas," by Mr. W. W. Craib. Afternoon session—(4) "Chinese Species of Primula," by Professor Bayley Balfour, F.R.S.; (5) "Primulas from a Garden Point of View," Miss Jekyll.

Testimonial to Mr. A. Mackenzie.—The retirement of Mr. Alexander Mackenzie from the position of manager of Messrs. Methven and Sons' Warriston Nurseries, Edinburgh, which he has held during the past forty-five years, has been thought by many horticultural and personal friends a suitable occasion for presenting him with a tangible token of their esteem. It is also desired to recognise the great services Mr. Mackenzie has rendered to horticulture during his gardening career. He was one of the originators of the Scottish Horticultural Association, and as a member of council and for many years hon. treasurer he contributed liberally to the success that has been achieved by the association. A committee has been formed for the purpose of carrying out the project, with Mr. David King, president of the Scottish Horticultural Association, as chairman; Mr. J. Phillips, Granton Road Nurseries, Edinburgh, treasurer, and Mr. M. Todd, 31, Shandwick Place, Edinburgh, secretary.

Mr. Mayne, the hon. secretary of the Cardiff Gardeners' Association, was, on the occasion of the annual meeting held the other evening, presented with a gold watch and a purse of gold in recognition of the services he has rendered the association during the four years he has occupied his present position. We congratulate both the recipient and the subscribers to the testimonial fund.

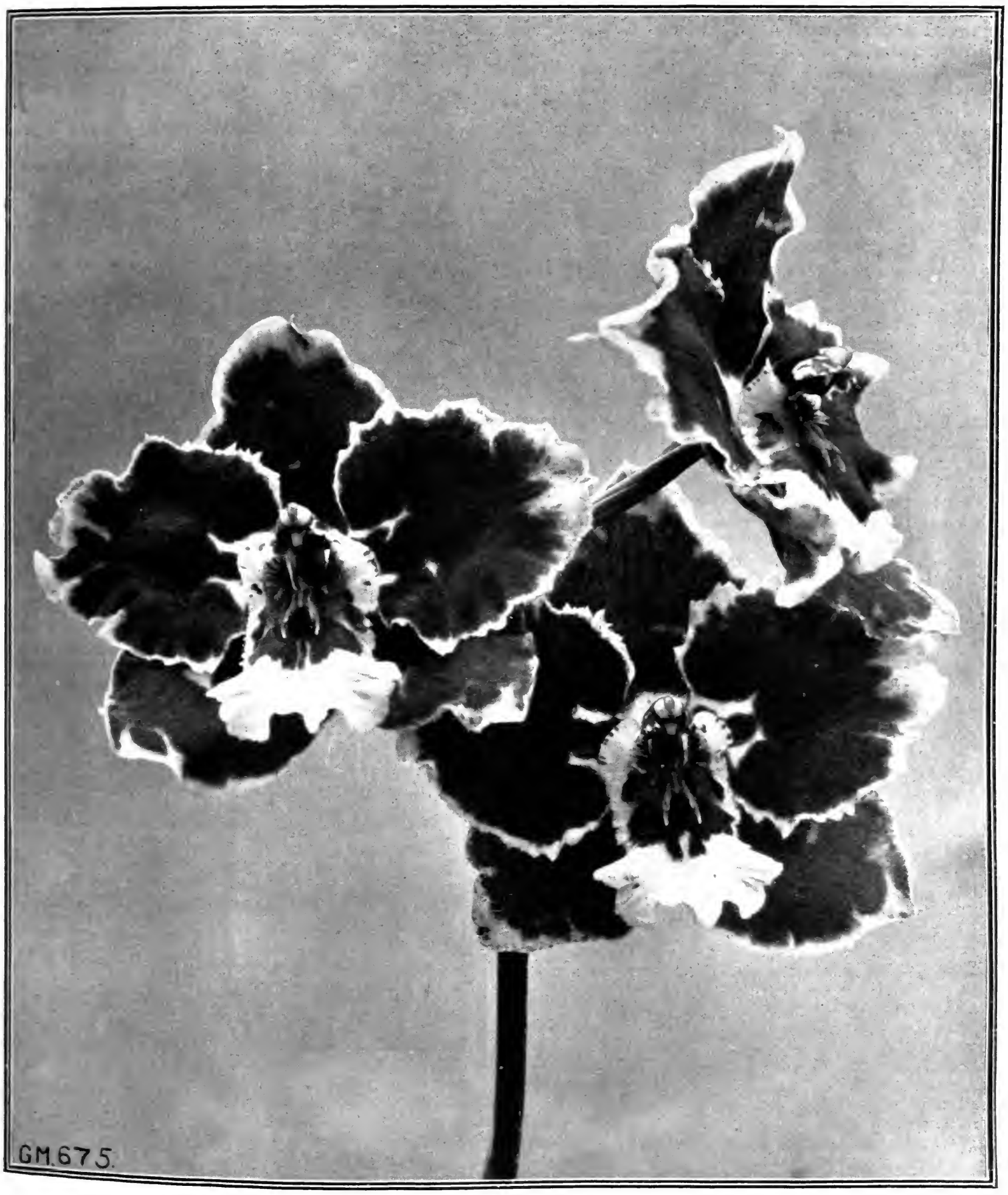
Carnation Carnival at Leamington.—The Perpetual-flowering Carnation Society, which holds its first provincial show at Leamington on April 10 and 11, has made arrangements with the Great Western and London and North-Western Railway Companies for the issue of cheap tickets on the show dates from all stations within a thirty-miles radius of Leamington. These tickets are available by any train starting before 12 noon, but can only be used for the return journey on the date of issue. These tickets will be issued at a single fare and a-third. Visitors from London and the South may obtain tourist tickets to Leamington either at Paddington, Euston, or from Messrs. T. Cook and Sons, at 13s. 9d., third class return. A number of trains from Paddington reach Leamington in one and a-half hours.

United Horticultural Benefit and Provident Society.—The annual meeting of this society will be held at the Royal Horticultural Hall, on Monday, April 14, at 8 p.m., when Mr. Charles H. Curtis will preside. It is hoped that all members who are living near London will endeavour to be present.

ROYAL HORTICULTURAL SOCIETY'S EXHIBITION.

Daffodils were the flowers most in evidence at the Royal Horticultural Hall, Westminster on April 1, their bright blooms and sweet fragrance made the hall a gay spring-like scene. Rockery displays were quite good, indeed, they were far above the average of quality, and Mr. Beckett's display was the crowning feature. Orchids, carnations, greenhouse plants, and roses were the other leading subjects. Visitors were numerous, and throughout the greater part of the day the weather was bright and pleasant.

The daffodil lovers had a field day, and the large number of exquisitely beautiful new seedlings staged proved very tempting, as we gathered from the happy faces and jovial remarks of the raisers and growers that excellent business was done in these new creations. Everyone was glad to hear that Mr. Bowles, chairman of the Daffodil and Scientific Committees was recovering from his illness, and there were many expressions of regret at the loss of Mr. Andrew Kingsmill, whose death on Saturday last removes one of the oldest members from the Daffodil Committee.



ODONTOGLOSSUM EXIMIUM WARNHAM COURT VARIETY.
Flowers marked with deep crimson-purple on a blush ground. F.C.C., R.H.S., April 1
C. J. Lucas, Esq., Warnham Court, Horsham.

FLORAL COMMITTEE.

The finest rock garden exhibit yet seen in the hall was put up on this occasion by Mr. Edwin Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree. The space occupied was about 40ft. by 8ft. 6in., and this was grandly filled. Altogether about a dozen tons of mountain limestone, all finely weathered, were used in the production. In the centre was a flat, boggy area, with water dripping into it from the rocky wall at the back, and from one end a ravine cut back into the bank, and here nestled a colony of Primula denticulata. In the bog were Primula frondosa (about a hundred dainty little plants), with Ranunculus montanus, Caltha palustris, Solomon's seal, etc., in the wettest part. Overhead were ferns in the moist rock crannies, and right on top were berberis, mollis azaleas, and conifers of sorts. To the left the bold rock front gave shelter to colonies of aubrietias, primroses, violas, cytissus, kalmias, daphnes, veronicas, and a large plant of the gnarled and quaint Corylus avellana contorta. To the right of the boggy portion Cotoneaster Dammeri trailed over the rocks studded with scarlet berries. Farther along on the slopes were masses of Erica carnea, Primula denticulata, P. frondosa, the Golden Cytisus Beani, Primula viscosa Mrs. J. H. Wilson, and a tall, graceful plant of Cotoneaster salicifolia floccosa. This was a splendid effort, especially from a private establishment,

and it won general admiration and a gold medal.

Messrs. T. S. Ware, Feltham, planted fine colonies of Primula rosea, P. denticulata alba, Ranunculus amplexicaule, Soldanel a alpina, Gentiana acaulis, Aubrietia Perkini, and other delightful alpines, on a low rock garden. From the Guildford Hardy Plant Company, Guildford, came a collection of alpine primulas, that included the bluish-purple P. calycina; saxifragas, anemones, violas, scillas, etc. Miss Dixon, Edenbridge, staged primroses and polyanthuses.

Messrs. G. and A. Clark, Dover, arranged a little garden with beds and borders of splendid polyanthuses and coloured primroses. The background was formed of a rockery bank, faced with heaths, aubrietias, and primroses, and topped with small conifers. Mr. G. Reuthe, Keston, exhibited beautiful masses of Himalayan rhododendrons, a selection of saxifragas, and primulas, and examples of Myosotidium nobile and the gorgeous Embothrium coccineum.

An effective exhibit of alpines came from Mr. M. Pritchard, Christchurch, Hants, which was admirably arranged without overcrowding the various subjects. Aubrietias were arranged in masses, and included A. Dr. Mules, A. Wallacei, A. Lilac Queen, and Bridesmaid. Primulas were in fine form, especially the Sieboldi varieties, while P. japonica atro-sanguinea and P. capitata were also quite attractive. Other leading features were the saxifragas and Daphne cneorum.

Mr. C. Elliott, Six Hills Nurseries, Stevenage, again presented a rockery, arranged artistically. The chief features were Anemone pulsatilla in splendid condition; Morisia hypogæa, Viola gracilis, and a good variety of saxifragas and aubretias. Mr. R. Pritchard, West Moors, Wimborne, Dorset, staged a small but interesting display, particularly attractive were Campanula Stevensiana, Primula rosea, P. ciliata coccinea, Viola gracilis lutea, and a variety of saxifragas.

Messrs. Whitelegg and Page, The Nurseries, Chislehurst, occupied the end of a double table with a nice exhibit arranged with stone. The best features were Sedum obtusatum, aubrietias in variety, Primula Veitchi, P. J. H. Wilson, P. Forresti, and P. rosea; while saxifragas were employed at the edges of the mounds. The Wargrave Plant Farm, Lim., The Arcade, Liverpool Street, had an effective exhibit of rock plants arranged in a natural style, though the cocoanut fibre was perhaps a little too prominent. The most striking subjects employed were Aubretia Lloyd Edwards, A. Wallacei, and A. Leichtlini. The quaint Viola sulphureum was also in evidence, with Iris Susiana and Primula megasæfolia.

A fine display of rock plants came from Messrs. J. Piper and Sons, Barnes, Surrey, the whole arrangement being most natural and effective. The primulas were certainly a fine illustration of their varied types.

Messrs. Reamsbottom and Co., Geashill, Ireland, again had a display of St. Brigid anemones, which embraced a large range of colours; they just wanted a gleam of sunshine to produce a gorgeous piece of colouring. Mr. James Box, Lindfield, Haywards Heath, occupied a corner of the hall with hardy flowers. In the background were noted some fine Moutan pæonies, with Azalea mollis, while in the foreground, arranged naturally, were fine groups of Primula cashmeriana, P. malacoides, P. rosea, with saxifragas, Lithospermum prostratum and Morisia hypogæa, all in good form.

Messrs. G. Jackman and Son, Woking, had a bright exhibit of hardy flowers, with some excellent examples of forced shrubs at the back. There were ribes in variety, Spiræa arguta, and Mespilus canadensis; while other notable features were Iris cyanea, Incarvillea grandiflora, Thalictrum anemonoides, Muscaria Heavenly Blue, and M. botryoides alba. The whole exhibit was much admired. Messrs. Baker, Codsall, Wolverhampton, presented a bright display.

A bright and effective exhibit of hardy flowers came from Mr. H. Hemsley, Nurseries, Crawley, the whole being most tastefully arranged, the background being composed of spiræas, white broom, berberis, and acers. The aubrietias here were quite a feature, especially the varieties variegata argentea, A. aurea, and A. deltoides variegata, these, with Peter Barr, A. Lechtlini, making quite a feature; while Gentiana bavarica, G. verna, and the white form G. v. alba, attracted much attention, as did also Helichryfeature, especially the varieties A. variegata argentea, A. aurea, and A. deltoides variegata, these, with Peter Barr, A. Leichtlini, making quite a feature; while Gentiana bavarica, G. verna, and the white form, G. v. alba, attracted much attention; as did also Helichrysum bellitoides.

A group of fragrant lilacs from Messrs. Paul and Son, Cheshunt, showed the great variety of colour now obtainable in these fine flowering shrubs; Alphonse Lavallee, Mdme. Lemoine (double), Marie Legraye, Souv. de Leon Spathe, Doyenne Keteleer, and alba grandiflora were especially good, and carried very fine spikes. From Messrs. R. Gill and Sons, Falmouth, came a collection of cut rhododendrons, in which R. cornubia shone brilliantly, while others noteworthy were Duchess of Cornwall, R. barbatum, and a large number of seedlings. Primula Winteri was also in fine form, while Mysotidium nobile was just opening well.

Messrs. W. Cutbush and Son, Highgate, were represented by a miscellaneous group which made quite an attractive display, and a fine bank of carnations arranged lightly with ferns and palms.

Messrs. H. B. May and Sons, Upper Edmonton, staged a table of ferns and clematises. In the former were groups of Pteris Summersi, Todea africana, Adiantum micropinnulus, and osmundas in variety. The clematises included well-flowered plants of Nellie Moser, Lucie Lemoine, and Miss Bateman. Messrs. Wills and Segar, Onslow Crescent, South Kensington, staged a small exhibit of gerbera hybrids arranged in tall glass vases, while the centre was occupied with Calla Pentlandi; the groundwork of selaginella was relieved with dot plants of Nidularium fulgens.

Messrs. Jas. Veitch and Sons, Chelsea, staged a very bright lot of cyclamens, all well-flowered plants, carrying large blooms of white, purple, lilac, and crimson colouring. The same firm had a few Darwin tulips in bright colours. Messrs. H. Cannell and Sons, Swanley, disposed huge bunches of zonal pelargoniums in glass vases, and made up a very bright exhibit.

Messrs. Wm. Paul and Son, Waltham Cross, brought up dainty flowering plants of Rowena, Fairy, and Tausendschon, all beautiful climbing roses; their dwarf pot plants of Amy, Sylvia, Mrs. Chas. Hunter, the new white Tausendschon, and Juliet, with cut flowers of the lovely Sunburst and the yellow Banksian roses. Mr. George Prince, Longworth, had a charming group of cut roses, and made a special feature of Juliet, Mrs. W. J. Grant, A. R. Goodwin, Fortune's Yellow, and Richmond.

Messrs. Stuart Low and Co., Enfield, showed golden-flowered acacias, and fine heads of the newer hydrangeas—Mdme. Mouillere and Radiant; and a few perpetual carnations.

Auriculas from Mr. James Douglas, Great Bookham, were a good feature of the show, as the plants were well grown, and the varieties of the best, namely, Ruby, Old Rose, Roxburgh, Admiration, Mrs. Gardener, Harrison Weir, and Napoleon. Primula viscosa Jean Douglas (A.M.), with bright rose, white-eyed flowers, and P. v. Othello (A.M.), with smaller, dark purple flowers, were two fine new varieties exhibited by Mr. Douglas.

Messrs. Allwood Brothers, Haywards Heath, showed perpetual carnations well. Mr. H. Burnett's splendid carnations were much admired, and he set up grand vases of R. F. Felton, Calypso, Marmion, Mrs. C. F. Raphael, Sultan, Carola, and White Wonder.

Messrs. W. Wells and Co., Lim., Merstham, exhibited some well-grown carnations.

ORCHID COMMITTEE.

A very attractive and well-arranged group of orchids from Messrs. Sander and Sons, St. Albans, was well furnished with the fragrant Cattleya Schroderæ, the golden Oncidium concolor, the bright crimson Renanthera Imschootiana, many graceful odontoglossoms, and Cymbidium insigne. Messrs. Armstrong and Brown, Tunbridge Wells, brought up a nice lot of orchids, but the pots were rather too much in evidence. Brasso-cattleya Mdme. Hye, Zygopetalum Armstrongæ, the bright yellow Lælio-cattleya Myra, Dendrobium nobile virginale, and Odontioda Charlesworthi were a few of the best things.

Mr. Thurgood, gardener to H. T. Pitt, Esq., Stamford Hill, had a fairly large group of orchids; odontoglossums were freely shown, and there were cymbidiums, miltonias, cypripediums, the rare and quaint Chondrorhyncha Chestertoni, and the no less curious and umbellate Cirrhopetalum Mastersianum. Messrs. Hassall and Co., Southgate, showed the pretty Cattleya speciosissima Stanleyi, C. Mendeli, and a few odontoglossums.

Mr. W. Balmforth, gardener to F. Menteith Ogilvie, Esq., The Shrubbery, Oxford, had a splendid plant of Odontoglossum Ossulstoni Shrubbery var., with a branching spike of twenty-eight grand flowers. Messrs. Stuart Low and Co., Enfield, displayed masses of Dendrobium Wardianum, with Cattleya Schroderæ, L.-c. callistoglossa, L.-c. Bella, and the white form of Lycaste Skinneri.

Odontioda Cooksoniæ Ralli's var. (A.M.) was shown by Mr. Hunt, gardener to Pantia Ralli, Esq., Ashtead Park, Leatherhead; the white tip to the lip greatly enhanced the beauty of this crimson-scarlet orchid. Odontoglossum eximium Warnham Court var. (F.C.C.), shown by Mr. Duncan, gardener to C. J. Lucas, Esq., Warnham Court, Horsham, was very finely formed, and marked with deep crimson-purple on a blush ground.

A very large and fine plant of Cymbidium Humbloti was exhibited by Messrs. Charlesworth and Co., Haywards Heath. This is a rare species from Madagascar, and it has long, deep green, strap-like leaves, and a big, branching spike of about 4ft. long, and about a score of green and blackish purple flowers on each of its six branches (F.C.C.). A group of odontoglossums and odontiodas from Mr. G. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, attracted a good deal of attention. Of the odontiodas, Cassiope, Patricia, Bradshawæ, Charlesworthi, Bohnhofeæ, and Heatonense were the most notable, and their bright colouring was very effective.

An exceptionally well grown plant of Brasso-cattleya Heatonense Canary, carrying six very fine pale sulphur-yellow flowers, having pink and yellow shading in the big fringed lip (F.C.C.), was shown by Mr. H. Alexander, grower to Lieut.-Colonel Sir George Holford, Westonbirt, Gloucester. From the same collection came Cypripedinm Roundhead (F.C.C.). M. Firmin Lambeau, Brussels, exhibited Cattleya intertexta var. Juliette, a beautiful white form (A.M.). Lælio-cattleya Dominiana Southfield var., with a huge ruby-purple lip, gained a F.C.C. for W. Walters Butler, Esq., Southfields, Birmingham.

Messrs. J. and A. McBean contributed a fine plant of the rather rare Odontoglossum coronarium, carrying a dense spike of brown and yellow flowers; Cattleya Schroderæ, Miltonia Bleuiana McBean's var., and the gold and brown Odontoglossum trumposum, a cross between O. triumphans and O. cirrhosum, were other good things staged. Odontioda Keighleyensis ignita, very bright crimson-scarlet (A.M.), was also exhibited by the Messrs. McBean. Mr. S. W. Florey, Tracey's Nursery, Twickenham, showed Cattleya Schroderæ and Oncidium concolor in

(Continued on page 249.)

MICHAELMAS DAISIES.

Where space permits one cannot too strongly urge the importance of devoting a border to the cultivation of these charming autumn subjects, as by so doing, with a little attention to cultural details, one of the most glorious effects may be produced that it is possible to conceive. During the past few years many new and improved varieties have been introduced by various raisers, and the modern Michaelmas daisy is a distinct improvement upon the older race, being much more beautiful in habit and freer-flowering, therefore the importance of growing the newer and better varieties in preference to the old ones can hardly be over-estimated.

Whether these perennial asters are grown in a border entirely devoted to them, as the photograph depicts, or are included in the herbaceous border for an autumn display, they need a good depth of soil in which to root, and also the addition of a little well-decayed farmyard manure. We replant annually, but many suggest this is quite unnecessary; we find that if allowed to remain longer the clumps and resulting growths become too crowded, while vigour is secured by annually dividing and planting a portion of the outer growths, which develop into good specimens before flowering time.

Assuming that the plants have been lifted, carefully labelled, and laid in near by, and the ground prepared by digging or trenching, planting may be done without delay, when the ground is not saturated. Our border takes four rows of regularly-planted varieties, with back plants variously arranged with the shrubs, etc., and these include the vigorous-growing varieties of the Novi Belgi and Novæ Angliæ types. The four rows on the border proper contain nothing but varieties of the cordifolius and ericoides section. Four feet between each plant may seem a very liberal amount of space, but as growth advances it will be found that it is none too much, providing the plants are well staked out as they should be. Plant firmly, and rake the surface of the border neatly after labelling.

The ericoides varieties are quite easily increased, and invariably start away well, but the cordifolius forms make but few growths in comparison, and require rather more attention; therefore it will be well after planting to make quite sure against the attack of slugs by placing a good sprinkling of sharp cinder ashes around them. On very heavy soils a little old potting material placed round the roots will materially assist the young plants.

Staking is a very important item, and requires attention early. The modus operandi here is to insert four, five, or even six flower stakes as near to the base of the plant as permissible, but in an outward slanting direction, and equidistant, and train a good growth to each stick, thinning out the weaker shoots, and those not required. Unless a growth considerably outdistances the others, I do not advise stopping.

During hot weather a mulching is highly beneficial, and copious supplies of water, with damping overhead in the evening, will be found desirable, as will also a dusting of artificial manure before a shower. If the plants show signs of an attack from mildew syringe them with a good specific.

To enumerate the varieties would be a large undertaking, but perhaps a good dozen will suffice, with their approximate heights.

Climax is a grand variety of the Novi Belgi type, six feet high, blue: Mrs. F. W. Rayner, red, of Novæ Angliæ type, is not one of the best for cutting, but fine for its colour in the border, four feet: St. Egwin, a beautiful pink variety, is not too tall, and is fine for its colour: Perfection, white, 3½ft., is a grand variety: Hon. Edith Gibbs, pale blue, 4ft., is a standard variety; Paragon, rich blue, cordifolius section, is 3½ft. high; Cinderella belongs to the same section, and is white, 4ft.: Desire, an ericoide variety, is a good front-row plant, with white flowers; Ringdove, 4ft., is rosy-lavender; and Novelty, 3½ft., is blue; White Heather, dwarf, but very free, and Esther, a complanion plant, with rose flowers, are a fine pair. The above are twelve of various heights and colours and of the different sections, and do not include any varieties of Amellus, which are preferably grown elsewhere than in the Michaelmas daisy border.

EDWIN BECKETT, V.M.H.

A BORDER OF MICHAELMAS DAISIES AT ALDENHAM HOUSE, ELSTREE.

APRIL IN THE ROSE GARDEN.

In the ordinary course of events many of our roses will be putting forth growth freely by the middle or end of April. I have upon more than one occasion cut blooms from such early varieties as Rêve d'Or, Charles Lawson, and Coupe d'Hébé in very sheltered corners during a mild and early season in April.

In such sheltered spots we frequently find a colony of insect pests, chiefly greenfly, ready to spread widely as soon as the weather becomes suitable. Attack them while in a small compass; one cannot begin too soon nor be too persistent in keeping down the first arrivals.

Some forward varieties will have broken into new growth sufficiently to show where they are too crowded; remove the badly placed growths before they reduce the plant's energies. Shoots that threaten to overcrowd the centre of the plants must be cut or pinched out as soon as they can be handled.

Upon the early growths, especially among the forwardest Damasks, Bourbons, and a few of the hybrids, we may be troubled with an occasional caterpillar or rose grub. Examine any curled or eaten leaves, and pinch the grub between finger and thumb. We must be quick at this, for the majority of these little foes are wonderfully smart in dropping to the ground upon the slightest disturbance near them. They are very sensitive to a slight jar, and seem always ready to fall lightly, suspended by an almost invisible silken thread, by which they regain their position when all is quiet once more. Although the ordinary insecticides are undoubtedly distasteful and injurious to this foe, I would put my chief dependence in an early use of the finger and thumb treatment. If you kill the few first at once, I do not think there is nearly the same trouble with successive attacks as in the case of the aphides, which seem to appear in batches; so much so that not a few growers still remark that they come with the east winds, etc. When such conditions prevail, rose growth is partly at a standstill, and the insects increase so quickly that the whole of the youngest growth is smothered in a very short time. Here, again, one cannot possibly commence washing too soon. There are quite a number of cheap and reliable washes on the market now, and I will give a warning against any temptation to use these at a greater strength than advised by the manufacturer. If not successful at first, simply give a further wash. Indeed, one cannot kill both insects and eggs at one wash without having it too strong for safety to the young and tender growths. The majority of our successful growers commence early and keep up a more or less continuous spraying at a rather weaker strength all through the growing season, and this seldom fails to keep both insects and mildew away, besides securing clean and pleasing foliage at all times.

Now that pruning is completed, the light forking in of some good mulchings will be of great benefit as the roots will be in a more suitable condition to make use of the food. It does not matter much what class of manure is used, so long as it is well rotted and that of a lighter nature reserved for the stiffer soils, and heavier material where the soil is naturally light and quick in its drainage.

Upon the stems of some old plants, and especially in the case of standards we find a larger amount of moss lichen than usual, owing to the mild and wet winter, and the dripping summer and autumn of last year. A spray made up of a wineglassful of soluble paraffin to a gallon of warm water will kill this; or a little freshly slaked lime may be put upon the stems in white-wash form mixed with clear water. If neglected, this lichen soon chokes the base of standard heads and keeps the life-giving air and light from the growth.

Under glass we shall be securing the second crop of flowers from the earliest forced pot plants. I need say little more here than remind readers once more of the great necessity for early measures against insects and mildew.

Quite a number of own-root roses may be struck at this date. Use the three-parts ripened growths that can be cut away from below the flowers when partly pruning back after the blossom has been cut or has passed its beauty. Lengths of three eyes, or some side pieces that did not flower, may be taken off with a small heel of the older wood.

Inserted in coarse sand, kept close in a temperature of 65 degrees for three or four weeks, and not allowed to be dry at any time, a large percentage of the cuttings will callus. As soon as they have roots three-quarters of an inch in length, lift them very carefully, and insert in small pots in a mixture of leaf-soil, good loam, and sharp sand in equal proportions. Keep them close for a while, and repot, using richer compost, growing them on in the usual manner. A stock of many varieties that do not produce a sufficient quantity of buds for summer propagation outdoors may be worked up in this way; planting out the rooted cuttings from the tiny pots instead of potting them.

Rosarian.

Eucalyptus citriodora. — This species of eucalyptus is readily distinguished from all the other gum trees, by reason of the delicious citron-like fragrance of its young foliage. Like the other members of the genus, the juvenile leaves are very distinct from the mature ones, being of a rough, hairy nature; while the others are quite smooth. It is the rough leaves that are scented, the mature ones needing to be crushed before any fragrance is manifest.—T.

Protecting Fruit Buds.—Look out for bullfinches and other pests likely to damage buds of fruit trees. Sparrows, mice, and rats are frequently very destructive to pear and apple trees growing on walls, and should be checked by the best means available. Traps may be set nightly for mice and rats, but when these fail a little vermin-killer should be made use of. Hang nets in front of the trees to keep away sparrows and bullfinches, or syringe well with quassia extract, or some other distasteful insecticide. We find the bullfinch most destructive to plums, and, in some seasons have found it most difficult to prevent injury. All our bush apple trees usually have a good syringing (just before the buds open) with lime and soot water, about the thickness of new milk, and we find it very useful as a preventive.—H. Markham, Wrotham Park Gardens.

FERTILISERS FOR FRUIT CROPS.

For many years I have employed lime, phosphates and potash, in the form of either kainit or sulphate of potash, in the cultivation of fruits, both outdoors and indoors, with exceptional success. When dealing with pears, plums, and apples out of doors I have sometimes had to root-prune trees that were making rampant growth, before supplying the fertilisers named, in order to check exuberance in the branches and to foster the production of fibrous roots, which are so essential to fruit trees of all kinds.

With judicious feeding and the preservation of all the fibrous roots within a depth of about nine inches, much may be done to induce free fruiting in trees that have been badly managed for some years, as evidenced by some old stagers that came under my notice a few days ago. But this method of once more securing a balance between root and branch, which had been upset by excessive pruning and the destruction of the roots that absorb the fruit-producing food, is longer in producing the desired object than is the case when root-pruning is resorted to. Besides, if a wide trench is taken out when the trees are root-pruned facilities are afforded for enriching the soil with phosphates, an advantage of considerable value, as phosphates are not very soluble, and consequently, do not readily permeate the medium. The potash and lime are best applied to the surface, as they will find their way downwards, and will work up and down by capillarity and rain as long as they remain in the soil. Even for newly-planted trees only the phosphates should be mixed with the soil.

In a small experimental garden discovered the other day, I found espalier-trained apples and pears a mass of fruit buds, and showing little indication of wood growth. These trees are growing in a soil naturally very rich in potash, but almost entirely deficient in phosphates and lime. When the trees were planted a very liberal dressing of basic slag was worked into the soil, and lime and kainit have been applied to the surface every year since. No digging is ever done within a certain radius of the stem, and more fruitful trees it would be hard to find, but as they extend so little annually it is intended to encourage more branch growth this summer by heavily mulching with farmyard manure.

I do not wish to convey the idea that the trees are in a starved condition, as that is not the case, for the heavy crops of fine fruit they carry is evidence to the contrary. I wish more particularly to point out the fruiting effect produced on trees by a high percentage of phosphates, lime, and potash in soils, if the fibrous roots are preserved near the surface of the soil.

I may, however, add that the trees of pears and apples referred to are grown on dwarfing stocks, and as their dwarfing influence is due to a preponderance of fibrous roots, the tendency of the trees to produce fruit in abundance is only what would be expected of them. But similar trees almost adjoining, and growing in the ordinary soil, without the addition of any of the food constituents mentioned, only produce a few blooms, and some of these weaklings, with the result that strong growth in the twigs takes the place of the fine crops of fruit in the other trees, and therefore settles beyond dispute, so far as this particular soil is concerned, that phosphates, potash, and lime are the auxiliary plant foods to employ in fruit growing. Hibernia.

DWARF ANNUALS FOR THE ROCKERY.

Although the keen alpine grower evinces a desire to depend entirely or almost wholly on perennials for his rockery, it is folly to neglect the many dwarf annuals which are obtainable, and are of very high value for the rock garden or small rockery. New rockeries are, as a rule, exceedingly bare until the alpines have had time to spread, and they can be greatly beautified with the assistance of a few packets of annual flower seeds and at a trifling expense. There are also many rockeries in which bulbous plants are cultivated. The departure of the leaves of these often causes bare and unsightly spots, which are all the better for being clothed with pretty flowers. In many ways, indeed, these dwarf annuals can be employed, and some of them are of exquisite beauty, and only the pedant can find fault with their presence in the finest and most choice collections of alpine flowers.

In the following notes an endeavour is made to point out a few of the best annuals for the rockery. There is no need to give elaborate cultural details. The hardy annuals can be sown where they are to bloom in chinks in the rockwork or on the level spots and just covered with some fine soil. The half-hardy ones—not so good in some ways, but often very beautiful, are treated as other half-hardy annuals, being either sown later in the open, or under glass in March, and planted out where they are to bloom in May or early June. To begin with, we have Abronia umbellata, a trailer with rosy-purple flowers of verbena-like form. This is half-hardy, and is good for sunny places in sandy soil. Æthionema Buxbaumi is an annual Lebanon candytuft of much beauty, with pretty rosy flowers on plants about three inches high. It is a hardy annual, and likes sun and lime. We have also seen the half-hardy annual ageratum, so much used for bedding, employed successfully on rockeries. The dwarfer varieties, such as Mexicanum capella and Little Blue Star, are excellent, and are respectively rose-chamois and pale blue. Alyssums Little Dorrit or nanum, and Thorburn's Bouquet, are charming white mats or carpetworts, classed with hardy annuals.

For sunny places the pimpernels are pretty. Anagallis indica, deep blue and a trailer, is hardy. The varieties of A. Monelli can be had in various colours, and are half-hardy annuals. Arctotis breviscapa is a showy orange-flowered half hardy annual for sunny places. Campanula attica, violet-purple or white, six inches high, is a pretty gem, and is a hardy annual. In Clintonia pulchella we find one of our most charming half-hardy flowers of this class, its flowers of blue, white, and yellow being very delightful. We have also observed some of the dwarfer forms of the Indian pink (Dianthus sinensis Heddewigi) used with advantage, and these are so well known as hardy annuals that no further notice is called for. Eucharidium Breweri is a good nine-inch hardy annual with pleasing flowers of lilac-purple and white. The succulent-leaved Grammanthes gentianoides, of shaded orange-red, is fine for sandy soil in sun, and is a half-hardy annual plant. The rose-coloured Gypsophila muralis is a good hardy subject for our rockeries, especially on chalky rockeries. Gilia or Fenzlia dianthoides is a pretty six-inch rosy-purple species. For big rockeries we have seen the Glauciums or Horned Poppies employed, but they are too coarse for any but rough rockeries. They are perennials, but may be treated as annuals.

There is no more lovely flower than the violet cress (Ionopsidium acaule) only an inch or two high, and white, tinged with violet. It is a charming thing for moist places in sun or shade, and is a hardy annual. Not many now grow the Kaulfussias, nice little hardy composites, with purple or dark-red flowers, and fairly good for our purpose, being only about six inches high. They like sun.

The Leptosiphons deserve a word of praise, either for the rockery or border; they are lovely things some six inches high, and give shades of orange, red, yellow, white, etc. It is needless to do more than mention Limnanthes Douglasi; and the same may be said of the Virginian stock, Malcolmia maritima, Medicage echinus, the Calvary Clover, is grown for its curious, twisted seed vessels, and not for its effect. Among the mesembryanthemums or noon flowers, we have the trailing, yellow M. glabrum, and M. tricolor, a lovely annual of half-hardy habit, with the ice plant, M. crystallinum. Give these sun. The Love-in-a-mist (Nigella damascena) is a well-known hardy annual, which looks well on a rockery where there is plenty of room; and the rosy-purple Oxalis rosea is best treated as a half-hardy subject for a sunny rockery. The beautiful hardy annual called Phacelia campanularia is a charming, deep-blue subject about nine inches high. The dwarf varieties of the popular Phlox Drummondi are all excellent. An uncommon hardy annual is Polygonum capitatum, 3in. high, with grey leaves and pink flower heads. Portulacas, if properly managed, are very fine with their varied colours. Sow these where they are to flower towards the end of April, and thin out well.

Sabbatia campestris, rose, with a yellow star in the centre, is a good half-hardy plant. Sanvitalia procumbens, yellow, with black eye; and the well-known Saponaria ocymoides, are fine, and can be sown where they are to bloom in April. Sedum cæruleum, of lovely pale blue, is a gem, and an excellent half-hardy species for sowing where it is to flower. Saxifraga cymbalaria is a capital little yellow-flowered Saxifrage of hardy character. Silene pendula compacta requires no description, and is most useful for our purpose. Venus's Looking Glass (Specularia speculum), white; Sphenogyne speciosa, buff and black; dwarf Tropæolums of the Tom Thumb class; and Veronica glauca, blue, may also be mentioned as useful subjects for rockeries. Dwarf antirrhinums, treated as annuals, are most useful.

With the aid of a selection of the above our rockeries may be rendered bright at their dullest season—late summer and autumn. S. ARNOTT.

French Beans.—To maintain the supply make liberal sowings in pits or frames in rich soil. Where the pits are not available for immediate sowing, the required number of plants may be raised in advance by sowing three seeds in 60-sized pots, and planting out as the pits become available. Plants in pots which are swelling up the pods should be treated liberally; maintain a brisk heat with plenty of atmospheric moisture, and use the syringe freely to prevent the attacks of red-spider.—W. MESSENGER.

Lobelia tenuior.—The large size of the individual blooms are a marked characteristic of this lobelia, which, for greenhouse decoration during the summer, is exceedingly valuable. It has a somewhat loose habit, and grown in pots it needs support. This habit fits it for growing in a suspended basket, and in this way it is much admired. The normal form has flowers of a rich cobalt blue tint, but there is also a form with rosy blossoms. It is, however, at least, to my mind, less pleasing that the older form.—K.

THE ALPINE HOUSE AT KEW.

This little structure is, as might be expected, very bright with a choice collection of flowering plants, which are delightfully fresh and bright, while their brethren out of doors have had to run the gauntlet of some very heavy storms.

Of bulbous plants the following are particularly noticeable: Narcissus albicans, bulbocodium, bulbocodium citrinus, cyclamineus, triandrus, and Queen of Spain. The large, brilliantly-coloured flowers of Tulipa Forsteriana, a native of Bokhara, stand out like giants among most of their associates, while other species are the pretty little Tulipa pulchella, T. Kaufmanniana, and T. præstans.

The rich blue flowers of Scilla sibirica are admired by everyone; while the more lavender tint of Scilla italica præcox is also very pretty. Chionodoxas are really charming. In addition to the ordinary forms, the pure white variety of C. Luciliæ attracts by reason of its beauty and rarity. The different Grape Hyacinths are so well suited for pot culture that it is surprising they are not more often grown in this way, the kinds represented being Muscari botryoides, M. Heldreichi, and the garden form known as Heavenly Blue. The Asiatic Puschkinia scilloides is flowering freely, as also are Corydalis bulbosa Halleri, Erythronium giganteum, and Trillium nivale. Anemones include the Scarlet Windflower (A. fulgens), the sky-blue A. apennina, and the deeper-tinted A. blanda atro-cærulea.

Finely-developed specimens of the new Primula Winteri show well what a charming plant this is; while other kinds are P. muscosa hybrida, a pretty ruby-coloured flower with a yellow eye, the well-known P. denticulata, and the charming little P. hirsuta, with violet-rose blossoms.

Numerous mossy and other saxifrages include Saxifraga ambigua, white; S. apiculata, yellow; and its white variety; S. Burseriana, white; S. Boydi, pale yellow; S. Faldonside, pale yellow, which was given an Award of Merit at Westminster on March 4; the very distinct S. Griesbachi; S. marginata, white; S. Rocheliana, white; and S. scardica, white.

Other flowers that contribute to this charming display are the golden-flowered Morisea hypogæa; the little North American May Flower, Epigæa repens; Shortia galacifolia; and the rich purple-coloured Viola gracilis, which has within the last two or three years come so prominently forward. K.

PEACHES AS CORDONS.

I was much interested in reading your reference to Mr. G. Mullens (page 56, "G.M." of January 25), and his system of training peach trees as cordons. I can quite understand how fine the fruits were so grown, as I am a firm believer in the training of fruit trees as cordons in gardens—but not, of course, to the exclusion of all other forms. From time to time I used to visit a certain garden, and in one house two branches of a peach tree growing in a confined space were trained along two horizontal wires, 18in. apart, and many feet in length. On these branches large spurs were formed, and they were treated as cordons. Much finer fruits were borne annually on these branches than on the remaining portion of the tree trained as a fan. In small houses there is not room for many large trees, but a number of cordons may be grown. GEO. GARNER.

BROAD AND LONGPOD BEANS.

Broad and Longpod beans are not cultivated in cottage gardens and allotments to the extent they were in days gone by. Probably, they were grown so largely in the old days because pig-keeping was then synonymous, as it were, with the possession of the smallest strip of garden soil. Bacon and beans formed a dish that, according to some accounts, added a new word to the English distionary. That word was "beanfeast," and present-day revellers who depart for a "beano" in the country may note the absence of the bacon and beans that at one time was the inseparable accompaniment of such a joyous occasion. Cottagers and allotment-holders do not keep pigs now, at least only in a very few cases, for the Local Government Board has imposed all sorts of restrictions, with which it is generally impossible for them to comply. Whether this accounts for the decline in broad bean culture or not is, of course, a mere matter of speculation. At any rate, where at one time a double crop of beans and potatoes was the rule, it is now rather the exception.

Curious, indeed, are the historical references to beans in ages past. In the matter of colour they appeared to have played quite an important part, even unto the apportionment of life and death. White and black beans have been used for the purpose of casting lots to decide whom of several condemned persons should be executed. The black bean meant death, and invariably it was the case that this variety carried a sinister meaning of some kind or another with it. Some say that the modern practice of "blackballing" is a relic of the old Grecian custom of electing political representatives by the casting of white and black beans into a helmet.

It was an old custom, in the middle ages, to place a bean and a pea in the cake prepared for the "twelfth night" festivities. The person who discovered the bean was at once elected King, and she who found the pea was honoured as Queen. Many other curious customs of a similar nature were observed at one time and another.

As a vegetable, the earliest variety of bean to be grown in this country was the Mazagan. It originated in a Portuguese settlement on the coast of Africa, and was typified by rather small and narrow pods, containing four or five small seeds. In the December (1846) issue of the "Horticultural Magazine," the best varieties then in cultivation were described as follows: Early Mazagan, Green Long Pod, Dutch Long Pod, Windsor (or Mumford), Green Windsor (or Toker), Long Pod, Dwarf Fan, Red Blossomed, White Blossomed, Violette, Dark Red, and Fullard's Golden-podded bean—the latter being described as a very handsome field bean. The Long Pods were originally derived from the Mazagan, and from the Spanish Long Pod came the Broad Windsor. The latter took its name from the town of Windsor, where the fugitive Dutch gardeners, who came over after the revolution, first grew them. Green Longpods were first known as Green Genoa, and it is said that they were originally introduced from Italy. Many fine selections of Longpods, and also Improved Windsor Beans have been introduced of late, both for market and exhibition purposes.

The greatest amount of attention, however, seems to have been devoted to runner beans of late years. A generation ago, or even less, there were only three types of runner bean in use, viz., the Common Scarlet, the White, and the Painted Lady. Champion Scarlet appeared in 1871, and this heralded the first improvement in size of pod, as compared with the ordinary common or garden variety of runner bean. Ne Plus Ultra then entered the lists, and has been grown extensively from that day to this.

At the present time, the number of different varieties of runner beans are legion. Hackwood Park Success is a fine cropping bean raised by Mr. Bowerman, formerly head gardener at that place. For exhibition purposes, two of the best known sorts are Scarlet Emperor and Best of All, while another large and prolific runner bean for general purposes is Prizewinner.

The best method of securing a good crop of runner beans is to grow them in trenches after the style of celery. They have a very extensive rooting habit, and so the rooting medium must of necessity be well supplied with manure and moisture to help in the development of the large leaf growth that these plants carry. After digging out a trench, a layer of good farmyard manure should be placed in the bottom, and well consolidated. On the top of this should be placed a few inches of good soil. The staking of runner beans is very important, for when liberal treatment is meted out to them they often run up to a great height. Also, to secure the best results, the trenches should be placed 8ft. or 10ft. apart, so that the plants may have access to as much air and sunlight as possible. They are of a very tender habit; hence, open-air sowings should not be commenced until May is well in.

A variety of bean that is exceedingly popular on the Continent, but seldom encountered in this country, is the Waxpod or Butter Bean. Of this type of bean there are both dwarf and climbing varieties. The Golden Waxpod is a dwarf kind and a prolific cropper, which ought to be grown in every kitchen garden. Another fine dwarf butter bean is the Centenary Golden-Podded, which is earlier than the older Golden Scimitar. From America comes the Golden-Eyed Wax Butter Bean, which is of dwarf habit and early and free-bearing. One of the best varieties of the Golden Scimitar type is Henderson Wax, which yields a round, fleshy, and remarkably solid pod. Butter beans should be cooked whole, for if the pods are in a young state they are extremely fleshy and tender, and most of them are free from any objectionable stringiness.

J. C. Newsham.

Magnolia Campbelli.—This Himalayan species of magnolia would appear to appreciate the mild winter we have had, for fine blooms of it have been shown two or three times at the Royal Horticultural Hall. It first flowered in this country about thirty years ago, which circumstance aroused much interest.—W. T.

Cocos flexuosa. — While many palms are appreciated for their beauty in a small state, the reverse holds good with regard to this, for, when young, the simple leaves, sparingly produced, are not at all striking. As they become large and much divided, they are justly valued for various decorative purposes, particularly for forming the background to groups of flowering plants.—K.

OFFICIAL GUIDE FOR KEW GARDENS.

An Official Guide has been appointed by the President of the Board of Agriculture and Fisheries to conduct parties of visitors round the collections contained in the gardens, plant houses, and museums, and to point out objects of particular botanical interest.

Two tours will be made daily, Sundays, Good Friday, Christmas Day, and Bank Holidays excepted, one of about an hour and a-half, starting at 11.30 each morning throughout the year, and one of about an hour at 3 each afternoon except during the months of June, July, and August, when the afternoon tour will start at 5 p.m.

In the mornings the plant houses and museums will be visited, and the parties will be limited to six persons. The afternoon parties, which will be limited to twenty persons, will be conducted round various portions of the outdoor collections. Should any afternoon prove wet, the museums, North gallery, and temperate house may be substituted.

A constable will be in attendance with each party to collect fees, and to prevent any unauthorised persons attaching themselves to the party.

The following scale of charges has been authorised: 2s. 6d. for each person attending a morning tour, and 1s. for each person attending an afternoon tour. The constable attached to the parties will collect the fees of visitors, who will sign their names in the book and pay their fees before the tour commences. Children under the age of twelve years cannot be included in the parties.

Visitors who wish to avail themselves of the services of the guide should attend at the Stone Portico of Cambridge Cottage, on the south side of Kew Green, near the church, shortly before the time at which the guide is advertised to start his tour. Anyone or any parties making application beforehand to the Director in writing to be included in a tour on a particular day, would have priority in the event of the authorised number of visitors for a party being exceeded.

WEEKLY PROGRAMME.

Monday.—Morning: Timbers of the World—Oak, Deal, Walnut, Teak, Mahogany, etc.: Wood Museums. Afternoon: Coniferous trees and their economic importance: southern portion of Arboretum.

Tuesday.—Morning: Palms, Bamboos, etc., and their economic uses; Palm House and Museum II. Afternoon: Herbaceous plants of Temperate countries, the principles of their classification, and their uses.

Wednesday.—Morning: Ferns and Fern Allies; Fern Houses and Museum II. Afternoon: General tour among trees and flowering shrubs.

Thursday.—Morning: Rubber, Fibres, Food Plants, Drugs, etc.; Economic Houses and Museum I. Afternoon: The Royal Botanic Gardens and their History; Famous trees, buildings, and other landmarks; Maps and Plans.

Friday.—Morning: Exotic plants of botanical or horticultural interest—Orchids, Cape plants, Begonias, Pitcher plants, etc.; T Range. Afternoon, Alpine and Water plants; Rock Garden and Aquatic Garden.

Saturday.—Morning: Flora of Warmer Temperate Regions—Australia, New Zealand, Himalaya, etc.; Temperate House and North Gallery. Afternoon: General tour.

Clematis indivisa.—Many of the hardy forms of clematis are forced into bloom for greenhouse decoration during the spring months, but in this species we have one that flowers naturally at this season. It is a native of New Zealand, and requires the protection of a greenhouse in this country; indeed, it is one of the best climbers we have for that structure. The blossoms are white and star-like.—T.

NEW PLANTS AND FLOWERS.

NARCISSUS JUDITH.

A very fine giant Leedsi variety with wide perianth segments and a pale sulphur yellow cup edged with yellow, and beautifully frilled. A.M., R.H.S., March 22. Mr. A. M. Wilson, Shovell, Bridgwater.

BRASSO-CATTLEYA CLIFTONI MAGNIFICUM.

A very fine orchid, and a distinct advance upon the original hybrid. The soft, rosy-lilac sepals and petals are very broad, and the large, fringed lip is rosy-purple. The parents of this beautiful variety are B.-c. Digbyana-Mossiæ and C. Trianæ Uplands var. F.C.C., R.H.S., March 22. F. Menteith Ogilvie, Esq. (gardener, Mr. Balmforth), The Shrubbery, Oxford.

CATTLEYA MAGNET.

A free-flowering hybrid derived from C. Mossiæ and C. Whitei. It has attractive, deep rich rose-purple flowers, with crimson-veined lip. A.M., R.H.S., March 22. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

CATTLEYA TITYUS, SHRUBBERY VAR.

Another very beautiful flower, with broad petals that, like the sepals, are blush-white, and have prettily frilled margins. The large lip is deep crimson-purple with golden blotches. This fine variety was obtained by crossing C. Enid with C. Octave Doin. A.M., R.H.S., March 22. F. Menteith Ogilvie, Esq., Oxford.

CATTLEYA TRIANÆ COLOSSAL.

An unusually large form with very broad sepals, which, like the petals, are soft purplish mauve. The lip is broad and frilled, rich deep crimson-purple, with orange-yellow throat. A.M., R.H.S., March 4. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

CATTLEYA TRIANÆ SOUV. DE LOUIS VERDOUCK.

This is a shapely white variety, of fine size and substance. A.M., R.H.S., March 22. Mons. Jules Hye de Crom, Ghent.

DENDROBIUM BIGIBBUM LADY COLMAN.

This is a beautiful variety of a fine old species, the dainty flowers being of a pale blush colour, almost white. A.M., R.H.S., March 4. Sir Jeremiah Colman, Bart. (gardener, Mr. J. Collier), Gatton Park, Reigate.

MILTONIODA HARWOODI, MOSS'S VAR.

A beautiful little orchid with Miltonia-shaped flowers of a salmon-rose colour. A charming hybrid between Miltonia vexillaria and Cochlioda Noezliana. A.M., R.H.S., March 4. J. S. Moss, Esq. (gardener, Mr. Kench), Wintershill, Bishop's Waltham.

ODONTIODA MOSSIÆ.

A distinct and pretty hybrid between Odontoglossum maculatum and Cochlioda Noezliana. It has reddish flowers with somewhat paler lobed lip. A.M., R.H.S., March 4. J. S. Moss, Esq.

ODONTOGLOSSUM CRISPUM COBB'S VAR.

A showy variety, bearing a large spike of fine and shapely flowers. The ground colour is white, and there is a large brown blotch on each sepal. A.M., R.H.S., March 22. Walter Cobb, Esq. (gardener, Mr. C. J. Salter), Rusper, Horsham.

ODONTOGLOSSUM EXIMIUM ALPHA.

A very handsome form of a now popular hybrid. It has large flowers of good shape, and these are heavily blotched and spotted with rich red-brown on a rosy-blush ground. F.C.C., R.H.S., March 4. Messrs. J. and A. McBean, Cooksbridge.

ONCIDIODA COOKSONIÆ, RALLI'S VARIETY.

An improved form of the hybrid between Oncidium macranthum and Cochlioda Noezliana. The flowers are of a rich, deep red colour, with a yellow apex to the lip. A.M., R.H.S., March 4. Pantia Ralli, Esq. (gardener, Mr. Hunt), Ashstead Park, Leatherhead.

OMPHALODES CAPPADOCICA.

A somewhat rare species in cultivation by no means new. It is a low-growing, hardy plant, bearing lax cymes of bright blue, white-eyed flowers, each bloom about half an inch across. A.M., R.H.S., March 22. Mr. Maurice Prichard, Christchurch.

MAZUS RUGOSUS.

A quaint little plant, and, in general appearance, somewhat between a small-growing but large-flowered lobelia, and a tiny mimulus. It is about an inch high, and has small tufted growths composed of little spathulate, serrately margined leaves. It increases by means of runners. The flowers are large for the size of the plant, an inch long, the lower lip being the prominent portion; this is rosy purple or light mauve, with two raised white crests, each spotted with yellowish-brown, and running from the base to the point the three apical lobes join. (See illustration, p. 165.) A.M., R.H.S., March 4. Wargrave Hardy Plant Farm, Lim., The Arcade, Liverpool Street, E.C.

PRIMULA PURDOMI.

An interesting and attractive new species illustrated in our issue of March 22. It was discovered by Mr. Purdom, in West Kar-Su, China, at an altitude of 10,000 to 11,000 feet, therefore it is expected to prove hardy. The leaves are from three to six inches long, tapering at both ends, and about half an inch broad at the middle. These, with the spikes and calyces, are mealy. The flowers are borne at the apex of a six-inch spike, in an umbel, and they are of a rosy-lilac or rosy-mauve shade, with pale greenish yellow eye. F.C.C., R.H.S., March 18. Messrs. Jas. Veitch and Sons, Chelsea.

DAFFODIL NARCISSUS JUDITH.

SAXIFRAGA FALDONSIDE.

This beautiful yellow saxifraga is a hybrid raised by Mr. Boyd, and it is far finer than S. Boydi. Among yellow, low-growing kinds it is what S. Burseriana gloria is among white ones. The blooms are quite large, and of a soft yellow shade, with deeper coloured base. It is very free, and carries its flowers on short stems. A first-rate plant for the rock garden. A.M., R.H.S., March 4. Sir Everard Hambro (gardener, Mr. Grandfield), Hayes, Kent.

SUB-TROPICAL PLANTS FOR WARM GARDENS.

Cordylines.

Cordyline australis, better known as Dracæna australis, is an extremely handsome object in the early summer, when bearing its great white flower panicles. It is a very common plant in Devon and Cornwall, and in every town fine plants are to be seen on every side. In Torquay alone there must be some thousands, for in the public gardens there are nearly two hundred splendid specimens, and they are also to be found in almost every private garden. One fine example in the public gardens, twelve feet in height, carried no fewer than seventeen huge flower heads, a number almost unprecedented on a single plant. The cordylines present a very beautiful sight when in full flower, the great branching bloom-sprays, three feet or more in length, crowded with white blossoms, resembling giant plumes. They are very sweetly scented, and are all day long haunted by insects innumerable.

In the type the leaves are narrow, but the seedlings, which are raised in great numbers in the south-west, vary considerably in their foliage, the leaves of some being fully three inches in breadth, these wide-leaved forms being far handsomer than the type. Cordyline australis is considered perfectly hardy in Devon and Cornwall. Exceptionally severe frosts, followed by a sunny day, sometimes kill the heads of the plants, but generally a number of suckers are, later on, thrown up from the base.

The finest specimen of Cordyline australis in the south-west is probably that at Enys. It is twenty feet in height, with a trunk circumference of six feet at one foot from the ground. A short distance above the ground level it divides into four main branches, which are sub-divided into about thirty heads, about ten of which usually flower annually. It is fifty years of age, and was raised from seed sent from Australia.

C. indivisa is very distinct from C. australis, though often confounded with it, and illustrations of C. australis have repeatedly appeared above the title of C. indivisa, while in many gardens C. australis is still grown under the latter name. C. indivisa is a native of New Zealand, where it grows at a considerable altitude. The leaves are very handsome, being about five feet in length, and five inches in breadth, blue-grey in colour, with a midrib of bright red. It first flowered in the Tresco Abbey gardens, Isles of Scilly, in 1895, and bloomed at Enys three years ago. The flower shoot is pendent, and is composed of countless minute blossoms, the spike yellow and blue-black in colour, being more curious than beautiful. It is a rare plant, but there are a dozen or more specimens in Cornwall.

C. Banksi is also a native of New Zealand, and is easily distinguished from either of the above-named species. It is of moderate growth, and rarely attains a greater height than six feet, and is generally clothed to the ground level with arching leaves four inches in breadth. The branchlets of its flower spikes are far fewer than those of C. australis, so that the white-blossomed panicles are lighter in appearance. Cordyline Banksi erythroracis is a variety with bright red midribs to the leaves.

Agaves.

The aloes, or agaves, succeed well in the south-west. In 1892 a splendid plant flowered at Kingswear. It was twenty-five feet in height, and bore over thirty flower clusters. In the torrid climes, the home of the aloe, its colour seems to merge into that of the stone and sand of its surroundings, and strikes no note of contrast to the prevailing monotony of the sun-scorched landscape, but where, as in this country, the strong curves of the massive leaves are thrown into high relief by infinite gradations of tender green, ranging in colour from the sombre tint of the yew to the soft hues of some of the Japanese maples, it forms a pleasing and effective incident in the colour scheme. The bloom stem is produced at the expense of the plant—since flowering is the "swan song" of the agave, as it is of the bamboo, the plant invariably dying after it has bloomed—and it is a matter of regret, rather than exultation, to view the throwing-up of the candelabrum-like flower spike that denotes the loss of a plant, which has for many years proved a noble feature in the garden.

The finest specimen of Agave americana known to the writer, which died a few

A LARGE GROUP OF CORDYLINE AUSTRALIS IN THE GARDENS AT ROZELLE, TORQUAY.

years ago without having flowered, had a circumference of forty-one feet; height of top of tallest leaf from the ground, eleven feet; length of longest leaf, eight feet seven inches; breadth of leaf, nineteen inches.

Melianthus and Semele.

Melianthus major is a South African plant, introduced into this country in 1688. It is striking by reason of the bright, strong, grey-green colour, which, at full maturity, covers the whole plant. The large feathery and indented leaves look very handsome in their verdant hue, and fit it for isolated positions on lawns, as well as for mixed planting, in which it is seen to the best advantage. It needs full sun, rich soil, plenty of water, and manure. In the autumn its magnificent leaves assume their graceful bend in the midrib, and the plant is even more beautiful than in the summer, showing, as it does, from every point, portions of the upper and under-surfaces of its lovely foliage. It has the reputation of being tender, but 12 degrees of frost has not harmed it. Not only does it show to advantage on rising ground, but such a situation, when exposed to the full sunshine, suits it, and from the greater dryness about the roots in winter it is able to withstand a few degrees of frost. It is an extremely handsome sub-tropical plant, and flowers regularly in the south-west.

Semele (Ruscus) androgyna is a very handsome climber. It is a native of the Canary Isles and Madeira, and in the latter island is said to add much to the charm of the landscape, and to be especially beautiful when wreathing the stonework at the entrance to quintas. The leaves, or cladodes, are about two feet in length, and are furnished with from twelve to twenty pinnate sections, which are of a brightly-polished green colour. As the foliage droops slightly the shining green of the great leaves is well displayed. The texture of the foliage is very leathery, and it is not uncommon for individual leaves to remain in a perfectly fresh condition for six or seven years. When well-established strong, asparagus-like shoots are thrown up that in vigorous specimens often attain a length of forty feet in one season.

In the summer small, greenish-white flowers, each about one-eighth of an inch across, are borne in clusters at the edges of the leaflets. Every cladode upon the plant is covered with these tiny blossoms, and the effect produced is pleasing, though it is owing to its attractiveness as a foliage, rather than a flowering, plant, that Semele androgyna is chiefly valuable. The flowers are followed by scarlet berries, and these are to be seen on plants grown in the open in Devon and Cornwall. It is an excellent subject for draping a wall or for rambling over a high fence, and is one of the handsomest of foliage plants.

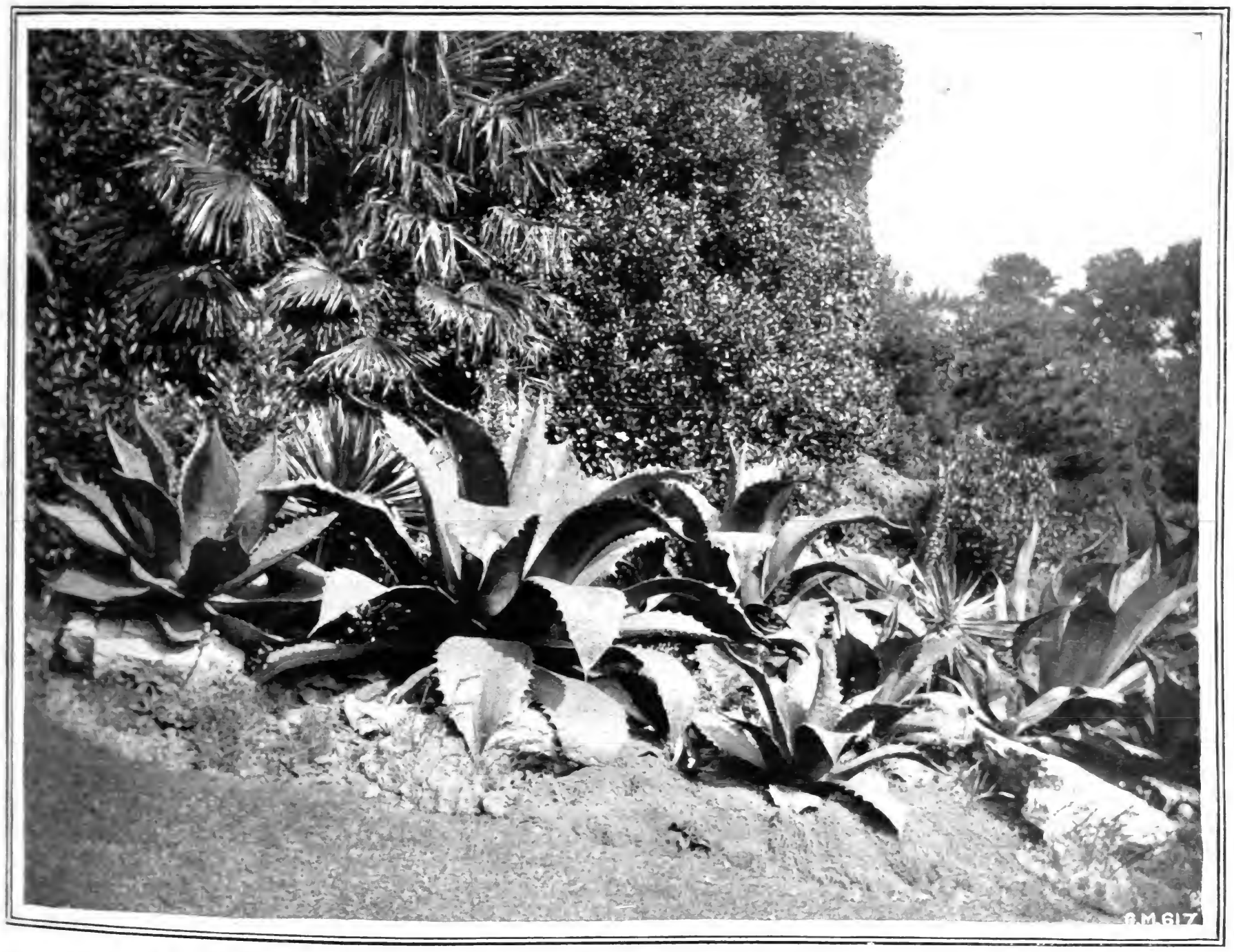
In the severe frost of February last year the specimen at Kingswear was cut to the ground, but in April two new shoots were thrown up, which grew to a length of about twenty feet in the season, and in the autumn two more shoots were produced. It is a splendid subject for a cool structure. In the Temperate House at Kew there is a fine specimen, which has reached the glass roof at a height of over thirty feet. This species was introduced into this country exactly two hundred years ago.

WYNDHAM FITZHERBERT.

Kingswear.

THE DOUBLE-FLOWERED BLACKTHORN.

The common blackthorn, Prunus spinosa, is such a familiar bush in hedgerows and coppices that we should hesitate about introducing it to gardens, although it is a very beautiful object during March and early April when covered with its pretty white blossoms. But there is a double-flowered form which is quite worth garden room, and a well-flowered specimen always excites admiration. Of rather dense, bushy habit, it, like the type, forms stiff, spiny branches and short, spur-like growths, from which the white flowers, which are about one-third of an inch across, appear with great freedom, and retain their freshness and beauty as long again as do those of the single-flowered forms.



A FINE GROUP OF AGAVES IN THE OPEN AT ROZELLE, TORQUAY.
The largest specimen is 5ft. 3in. high, and over 6ft. across, and one of its leaves is 15in. broad.

Unfortunately, it is a rather difficult shrub to propagate, and grafting or layering has to be relied on, therefore there does not appear to be any possibility of obtaining it in quantity, otherwise it would form a most effective plant for massing on dry banks. As it is, the usual method is to cultivate it as a specimen bush, or as a group in a shrubbery, for both of which purposes it is very well adapted. By using it as a specimen bush, and planting the ground beneath with the later chionodoxas or early muscaris, an effective contrast is provided between the white flowers of the plum and the blue carpet. Like P. spinosa, the double-flowered blackthorn is not very particular regarding soil, although it thrives most satisfactorily in that of a loamy nature. This shrub may be planted in any good garden soil with the assurance of it proving satisfactory.

W. DALLIMORE.

GROUPING CONIFEROUS TREES.

A selection of conifers is a means of adding considerably to the attractiveness of a garden during the winter months. Where there are suitable positions in which to plant them very pleasing effects can be created, and it is doubtful whether any classes of trees makes such a telling feature for so many months of the year. Where conifers can be placed on slightly rising ground they are probably seen at their best, and when viewed across a small valley or widened dell they are certainly very attractive.

There are several important points to be taken into consideration when grouping conifers. Firstly, it is necessary to have variety; secondly, to group species of similar character together; and, thirdly, to avoid overcrowding. It is desirable to plant those with dark green foliage as a background for others, but occasionally a specimen with a glaucous or golden hue may be allowed beyond these, so as to avoid formality

I propose only to deal with some of the choicer conifers, and those of medium growth, as these kinds are the most desirable for the garden.

Cupressus Lawsoniana is well known, and its robust growth and conical outline render it most suitable for a central position. C. L. erecta viridis can be associated with it, and is an erect-growing form, with short, crowded branches of upright growth, and bright green foliage. The tree has a distinctly tapering outline, and as it does not spread much in comparison with its height, it can be fairly closely planted. Intermixed with this variety C. L. Allumi is very telling, its dense columnar habit of growth, short rigid branches, and foliage of a distinct steel-blue shade, render it very telling against the bright green foliage of the previous variety. C. L. lutea is probably the most effective of all the cypresses, for the young growths are a rich yellow, which, combined with its regular habit of growth, makes the tree especially handsome. To complete the combination C. macrocarpa lutea must also be sparingly used. It is a rapid growing tree, of columnar habit, with erect branches and plumose foliage. A well-arranged group of these varieties makes a fine feature when they have attained fair proportions, but in arranging them it is desirable to let the green predominate.

Several of the Silver Firs and Spruce Firs are very effective when planted in combination, but in the case of these it is essential to allow them ample space to secure the most pleasing effects. When thinly grouped in conjunction with a few other subjects, they produce a fine impression when viewed from a short distance. Abies lasiocarpa makes a handsome tree. Its branches are produced horizontally, and are a little crowded; while the leaves, which are brought almost erect by a twist at their base, are rather closely set, and have two whitish bands which gives the tree a distinctly glaucous appearance. A. pungens glauca is suitable for association with this. Owing to its compact outlines and rich glaucous foliage, which often varies in intensity, it is the finest of the Spruce Firs for garden decoration. A. nobilis is a distinct and handsome tree, with horizontal branches that ascend towards the tips. The leaves are sometimes glaucous above, with two whitish bands below. This species frequently grows rapidly until it is about thirty years old, when the top often dies, with the result that the tree becomes dwarfed and flat-topped. The cones are very large and handsome.

Abies Nordmanniana is suitable for planting with the foregoing. It forms a stately specimen, and has slightly ascending branches, while the leaves are a bright green, and have two glaucous bands on their lower sides. A. homolepsis takes an important place as it is a massive tree, but it does not attain a great height. The branches are ascending and of sturdy growth, while the two whitish bands on the under side of the leaves give the tree a slightly glaucous appearance. A. Mariesi is a fine species of rather short, but sturdy habit. It is a compact grower, and its deep violet-blue cones are especially picturesque.

Sequoia gigantea makes fairly good growth in rich loamy soil, and where it succeeds becomes a handsome specimen. Cedrus Deodara and C. Libani are too well known to need description, but they are very desirable in a grouping scheme, as they form a magnificent background. C. atlantica glauca looks its best when planted alone on a wide-spreading lawn. Where space permits a group of eight or ten trees will create a fine feature, especially when viewed in the sunshine, which shows up their silvery-grey foliage to advantage. This variety has its branches irregularly disposed, and they are often of unequal length, which gives the tree an informal outline.

Retinospora squarrosa is one of the most beautiful conifers, and has delightful silvery foliage. It is frequently of irregular outline, and is suitable for the forefront of shrubberies, where it can be used in conjunction with A. filifera aurea, a slender-growing and graceful subject, with the terminal growths a light golden yellow. Cryptomeria elegans is suitable for a similar position. It has short horizontal branches, with acuminate green leaves that change to a telling bronzy crimson in the late summer. Cupressus Lawsoniana Silver Queen associates well with these latter subjects; and it is similar in habit to C. L. lutea, only the young growths are a rich cream colour.

J. Gardner.

Batsford Park Gardens.

Rhododendron Fosterianum.—This is one of the most striking of the various white-flowered rhododendrons that require the protection of a greenhouse. It is a hybrid between Rhododendron Edgeworthi, a species which has played a prominent part in the production of many valuable varieties, and R. Veitchianum, a native of Moulmein, and remarkable for its large, massive flowers, with, in some instances, the edges of the petals very much crimped. The fine R. Fosterianum is vigorous in growth, and the shoots should be stopped when young in order to ensure a bushy habit. The flowers are very large, widely expanded, and in colour pure white with a yellow stain in the upper part of the interior. They inherit to a great extent the fragrance of R. Edgeworthi, which has imparted that desirable feature to most of its offspring.—T.

ORCHIDS AT CHELTENHAM.

James Cypher and Sons, Exotic Nurseries, Cheltenham, is a title and address that has been for many years familiar to the readers of the Gardeners' Magazine, and, indeed, to horticulturists throughout this and other lands. The mention of the town of Cheltenham to a gardener brings the name of Cypher immediately to his mind, and with it are associated choice orchids, and lovely groups of stove and greenhouse plants, for it scarcely requires to be said that year after year Messrs. Cypher and Sons take a foremost position at all the leading shows in the big group classes, and we sometimes wonder whether these attractive classes would long survive the absence of Messrs. Cypher from among the competitors. However, we will not dwell upon this point, but express the hope that the firm and its present members will be with us many a year yet to add still further successes to their splendid record as exhibitors, and also to install many new, or enrich already established collections of orchids in the gardens of Britain. That they have the material to accomplish either of these tasks our visit to their nurseries afforded ample proof, for there are orchids of all kinds in the best possible condition, and a tour in the compact range of about a score of well-built and well-stocked houses is capable of affording an infinity of pleasure. There are big specimens that testify to the careful and skilful treatment that has been meted out to them; tiny, but healthy, young plants for growing on; choice rarities that at once appeal to the connoisseur; and hosts of the cheaper, easily-grown kinds, suitable for the beginner or the amateur of modest aspirations.

The erroneous idea is even to-day prevalent that all orchids are expensive luxuries that only the rich may touch; and it will therefore be well to emphasise the fact that plenty of really beautiful orchids are as cheap as most other greenhouse plants, and are as easily cultivated as fuchsias or ferns. As a matter of fact, there are listed in Messrs. Cypher's catalogue no less than 240 different orchids that may be obtained at prices not exceeding five shillings a plant, so that one may form a quite respectable collection of orchids with an outlay of a few pounds. It is without doubt the wisest course for a novice to start with these cheaper kinds, waiting until some experience has been gained before venturing with the rarities. The cypripediums are generally recommended as especially suitable for beginners in orchid culture, and it is not surprising that at Cheltenham this popular family takes a prominent place, there being many thousands of plants of various sizes and wonderful variety. The ever-popular Cypripedium insigne and its many varieties claim first attention. The varieties Chantini, delicata, and montanum are among the cheapest, but not the least beautiful, members of the family; whilst choicer forms are found in Peacock, Henry Elwes, John Cypher, and Sanderianum. C. Lawrencianum, var. Hackbridgensis, is a ten-guinea orchid worth its money, and the chaste flowers of C. Leeanum Purity are of exquisite beauty. Messrs. Cypher have a splendid stock of C. Fairieanum which they rightly describe as "a little gem," and it is indeed an orchid one never tires of recommending as worthy of a place in any collection. Those who admire a pure white orchid may seek C. niveum, while the hybrid C. Gravesæ, delicately spotted with rosy-purple, possesses the charm of distinction that delights the connoisseur. A delightful hybrid resulting from a cross between C. Chamberlainianum and C. insigne is named Louisa Fowler. The fact that two or three flowers may be seen on one stem is a strong point in its favour.

It will not do to linger longer over the cypripediums, for the odontoglossums, especially the varieties of O. crispum, demand equal attention. Few will dispute the assertion that the odontoglossums have made greater advances than any other family of orchids since growers took up the raising of

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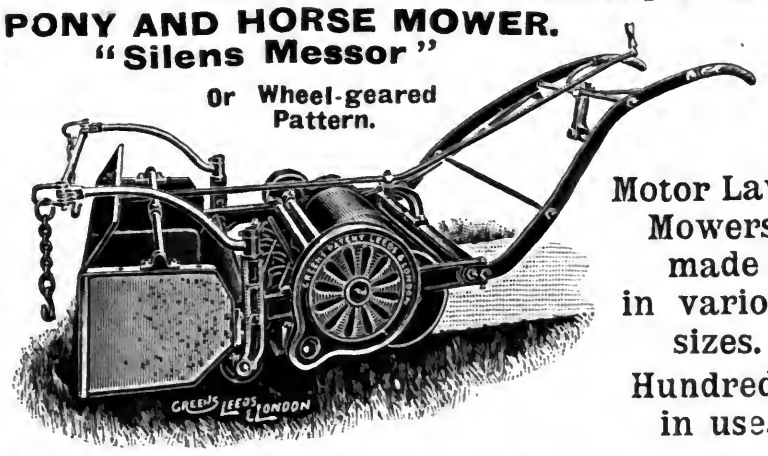

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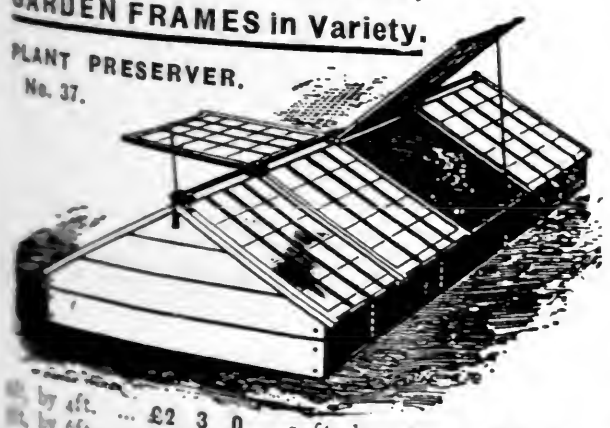

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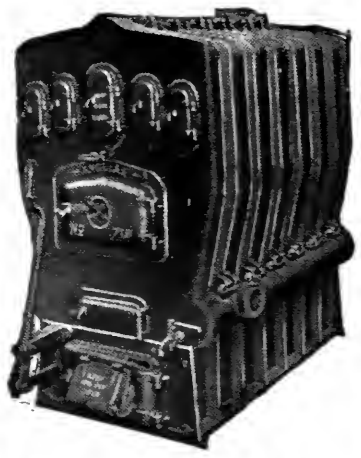

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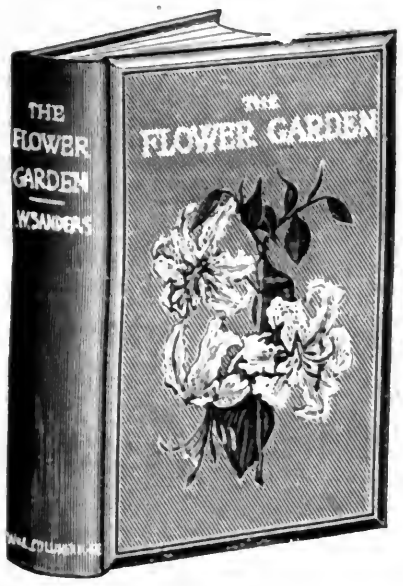

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seedlings at home. By careful selection of the best imported forms as parents, and by growing and intercrossing, simply wonderful improvements have been made both in the form of the flowers and the bewitchingly beautiful colour blotches that overlay the white ground and constitute the great charm of the best of the home-raised varieties. At Cheltenham one sees many of these gems, and the only reason for not mentioning their names is the difficulty that would arise in determining which should be omitted. There is, however, but little need to urge the cultivation of odontoglossums, for surely no one who grows orchids at all can long resist their strong claims for attention. The old favourite Odontoglossum grande never fails to make a strong appeal, and other good members of the family are O. triumphans and O. Pescatorei. Passing along from house to house, with note-book in hand, the names of large-flowered, richly coloured cattleyas, laelio-cattleyas and lælio-cattleyas, golden-yellow oncidiums, with the most graceful sprays of flowers nature, aided by man's scientific care, can produce, are jotted down. Epidendrum Imschootiana is an orchid that should not be overlooked; and, indeed, either in or out of bloom, are found in the several structures worthy representatives of every family of orchids in cultivation.

Those in search of something out of the ordinary run may, with advantage, turn to the quaint little Bulbophyllum barbigerum, with tiny sensitive flowers, and to the Epidendrums, lycastes, and the attractive Oncidium Krameri with butterfly-like flowers of rich colours.

Some of the sophronitis hybrids, also, are very interesting and attractive, whilst, of course, dendrobiums will always appeal to those who want neat little flowers for button-holes or sprays. At the time of our visit the calanthes, of which large quantities are grown at Cheltenham, had not long been potted, but they were starting well away, and showed every sign of doing as well as could be wished. There were some grand spikes of the handsome Cymbidium Lowianum, and plenty of other subjects to make their respective houses bright and attractive.

In bringing these notes to a close reference must be made to the splendidly developed greenhouse plants for which Messrs. Cypher and Sons are so famous, and are nowadays so rarely met with in nurseries. Probably almost every reader of the GARDENERS' MAGAZINE has at some time seen the magnificent statices, ericas, bougainvilleas, and clerodendrons this firm has for well nigh half a century exhibited at the leading shows, and it will therefore be no surprise to read that at the nurseries there are lofty houses filled with these and with big palms, and richly-coloured crotons, together with plenty of young plants coming along to take the place of the specimens that sooner or later must succumb to the wear and tear inseparable from repeated journeys to and from shows, and to meet the ordinary requirements of business. There is an irresistible magnetism about these big, shapely specimens to anyone who remembers even the closing days of their glorious reign, when no gentleman's establishment was considered furnished without its collection of such plants as we have mentioned, and when no man was considered a good gardener who could not propagate, grow, and train either ericas, azaleas, dipladenias, or ixoras. It is good to know that the art is not yet dead, for, at any rate, Messrs. Cypher can produce specimens as of yore. There were some massive specimens of Anthurium Wardi, Ixora Duffi, and Clerodendron fallax, and among the smaller furnishing plants so useful in the groundwork of ornamental groups, that elegant little Japanese shrub, Nandina domestica, was particularly noticeable, although many another little decorative plant would, were it not for the overwhelming power of the orchids, have been deemed worthy of mention in a notice of the Cheltenham Exotic Nurseries.

VISITOR.

A DISPLAY OF CALANTHES IN MESSRS. J. CYPHER AND SONS' NURSERIES, CHELTENHAM.

WINTER-FLOWERING BEGONIAS.

Plants of the B. Gloire de Lorraine group, having been slightly reduced at the top after flowering and rested, will, if given warm, moist, and shaded conditions, now produce plenty of young growths from the base. Discard stem cuttings, and select clean fresh growths from the base of the plant. We prefer to root them in sand, as recommended for euphorbias, always inserting more than are actually required, so that we may have a sufficient number of those that will grow freely and break naturally. They root freely in a short time in the propagating case, and may then be potted singly in small 60's, using great care not to damage the young roots, nor to pot too firmly. If space permits they may be kept close in the propagating frame for a few days after potting. Afterwards they should be grown in a shaded house, preferably on a damp base, in a temperature of 65 degrees by night, rising to 75 degrees in the day, with a rise by sun heat after closing; syringe the plants, and remove the shading in the afternoon. On mild nights throughout the growing season we prefer to allow a little ventilation.

H. PRIME

WORK FOR THE WEEK.

CONSERVATORY AND GREENHOUSE.

SWEET PEAS.—The plants which were raised last autumn for flowering in the spring are now showing their flowers. Keep them well supplied with water, as the pots are now full of roots. Liquid manure and soot-water must also be liberally applied. They must still be given abundance of air day and night, and when in flower shade them during the hottest part of the day.

CELOSIAS.—The young plants must not be checked in any way until they are placed in their flowering pots; therefore, as soon as the young seedlings are large enough to handle pot them up singly into small pots. Keep them growing in a mean temperature of 65 degrees. A moist atmosphere is essential until the plants are approaching their flowering stage. On no account let them suffer for want of moisture at the roots, nor allow them to become pot bound until they are given their final shift.

PELARGONIUMS.—The plants which are being grown for blooming in autumn and winter must be pinched to encourage a dwarf, bushy habit. Keep them growing on a shelf near the glass in a light, airy structure. The earliest batch of the fancy kinds, which are now showing their flower buds, must be liberally supplied with stimulants. If aphis attacks the foliage fumigate lightly with a nicotine compound. See that the growths are neatly and securely staked.

BOUVARDIAS.—The young plants which have been rooted this season must be potted singly in small 60-size pots, using a light compost. Keep them growing freely in a moderately warm, moist atmosphere. They will require stopping two or three times to encourage a branching habit. When they have been placed into their flowering pots they must be gradually hardened off and eventually plunged in ashes in a cold frame for the summer.

ISOLEPIS GRACILIS.—This is a splendid little plant for furnishing the edges of groups or stages in the conservatory and greenhouse. Old plants are not so neat and effective as young ones, therefore they should be divided and repotted every spring. Place them in a warm, moist atmosphere for the first few weeks to encourage quick growth. Three and a-half inch pots will be quite large enough to grow them in.

CLIMBING ROSES.—As soon as the plants have passed out of flower they must be encouraged to make growth. Cut back the old flowering wood, leaving plenty of room for training the young wood over the trellis. Perle des Jardins is one of the most useful for growing over the roof of a cool greenhouse, but it must not be cut so hard back as is the case with some varieties. Growth of moderate strength will produce the most flowers. Fortune's Yellow is probably the most useful rose grown under glass when well managed. At the present time we are cutting daily dozens of beautiful flowers of this variety with stout stems 18 inches long. After blooming the old flowering wood is cut hard back to encourage young growths from the base. These are trained over the trellis about one foot apart.—E. Harriss, Lockinge Gardens.

HARDY FRUITS.

PEACHES AND NECTARINES. — The mild weather has brought forward all kinds of fruit buds quite a fortnight earlier than ever I have known them. Although apricots and peaches are fairly studded with flowers, these are not so strong as I should like to see them, especially the apricots. Probably this is because the trees have had little rest during the autumn and winter. The flowers will need every care and attention should a severe spell of frost occur. Remove blistered leaves and burn them, and do not be in too great a hurry with disbudding; and keep the foliage clean should aphis appear.

HORIZONTALLY-TRAINED TREES. — Where corresponding tiers of branches are required on older trees, dormant buds may be made to break by cutting somewhat deeply into the wood just above the break required, with a sharp-edged knife or a small pruning saw. This is what is termed notching, and should be practised on all trees where well-placed buds are likely to remain dormant. In some cases this may have to be done the following spring; the first season, as a rule, the bud will be found to plump up, and the next season quite a strong shoot will be the result. All ill-placed buds should be rubbed off, thereby directing strength to the shoots and branches required to form an evenly-balanced, fruitful specimen.

STRAWBERRIES. — All beds should be thoroughly cleared of weeds, and mulched with stable litter, if obtainable, placing the cleanest straw round the plants; the rains will have washed it quite clean by fruiting time. Beds prepared expressly for early fruits should receive first attention; our beds occupy borders in front of the glasshouses, and these we bed down with plenty of strawy material to be in readiness for the fruits later, and also for the protection of the flowers during sharp frosts. I have repeatedly saved the flowers from damage, and probably the loss of a whole crop of fruit, by simply taking a handful of the strawy material (when the frosts have threatened to be keen) from between the rows and laying it over the trusses of flowers. When the straw is at hand a large quantity of plants may be covered in a very short time. Make ready any site intended to be planted with forced plants, so that they may not be allowed to remain longer than is necessary after hardening. These should yield heavy crops next year, and sometimes very good strawberries are produced in the October following planting. Strawberries require good soil and a firm grip, and ample room to develop their leaves and produce sturdy crowns by the end of the season.

GRAFTING.—Continue the work of grafting where such remains to be done. By this date the sap should be flowing freely, and if the scions are carefully inserted and waxed, tied, and clayed over, no difficulty will be experienced in inducing them to grow. If the trees are of good size and thickness, crown-grafting should be practised, inserting two or three scions, according to the size of the stock. Horizontally-trained trees should have two scions placed on each tier, one on the upper side and one on the under. Small trees may be whip-grafted, using proper grafting wax. Good varieties of most kinds of fruit trees, when aged and clothed with long, useless snaggs, may be brought into good bearing by cutting away the old branches and selecting a fresh stock of young wood suitably placed. Trees thus treated will in a very short space of time furnish good, healthy branches, and continue to fruit for many years. — H. Markham, Wrotham Park Gardens.

THE KITCHEN GARDEN.

PARSLEY.—Plants raised in heat, pricked out in boxes, and duly hardened, may now be planted out at one foot apart. To obtain the best results the soil should be deeply stirred and enriched with well-rotted manure; previous to planting, dress the surface with soot and wood ashes, and rake in. If slugs are troublesome place a ring of cinder ashes around each plant as the work proceeds. Where an early batch of plants is not raised in heat, sow seeds now in the open ground; the rows should be one foot apart, and when the young plants are forward enough to handle thin out by degrees until they are one foot apart in the row. Occasional dustings of soot are most helpful to this crop.

CAULIFLOWERS.—Continue to plant out the various sowings as soon as they become ready. Lift with good balls of earth and plant firmly on well-manured and deeply tilled ground. It may be necessary to place a ring of finely-sifted cinder ashes round each plant as a protection against slugs. Further sowings should be made for successional crops. Magnum Bonum, Early Giant, Autumn Giant, and Sutton's Mammouth are excellent varieties.

MAINCROP POTATOES.—Providing the ground has been duly prepared and the surface freely stirred, planting may proceed whenever the soil is in a working condition. Drills should be drawn four or five inches deep, and the sets placed in them twelve to fifteen inches apart, according to the growth of the variety. It is a great advantage to have the sets well sprouted with two or three strong, sturdy shoots; when covering in, be careful to avoid damaging the young shoots. The distance between the rows should be regulated to the requirements of the particular variety. Strong growers should not be cramped for space, and a distance of three feet between the rows may be allotted them. Varieties which make a weaker growth may be given 27 inches to 30 inches. Varieties of proved merit are Snowdrop, Beauty of Hebron, Up-to-Date, and The Factor; the latter variety is one of the very best for baking purposes.

BEET.—If an early supply of beetroot is required, seed of Sutton's Globe or Webbs' Reliance Globe may now be sown, selecting a warm, sheltered position for this sowing. Towards the end of the month another sowing should be made on open quarters, and at the same time a small sowing of a maincrop variety will prove exceedingly useful, coming into use between the early and latest crops.

WINTER GREENS.—The principal sowing should now be made of Brussels sprouts, broccolis, and borecoles of sorts, also a small sowing of an early type of savoy cabbage. If the ground has been prepared as previously advised, it will only require raking to provide a fine tilth. Mark out the beds and sow thinly broadcast, or in drills seven inches apart. As a protection against birds enclose the beds with fine mesh wire netting, placing over the top some ¾-inch mesh fish netting. Mice are often troublesome, and some breakback traps should be handy for immediate use. A sowing of leeks for late use should not be omitted.

GLOBE ARTICHOKES.—About the second week of this month is a suitable time to form new plantations. Globe artichokes require a well-enriched and deeply-dug soil. Procure suckers of a good variety and plant them singly, three feet from plant to plant, allowing four feet between the rows; make the soil about the plants very firm. As a preventive of attacks of slugs, place finely-sifted coal ashes about each plant.—W. Messenger, Woolverstone Park Gardens.

Camellia reticulata.—The blossoms of this camellia are, from their informal nature, quite distinct from most of the forms of Camellia japonica, while their large size also attracts attention. Though an old species, Camellia reticulata largely dropped out of cultivation, but of late renewed attention has been given to it. Apart from the question of flowers, the dull tone of its leafage furnishes quite a distinct feature from Camellia japonica.—T.

CARNATION SHOW.

The SPRING SHOW of the PERPETUAL CARNATION SOCIETY will be held at LEAMINGTON SPA.
APRIL 10th, 12 noon to 10 p.m.
APRIL 11th, 10 a.m. to 5 p.m.
Schedules and particulars from the Hon. Secretary,
T. A. WESTON,
Floradale,
Orpington.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street London, E.C.

EXHIBITIONS AND MEETINGS.

Liverpool Spring Show,

APRIL 2 and 3.

For a good many years the Liverpool Horticultural Society has held spring shows that for variety, beauty, and general interest are not surpassed in the country, and we are glad to record another addition to the long list of successful events the society has organised, for the show held on Tuesday and Wednesday last was in every way satisfactory. Unfortunately, the Corn Exchange, in which the shows are held, has been undergoing alterations entailing the reduction of the space available for the exhibition, and it became necessary to reduce the classes somewhat because of lack of room for exhibits. This was a great pity, but, nevertheless, the show seemed every bit as attractive and beautiful as ever.

There were not only bulbous flowers and flowering shrubs, but a good display of cyclamen, primulas, and cinerarias, and the several exhibits of alpine plants were full of the dainty little gems that are so popular to-day for rock gardening. Trade exhibits were numerous and excellent, not only the local nurserymen showing largely, but many from the south and west brought up of the best.

The winner for four pots or pans of hardy herbaceous and four of bulbous plants was Mr. Geo. Eaton, gardener to W. Tod, Esq., Dry Grange, Allerton, Liverpool. His Dielytra, Astilbe longifolia, and tulip Wm. Pitt were worthy of comment; Mr. E. R. Finch, gardener to W. J. Lockett, Esq., Grassendale House, Grassendale, came a very good second; and Mr. Thos. Hitchman, gardener to A. Earle, Esq., J.P., Childwall Lodge, Wavertree, was third.

Some grand hyacinths were shown, the competition in the principal open classes being keen. The twelve pots of single bulbs with which Mr. Thos. Hitchman secured first prize, had shapely, well-developed, and attractive flowers. The second prize went to Mr. J. W. Barker, gardener to Alderman F. R. Dixon Nuttall, J.P., Ingleholme, Ecclestone Park, Prescot; and Mr. Geo. Osborne, gardener to Drs. Tisdall and Ingall, The Brook Villa, The Brook, was awarded third prize. Mr. J. W. Barker took the lead in the class for six pots, his followers being Mr. Thos. Rigg, gardener to Miss McKean, Wavertree Lodge, Wavertree, for second place, and Mr. Thos. Hitchman third.

Six pots of hyacinths, with three bulbs in each pot, made a nice class. There were half a dozen entries, first prize going to E. R. French, Esq., Grassendale House, Grassendale. Mr. W. Betley, gardener to F. Harrison, Esq., Eton Bank, Hornby Lane, Wavertree, won second prize, Mr. Thos. Rigg bringing up the rear. Mr. Geo. Osborne beat Mr. T. Hitchman for three pans containing ten bulbs, but the flowers in this class were not to be compared with those in the foregoing classes.

There was a very good display of daffodils in pots, five competitors entering for six pots in not less than three varieties. Loo Thomson, Esq., Ailsa Craig, Formby, proved to be the successful exhibitor, showing some splendid pots of Glory of Leiden, Mdme. de Graaff, Van Waveren's Giant, Olympia, Madame Plemp, and Vanilla, all of which were in true character, and beautiful condition. Mr. F. Atkin, gardener to T. W. Wright, Esq., Mossley Vale House, Mossley Hill, had also a very creditable lot in his second prize exhibit, Glory of Noordwyk being especially noteworthy. Third prize went to Mr. E. R. Finch. This gentleman turned the tables on his competitors in the class for twelve pots of single tulips, showing some beautiful flowers, such as Queen of the Netherlands, Holbema, Brunhilde, and Grace Darling. Mr. F. Atkins' second prize set were also good, Pink Beauty, Fabiola, and Proserpine being attractive flowers. Third prize went to Mr. J. Williams, gardener to C. J. Proctor, Esq., J.P., Boscobel, Oxton.

Mr. Williams was more successful with six pots of single tulips, securing first prize. He had Joost Van Vondel, Couleur Cardinal, Sarah Bernhardt, and other charming varieties. Loo Thomson, Esq., followed closely for second place, and Mr. E. R. Finch came third. Mr. Williams again led for double tulips, his flowers being quite in advance of those of his competitors, of whom there were eight in the class. The second and third prize winners were Mr. Thos. Rigg and Loo Thomson, Esq.

Six hybrid amaryllis found three exhibitors, the first prize being awarded to Mr. W. R. Bentham, gardener to A. A. Paton, Esq., Greenbank Drive, Sefton Park. He had a very beautiful crimson named King Edward VII., and a scarlet one named Bobbie Burns was also good. Mr. Thos. Rigg secured second prize, and Mr. E. R. Finch was third.

There has always been strong competition in the classes for specimen plants at Liverpool, and, although it must be admitted that there was a falling off in numbers this year in comparison with what we have seen in former years, still the effect of the whole display of azaleas, rhododendrons, trained roses, and specimen orchids was striking and unquestionably beautiful. Mr. Geo. Eaton, Allerton, showed some magnificent plants of Cœlogyne cristata Lemoniana, and Cymbidium Lowianum, with which he secured two first prizes and the North of England Horticultural Society's silver-gilt medal. Rarely have we seen finer plants than those Mr. Eaton staged; they were a complete mass of bloom, and the plants were perfect pictures of health and vigour. Mr. Eaton had further success with four forced hardy plants, showing Clematis Henryi, Azalea rusticus, a rhododendron, and hydrangea. Again Mr. Eaton won for two callas, big masses, carrying sheaves of flowers.

Mr. Thomas Hitchman's three specimen azaleas won first prize, and well they deserved it. They were broad, evenly-balanced plants, simply smothered in bloom, the colours being bright and clear. For three roses in pots, Mr. E. R. Finch led with trained plants of Hiawatha, Excelsa, and Caroline Testout. Mr. Finch also came first for greenhouse azaleas. There were some big, well-grown ferns staged, especially nephrolepis. Mr. J. McColl, gardener to J. W. Hughes, Esq., New Heyes, Allerton, took firsts for three varieties and also for one specimen, the latter being Goniophlebium subauriculatum, with fronds fully six feet in length.

A SPLENDID SPECIMEN OF CYMBIDIUM LOWIANUM

Exhibited at Liverpool Spring Show by Mr. Geo. Eaton, gardener to W. Tod, Esq., Dry Grange, Allerton. Awarded First Prize.

Mr. Thomas Hitchman's eight vases of cut narcissi, distinct varieties, secured first prize. He showed M. J. Berkley, Sir Watkin, Barri conspicuus, and Madame Plemp very well. Second place was taken by Mr. Geo. Osborne, The Brook. For a basket of daffodils Mr. E. Wharton, gardener to J. Findlay, Esq., Maviscourt, Sefton Park, took the lead with a nice clean lot of flowers arranged just a little too stiffly. The second prize in this class went to Mr. J. Williams.

There were not so many decorated tables as are generally seen at this show, but the half-dozen exhibitors put up very tasteful efforts, and the whole of the tables were bright and attractive. First prize was awarded Miss G. E. Milne, 52, Bridge Road, Litherland, Liverpool, who used salmon-pink carnations, lily of the valley, and a few pieces of Primula malacoides. Mr. J. Williams, Oxton, came second with a delightful arrangement of roses, perhaps just overdoing the embellishment with asparagus. Mr. F. Newsham, Old Hall, Aughton, was third.

NON-COMPETITIVE EXHIBITS.

In their usual corner Messrs. Mansell and Hatcher, Rawdon, Leeds, staged some very attractive orchids. The odontoglossums, which formed an important feature of the group, were as fine as could be wished, both in regard to form and colour, and there were also some very charming little dendrobiums and cypripediums in the group. The ferns shown by Messrs. H. B. May and Sons, Dyson's Lane, Edmonton, were choice and varied in character, and a fine dash of colour on their stand was furnished by some good clematis in several varieties.

Messrs. Barr and Sons, King Street, Covent Garden, London, were exhibitors of daffodils, some extremely pretty varieties being staged. Among the flat-cupped section, Sunrise, Charm, and Crœsus particularly appealed to us, whilst the large, symmetrically-formed trumpets of Boreas and the bright flowers of King Alfred were strong plants in a most interesting exhibit. Daffodils were shown by Messrs. Hogg and Robertson, Mary Street, Dublin, who also staged some brilliant anemones.

Messrs. Young and Co., Hatherley, Cheltenham, showed a beautiful lot of perpetual-flowering carnations, their crimson variety Duchess of Devonshire being remarkably good. This is one of the richest-coloured and sweetest-scented varieties we have. Another pretty group of carnations, with a few choice orchids, came from Messrs. Stuart Low and Co., Bush Hill Park, Middlesex. Mrs. C. F. Raphael, one of the perpetual Malmaison varieties, was conspicuous, and there was also a big vase of Baroness de Brienen, which attracted much attention.

A very pleasing exhibit was that of alpine plants, tastefully arranged by Messrs. Bees, Lim., Mill Street, Liverpool; a number of good primulas, some richly-coloured auriculas, and a patch of Androsace sarmentosa were among the first things to catch the eye, but Viola gracilis, Morisia hypogæa, soldanellas, and daphnes were also very good. Messrs. J. Piper and Son, Bayswater, London, put up primulas of many kinds, as well as some good aubrietias and useful rockery shrubs. A plant of more than ordinary interest on the stand was Corydalis Wilsoni, bearing large spikes of amber-yellow flowers.

Mr. G. Reuthe, Keston, Kent, had some rhododendrons and other shrubs, as well as quite an array of saxifragas and primulas, erythroniums, and other alpines. Messrs. Ker and Sons, Aigburth, Liverpool, had, as was to be expected, a beautiful group of brilliant amaryllis; they also staged a very attractive group of forced flowering shrubs, and some of the newer hydrangeas. A gay group of tulips, lilacs, azaleas, and other seasonable flowers came from Messrs. W. Rowlands and Co., Childwall Nurseries, Liverpool.

A PORTION OF THE FINE DISPLAY OF SPECIMEN PLANTS.
Staged in the competitive classes at Liverpool Spring Show.

Broughty Ferry Horticultural Association.

The ordinary monthly meeting was held on the evening of the 25th ult., with Mr. James Bethel in the chair, when Mr. George P. Berry, Edinburgh and East of Scotland College of Agriculture, gave a lecture entitled "Bacteria and Sterilisation of Soils, and how they affect the Gardener." After briefly alluding to the modern science of soils and the warfare going on between two distinct sections of bacteria—the helpful and the harmful— said the nature and condition of the soil was responsible for the amount of bacteria it contained. An acid soil was charged with harmful bacteria, while a sweet neutral soil promoted fertility from the numbers of helpful bacteria present. Lime was generally deficient in all acidulous soils, and an admirable test for this was found in the use of blue litmus paper, which never failed. In dealing with sterilisation and inoculation of soil, the lecturer spoke very highly of results attained in experiments he had worked out with "creole" in the garden and the use of a portable steam steriliser for potting soil. The effect was clearly demonstrated from a series of lantern slides thrown on the screen.

East Anglian Horticultural Club.

At the March meeting of this club, held at The Boar's Head Hotel, Norwich, Mr. W. Bradbury, of the Ipswich Gardeners' Association, gave a very instructive and educational lecture, illustrated with lantern pictures, upon "Some of the Pests of Fruit Trees and Bushes."

Mr. Bradbury was thoroughly at home, as a practical man, with the subject, and his clear statement, helped by his slides (many of which were his own production), made the subject of deeper interest. Almost the entire range of aphis, mites, sawflies, moths, and such creatures, were touched upon, and their life-history given, with the useful addenda of how to eradicate them.

The exhibition tables were a further educational treat. The keeping qualities of the local-grown apples were very manifest. The first strawberries of the year were at this meeting, and no one who saw it could but be struck with the size of bloom and intensity of colour of the cymbidium brought up by Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford.

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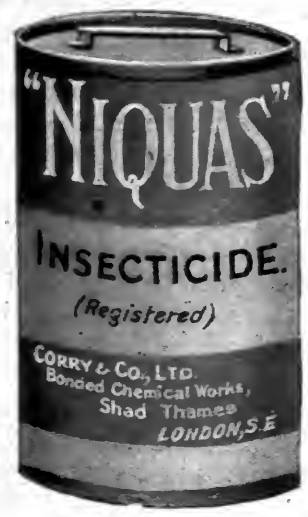

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From Mr. E. Hubbard, Gardener to G. Hanbury, Esq., Blythewood, Burnham, Bucks. May 15th, 1906.
"I have been using your 'NIQUAS' Insecticide for some years, and can with all confidence say it is the best I have ever used for Bug, Thrip, Red Spider, American Blight, and for all Insect Pests it has no equal. Also for the destruction of Maggots in Marrows by dipping. I have recommended it to my friends generally."

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Royal Horticultural Society.

(Continued from page 236.)

some quantity, with odontoglossums, Trichopilea suavis, and a few cypripediums.

J. S. Moss, Esq., Bishop's Waltham; C. J. Phillips, Esq., Sevenoaks; De Barri Crawshay, Esq., Sevenoaks; and Sir Jeremiah Colman, Bart., Reigate, all showed a few orchids, the latter sending a long spike of the yellowish Lessochilus speciosus.

DAFFODIL COMMITTEE.

A number of very beautiful daffodils, including many unnamed seedlings, were well set up by Mr. A. M. Wilson, Shovel. Some of these were superb in form and colour, and Jupiter, with blood-scarlet cup and yellow perianth; Crœsus, Whelp, Hypatia, Gadfly, with flat orange cup and crown; Greeneye, with green base to a yellow crown; the White Trumpeter Mrs. Robt. Sydenham, and the ever-pleasing Golden Buttercup were the most noteworthy.

Messrs. R. H. Bath, Lim., Wisbech, presented many new and rare varieties of daffodils, and had Darwin tulips in superb condition growing in bowls of fibre. Among the daffodils The President, White Pennant, white trumpet and creamy trumpet; Sarabande, a fine poet; Brilliancy, with vivid orange rim to the deep yellow cup; Bernardino, Flame, and a giant pale cream trumpet named Fenland Belle, were all capital things.

Messrs. Sutton and Sons, Reading, were exhibitors of daffodils, and their leading varieties were Southern Star, Homespun (fine), Southern Gem, and Orange Buffer. From the Wargrave Hardy Plant Farm, The Arcade, Liverpool Street, came a small collection of Darwin tulips; the flowers of L'Admirable, Turenne, and Paul Baudy were the best.

Messrs. Barr and Sons, Covent Garden, presented a very striking display of daffodils and tulips. The former were most extensively exhibited, some hundred and thirty distinct varieties being staged. The finest of the newer sorts were Crœsus, Atalanta, Cleopatra, Charm, Orange Gem, Bloodstone, Moidore, Red Beacon, Bride of Lammermoor, a creamy trumpeter; Lord Kitchener, and Sunrise, the latter with a brilliant orange cup. Jasper was also a striking and brilliant variety.

It is always difficult to describe the Rev. G. H. Engleheart's exhibits, as nearly all the flowers are new seedlings, and staged under number only. On this occasion he exhibited over a hundred new daffodils; there were glorious golden Ajax varieties and beautiful bicolors, flat-crowned varieties with yellow or orange crown, long tubular triandrus hybrids—some of purest whiteness and some richest yellow; incomparabilis and Giant Leedsi varieties, and not a few poets of great beauty and purity.

Mr. F. Herbert Chapman, Rye, arranged his daffodils very lightly and prettily. His exhibit contained large numbers of seedlings, as yet unnamed, but also included good blooms of Torch, Castile, Percival, the lovely White Queen, Ethelbert, Mrs. Wolseley, Albatross, Orangeman, Lucifer, and Will Scarlet—a fine lot. Mrs. R. O. Backhouse, Hereford, had a small exhibit of unnamed seedling daffodils.

Messrs. Cartwright and Goodwin, Kidderminster, had a comparatively small display, but they staged fine things in White Emperor (A.M.) of faultless shape and poise; a great golden trumpeter named John of Gaunt; the semi-double Royal Sovereign; Ambrosine, a fine Giant Leedsi, and the rich orange-crowned Chough. Mr. Christopher Bourne, Bletchley, had a very beautiful exhibit of daffodils, and his outstanding varieties were Lucifer, Red Lady, White Countess, the fine new White Emperor, Homespun, the dainty Armorel, Ethelbert, Southern Star, with its orange-yellow crown, and the big double Plenipo.

Daffodils from the Lissadell Bulb Farm, Sligo, were good, and the flowers of Incognita, Lady Edith Foljambe, Seagull, W. B. Hartland, and Flambeau were conspicuous in the collection. Mr. W. A. Watts, St. Asaph, put up a large exhibit of daffodils, but rather crowded his front bunches of Firebrand, Argent, Lucifer, and Doubloon.

Messrs. R. and G. Cuthbert, Southgate, made up a brilliant exhibit of tulips in pots; the flowers were very good.

Among the daffodils set up by Robert Sydenham Limited, Birmingham, the most striking variety was Gold Coin.

CERTIFICATES AND AWARDS.

First Class Certificate.—To Brasso-cattleya Heatonense Canary, and to Cypripedium Roundhead, from Lieut.-Colonel Sir G. Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester; to Cymbidium Humbolti, from Messrs. Charlesworth and Co., Haywards Heath; to Odontoglossum eximium Warnham Court var., from C. J. Lucas, Esq. (gardener, Mr. Duncan), Warnham Court, Horsham; to Laelio-cattleya Dominiana Southfield var., from W. Waters Butler, Esq., Southfield, Birmingham.

Award of Merit.—To Odontioda Cooksoniæ Ralli's var., from Pantia Ralli, Esq., Ashtead Park, Leatherhead; to Cattleya intertexta var. Juliette, from Mons. Firmin Lambeau, Brussels; to Odontioda Keighleyensis ignita, from Messrs. J. and A. McBean, Cooksbridge, to Narcissus White Emperor, from Messrs. Cartwright and Goodwin, Kidderminster; to Douglasia lævigata, from Mr. Maurice Pritchard, Christchurch; to Carnation Mrs. Wilfred Gott, from Messrs. W. Cutbush and Son, Highgate; to Primula viscosa Othello, and P. v. Jean Douglas, from Mr. James Douglas, Great Bookham.

MEDALS.

Gold.—To the Hon. Vicary Gibbs (gardener, Mr. E. Beckett, V.M.H., Aldenham House, Elstree, for a rock garden exhibit.

Silver Gilt Flora.—To Messrs. Barr and Sons, Covent Garden, for daffodils; to Mr. A. M. Wilson, Shovell, Bridgewater, for new daffodils.

Silver-gilt Banksian.—To Mr. Christopher Bourne, Bletchley, for daffodils; to Messrs. R. and G. Cuthbert, Southgate, for tulips in pots.

Silver Flora.—To Messrs. Cartwright and Goodwin, Kidderminster, for daffodils; to Mr. F. Herbert Chapman, Rye, for daffodils; to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to H. T. Pitt, Esq. (gardener, Mr. Thurgood), Roslyn, Stamford Hill, for orchids; to Mr. H. Burnett, Guernsey, for carnations; to Messrs. G and A. Clark, Dover, for primroses, etc.; to Messrs. W. Cutbush and Son, Highgate, for carnations and flowering shrubs; to Mr. Maurice Pritchard, Christchurch, for hardy flowers; to Mr. G. Prince, Longworth, for roses.

Silver Banksian.—To H. S. Goodson, Esq. (gardener, Mr. G. Day), Fairlawn, Putney, for orchids; to Messrs. R. H. Bath, Lim., Wisbech for daffodils and tulips; to Robert Sydenham Limited, Birmingham, for daffodils; to Mr. W. A. Watts, St. Asaph, for daffodils; Mr. James Box, Lindfield, for rock garden; to Messrs. H. Cannell and Sons, Swanley, for pelargoniums; to Messrs. Stuart Low and Co., Bush Hill Park, Enfield, for acacias and carnations; to Messrs. H. B. May and Sons, Edmonton, for clematis, etc.; to Messrs. Paul and Son, Cheshunt, for lilacs; to Messrs. Pipers, Bayswater and Barnes, for rock garden; to Messrs. James Veitch and Sons, Chelsea, for cyclamens, etc.

Bronze Flora.—To Messrs. Bakers, Wolverhampton, for alpines; to Mr. Clarence Elliott, Stevenage, for alpines; to Messrs. R. Gill and Sons, Falmouth, for rhododendrons; to Mr. A. Hemsley, Crawley, for hardy flowers; to Messrs. G. Jackman and Sons, Woking, for hardy flowers; to Messrs. Wm. Paul and Son, Waltham Cross, for roses; and to Lissadel Bulb Farm, Sligo, for daffodils.

OBITUARY.

MR. ANDREW KINGSMILL.

We greatly regret to record the death of Mr. Andrew Kingsmill, which occurred somewhat suddenly at his residence, The Holt, Harrow Weald, on the 29th ult., in his 71st year.

Mr. Kingsmill, who was one of the leading amateur horticulturists of the present day, commenced life as a schoolmaster, and, after a short experience of school work, entered the Civil Service, and for some time occupied a position in the Post Office. Receiving in 1865 a nomination for the Bank of England, he went to Threadneedle Street, where his remarkable abilities in connection with finance soon became evident, and in the course of the next thirteen years he attained a high position. In 1878 he was appointed the first London manager of the British Linen Bank, where he specially distinguished himself, and its present position in London is regarded as largely due to his ability and energy during the 24 years it was under his management.

Taking a keen interest in gardening, Mr. Kingsmill built himself a residence and formed gardens, at once interesting and beautiful, in a part of the old woods of Bentley Priory. The gardens were wholly of his own planning, and, while quite distinct in their main features from those of the conventional type, they were quite free from the eccentricities that sometimes appear when there is a deviation from the customary lines. Within the delightful gardens were borders of herbaceous plants, rockeries, beautiful trees and shrubs, choice bulbs, and climbing and other roses in abundance. On every side there was evidence not only of a strong affection for beautiful plants, but of a thorough acquaintance with the finest kinds in the several classes. On his retirement owing to ill-health in 1902, Mr. Kingsmill indulged his taste for travel, and for many years he and Mrs. Kingsmill travelled much abroad, bringing back many plants remarkable for their beauty and interest for The Holt gardens, and to a genuine lover of plants nothing could well be more enjoyable than to make a tour through those parts of the gardens where the "finds" had been planted, with Mr. Kingsmill as the guide. His acquaintance with the large number of plants that have a home in the gardens was remarkable, for he was personally acquainted with every one, and could at once locate any particular kind, and give everything of interest that was associated with it.

Mr. Kingsmill was long a member of the Floral and Daffodil Committees of the Royal Horticultural Society, and was one of the directors of the Royal International Horticultural Exhibition of 1912. An illustrated account of The Holt Gardens was given in our issue of August 22, 1908.

THE LATE MR. ANDREW KINGSMILL.

MR. M. MOODY.

We regret to learn of the death on Wednesday, March 10, of Mr. Mark Moody, who for twenty-seven years was head gardener to F. Du Cane Godman, Esq., at South Lodge, Horsham. Four years ago he retired and took up his residence in Horsham. Mr. Moody was 69 years of age, and a native of the Isle of Wight. During the last eighteen months he was a great sufferer. He was a most capable gardener, and held in the greatest respect in the Horsham district. To the allotment holders he acted as guide and friend, and they deplore deeply the loss of the fatherly interest he took in their work. The body was cremated at Woking on March 14.

"Sweet Peas and Their Cultivation," by C. H. Curtis, is a compact and very readable Guide to the culture of this lovely and fragrant flower. Mr. Curtis, who is Hon. Secretary of the National Sweet Pea Society, deals fully and practically with its varieties, culture, and diseases. The book is well illustrated, and can be obtained from our publisher for 1s. 2d. (cloth 1s. 9d.), post free.

ANSWERS TO CORRESPONDENTS.

VEGETABLE MARROWS.—E. H., Ripon: We have rarely been successful with vegetable marrows, and this is particularly annoying when one is fond of the vegetable and is told on every hand that nothing could be easier to grow. We generally raise our plants in heat early in March, and plant them out as soon as possible in May, protecting them at night by means of boxes. Is there anything wrong in this procedure?—Under ordinary conditions early in March is about a month too early to raise vegetable marrows in heat, and we have a shrewd suspicion that your plants have become drawn and starved some time before planting, and have never properly recovered from the check. Sow seeds at once in gentle heat, pot the seedlings singly into 60-sized pots when fit to handle, and presently pot them into 48's, using fairly rich soil for the purpose. Directly the roots push through the soil in these larger pots give cooler quarters. Plant out during the last week in May or the first week in June, protecting them at night with pots or boxes until all fear of frost is over. Marrows like rich, firm soil, well drained, and a warm, sunny position. When growing freely they need plenty of moisture and liquid manure. The fruits should be removed as soon as fit for use, as nothing distresses the plants more than a number of fruits forming their seeds.

BRANCHED CACTUS.—S. P. R., Aylesbury. The description sent is hardly sufficient to enable us to determine what kind of cactus or succulent plant you possess. We shall be obliged, and better able to help you, if you will send a rough sketch of the plant, and also one of a portion of growth. We are inclined to think you have a phyllocactus; anyway you have a fine specimen if it carries three dozen growths.

ALPINE STRAWBERRIES.—S. S., Bideford: Kindly tell me how to proceed for the production of alpine strawberries late in the season.—Sow seeds, obtained from a reliable source, at once in gentle warmth, and prick out the seedlings into boxes as soon as they can be conveniently handled. Place them in a frame as soon as re-established, and encourage growth without in any way coddling the plants. Before the roots become much entwined transfer the seedlings to large 60-sized pots, and by the time they are thoroughly well rooted in these they will be ready to plant out in well-prepared ground. If the soil is light and the weather warm, mulch the soil between the plants with old decayed manure. It would have been better had a start been made a few weeks earlier.

AMERICAN ASTERS.—L. E. R., Bury St. Edmunds: I obtained a catalogue from an American seedsman who advertised in your pages, and am quite interested in many of the things listed therein. Do you know anything about the American form of the China Aster? These seem to be rather out of the common, and I thought of trying them. —Yes; we do know something about these asters, and hope to publish an article and illustrations dealing with the subject in an early issue. You should test a few of the varieties.

CAPE PELARGONIUMS.—F. L. S., Spalding: I have become interested in Cape pelargoniums since seeing so many of them at the Royal International Horticultural Exhibition of 1912. Until now, however, I have not had an opportunity to take up their cultivation. If there are any special points of difference in their management from that found successful for the usual garden varieties of pelargoniums I shall be glad if you will tell me what they are; but what I especially wish is a list of a dozen distinct species to form the basis of a collection.—Greenhouse culture, freedom from aphis and other insect pests, and a compost of three parts fibrous loam, and one each of decayed cow manure and leaf-mould, with plenty of

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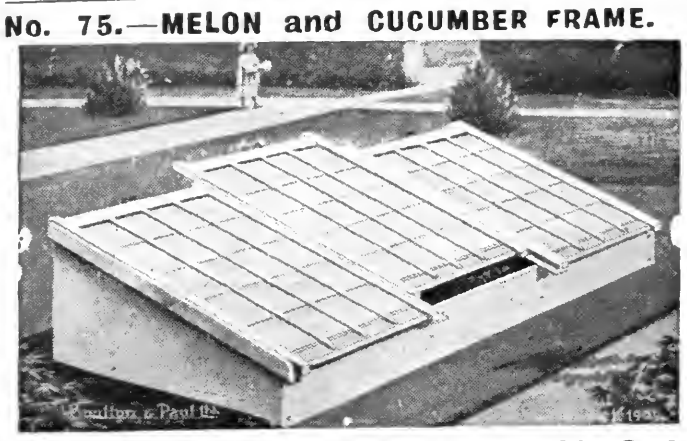

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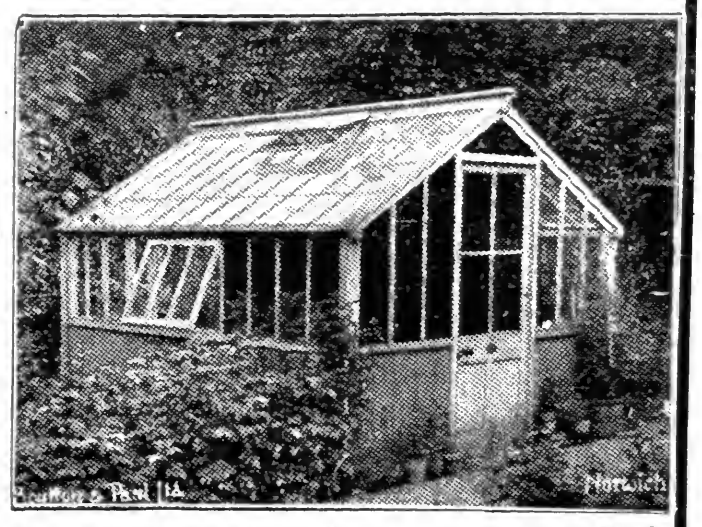

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sand, as compost, are the chief points to bear in mind. The slender and less robust grower must have their pots particularly well drained, and overpotting must be carefully avoided. August is a good time to take cuttings, and a cold frame will suffice for their protection until the end of September. An interesting dozen species are—P. capitatum, P. quercifolium, P. cordatum, P. tomentosum, P. radula, P. echinatum, P. citriodorum minimum, P. crispum, P. denticulatum, P. tetragonum, P. inquinans, and P. ardens. P. Blandfordianum, P. multibracta, P. artemesioides, P. saxifragoides, P. zonale, P. peltatum, and P. triste filipendulifolium should also be added as circumstances permit.

SPECIES OF MATHIOLA.—S. T. J., Lewes: In addition to the Ten-week, Intermediate, and East Lothian stocks are there any species of Mathiola in general cultivation?—No; the only species in general cultivation is Mathiola tristis, the night-scented stock. At Kew the species in cultivation are M. coronopifolia, purple; M. incana, parent of the Brompton stock; M. sinuata, red; M. triscuspidata, purple; M. tristis, fragrant during the evening; and M. varia.

BROWN PITH IN ROSES. — M. S. E., Derby: I have just begun to prune my roses, and find that in many cases the wood seems firm, but when cut the centre or pith is of a dull brown colour. This suggests to me that such growths have suffered badly during the winter. Should I cut them back much lower than usual, or leave them a fair length in the hope that the buds may develop?—Where the pith is dull brown the wood is dead, or nearly so, and it would be quite useless to allow such growth to remain. Cut back the stems inch by inch until good sound wood is reached, and then cut clean across just above the next bud.

AYRSHIRE ROSES.—C. L., Corsham: Kindly name half a dozen of the best varieties of Ayrshire roses in your next issue, as I am anxious to plant soon from pots.—The best Ayrshire roses are Dundee Rambler, white, flushed pink; Bennett's Seedling, double, pure white; Queen of the Belgians, double, creamy white; Alice Gray, white, edged pink; Rivers' Ayrshire Queen, reddish-purple; and Virginian Rambler, pinkish-white.

SALVIA SPLENDENS GRANDIFLORA FOR SUMMER BEDDING.—A. R., Notts: Could Salvia splendens grandiflora be used for summer bedding? I had intended to use the variety Glory of Zurich, but have not sufficient plants, but can obtain plenty of S. splendens grandiflora. This latter I have only grown for autumn display in pots, and so do not know whether it is suitable for summer display out of doors.—Treated the same as Glory of Zurich, S. splendens grandiflora will flower out of doors for summer bedding, but it is not the equal of Glory of Zurich for that purpose, as it is not so free blooming. You could purchase small plants of the latter from many of the firms advertising in our columns, and these if potted at once would make good stuff by the end of May or early June, and the expense would not be great.

NAMES OF PLANTS.

R. D. R., Bicester.—1, Rhododendron ciliatum; 2, Opuntia microdasys; 3, Begonia fuchsioides.

N. R., Grantham.—1, Primula rosea; 2, a growth of Prunus Pissardi; 3, Exacum affine; 4, Erica ventricosa.

S. T., Stockton.—1, Odontoglossum polyxanthum; 2, O. crispum, a very poor form; 3, Cattleya Schroderæ; 4, Cymbidium insigne.

F. W., Bromley.—1, Nothoclæna sinuata; 2, Nephrolepis Bausei; 3, Adiantum cuneatum gracillimum; 4, Asplenium caudatum; 5, Woodwardia radicans.

M. C. B., Torrington.—1, Anemone pulsatilla; 2, Omphalodes verna; 3, Anemone hepatica; 4, Forsythia suspensa; 5, Correa cardinalis; 6, Tillandsia usneoides.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Wet Bulb.	Day Highest.	Night Lowest.
1913. March 23 to March 29.	hr. m.	deg.	deg.	deg.	deg.
Mar. 23—Sunday	3 42	46	44	51	41
,, 24—Monday	0 30	40	39	47	34
,, 25—Tuesday	1 42	35	35	46	27
,, 26—Wednesday	1 42	41	40	50	33
,, 27—Thursday	6 0	41	41	55	40
,, 28—Friday	2 42	46	46	52	40
,, 29—Saturday	1 48	44	44	56	37
Means	(total) 18 6	42	41	51	36

Date.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
1913. March 23 to March 29.	ins.	deg.	deg.	deg.	deg.
Mar. 23—Sunday	trace	45	44	44	36
,, 24—Monday	—	43	44	45	23
,, 25—Tuesday	—	42	44	45	21
,, 26—Wednesday	0·18	42	43	44	24
,, 27—Thursday	0·06	43	43	44	37
,, 28—Friday	0·36	44	44	44	32
,, 29—Saturday	0·04	44	44	45	28
Means	(total) 0·64	43	44	44	29

FORTHCOMING ENGAGEMENTS.

TUESDAY, April 8.—Cornwall Spring Show at Truro; two days.
Devon Spring Show at Barnstaple; two days.
WEDNESDAY, April 9.—Edinburgh Spring Show; two days.
Tewkesbury Daffodil Show.
THURSDAY, April 10. — Perpetual Flowering Carnation Society's Provincial Show at Leamington, two days.
MONDAY, April 14.—Annual meeting of the United Horticultural Benefit and Provident Society at the Royal Horticultural Hall, Westminster.
TUESDAY, April 15.—Royal Horticultural Society's Daffodil Show; Narcissus Committee meets at 11.30 a.m.; Fruit, Floral, and Orchid Committees at 12 o'clock; Scientific Committee at 4 o'clock. Lecture at 3 p.m. on "The Origin of Life: Why it is Undiscoverable," by Rev. Professor G. Henslow, M.A., V.M.H.
WEDNESDAY, April 16.—Second day of Royal Horticultural Society's Daffodil Show. Primula Conference at Royal Horticultural Hall, from 11 o'clock to 1 o'clock, and 2 p.m. to 4 p.m.
Royal Horticultural Society of Ireland, Spring Show.
County Clare Spring Show.
THURSDAY, April 17.—Ipswich Spring Show.
Linnean Society Meeting.

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YOUNG MAN (20) seeks SITUATION as Improver; Inside and Out; 3 years' experience, good references. G. WILLIS, Great Burstead, near Billericay, Essex.

YOUNG MAN (22) seeks SITUATION, local; Single-handed or with help; been apprenticed to Nursery; 3 years' present; private; general knowledge. F. HISCOCK, 5, Rokeby Road, Wealdstone, Middlesex.

YOUNG MAN seeks SITUATION in gardens; little experience; wishing to learn; Bothy preferred; age 18. Apply T. LAMBERT, Kelso, Fetherstone Road, Stanford-le-Hope, Essex.

YOUNG MAN (19), very strong, as IMPROVER; Inside and Out; fair all-round knowledge; Bothy preferred; excellent references. C. K., 39, Second Cross Road, Twickenham, Middlesex.

YOUNG MAN, age 22, seeks SITUATION, Inside and Out; 6½ years' experience in kitchen garden and pleasure grounds; excellent references. H. L. HASLETT, 24, Crebor Street, East Dulwich, London, S.E.

YOUTH (18½) seeks SITUATION as IMPROVER, Inside and Out; 3 years' experience; good references. E. L., 75, Bushey Park Road, Hampton Wick.

YOUNG MARRIED MAN requires Situation as GARDENER (Single-handed or with help); 14 years' experience; has been Gardener and caretaker four years previous; first-class references; highly recommended; understands Pigs and Poultry.—A. BULL, Hatton, Warwick.

YOUNG MAN (17) seeks SITUATION in Gentleman's garden, Inside or Out; three years' good reference; Bothy preferred. Apply, E. CLARK, The Gardens, East Bergholt Place, Suffolk.

YOUTH (17) seeks SITUATION in private Garden under another Gardener. Highgate or Hampstead district preferred. W., 13, Cochrane Street, St. John's Wood.

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WANTED, strong active MAN for pleasure grounds, with knowledge of machines and scythe. Also ACTIVE MAN for kitchen garden; willing to help when required; both to take turn with duty. Church of England. Wages to start, 18s. and 17s., with comfortable Bothy. G. HY. SHOEBRIDGE, Nunnery Gardens, Douglas, I.O.M.

WANTED, YOUNG MARRIED MAN for garden as General Labourer. Apply, HEAD GARDENER, Woodside, Chenies, Richmansworth.

PUBLISHERS' ANNOUNCEMENTS.

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INDEX to Volume LV. may be obtained through any Newsagent, price 2d.; or 2½d. post free from the Publisher.

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VOL. LVI.—No. 3,102. SATURDAY, APRIL 12, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Experimental Work at Rothamsted.

Seventy-nine years have elapsed since the late Sir John Lawes laid the foundation of the Rothamsted Experimental Station, which, in the course of its activities, has exercised an immense influence for good upon the scientific aspects of agriculture and horticulture, and obtained a foremost position among similar institutions, not only in this country, but of the world. This position it continues to hold, and deservedly so, for at no period in its history has its activities been greater or the work accomplished of more importance to the scientist and practical cultivator. The founder began experiments with various manurial substances, first with plants in pots, and then in the field; nine years later more systematic field experiments were commenced, and the services of Dr. J. H. Gilbert were obtained as director, and the long association then formed only terminated with the death of Lawes in 1900 and Gilbert in 1901. Mr. A. D. Hall, who retired in 1912 to take up an important position on the Development Commission, was appointed director in 1902, and during his occupancy of this position great developments were brought about. Dr. E. J. Russell, who had for some time been on the staff, and had accomplished work of far-reaching importance, succeeded Mr. Hall as director, and is continuing the work in such manner as to leave no doubt as to the station becoming increasingly useful. The report for the past year shows that the field experiments with farm crops were carried on in the same comprehensive manner as in previous years, and that experimental work of special interest to horticulturists was extended. In the laboratory, and in the house devoted to pot culture, a considerable amount of work was carried out in connection with the production of plant food in the soil. As the supply of nitrogenous food frequently constitutes the limiting factor in crop production, this work was largely restricted to the nitrogen cycle; but the other factors were always taken into account, and afforded opportunities for a number of subsidiary investigations. In the course of the investigations it was shown that the production of ammonia and nitrate, two nitrogenous foods of great importance, is largely the work of bacteria, and that in normal soils these organisms are not working at full efficiency. A factor was discovered limiting the numbers of bacteria, and therefore of the amount of decomposition they effect. This factor is biological; it is capable of growth, is put out of action by heat or antiseptics, and can only be set up again by infection from outside. It does not, however, appear to consist of bacteria, and is provisionally identified with the protozoa of which numbers were found in all the soils examined. Partially sterilised soils from which the factor had been eliminated were found to contain larger numbers of bacteria than untreated soils, and to accumulate ammonia and nitrates at a greater rate. Such soils are, as might be expected, more productive.

MR. G. P. BERRY,
General Inspector in the Horticultural Branch of the Board of Agriculture.

Methods are being worked out for partially sterilising soils on a large scale, but instead of setting up field plots for the purpose of discovering a cheap and convenient process, it has been thought advisable to induce market growers engaged in intensive culture to adopt some of the methods known to have given good results. The growers of cucumbers and tomatoes on a large scale have, we learn, responded well to the suggestion, and a number of experiments have been carried out at the station with a view to the solution of some of the problems arising out of the application of partial sterilisation to their particular work. The growers, we are informed, have expressed their interest in a practical way of organising an experimental station to be started in the Lea Valley district, and devoted exclusively to the investigation of problems connected with the glasshouse industry. As the result of the investigations that have been made, the new conception is that the soil organisms may, in relation to the processes of food production, be divided into a useful and a detrimental group. The latter are described as being more readily killed than the former, and conditions that are harmful to active life in the soil tend therefore to reduce their numbers and to an increased activity of the useful bacteria. On the other hand, conditions favourable to active life tend to develop detrimental organisms, and therefore to reduce the useful bacterial activity. By these investigation it has been found possible to render intelligible a number of obscure and paradoxical effects that have hitherto caused much perplexity. The investigations relating to the loss of soil nitrogen are giving results of much interest and considerable practical importance. The decomposition processes in the soil lead to a reduction of the stock of nitrogen; part of the ammonia and nitrates is taken up by the plant and utilised, while part is lost. Drain guage experiments which have extended over 25 years, and are still going on, have shown that about 50lb. per acre of nitrogen compounds, chiefly nitrates, were washed out each year in the drainage water during the earlier part of the period, and about 35lb.

later on. The drain gauges are uncropped and unmanured, and when the last percentage of nitrogen in the soil was determined, the loss of nitrogen was found to be equal, within the error of experiment, to the amount of nitrogen recovered in the drainage water. Under these conditions, therefore, the essential change in nitrogen compounds is confined to ammonia production and nitrification; but on the cropped plots, where large quantities are added, other losses appear to go on, and these are now under investigation. The experiments that are being made for the purpose of testing the effects of poisons on plant growth may perhaps prove of less practical importance than those to which reference has already been made, but they are, nevertheless, of much interest, and cannot well fail to give useful results. The amount of growth a plant makes in a given soil is known to depend on the amount of food supplied, and this relationship forms the basis of the connection between plant nutrition work and soil work. But it is pointed out that a hypothesis is current, and is backed by sufficient circumstantial evidence to make it worthy of consideration, that inorganic plant poisons act as stimulants if supplied in sufficiently small quantities. If, as stated in the report, this hypothesis were well founded, it would introduce a wholly new set of factors into plant nutritionships, and would, in addition, form far more important practical developments. Water cultures have therefore been made to test this hypothesis as completely as possible, and the compounds tested have been copper sulphate, manganese sulphate, zinc sulphate, sodium arsenite, arsenious acid, and boric acid. Of the numerous plants tried barley and peas have given the best result, the boric acid decidedly increasing the growth of the latter. The influence of this acid on the growth of the pea is regarded as raising the question whether boron is in some way advantageous to the plant, and therefore to be considered a nutrient.

Mr. G. P. Berry.—Our congratulations, and the congratulations of our readers, are extended to Mr. G. P. Berry, recently appointed General Inspector in the Horticultural Branch of the Board of Agriculture. The appointment was announced in the House of Commons on Thursday, April 3, by Mr. W. Runciman, the Minister for Agriculture. As horticulturists we have thought, and said, that horticulture has not received the recognition due to it, and that in important appointments in connection with the profession eminent men have been passed over in favour of those whose training and ability did not qualify them for the positions. Now, it would seem, all this is changed, and Mr. Runciman has found that there are men who, by careful study and experiment, have added scientific attainments to a life-long practical experience, and are able, by reason of their general education, to fill the highest positions open to them. We believe that when the applicants for this new post were reduced to seven for the purpose of the final selection all were men possessing wide practical knowledge, a capacity for organisation, and ability to express themselves readily. Mr. G. B. Berry's appointment is, we hope and believe, an earnest of better times, and it should be an incentive to all young gardeners to equip themselves for the openings the future may hold. Mr. Berry had a splendid training at Gordon Castle Gardens, the seat of the Duke of Richmond and Gordon, under Mr. Webster. For some years he was Horticultural Instructor to Armstrong College, for the four Northern Counties. After this he became Horticultural Instructor to the Edinburgh and East of Scotland College of Agriculture, and latterly has been head of the Horticultural Department of this college. Mr. Berry's educational and advisory work has been conducted over a wide area in the East of Scotland, and he has always kept in close touch with commercial fruit growing, market garden operations, and all the latest developments in matters horticultural. He holds the Diploma in Horticulture of the Royal Botanic Gardens, Edinburgh, and certificates of the Herriot-Watt College. He has taken a prominent part in the Northern Counties Fruit Congresses, contributing excellent lectures, and taking part in the discussions, and, on the occasion of the Hexham meeting in 1910, he delivered the opening address. Mr. Berry has unbounded energy, a ready utterance, wide practical experience, and a thorough working knowledge of the sciences that apply to his profession, and he is, therefore, in every way fitted for the new, high, and important position to which he has been appointed. We trust Mr. Berry may have health and strength to carry out his new duties to the satisfaction of all concerned for many years to come. The salary is £400 per annum, rising to £500.

Royal Horticultural Society's New President.—At the meeting of the Council of this society held on the 1st instant, Sir Trevor Lawrence, Bart., K.C.V.O., V.M.H., tendered his resignation of the post of president of the society, to which he was elected in 1884, owing to advancing years and impaired health. His resignation was accepted with the greatest possible regret, and with an expression of the almost overwhelming debt of gratitude which the society owes to him for his long and able guidance of the affairs of the society. At the same meeting Field-Marshal the Right Hon. the Lord Grenfell, G.C.B., G.C.M.G., LL.D., was unanimously elected to succeed the retiring president.

Too Many Flower Shows.—We have many times pointed out that the great increase of flower shows in recent years is by no means a blessing. Much energy and money are being expended to no good purpose upon merely local efforts, and the glorification or pecuniary advantage of a few people. The establishment of horticultural societies of an educational character has our interest and sympathy; such societies, by means of fortnightly or monthly meetings throughout the winter season, and visits to gardens and nurseries in the summer, are able to do excellent work, and if interesting exhibits are encouraged in connection with the winter meetings, that is all to the good. There are too many societies existing solely for the purpose of a summer or autumn flower show. Many exist for a short time, and then collapse, whereas had the energy expended been devoted to a really good district exhibition, interest would have been kept alive, and horticulture advanced. During the past week we have received intimation of the cessation, or suspended animation, of not a few societies, and we believe the cause is to be found largely in the weakening influence of so many purely local efforts. Cardiff should be able to manage a good autumn show, but the losses in 1912 were so heavy that there will be no chrysanthemum show this year. At Leith the re-establishment of a flower show seems hopeless, and, after twenty-four years, there is the prospect of a discontinuance of the Blakenhall Society, which lost over £40 last year. Here are three instances, all wide apart, of failure. Bad weather, lack of interest, and many other things are suggested as reasons for failure, but we believe the real trouble is that there are too many flower shows. Perhaps our readers will give us their views on this important matter.

Spring Flowers at Kew.—Kew is particularly bright and gay just now, the daffodils being prominent in many parts of these fine gardens, notwithstanding the bitter east and north-east winds prevailing during the last week. Hyacinths, wallflowers, squills, anemones, flowering peaches, amelanchiers, the earlier pyrus and prunus, forsythias, magnolias, hardy heaths, saxifragas, and hardy primulas are among the more important of the subjects now in flower. Those interested in spring flowers should endeavour to visit Kew just now.

The Origin of Life is a subject that has exercised the minds of the greatest thinkers of all ages, and, though old, it is perennially new. The Rev. Professor G. Henslow, M.A., V.M.H., will discuss this fascinating subject at three o'clock on Tuesday, April 15, at the Royal Horticultural Hall, Westminster, and his lecture is entitled "The Origin of Life: Why it is Undiscoverable."

Xanthophyll in Leaves.—About twelve months since Drs. Willstätt and Escher announced their discovery of the similarity of lutein, the yellow pigment of yolk of egg, to, if not identical with, the xanthophyll present in leaves. Other animal pigments have since been investigated, and Dr. Escher states that the yellow pigment of the Corpus luteum has been found identical with carrotene such as is present in carrots and leaves, and closely allied to lycopin, the colouring matter of tomatoes. Carrotene has been shown by an earlier investigator to form the yellow colouring matter of wheaten flour. The two classes of pigments are separated by shaking with a mixture of alcohol and light petroleum. The liquid forms two layers, the upper one of petroleum ether containing the carrotene and the lower alcoholic layer containing the xanthophyll.

High Prices for Rare Orchids.—At the recent sale of duplicate plants from the orchid collection formed at The Shrubbery, Oxford, by F. Menteith Ogilvie, Esq., one hundred and sixty lots realised about £1,200. Brasso-cattleya Cliftoni magnificum realised £210; Miltonia vexillaria Memoria E. D. Owen, £126; Cattleya Trianæ The Premier, £37 16s.; C. T. Grand Monarch, £110; Odontoglossum Ossulstoni Shrubbery var., £37 16s.; O. crispum Magnum Bonum, £39 18s.; and O. Pescatorei Duchess of Westminster, £42.

The Hardy Plant Year Book for 1913, the official publication of the National Hardy Plant Society, is the second issue of its kind, and a distinct improvement upon the first. It contains a list of members, prize-winners at the exhibition held in the Royal Horticultural Hall in June last, report and financial statement for the past year, rules, and a model schedule of classes for hardy plants and flowers. Besides all this information there are numerous articles, the chief of which are "New Plants of 1912," by Mr. W. Irving; "New Plants from China," by Mr. E. Horton; "Saxatile Violas," by Mr. W. H. Paine; "The Possibilities of a Rock Garden of Small Dimensions," by Mr. Reginald A. Malby; "Notes on the Perennial Aster," by Mr. Ernest Ballard; and "English Names of Hardy Plants," by Mr. S. Arnott. All these are of great interest, and are freely illustrated. In addition, there is a brief report of the Conference

held at Shrewsbury last August, with the text of Mr. T. W. Sanders' address, entitled "Are Flower Shows Advancing Hardy Plant Culture as They Might or Ought to Do?" On the occasion of the Conference a large number of species and varieties of veronicas were shown, and as many of these seemed to be so confused a trial was suggested, and the work was kindly undertaken by Mr. F. Bouskell, Market Bosworth, Nuneaton, the chairman of the society. Members are being asked to send plants of either species or varieties so that this trial may be as complete as possible, and so enable the special committee to reduce the nomenclature to its proper position. Any information concerning veronicas will be gratefully received by Mr. A. J. Macself, hon. secretary, 52, Beechfield Road, Finsbury Park, London, N.

Royal Gardeners' Orphan Fund.—The twenty-fifth annual dinner in aid of this valuable charity will take place at the Hotel Cecil, Strand, London, on Thursday, May 15, under the presidency of Colonel the Right Hon. Mark Lockwood, C.V.O., M.P. As the total amount annually disbursed in allowances to the orphans closely approaches £1,900, the committee make an urgent appeal for substantial financial assistance on this occasion.

Dr. W. Botting Hemsley, F.R.S.—We learn with pleasure that the University of Aberdeen has conferred upon Mr. W. Botting Hemsley, F.R.S., formerly Keeper of the Herbarium at Kew, the Honorary Degree of LL.D. The graduation ceremony took place recently, but, unfortunately, Mr. Hemsley was unable to attend in person to receive his degree.

Royal Botanic Gardens, Edinburgh.—An informal meeting was recently held at the Royal Botanic Gardens for the purpose of considering the advisability of forming a guild of past and present members of the staff. The temporary committee elected to take the necessary initial steps will be very glad if all the old members of the staff would communicate their addresses either to Mr. W. H. Morland, the secretary pro tem., or Mr. H. Harrow, so that the list may be made as complete as possible. A circular containing the proposed rules will then be forwarded them.

Regulations for the Growth of Tobacco.—The Commissioners of Customs and Excise have issued the regulations under which tobacco may be grown for nicotine extraction. According to the first regulation, a person who desires to obtain the authority of the Commissioners of Customs and Excise to grow tobacco within the United Kingdom solely for the purpose of obtaining an extract therefrom to be used without payment of duty for the manufacture of insecticides for horticultural purposes, must furnish on a form of application to be obtained by him from the proper officer a statement of the variety or varieties of tobacco to be grown and of the process of extraction to be used by him, and such further particulars as may by the form be required, and must return the form duly filled up and signed by him to the officer. The application may be made at the same time as the application for a licence to grow tobacco, or by a person who has already obtained such a licence, and the authority when granted shall be in force only during the currency of the licence. The second regulation is to the effect that a person to whom an authority has been granted, must in connection with this authority, grow only such variety or varieties of tobacco as may be approved by the Commissioners, and all tobacco so grown by him must be used solely for the purpose of an extract being obtained therefrom. Under the third regulation no alteration of the process of extraction, as described in the form of application, shall be made without the sanction of the Commissioners. The remaining regulations are not less important, and those who contemplate the cultivation of tobacco for the purpose of making a nicotine extract should obtain a copy and become well acquainted with them before commencing cultural operations.

Orchid Show at Birmingham.—The annual exhibition of orchids and early summer flowers under the auspices of the Birmingham Botanical and Horticultural Society will be held at the Botanical Gardens on Wednesday, July 11. Honorary exhibits of flowers, fruits, and vegetables will be welcomed. Particulars may be obtained from Mr. T. Humphreys, Botanical Gardens.

Experimental Orchard for South Australia.—Considerable progress is being made with the experimental work conducted at the orchard established by the Horticultural Department of the South Australian Government, situated in the Coromandel Valley, Mount Lofty. The orchard has an area of 52 acres, and it has already been the means of rendering great assistance to the fruit growers in the colony. The plantations include 1,400 varieties of apples, 181 of figs, 800 of pears, 320 of peaches, 80 of nectarines, 360 of plums, 40 of olives, and 152 of strawberries, besides raspberries, currants, etc.

NEW PLANTS AND FLOWERS.

CARNATION MRS. WILFRED GOTT.

One of the most beautiful of new carnations, and one that must be classed as a perpetual malmaison. It is evidently the result of crossing a malmaison with a perpetual variety. Of strong habit, it bears large and noble flowers of purest white, and with a most delicious fragrance. A.M., R.H.S., April 1. Messrs. Wm. Cutbush and Son, Highgate.

BRASSO-CATTLEYA HEATONENSIS CANARY.

This beautiful hybrid was represented by a grand plant carrying six large blooms. The parents were Brassavola Digbyana and Cattleya Hardyana, and the colour of the flowers is quite pale yellow, with deeper yellow in the lip, where there is also some exquisite pink shading. The fringing of the large lip is very beautiful. F.C.C., R.H.S., April 1. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

CARNATION MRS. WILFRED GOTT.
Flowers pure white. A.M., R.H.S., April 1. Messrs. W. Cutbush and Son, Highgate.

CATTLEYA INTERTEXTA JULIETTE.

A beautiful pure white cattleya with soft yellow markings in the throat of the lip. C. Mossiæ alba and C. Warneri alba were the parents. A.M., R.H.S., April 1. Mons. Firmin Lambeau, Brussels.

CYMBIDIUM HUMBLOTI.

A strong-growing tropical species from Madagascar, its stout, broad leaves like those of some angræcums, its spikes suggesting a branched cymbidium, and its flowers, by their appearance and colour,

reminding everyone of Cœlogyne pandurata. The spike exhibited was about four feet long, and had six branches, each bearing about a score of flowers and buds. The colour is pale apple-green with blackish markings upon the greenish yellow lip. Mr. C. Curtis, the old Veitchian collector, remembers finding this species in Madagascar forty years ago, but he was unable to bring home live specimens then. F.C.C., R.H.S., April 1. Messrs. Charlesworth and Co., Haywards Heath.

CYPRIPEDIUM ROUNDHEAD.

The florists could find little or no fault with this hybrid between C. nitens and C. Earl of Tankerville. The flower has a rounded, shapely appearance; the broad dorsal sepal is white, with greenish yellow base and centre, and over the coloured portion dark red-purple spots are freely strewn. Both petals and lip are greenish-yellow, heavily shaded with bright red-brown. F.C.C., R.H.S., April 1. Lieut.-Colonel Sir George Holford.

LÆLIO-CATTLEYA DOMINIANA SOUTHFIELD VAR.

A splendid flower, of large size, and with a very fine ruby-purple lip. The sepals and petals are light rose-purple on a creamy-white ground, but the bright colouring is somewhat streaky. F.C.C., R.H.S., April 1. W. Waters Butler, Esq., Southfield, Edgbaston, Birmingham.

ODONTIODA KEIGHLEYENSIS IGNITA.

In this neat form of the hybrid between Cochlioda Noezliana and Odontoglossum cirrhosum, the flowers are larger and more shapely than in the original cross, and of a brilliant crimson-scarlet colour. A.M., R.H.S., April 1. Messrs. J. and A. McBean, Cooksbridge, Sussex.

ODONTIODA COOKSONIÆ RALLI'S VAR.

A charming variety with rounded flowers borne on a strong spike. The colour, crimson-scarlet, is very vivid, and distinctly enhanced by the white apex to the lid. A.M., R.H.S., April 1. Pantia Ralli, Esq. (gardener, Mr. Hunt), Ashtead Park, Leatherhead.

ODONTOGLOSSUM EXIMIUM WARNHAM COURT VAR.

A very beautiful odontoglossum derived from the fine O. crispum Luciana and a good form of O. ardentissimum. As shown in our illustration on p. 235, the flowers are of fine size and excellent shape. The blush ground colouring is heavily blotched over with rich crimson-purple; the apex of the lip is white. F.C.C., R.H.S., April 1. C. J. Lucas, Esq. (gardener, Mr. Duncan), Warnham Court, Horsham.

DOUGLASIA LÆVIGATA.

A pretty, densely tufted alpine plant from the Oregon mountains of North America. It closely resembles an Androsace. The tiny leaves are surmounted by small umbels of purple-rose flowers, each a little less than half an inch across, and with a rose-red eye. A.M., R.H.S., April 1. Mr. Maurice Prichard, Christchurch.

NARCISSUS WHITE EMPEROR.

This is not a white counterpart of the well-known Emperor daffodil, but is a rounder and more refined flower. It has broad, rounded, cream-white perianth segments, and a wide trumpet, prettily frilled at the mouth. White Emperor was raised by the Rev. G. H. Engleheart, who stated that it was of pure Ajax parentage; the majority of those who saw the flower also agreed that this was a trumpet variety, but some sticklers for rule used finely graduated measures, and proved to their own satisfaction that it was a Giant Leedsi variety. Three members of the Daffodil Committee were deputed to classify the variety, but could not agree, though we understand the majority favoured the trumpet rather than the Leedsi classification. Anyhow, it is a beautiful daffodil, and goes to show how crossing and recrossing the various varieties and types is breaking down even recent definitions; consequently new varieties will have to be arbitrarily placed in one or other of the nine groups into which daffodils are at present classified. A.M., R.H.S., April 1. Messrs. Cartwright and Goodwin, Kidderminster. Also shown by Mr. C. Bourne, Bletchley, who, with Messrs. Cartwright and Goodwin, hold the stock.

PRIMULA VISCOSA OTHELLO.

Scarcely so robust as the foregoing, but extremely free-flowering, this variety should find great favour in the rock garden. It bears many-flowered trusses of deep rich purple colouring. A.M., R.H.S., April 1. Mr. James Douglas, Great Bookham.

PRIMULA VISCOSA JEAN DOUGLAS.

This very fine primula is really a hybrid between P. viscosa and the alpine auricula named Innocence. Of robust growth, the plant exhibited bore three fine trusses of bloom, the large one containing over a score of flowers. The colouring is bright purplish-rose, with white eye. There was some doubt expressed as to the identity of this plant, and it was at first considered identical with P. viscosa Mrs. Berkeley, but subsequently it was found distinct, and to have been raised at Great Bookham. A.M., R.H.S., April 1. Mr. Jas. Douglas, Great Bookham, Surrey.

SENECIO STENOCEPHALUS.

A strong growing species from China and Japan, and one that promises to be of value for the semi-wild garden, and possibly for the waterside. It has handsome, bold, reniforme leaves with deeply toothed margins, and these often measure 16 inches across. The golden ray florets are usually five in number, and the flowers are placed closely together in sturdy racemes a foot or more in length. Bot. Mag., t. 8472.

ROSA SERTATA.

This very handsome Chinese rose has very small leaflets, and large rose or rose-purple flowers, and makes a graceful shrub 3ft. to 5ft. high. The blooms measure upwards of two inches across, and have a dense central cluster of golden stamens. It flowers about mid-June, and its blooms are followed by deep red fruits, so that in autumn its bright hips, glaucous stems, and dainty leaves render it a very attractive shrub. Bot. Mag., t. 8473.

AMORPHOPHALLUS CORRUGATUS.

Though the genus of Amorphophallus is of little value in gardens, it has the distinction of containing the largest flower known—using the word flower in its widest sense, of course—this being produced by the huge A. titanum. A. corrugatus is from Siam, and has a green-purple shaded, white-mottled spathe. The spadix has a dull yellow apex, with a cluster of rosy male flowers below, and a group of dull purple female flowers at the base. Bot. Mag., t. 8475.

ASTER PURDOMI.

Collected by Mr. W. Purdom, in Northern China, when travelling for Messrs. J. Veitch and Sons. A. Purdomi promises to be a very useful and beautiful garden plant, and one especially suitable for the rock garden. It is a small-growing plant, and has hairy leaves about 1½in. long. The flowers are 2½in. across, pale violet, with yellow centre, carried erect and solitary on stems about six inches high. Bot. Mag., t. 8476.

CŒLOGYNE CRISTATA.

This old and popular garden plant is one of the most beautiful of orchids, and its semi-pendulous spikes of white flowers, with golden-crested lip, are well known for their decorative value. This old species has the honour of a double-page illustration in the Bot. Mag., t. 8477, and the history of its introduction in 1837 is given.

OVER-GROWN CELERY SEEDLINGS.

Cultivators will have raised their batches of celery plants at this time, and experienced growers will not make the mistake of subjecting the resultant seedlings to a too high temperature.

Very frequently one sees the plants drawn up, and then the best results cannot be secured. I do not object to placing the seed pan on the surface of a mild hotbed, nor, indeed, to plunging it to the rim, but I would prefer not to plunge the pan. The mistake is made when the pan is plunged in a very strong heat, the top darkened, and the young seedlings kept in this position for a week or longer. Under these conditions the young plants are much drawn and greatly weakened.

Celery should be raised under cooler conditions, and sown very thinly, being fully exposed to the light from the moment the seedlings break through the soil. Very often a lot of seeds are sown in a small pot or pan, ten seedlings growing in the space where one should be. The cultivator gets all the plants he needs from one corner, and the remainder—ninety per cent.—are thrown away. How much better it would be if a few seeds were scattered evenly all over the surface of the soil. The seedlings would be strong from the very first, and continue to gain strength.

When transplanted all the seedlings selected should be of the same size, so that the matured plants will be so when lifted for use; as, unlike cabbages and similar crops, the matured specimens cannot be gathered here and there. I have found it advisable to grow celery plants on a cool base throughout, after the first transplanting, as many plants grown on hotbeds have "bolted," or been pithy and hollow-stemmed. G. B.

QUERCUS DENSIFLORA.

This is one of the rarest evergreen oaks cultivated in the British Isles, and few examples are known to exist, although two good-sized trees may be seen in the Kew collection. A native of Western North America, it is found from the southern parts of Oregon to Southern California, where, under the most favourable circumstances, it attains a height of one hundred and fifty feet, with a trunk up to four feet in diameter, sometimes clear of branches for half its height. The oblong leaves are from two to five inches long, and between one and two inches wide. When young they are whitish on both surfaces, by reason of the presence of numerous short, felty, grey hairs. With age much of this pubescence disappears from the upper side, but it remains beneath throughout the life of the leaf. The leaf margins are rather prominently toothed, and the veining is very conspicuous. The acorns take two years to mature.

Jepson, in his "Silva of California," says that its bark produces the best tannage known for heavy leathers, and that the trees are usually barked standing. After they are barked they often live two years, and mature a heavy crop of acorns the second year. Sometimes, however, the trees continue to live for an indefinite period after barking. So popular is the bark said to be that 100,000 trees are often sacrificed in a single year for the bark alone. The wood is used, to some extent, for house and wagon building. In California the common names of Tan Oak and Squaw Oak are applied to the tree. W. D.

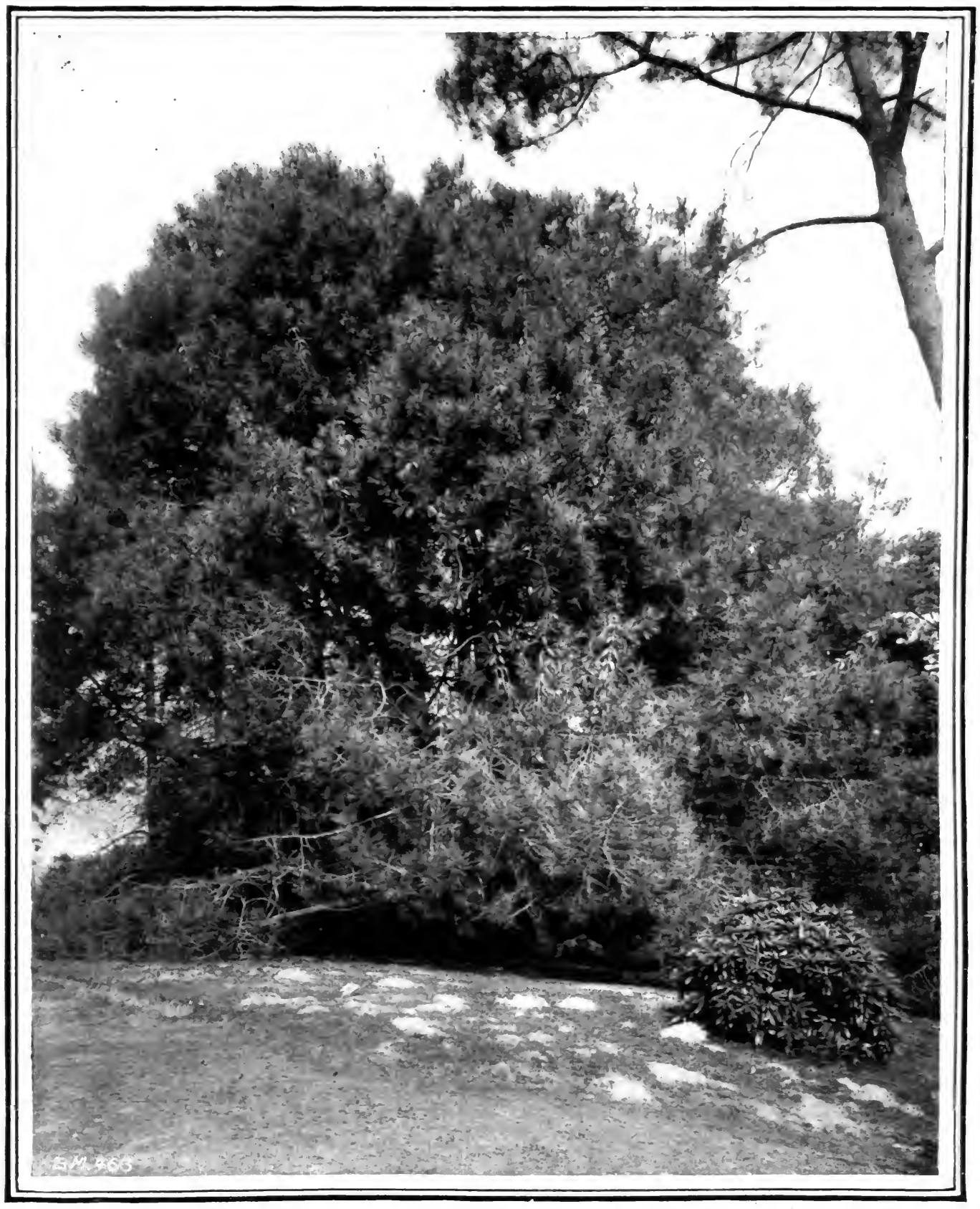
FINE CONIFERS AT BURY HILL.

To those who are acquainted with the southern parts of Surrey it is well known that the interesting and quiet town of Dorking has for its setting some of the most delightful scenery to be found, not only in the county but in this fair England of ours. There may be scenery of greater boldness, but there is none possessing greater beauty, and, whether rambling through the wide-spreading vales or climbing the lofty hills that form so prominent a feature of the landscape, it is not difficult to understand why those who appreciate the many charms of the country should in their thousands annually visit the district. It can also be readily understood why so many stately mansions and important gardens are to be met with around Dorking, more especially by those who appreciate invigorating air as well as great natural pictures of surpassing beauty.

Great gardens abound, and prominent among them are the gardens of Bury Hill, the seat of Robert Barclay, Esq., which, with the mansion, extend over a considerable area of the spur of the range of hills that skirt the southern side of Dorking and continue for some distance in a westerly direction. The mansion and gardens are a mile or more beyond the western boundaries of the town, and, as one enters the park gates and walks or drives along the road that skirts the northern side of the hill on which the one has been built and the other formed, a foretaste is obtained of the distinguishing characteristics of the grounds. The horticultural features of Bury Hill are numerous and varied, but the one that stands out prominently among those deserving of special attention is that formed by the coniferous trees, of which the collection is extensive, and the majority of the specimens quite unique.

These trees were, for the most part, planted in the first half of the nineteenth century, and, as both Mr. Barclay's father and grandfather were keenly interested in conifers, all the finer kinds that were then available were included in the selection made. Others of more recent introduction have since been added, and the collection is thoroughly representative, and as by far the greater proportion of the specimens have assumed noble proportions, they afford object-lessons of much value to planters. It is not difficult for those who have the time to visit a number of large gardens to find a considerable number of trees that have been growing in their present position from twenty to thirty years ; but to find nearly all the leading kinds with an age of sixty or more years elsewhere in any one garden would not be a very light task. In another respect the Bury Hill collection differs materially from those which usually come under notice in visiting great gardens in which conifers have been largely planted. Taking full advantage of the natural features of the ground the trees were so arranged that now they have attained their full development they present much the appearance of a natural woodland, or of a portion of one of the slopes of the smaller mountains in California or some other part of the world on which several species are growing in association.

To make this point more clear it is necessary to state here that the pleasure-grounds extend over a large area of the southern side of the hill, at the foot of which the mansion stands, and that to the south of this there are great breadths of lawn with specimen trees of various kinds and beds and borders for hardy and other plants. There are specimen conifers on the lawn, but the trees forming the collection

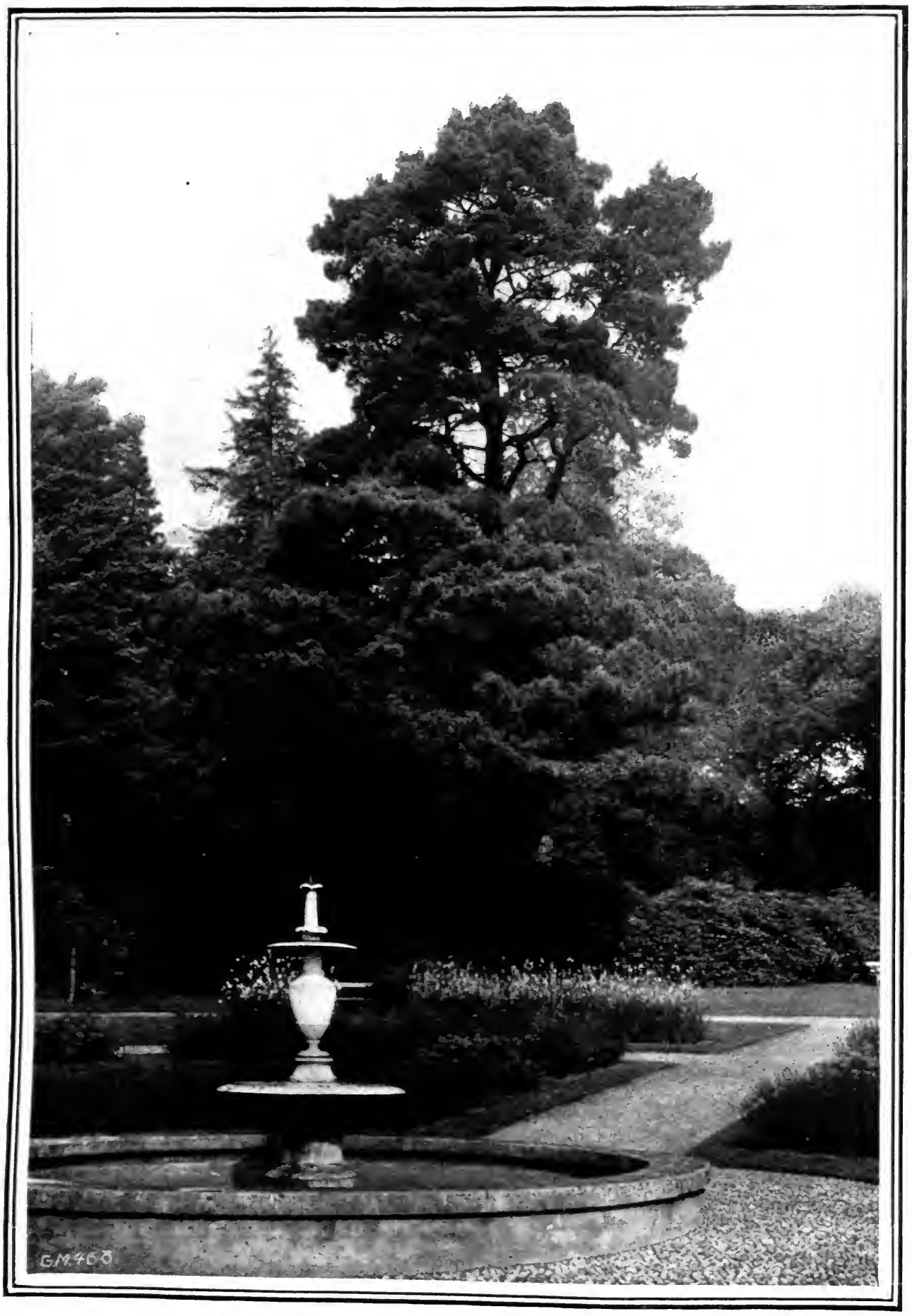


PINUS TUBERCULATA AT BURY HILL.

are mostly growing on the slopes and ridge of the hill, and form a magnificent background to the mansion, which is of grey stone. Since the conifers were given their present position rhododendrons have been freely planted among them, and these now form a remarkably fine undergrowth, and while their rich green leafage is always restful to the eye, they constitute a distinct and immensely attractive feature in their season of flowering. Originally Himalayan species, choice hybrids, and varieties of ponticum were planted, but within recent years Mr. Barclay has had much replanting done for the purpose of giving more space for the development of the choicer kinds, and Mr. Graysmark, the able gardener, would appear to have been remarkably successful in carrying out his employer's wishes. The ponticums have been greatly reduced, with the result that not only is the general effect much improved, but the dimensions which the finer kinds have attained can be readily seen. Of Rhododendron arboreum and its varieties and other Himalayan kinds, there are many specimens of large size, and annually they bloom with great freedom. Growing in the more open spaces are big breadths of daffodils bearing myriads of their golden flowers, and adding appreciably to the pleasure of a leisurely walk among the trees.

The pines are the most strongly represented in the collection, and one of the finest of all the specimens is that of the handsome Monteroy Pine (Pinus insignis), which is growing on the north-eastern margin of the flower garden, and is herewith illustrated. It will be readily seen that a specimen which, as in this instance, has attained its full development under favourable conditions, is remarkably handsome, the effect produced being greatly enhanced by the rich green colouring of the leaves. The tree is 99ft. high, and has a girth of 15ft. at 5ft. from the base of the trunk. Of a widely different character to the foregoing is the fine specimen of P. tuberculata that is growing within a few

paces of the observatory that occupies a prominent position on the ridge. This species is remarkable more for its interest than its beauty, and was introduced by Hartweg in 1847 when engaged in North America as a collector for the Royal Horticultural Society. Dr. Sargent describes it in his "Silvia of North America" as "a tree usually about 20ft. high," in its native forests, and the few specimens in this country are of quite moderate dimensions. At Bury Hill the conditions appear to have been favourable to its development, for the



THE MONTEROY PINE (PINUS INSIGNIS)
In the gardens of Bury Hill, Dorking.

specimen, which divides at a few feet above the ground level, and has several leaders, has attained a height of 60ft. and a spread of 65ft. It has the distinctive characteristic of producing its cones on both the branches and trunk, many of them remaining on the tree twenty-five or more years, some becoming embedded in the bark. The leaves are light greyish-green, a colour that is not particularly attractive.

Remarkably handsome are the specimens of P. excelsa, which is a native of the Himalaya, and has a rather wide range. It is noble in aspect, free in growth, and succeeds in all parts of the United Kingdom. It is distinguished by the spread of its branches, and should therefore be allowed ample room. The trees at Bury Hill were planted in 1846, and all are in a high state of development, the largest having a height of 94ft. There is a good specimen of the comparatively rare P. Coulteri, which was discovered in 1832 on the Santa Lucia by Dr. Coulter, and seeds were subsequently collected by David Douglas, and sent to the Royal Horticultural Society. The tree has a height of 50ft., and a roundish head. If not one of the most ornamental pines, it is not without its attractions, and is well worthy of inclusion in a collection. The New Jersey, or American Scrub Pine (P. inops), is a tree of moderate growth, not specially attractive, but of interest, and in this country the height of fully-developed specimens range from 30ft. to 40ft. That at Bury Hill is 38ft. high.

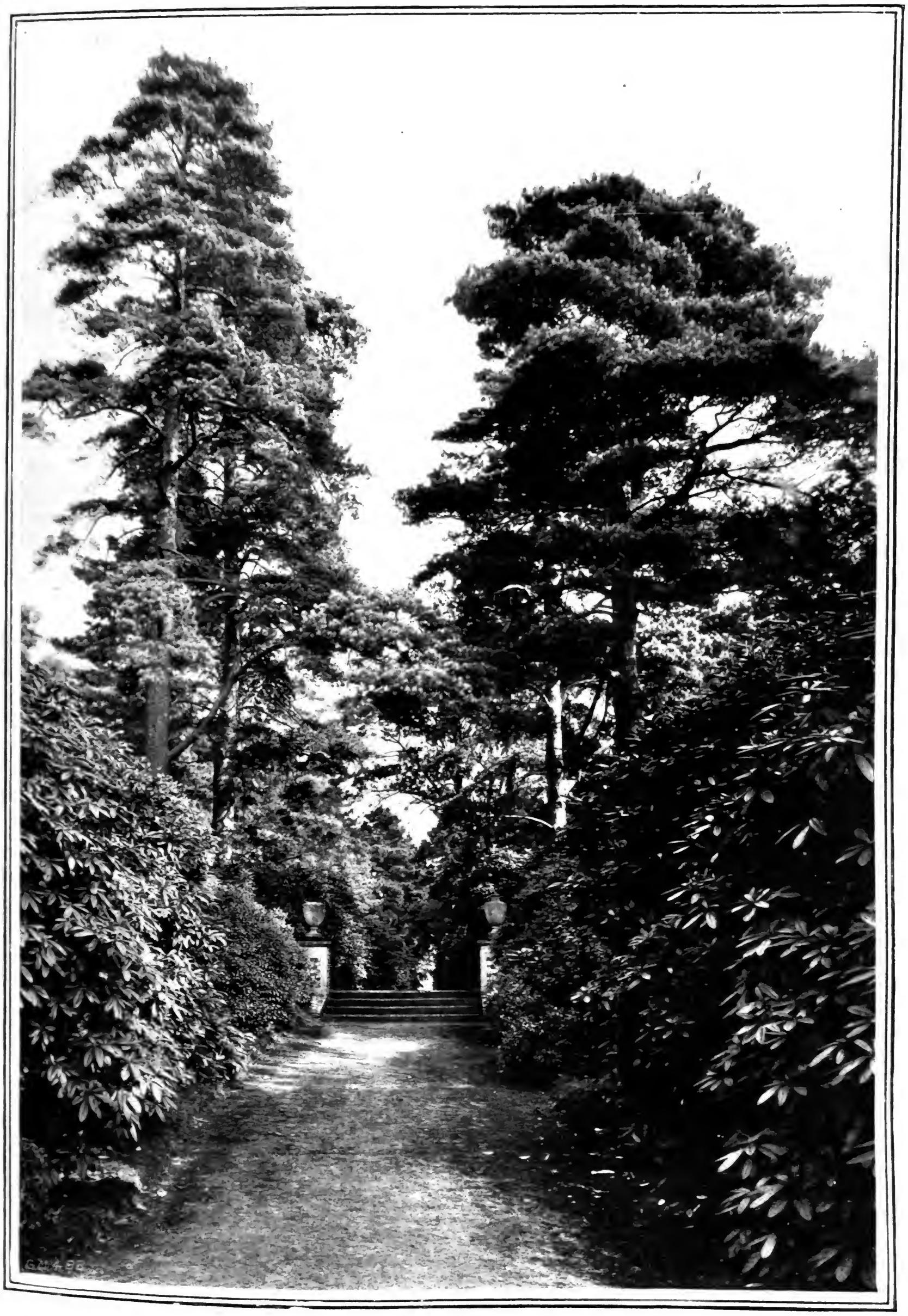
The handsome and tall-growing Sugar Pine (P. Lambertiana) is represented in the collection by a very fine specimen which was planted in 1845, and has now a height of 79ft. It has a columnar habit, a bright green colour, and is distinctly handsome, and bears large cones from which resin exudes somewhat freely. The attractions and interest of the collection is greatly enhanced by the splendidly developed specimens of the Corsican Pine (P. Laricio) and its varieties. Of the specific form the most noteworthy of the specimens is that planted in 1815 and now having a height of 105ft. P. Laricio calabrica is 90ft. high, and is splendidly furnished to a comparatively low level. Well known for its handsome appearance in a comparatively young state, the Corsican Pine becomes highly picturesque as it approaches full development, and standing singly or arranged in groups, old trees produce a fine effect in park scenery, as does the variety mentioned and some other of the forms. Other pines that combine a vigorous growth and strong constitution with a handsome appearance are the Weymouth Pine (P. Strobus) and the Scots Pine (P. sylvestric), of which there are numerous finely-developed specimens. The largest specimen of the Weymouth Pine has a height of 98ft., which is considerably above the average in this country, and among the trees of the Scots Pine, which were planted quite early in the nineteenth century, are some that have a height of 80ft. The picturesque appearance of venerable specimens is well shown in the illustration of the rhododendron walk, but there are a few trees growing lower down the slope that are rather larger.

One of the most noteworthy trees of the lesser-known conifers at Bury Hill is the distinct and handsome P. Montezumæ, a Mexican species discovered at the beginning of the last century, contiguous to the City of Mexico, by Humboldt and Bopland, and introduced to this country in 1839 by Hartweg. Plants were subsequently distributed by the Royal Horticultural Society, and it is probable that this specimen is one of these. The tree is 40ft. high, which is quite exceptional, for the species has some difficulty in contending with the adverse influences incidental to the British climate. The leaves are 9in. or so in length, and bluish-green, and in the young state the tree has a broad pyramidal outline.

Of the Cluster Pine (P. Pinaster) and the Stone Pine (P. Pinea), there are several specimens, and the tallest of the trees of the first-named has a height of 84ft., while the largest of the latter is 80ft. high. The variety of P. Pinaster known as Hamiltoni is represented by a handsome tree of large growth, which was planted in 1846, and is 80ft. high. This form differs from the type in having broader and shorter leaves. The Stone Pine is remarkable for its large round head and deeply furrowed bark, and, as evidenced by the Bury Hill specimen, is one of the most picturesque of the conifers when it has attained a large size. Another pine of noble proportions that is finely represented in the collection is P. ponderosa, of which there is a specimen growing in the heavy soil near the lake. This has a height of 91ft., and occupying an open position, the trunk is well furnished with branches throughout the greater part of its length.

Turning to the choice firs, it is found that the most noteworthy of the specimens of the bold and handsome Douglas's Fir (Abies Douglasi) are the two growing in association with the large example of Cedrus Deodara on the margin of the flower garden not far distant from the specimen of Pinus insignis herewith illustrated. These have a wide spread of branches, and the tallest of the two has a height of

21ft. and a girth of 14ft., 5ft. from the ground. These were planted in 1832, and the growth has therefore been at the rate of nearly 17in. annually. On the ridge some distance from these specimens is the fine specimen of the Weeping Douglas Fir (A. Douglasi pendula) that was illustrated in the GARDENERS' MAGAZINE of January 11, 1913. This latter was planted in 1849, has a height of 70ft., and is one of the most graceful of coniferous trees. A. grandis and A. magnifica, two of the most beautiful of the large-growing kinds are splendidly represented, the finest of the specimens of the former being 96ft. high, and that of the latter 64ft. Of great beauty also is A. bracteata, which possesses much interest for the distinct form of its cones, and the sparing manner in which they are produced. The specimen is 56ft. in height and is perfect in development, the spread of the lower branches being 36ft., and it produced cones for the first time last year, a fact to which reference was made in these pages in the issue of February 22. Noteworthy also is the specimen of the variety of A. concolor known as Lowianum, which has a height of 72ft., and is remarkable for its elegant outline. The chief points of difference between this variety and the specific form are the greater length of the leaves and their darker shade of green.



A BEAUTIFUL WALK IN THE BURY HILL GARDENS.

With noble specimens of the Scots Pine (Pinus sylvestris) and Rhododendrons.

The Common Silver Fir (A. pectinata), which has much value for park planting is evidently at home in these beautiful gardens, for the largest specimen has a height of 123ft., and is in all other respects well developed. Of the handsome Greek Fir (Abies cephalonica) there are three fine specimens, the largest having a height of 91ft., and a girth of 7wt. 6in. at 5ft. from the base.

As so well-known the species of Picea comprise some of the most beautiful of the firs that have not found a place in British gardens, and the majority of the finer kinds that have been long in cultivation are admirably represented. The specimens of the free growing and elegant White Spruce (Picea alba) include one with a height of 109ft., and of the noble Sitka Spruce (P. sitchensis, syn. P. Menziesi) there is a specimen of special interest. The tree has attained a height of 113ft., and was removed from another part of the grounds to its present position in 1856, when it was 40ft. high. The Indian spruce (P. Morinda), which has a wide range in the Himalaya, and was introduced to this country in 1818, is one of the most elegant of the firs, and the finely developed specimen at Bury Hill shows how charming is the effect it is capable of producing in the pleasure grounds. The specimen is 76ft. high and well-furnished with growth to within a short distance of the ground.

Among other trees that must have a brief reference made to them are the three specimens of the Deodar (Cedrus Deodara) which formed part of the first six trees that were introduced to this country. Four of the six were planted at Bury Hill in 1832, and one of these was blown down a few years since. Of the three that remain one has a height of 102ft., and another of 98ft. Cupressus Lawsonianum is found rising to a height of 65ft., C. pisifera squarrosa to 38ft., Thuja gigantea to 86ft., Taxodium sempervirens to 98ft., and Wellingtonia gigantea to 89ft., and all well-proportioned, the last-named being especially so. Very fine also is the handsome Moreton Bay Pine (Araucaria Cunninghami), which flourishes in the Bury Hill gardens, as does the well-known A. imbricata, of which there are several exceptionally fine specimens.

Many more interesting trees might with advantage have been mentioned, and the reference to a considerable number of those included in these notes been considerably amplified, but the limitation of space has rendered this impracticable.

George Gordon.

THE DEODAR (CEDRUS DEODARA) AND DOUGLAS FIR (ABIES DOUGLASI) AT BURY HILL.

NOTES FROM KEW.

Erlangea tomentosa.

As befits a plant that made its first public appearance in this country at Kew, Erlangea tomentosa plays a conspicuous part in the embellishment of the greenhouse there. Not only is it now flowering with great freedom, but for some months it has contributed to the floral display. Apart from the fact that its flowering season extends over six months or so of the dullest period of the year, this Erlangea possesses the merit of being of very easy propagation and culture. It is now too well known to need any detailed description; therefore it will suffice to say that it forms a freely-branched plant of a partially woody nature, and bears a considerable resemblance both in growth and flower to some of the eupatoriums. In the erlangea, however, the flowers are of a kind of lavender tint.

Eupatorium trapezoideum.

Where a large, bold-growing species of eupatorium is desired for a good-sized structure, this species, of which there is a group in the greenhouse, can be well recommended for the purpose. It forms quite a bold, freely-branched plant 4ft. to 5ft. in height, the clusters of white flowers being borne in great profusion.

Oxalis floribunda.

This oxalis forms a very pleasing basket plant in the greenhouse, possessing, as it does, the merit of distinctness from the subjects commonly employed for the purpose. When suspended, the rich green trifoliate leaves, supported by long pedicils, form a very pleasing feature; and, in addition to this, the bright rose-coloured blossoms are freely borne. There is a white-flowered variety (alba), but it is scarcer than the type. A native of Chili, Oxalis floribunda has been known in this country for nearly a century.

Richardia Rehmanni.

When first introduced, about twenty years ago, great interest was centred in this richardia—firstly, on account of the shape of its lanceolate leaves; and, secondly, with regard to the colour of the flowers, which was described as pink. Those first introduced, however, showed but little colour, and that more of a muddy hue than pink. In the T-range there is now flowering the richest-coloured form that I have seen, the spathe being of a deep purplish-rose, with a blotch of purple-crimson at the base. In this form it is certainly a very distinct and fairly ornamental species. K.

Rhododendron Edgeworthi.

The blossoms of this Himalayan species are large and pure white, except for a blotch of yellow in the upper part of the interior of the flower. A notable feature of R. Edgeworthi is the delicious fragrance of the flowers, a feature which is transmitted in a greater or lesser extent to all its progeny, for it has been largely employed for hybridising.—W.

ORNAMENTAL GRASSES.

There are many positions in a garden where ornamental grasses may be used with telling effect, but nowhere do they yield more charming harmonies or greater contrasts than when grouped close to water. Plants that make no claim to attract attention by conspicuous beauty must of necessity call for different treatment than if the effect desired was a floral one, and the commonest error that planters of ornamental grasses fall into is vain repetition, which not only weakens a composition, but produces a sense of irritation.

A typical instance of the misuse of grasses in garden ornamentation is found in the case of the pampas grass. This is one of the few grasses in which the inflorescence attains to conspicuous beauty, and is strong enough in this respect to immediately arrest the eye; consequently, when it appears at frequent intervals it causes distraction, and instead of giving emphasis to the garden scheme, its oft repeated presence becomes a source of weakness, from which the whole scheme suffers. Another grass that frequently suffers in a similar way is Arundo donax, the great reed of the Mediterranean regions. The form known as A. d. macrophylla glauca is a handsome object in any water-garden scene, where it introduces a unique effect. The topmost, undeveloped leaf is erect, like a lance-point, while the fully-expanded leaves suggest pennons, and the softest breeze is able to set all in motion. The glaucous blue-grey colour of the leaves is an outstanding feature of this fine plant. Arundo conspicua is quite distinct from the last named, being more in the way of a small pampas grass, but it flowers in July, whereas the true pampas does not flower until the end of September.

Miscanthus (Eulalias) are useful grasses, frequently used among herbaceous perennials in borders, where they are quite appropriate in large gardens, but lack sufficient merit where the area treated is small. I have used them as a foil to Lilium croceum and varieties of L. umbellatum, the miscanthus widely planted, with liliums between them, and if top-dressed with rich manure each season, the lilies do not suffer from the greedy roots of their companions.

It is this aspect that should have the greatest attention directed to it when introducing grasses, for we are falling into the tendency of regarding and even model. ing our flower borders on the principle of the exhibition table, producing huge banks of colour, that approximate to, if they do not actually reproduce, the gaudiness of an Oriental scheme. This principle, while good in its own place, is quite foreign to the water garden, which depends on more subtle influences for its charm, where light and shade, and the form of leaf contrasts directly with that of the flower, and where every bay and promontory should present a different aspect, inviting comment and sustaining interest from start to finish. Viewed in this manner, grasses occur as foils or monotones that indirectly give emphasis to the higher colours, while in themselves they impart grace and lightness to the scene.

Some grasses, like Carex pendula, C. riparia, and C. japonica; Scirpus zebrinus, Glyceria spectabilis variegata, Juncus effusus striata aurea, J. lacustris, and J. spiralis, Typha angustifolia, and T. minima, will grow either submerged in shallow water or in ground kept continually moist. Arundo donax and its varieties are partial to much moisture in the growing season, but enjoy drier conditions in winter. This applies also to the varieties of miscanthus, and Phalaris elegantissima, and all the bamboos. Planted in ordinary garden soil, in a sunny aspect, Elymus glauca is a singularly beautiful grass; its foliage is intensely blue-grey, while it fills up quickly, and soon forms a thicket some 18 to 24 inches high. Stipa pinnata is also a pretty grass for similar positions.

The silver and golden forms of Dactylis glomerata, and Festuca glauca with its blue-green, thread-like foliage, are three of the dwarfest grasses, frequently employed in bedding arrangements, and valuable at all times for edging or to form a carpet for taller subjects. THOMAS SMITH.

Coombe Court Gardens.

STRAWBERRIES.

The fruiting season of any crop, the harvest of our labours, should be the most enjoyable time in its cultivation. No matter, however, what has been accomplished to advance the crop at any other period in the year, all will be largely wasted if there is neglect during the time the crop is reaching maturity; therefore no details should be neglected.

Of all fruit crops there is, perhaps, no other that suffers so readily if neglected during its fruiting season as does the strawberry. The lack of needful nourishment, either in the form of proper fertilisers, or moisture, quickly has a serious detrimental effect upon it, and, moreover, it is so liable, especially when matured, to be destroyed by birds, mice, slugs, and insect pests, and so easily damaged by wet weather, that usually it is by no means an easy matter to secure a good crop.

With reference to feeding I have found farmyard liquid manure a most valuable fertiliser. There is, however, some difficulty experienced in making use of this owing to the uncertainty of its strength. We once made a mistake in this way when using drainage from stables, which resulted in our main crop being injured. Of this liquid there may be given during the season three thorough applications, viz., one when the plants commence to grow, a second when they commence to blossom, and a third soon after the fruit has set. Soot is another valuable manure for applying at this season of the year, and apart from its manurial properties, it acts as a deterrent to slugs. Nitrate of soda is also invaluable as a manure which can be most conveniently and effectively made use of after being finely crushed. Because of its moisture-retaining properties, this is especially beneficial when used upon light soils, and particularly so in dry seasons. It must be kept from the centre of the plants and the young leaves, otherwise it may cause injury.

Strawberries at no time must be allowed to suffer from want of moisture at their roots, and where necessary efficient supplies of water must be given.

Mulching is another necessary proceeding that renders at least two very useful services: that of keeping the fruit clean and preventing rapid evaporation. Clean straw is the best material to use, although in cases where the fruit is staked, and kept from coming into contact with it, carefully-prepared stable litter will answer. In arranging any kind of mulching material, it should be made level over the whole of the soil surface, and carefully placed under the leaves and close up to the base of the plant. A suitable time to attend to this detail is immediately before the blossoms open.

Fruit grown for dessert or for exhibition should be both thinned and staked, and these operations should be done as soon as sufficient fruit has commenced to swell to furnish the crop required. As a rule, the earliest blossoms to unfold (crown blossoms) produce the finest fruits, and when strawberries are required for exhibition all others should be removed at the time of thinning. It greatly depends upon situation, if it is, or is not, essential to protect the blossoms from frost; in all low-lying places, at any rate, it is advisable to take this precaution. Here it is absolutely necessary to do so, for if it was disregarded the earliest blossoms, and therefore the best of the fruit, would invariably be sacrificed. Strips of tiffany answer well as protectors, and they can be readily placed over, or removed from the rows of plants, while if they are taken care of, they last for many years in good condition.

Repaired herring or pilchard netting gives satisfactory protection from birds, and a good way of making use of the nets, once the fruit commences to colour, is to secure them to a framework formed of stakes having about three feet of their length out of the ground, and placed in rows over the plantations, with lines of galvanised wire secured across their tops, the margin of the netting being pegged to the ground. In connection with this we have for exhibition purposes prolonged the keeping powers of the fruit by placing tiffany, as soon as the fruit has finished colouring, over enclosures of this kind, the sides of the enclosures being left uncovered to allow a current of air to freely circulate. By this means, the fruit is protected from powerful sunshine and heavy rain, and thus kept for a lengthened time perfect in appearance, though the best flavour is not preserved to the same degree. On one occasion, when we exhibited a collection of strawberries at Holland Park, during an unusually wet season, one of my gardening friends asked if our fruit had been grown under glass, and, upon being informed that it was gathered from outdoor plants, replied: "Well, then, you must have been favoured with much better weather than the rest of us have been," but this, nevertheless, was not the case, but the fruit had been efficiently protected in the manner described.

Of depredators other than birds, mice are perhaps the most destructive, but by perseverance with figure four or other traps, baited with cheese, they may be soon got rid of, and the better way of doing this is to clear the quarters before the fruit becomes tempting.

Slugs, as has been intimated, may be checked by dressings of soot or nitrate of of soda, though where the fruit is staked—a profitable practice to adopt in the case of choice dessert crops—they do but comparatively little damage. Millepedes are harmless to staked fruits, and in other cases they may be trapped by pieces of beetroot, or mangel, placed beneath the leaves. Ants are best dealt with by finding and destroying the colony. T. COOMBER.

Hendre Gardens.

LARGE ANNUAL ASTERS.

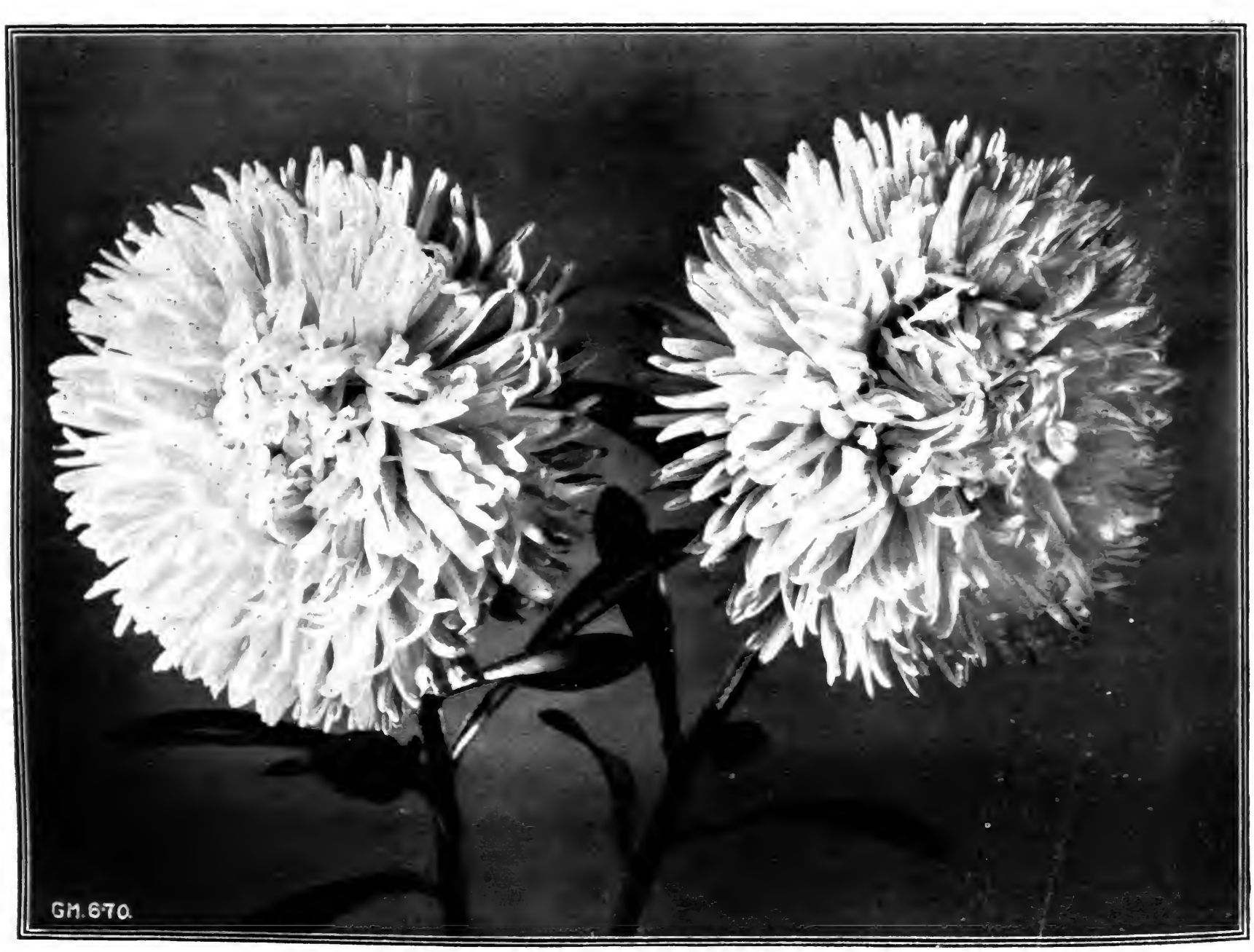
It may appear strange to admit it, but the fact remains that in these times I sow no annual flower seeds beyond sweet peas and asters. A garden of annuals is a delight, but those who, like myself, want to make gardening easy, shirk the trouble, be it ever so little, that many annuals incur. By growing bulbs, herbaceous plants, and roses, I obtain practically all the flowers I desire, and so I worry not about seeds other than those named.

The aster gives the maximum of pleasure with no great amount of trouble, and the flowers are very much below the stocks produced in the United States, where climatic conditions are much more favourable to the highest development of this flower.

It may surprise some to learn that certain American varieties of asters reach nearly four feet in height, and the special market blooms have stems up to three feet in length, while prices as high as four shillings per dozen have been made. This is a very different return from what is usually secured here, where rates rarely exceed six shillings per dozen bunches, or about one gross of blooms. Although I have never been able to equal the American sizes, I have often cut flowers five to six and a-half inches across on stems twenty to twenty-four inches long, and the object I have always in mind when growing flowers is their value for cutting. So far as asters are concerned it is quite a simple matter to get big blooms and long stems if one handles the right types. Moreover, one needs no greenhouse; not even a frame.

I raise my asters, as do most of the Americans, by sowing in the open ground about the first of May. Drills half an inch deep are made between the sweet pea rows, and newspaper is laid over the rows until the seedlings are through. If at all crowded, some of them are pulled out, and later, when carrying a few leaves, and about one and a-half inches tall, they are transplanted to where they are to flower. I always grow one row of asters between each row of sweet peas; the rest of the plants are put where there is room. If there is a spot in the kitchen garden available asters are planted, and these come in useful for lifting when in flower.

Sowing in heat and pricking out is waste of time, and, as often as not, it means drawn, weakly plants, which receive a check when planted out. Asters, if once checked, never make good plants, and by transplanting straight from the seed bed one avoids the second shift. Further, open ground sowing means no trouble from "damping off." When planting out, never set deeply, and remove any foliage that touches the soil. Deep planting, and allowing foliage to decay, invariably results in wholesale dying off, often just when the plants are running to bud.



ASTER PEERLESS PINK.

Flowers blush pink, and when well grown about 5in. in diameter.

by cultivating the giant, mid-season, and late types, one can almost dispense with the early chrysanthemums. Early asters do not appeal to me, neither do the dwarf types. These I quietly ignore, as they are only suitable for edges or bedding, and my garden prohibits their use. Ultra early forms are scarcely required when so many other flowers are available, and so I survey the efforts of those who aim to get asters in June without the least enthusiasm.

The asters I have favoured for some years past are the American forms. Experience has proved that there are no finer seeds than American-grown, and, taken collectively, the American asters are superior to the average European, particularly if one can secure the specially selected stocks such as are grown by the American market men. Asters are very largely grown in this country for the markets, but the quantity and quality of

The best soil for asters is a heavy loam, and plenty of rotten manure should be used, but on no account use fresh manure in the spring. Failing the right sort of manure, use dried blood, or fish manure, with a fair addition of superphosphate. Potash is most essential, and the sulphate form is perhaps the best; use no nitrates whatever, or the plants will run to leaf, and easily become a prey to disease. Lime liberally before planting, and dust lime between the plants several times during the season. Keep the hoe everlastingly on the move, and give plenty of water in dry weather.

Mulching is useful, but I never mulch. Some of the big American growers water their fields by the Skinner overhead system, and along the Pacific Coast water is essential, for there is little or no rain throughout the summer.

The tall varieties of asters require

staking, as the heavy flowers are apt to be damaged or torn about by wind and rain in the autumn.

The following varieties are my favourites, but there are several newer American types I have not yet tried, including the Upright Branching, which are erect in growth, instead of spreading, as are the average branching types. Peerless Pink, a fine giant blush-pink, averages thirty inches tall with blooms five inches across and quite two and a-half inches deep. Marvel Late Branching can be had in azure blue, white, purple, and rose-pink. These are September-October flowering, all very large, and in form similar to Vick's Branching. Another Branching, i.e., Crimson King, Shell Pink, and Deep Rose, form a very fine strain of late bloomers, but there are several other colours. The Giant White and Giant Pink are magnificent forms of the Comet type, and easily lead this section, with the exception of the German Hohenzollern, which is not to be surpassed by any other white Comet variety, but American-grown seed is better than European; at least, that is my experience.

Electric, another German variety, might be called a quilled Comet; the petals are narrow, and very stiff. It is pure white, and comes six inches across, but is rather flat. Mikado Pink, or Rochester, is a gem, with delicate lavender-pink flowers. It is one of the finest asters of the Comet type ever raised, and a great favourite in America. It was raised by Vick, and it is the official flower of the city of Rochester, New York. Violet King, a deep purple of the branching type, has rather narrow petals, but is a very full flower; a real masterpiece, and a great rival of the chrysanthemum, which shows nothing in this colour.

Anyone growing such asters as these can reckon on flowers from four to seven inches across, without the removal of flower buds other than those that may appear on the individual flower stems. The branching types average eight to twelve flowers each. No pinching is necessary with these asters, and, so far as my experience goes, the flowers do not gain much in size if the plants are kept to three or four stems.

T. A. Weston.

DIMORPHOTHECA AURANTIACA.

This is one of the most showy of annuals, and useful both for conservatory decoration and for planting out in the flower borders. The colour of the flowers are a rich orange, with a black blotch at the base of each petal. It requires a position fully exposed to the sun, for if planted in the shade the flowers will only partly open, and the beauty of the plant is not then seen to advantage. From one to two dozen plants should be grown in a group, and then a most brilliant effect is produced; in fact, the colour is quite dazzling. The seeds should be sown in pans, filled with light, sandy soil, and placed in a warm house to germinate. In March or April, when the seedlings are large enough to handle, they should be transplanted into boxes, and allowed to remain in the house until they recover from the disturbance. After becoming fairly established, cold frame treatment is most suitable. The plants may be potted when necessary, grown close for a time, and gradually hardened off.

E. C. P.

ASTER ELECTRIC.
Flowers pure white and about 6in. in diameter.

AMONG THE ALPINE FLOWERS.

". . . Mezereon, too,
Though leafless, well-attir'd, and thick beset
With blushing wreaths, investing every spray." —*Cowper.*

Though the Mezereon has been long in bloom, yet we find it a good companion to the lowlier flowers of the rock garden. If kept well pruned, it associates well with the alpine flowers of the late March and early April time, and we welcome the continuance of its blossoms on their wreathed branches. In various shades of purple or white it is very attractive, and is one of the old-fashioned shrubs we cannot dispense with even at the present day. It has rivals among its kindred, but we cannot safely banish it without losing some of the charm of the garden in spring.

European Dog's-tooth Violets.

So, also, may one say of the old-fashioned dog's-tooth violets, varieties of Erythronium dens-canis, which are in full bloom as this is written. We feel that they are less graceful, and that they have less subtle beauty than their American kinsfolk; but they come earlier, and give us great pleasure by their shapely, reflexed beauty, and their beautifully spotted or marbled leaves. They are so beautiful, with their flowers of crimson, purple, pink, or white, that in the rock garden they cannot fail to please us. They are so cheap, too, these European dog's-tooth violets, even in the case of such named varieties as Humboldt, Franz Hals, Rouge Trappense, and all the varieties of E. dens-canis major, that we can afford to plant them in groups instead of in ones or twos. It seems almost absurd to suggest their inclusion now in face of the exquisite American species, but it is folly to refuse to avail ourselves of good things, even if they are comparatively common and inexpensive. Let the varieties be of the best; give them a fairly good soil on a level part of the rockery, and they will assuredly give a "reaping time of joy."

Saxifraga Burseriana Gloria.

This is, at present, the best procurable form of the charming Burser's saxifrage, and a very beautiful thing it is with its spiny foliage, a picture in itself to the student of leaf-beauty, and its lovely snow-white flowers on wonderfully tall stems for a Burseriana saxifrage. It, like its sister flowers, appears to do best in a moraine or semi-moraine bed, and the writer knows of a very fine plant, which is a joy with its exquisite flowers in a small corner, where it luxuriates with some of its allies in a mixture of loam, sand, lime rubbish broken very small, and sand. For its greater comfort and that of its cousins a sash is placed over the bed in winter to preserve it from the wet of the district. Here it is a dream of loveliness. In this compost, with some fresh soil of the same kind mixed among its rosettes after the flowering is over, and well worked in, it flourishes rarely and well. I believe that it has a rival, but that rival has not yet made its appearance in the market. When "magna" comes forward, it may be that we shall look upon Gloria with compassion as the monarch dethroned: but meantime we do full homage to the beauty of this queen of the Burserianas.

Potentilla Valderia.

Long years ago—among my first Alpine purchases, indeed—I secured a little white-flowered carpeting potentilla with silvery leaves. I can recollect its arrival as one of the "gratis" plants we sometimes see enclosed in a fair order for Alpine flowers; but, to one's discomfiture, it came without a name, and simply under the vague title of "Potentilla sp.," rather an unsatisfactory designation for anyone. Not in the first ranks of Alpines, this small cinquefoil has remained with me for many long years, and is still one of the plants which I should not care to be without. It was some years before I could learn its name, but it is more appreciated now, when we know it by its true title, and not by that elusive and tantalising one of "Potentilla sp.," the resort of the unknowing, and one which is most annoying to the keen alpinist. It is pleasant to notice that it is now appreciated in high quarters, and to observe it more frequently in gardens than before. It comes very early—March had not begun when its first white flowers opened on the silvery carpet this season. It is very hardy; it appears absolutely indifferent to sun or shade; stands drought well, though happier with plenty of moisture at the roots; and is, therefore, a plant for the many. Let me emphasise, however, that it is not a potentilla which we would include among the six choicest of its race. Yet it is one of the earliest, one of the most reliable, and, with its silvery look and its white flowers, is not to be looked upon with disrespect.

Mazus pumilio.

Many of us will follow with special interest the record of the behaviour of the lovely Mazus rugosus, so well described and illustrated in the Gardeners' Magazine the other day, and its beauty will tempt many of us to embark upon its cultivation. It appears a fitting time to recall the notice of the alpinist to its more familiar ally, Mazus pumilio, a plant which has been for a good many years in cultivation, but which is not too frequently met with now. It is, indeed, less plentiful than it was when I first obtained it, some thirty years ago, fired by the drawing in "Wooster's Alpine Plants" to own this lovely little flower. It was impossible for a lover of Alpines to see the coloured plate without seeking to make the real plant his very own. So it was bought and grown, only to find, however, that, like most other flowers of its class, it has a way of its own, and that it is a little difficult to keep in a wet winter. It is a dainty creeping plant, with small wrinkled leaves and very beautiful flowers of purple and white, on short stems. For a sheltered nook in sandy soil, Mazus pumilio is a little beauty, loving, however, the protection of a glass in wet winters, and then giving its lovely little flowers happily in June and July.

Other Flowers.

Of many other flowers one would fain speak, were it not for the rigid limitations of space. Aubrietias, now begun to bloom, give bright colouring: arabis is in sheets of snowy-white; primulas easy, and primulas choice and difficult; saxifrages in many forms; old-fashioned lungworts; dainty rock tulips; bulbs of other kinds not a few, with a galaxy of lesser beauties, adorn the garden. Over all there is yet the golden and silvern glory of the narcissus in its many forms. Charming in the grass, the smaller narcissi are no less lovely in the rock garden. S. Arnott.

GARDEN DAHLIAS.

April is possibly the most important month in connection with the preparation of dahlia plants intended to give a display of bloom during the summer and autumn. If the best results are to be obtained the plants must now receive the most assiduous attention, but with work pressing on all sides this is sometimes a difficult matter, and yet it must be remembered that a check in any form may have serious consequences, and few subjects resent neglect more than dahlias. Take care that the plants do not suffer from want of water, and potting must be attended to before there is any danger of the plants becoming rootbound, but, undoubtedly, what will cause the most serious check of all, if it makes it appearance, is red spider, and once the plants are badly attacked they rarely do much good after.

Proper attention at all times, in the way of watering, potting, spraying, and ventilation, is undoubtedly the best preventive. Greenfly, which sometimes appears on the young growths, may easily be kept at bay by fumigation, or dusting with tobacco powder.

All plants, whether grown from cuttings, pot roots, or old tubers, should now be growing well, and ready for their final potting about the third week in April. This allows a month to five weeks before the transfer to flowering quarters, and in this time they will make fine plants, all well rooted. The size of the pot, of course, entirely depends on the requirements of the plant, and varieties vary in habit and vigour. The earliest rooted cuttings, which should have received several pottings, will take eight-inch pots. Pot roots should have at least seven-inch pots, and old tubers generally require pots seven inches and upwards in diameter.

It must not be thought, however, that good plants are impossible in pots of lesser size. Thousands of plants will be sent out this month, and early in May, in small pots, by dahlia specialists, and these, if well rooted, as they probably will be, should be immediately transferred to larger pots. The mistake is often made of keeping them in the small pots as received until planting time, and a check is the result, from which they are slow to recover, and their period of blooming is considerably shortened. The great value of fine, well-rooted plants is that they are so much better prepared to face the possibility of warm weather in June, and grow right away, whereas it is a great strain on small plants, and the season is advanced before they commence to grow freely.

A good compost for final potting consists of three parts fibrous loam, one of flaky leaf-soil, and one of old mortar and brick rubble, the latter passed through a quarter-inch mesh sieve. After potting the plants should be kept close, slightly shaded from strong sun, and occasionally sprayed. A house with slight heat is preferable, but a cold frame, with every advantage taken to conserve sun heat, and well covered at night with mats, will answer very well.

After a week or ten days commence to gradually harden the plants, eventually exposing them fully. All plants should be in cold frames by the first week in May.

Duffryn Gardens. A. J. Cobb.

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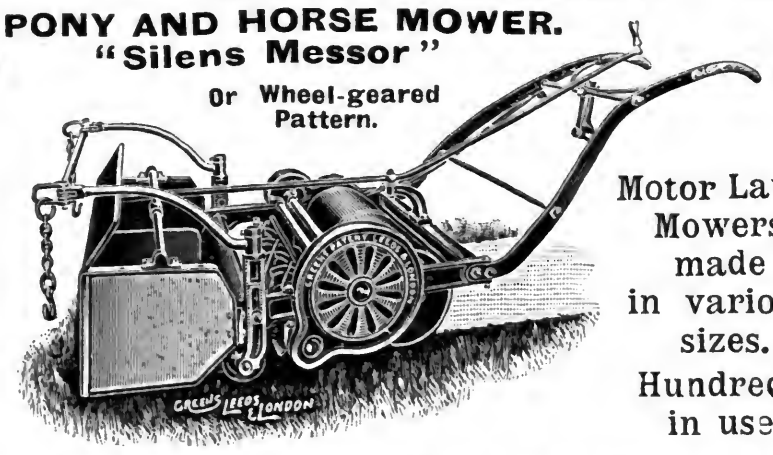

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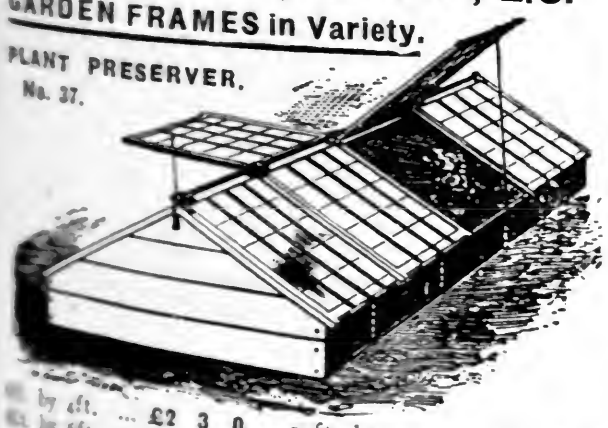

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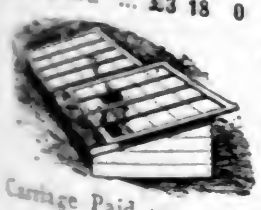

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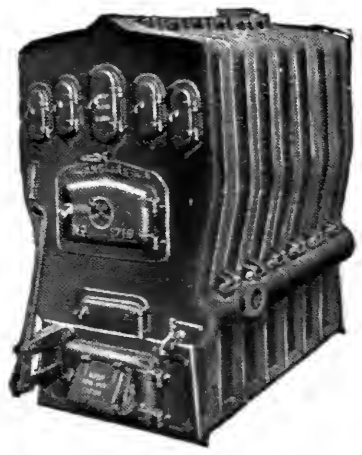

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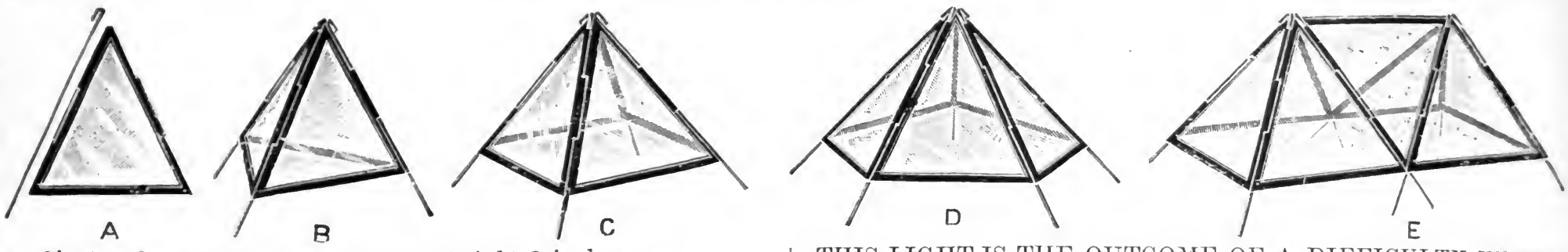

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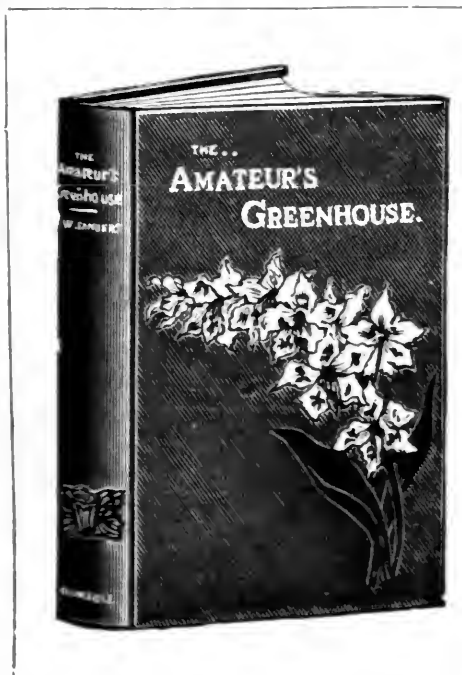

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GARDEN GLADIOLI.

Lovers of the gladiolus have been provided with a new interest now that seed is offered that will give plants to blossom in five to six months' time. This strain, too, gives large blooming spikes of innumerable colours. All that is necessary is to sow in glass-covered pans, or singly in small pots, of very sandy compost, keeping these in a cold frame or cool greenhouse, or even in a sunny room window, in March; no bottom heat or forcing on must be attempted as this invariably defeats its object, if not resulting in absolute failure. Some gardeners may prefer to sow out of doors in April, where plants are wanted, as the undisturbed seedlings will bloom well within the five months. The best method of all is to sow in drills along a border, very sparingly, having first introduced a compost of fresh turfy loam, with a sixth part of coarse sand, and a seventh part of hop manure. The last especially suits the constitution of the gladiolus.

Seedlings raised singly in pots, then shifted on, as they require, until they can be turned into the beds or borders in May being more guarded from root disturbance than seedlings raised in pans, will blossom sooner.

Gladioli corms can be planted throughout March, April, and May.

It is not generally recognised that the corms of Gladiolus Lemoinei can safely be left in the ground all winter. These should therefore be employed in lavish quantity for the decoration of shrubbery glades and bank sides and summits, where constant lifting and replanting is not desirable. The colours of the hybrids include numerous shades of yellow, rosy-crimson, mauve, and cream, all blotched effectively on the lower petals. Probably the finest type is Gladiolus Childsi, for the spikes are extraordinarily long, and the blooms of great size, in keeping with the vigorous habit of growth.

The vermilion of Gladiolus Brenchleyensis is well adapted for making a gorgeous note in a landscape, one of the loveliest of Gloucestershire gardens being famous for the great displays of it in borders adjoining a pergola clothed only by cream, white, and yellow roses and mauve clematises. Massed in the borders of a house front, against a white or grey building, it is certain to create autumn splendour that will be welcomed by every passer by.

The early-flowering varieties are now numerous, for in addition to The Bride (white) and Rosy Gem, which used to be the sole representatives, we may plant the peculiarly brilliant Fire King, a combination of pinky-salmon, cerise, and deep scarlet; Prince Albert, a red with white flakes; and Insignis, a crimson marked with purple; while Blushing Bride, a white with carmine blotches, reminds the observer of the popular old-fashioned kind of primulia. This is also one of the very best for gathering, as it lasts even better than others, and all gladioli are long-lived in water.

The soil for gladioli can scarcely be too rich, but it must be deeply dug, and should be well hoed each month, as the growth of leaves and flower stems is infallibly checked if the earth is allowed to form a hard cake on the surface or become a sour mass around the plants. Before hop manure came to the fore many growers found that their gladioli did best in soil liberally mixed with cow manure and old cocoanut-fibre refuse, the latter serving to supply the fibrous dryness that prevented the former from being too damp and heavy. Stable manure suits gladioli well when suitably decayed, and used without straw, as this latter is apt to rot and spoil the corms. The practice of putting half a handful of coarse sharp sand beneath the corms at planting time is an excellent one.

In serried ranks, or ribbon lines, of different colours, the gladiolus gives a glorious show, especially on either side of a grass glade; if the borders and the grass walk are waved the display will, of course, be infinitely more pleasing, or waved lines of the flowers, in straight borders, can be recommended as sure to mitigate much of the undesirable formality.

A large bed of mixed gladioli on a lawn forms a beautiful feature, either with or without a sowing between all the bulbs of the larger Quaking Grass (Briza maxima) or the Mist Grass (Agrostis nebulosa). In a large stretch of open ground can be lavishly planted with the hardy herbaceous Gladiolus Lemoinei and gypsophilas of perennial nature, the appearance in summer and autumn will be of a magnificent floral field, and harvests of blossom will be yielded.

M. H.

NOVEL HERBACEOUS BORDERS.

The mixed herbaceous border is no longer in the fashion, and this not on account of the fickleness of public taste, but because its various demerits have presented themselves forcibly to the growing intelligence of gardeners, both professional and amateur. To arrange a border so that summer blossoms are bound to appear against the dying-down stems and foliage of spring bloomers, to place glorious autumn beauties, such as chrysanthemums, among the (by that season) overgrown clumps of summer-blossoming plants, is to give the kinds their worst chance of attaining perfection and being perfectly appreciated. The best modern method is probably the planting of separate and shorter borders with spring, summer, and autumn flowers, leaving a sufficiently wide belt in front to fill with some plant to give gay colour earlier or later than the others, preferably both, or at least to yield a pretty foliage display.

The summer flowers should be accompanied by crocuses and variegated arabis for a broad edging; for example, the autumn flowers may follow a fine show of pinks, or an invariably excellent scheme is to make the forefront of all the borders into pansy beds, including the bedding pansy, or tufted viola. In rich, well-hoed soil the pansy family will be in bloom from March to December, if given reasonable care; and the plants are easy to tend when massed thus beside gravel or grass walks. Liquid manure and soot water should be given, a mulch of old manure in March and another in August. Shoots must be reduced to prevent both over-flowering and overcrowding, and dead blossoms must not be allowed to form debilitating seed vessels. Under this careful culture the quality and quantity of the bloom harvest is certain to be consistently excellent; the paths will be popular walks during the months of the year solely for the sake of the pansy edgings. Herbaceous plants behind may either exhibit magnificent hues and general attractiveness, or be in the stages of foliage development, or of deterioration, but the garden will possess a fair feature in the same locality.

Another new idea is to keep the perennial varieties by themselves, only carpeting with a contrasting dwarf plant, instead of setting groups at intervals along the whole length. A six-foot space, for example, would be given up to phloxes, the ground around having been earlier a bed of different-coloured pinks; another space would be the home of delphiniums and double daisies, a third of chrysanthemums and dianthuses, a fourth of sunflowers and arabises, a fifth of Oriental poppies and Sedum spectabile, a sixth of hybrid pyrethrums and dwarf campanulas, and so on.

Some gardeners like better to pair the dwarf and the tall perennials so that they blossom together; this enables colour harmonies and contrasts to be arranged, and if the spaces are alternated so that spring is fair in one, summer beautifies the next, autumn is magnificently adorned in the third, and evergreen foliage subjects with such winter bloomers as hypaticas, crocuses, Christmas roses, yellow aconite, and snowdrops are clustered in the fourth, the border as a whole, is delightful to visit at all times. The short stretches that are unornamental are easily forgiven for the sake of the more numerous ones that are gay. For, though we may designate a delphinium a summer flower, a chrysanthemum an autumn one, these plants are but specimens of countless ones which, if generously managed, will blossom over a more prolonged season. Many chrysanthemums begin in July, many delphiniums, after being cut down and manured in June, are, as in this year, observable forming new blossom spikes in September.

The free use of flowering shrubs is now generally adopted in herbaceous borders of fine dimensions. The advantages are undoubted. Not only do many species carry evergreen foliage to set off a foreground of perennial flowers, but berries are produced that stud the branches as with jewels during the most colourless months of the year. Then the shelter thus obtained for low plants enables many delicate species to be cultivated where winds would otherwise wreak devastation, and in scorching sunshine, or spells of drought, the occasionally light shade from the shrub branches is of incalculable benefit.

Borders of separate colours commend themselves to many tastes. They are most suitable in fine pleasure-grounds where all planting of the "spotty" order is out of place. A mass of scarlet, royal blue, azure, yellow, orange, rose, white, cream, mauve, violet, lavender, salmon, maroon, or carmine will be visible right across a belt of parkland from the roadway, or from quite distant windows of the mansion, whereas a mixed herbaceous border will scarcely seem of any tint. Perhaps the better plan is to mingle two harmonious colours, or use cream or white with each gorgeous hue. Scarlet is never so brilliant as when snowy flowers are close by; blue never delights the eye as fully as when cream is its undergrowth or background. Sloping herbaceous borders, against walls, or fences cannot be too highly recommended. The flowers, rising in tiers, one above the other, can be viewed with a freedom never offered by level planting; the height introduces an aspect of majesty, and the blossom trusses of one altitude serviceably hide the bare stems or too prolific leafage of plants slightly taller.

E. G.

Richardia Little Gem. — This pretty little form of the old Richardia (or Calla) æthiopica was twenty years or so ago much sought after. Now, however, it does not seem to be so much thought of, perhaps owing to the fact that it often fails to flower freely. It seems to devote its energies to the production of offsets, and unless these are removed flowers will be but few. Single crowns in four-inch pots will flower well, and the plants are then very pretty.—T.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

MILTONIA VEXILLARIA, in its varied forms, and the different hybrids which have been added to the large-flowered section, are exceedingly useful subjects for decorative and exhibition purposes, and where suitable conditions are provided, there is little difficulty found in their cultivation. A cool intermediate house suits them, but many successful cultivators of M. vexillaria place their plants under the same treatment as the odontoglossums, soon after the plants pass out of flower. Cultivators differ as to their method of treatment. Some advocate repotting in the month of September, soon after the new growths make their appearance, while others prefer to repot early in spring, and in the neighbourhood of London and near other large towns with smoke and fog-laden atmosphere I certainly would advise spring potting. My reason for this is that, after autumn potting, the plants do not resist fogs and damp, dull weather during winter so well as when left without disturbance until the spring, and the plants do not commence rooting as a rule before that period at which the pseudo-bulb commences to form in the advancing growth, about the end of March.

SPRING POTTING. — An advantage obtained by potting in spring is that the new roots at once grow away into the new compost, and so the plants become well established by the time they produce their flowers. The pots used should be sufficiently large to give a reasonable shift, and be filled to two-thirds their depth with crocks or chopped bracken roots. The compost may consist of good fibrous peat, broken oak or beech leaves, and chopped sphagnum moss, in about equal portions, with sufficient sand and broken crocks added to render this porous. The compost should be pressed moderately firm, and a layer of living sphagnum should be spread over the surface. When watering soft water should always be used, for if hard water is applied it will soon destroy the moss, and decay thus set up quickly spreads to the remaining portions of the compost, and causes the whole to become unsuitable for the roots. Thrips are the most dreaded of all insects in the cultivation of miltonias, and regular fumigation, dipping, and spraying must be resorted to to keep these pests in check.

AFTER FLOWERING.—The most critical period in the cultivation of M. vexillaria is usually between the time plants pass out of flower and the production of new growth. At this period they need careful watching because they are liable, with the least excess of moisture, to damp, and the foliage to become disfigured by spot. I have frequently noticed that where the flower spike has not been removed by cutting it off near the base, sufficient moisture accumulates to cause the leaves to rot away, and the decay may quickly spread through the leaves to the pseudo-bulb.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

CELOSIA PLUMOSA.—To obtain good plants bearing well-developed plumes, it is essential that from the seedling to flowering stage they receive no check. Raised in seed pans, as soon as the seedlings can be handled they should be carefully and not too firmly pricked off into thumb pots in a light sandy compost. A cool stage or ash bottom should be provided for them in the intermediate house, not too far from the glass. In bright weather they should be syringed occasionally, the atmosphere and surroundings being kept in a condition conducive to steady growth, and some shading from bright sunshine given. When well rooted they should be potted, and by no means be allowed to become root-bound until in the flowering pot. For this and the final potting a good fibrous loam, with leaf-mould and sufficient sand to keep the whole porous, will be suitable. The worst enemy is red spider, which must be kept down by careful spraying. As the plumes are developed, the plants may be gradually hardened for the flowering house or for the decoration of the dwelling-house.

CROTONS AND DRACÆNAS.—Where rung or notched, and mossed as recommended, these will shortly be ready for removal from the parent plants. This should not be done until the roots are showing freely through the moss, and then great care will be necessary if all the foliage is to be retained. Pot up and at once place in the propagating pit or under handlights in the cucumber or melon pit, shading and spraying frequently until established. Crotons potted in early March are making rapid growth, and will benefit if full advantage is taken of bright sunshine. Ventilate carefully, closing the house early, at the same time damping down and syringing with tepid water. To keep them clean it is advisable to spray the plants monthly with an insecticide, choosing a dull day for the purpose, afterwards syringing with clear water so that the foliage may not be damaged.

GENERAL REMARKS.—Seedlings such as asparagus, smilax, grevilleas, Clerodendron fallax, and others should be potted up as soon as they can be handled and not allowed to become crowded or drawn in the seedling stage. Keep them close and shaded until well established, when, with the exception of C. fallax, they may be removed to a slightly cooler house. Pot up cuttings as they become ready; they will suffer if allowed to remain long in the cutting pots. Saintpaulia ionantha from leaf cuttings are growing nicely, and should be reduced to a single crown when large enough. Keep a sharp look-out for insect pests, spraying or fumigating as may be necessary. When fumigating take care the house and plants are dry or ill effects may follow. With increased sunshine and longer days, temperatures may be proportionately raised, and fire-heat must be used judiciously.—H. Prime, Hatfield House Gardens.

FRUITS UNDER GLASS.

EARLY VINES.—As soon as the grapes in the earliest houses have finished stoning examine the bunches, and remove any small berries which were overlooked in thinning, and otherwise finally trim up the bunches. Examine all ties at this stage, especially on young vines, to see they are not too tight, and keep a sharp look-out in all dry corners for red spider. If this puts in an appearance sponge the leaves carefully at once with warm soapy water; the best preventive is to keep the vines healthy by timely inside mulchings, feeding with warm diluted liquid manure, and syringing if really necessary with clean, soft tepid water. If the vines are moderately cropped and in good health, laterals will continue to grow freely; pinch the stronger, and allow the weakest full freedom.

SUCCESSION HOUSES, where the vines are in various stages, will now require incessant attention, as nothing pays better than performing each operation at the proper time. After disbudding, the shoots push on quickly and soon require stopping, tying, and divesting of all superfluous bunches. The principal care at this stage is to keep the shoots from the glass. Some vines are more tractable than others, but pressure at first should be very slight, and later the shoots may be tied into position without fear of injury. I am not a believer of too restrictive training, but some judgment is necessary, and I like to throw as much strength into the bunches as possible by careful pinching; any vacant spaces can be covered later by tying down the leading laterals.

POT FIGS.—The earliest of these will now need plenty of warm diluted liquid and other stimulants, as pots full of roots require an unfailing supply of rich food to obtain the best results. Plenty of atmospheric moisture is also necessary during the flowering stage and throughout the last swelling as ventilation and fire-heat are increased. Remove all weak growths and pinch gross shoots, as exposure to sun and light are essential to colour and flavour. Allow a night temperature of 65 degrees with a little ventilation, and 75 to 80 degrees on bright days.

SUCCESSION HOUSES.—Trained figs will now require constant attention in thinning out and tying down the shoots. Extension training, where space admits, is the simplest and best for growing good figs, the old branches must be well thinned at the winter pruning, and the trees fed liberally. Where the roots are kept within bounds rich mulchings and liquid feedings are necessary for the surface roots. Shut off fire-heat during the day, and ventilate at 70 degrees, increasing this up to 80 degrees, closing early in the afternoon, together with a free use of the syringe. — F. Jordan, Warter Priory Gardens.

THE FLOWER GARDEN.

WATER LILIES.—The water lily is the most beautiful of all aquatics, and when once established gives little trouble beyond that of keeping them free from weeds and the ravages of water fowl and rats; but when they are grown in ponds somewhat limited in extent, it becomes necessary at times to regulate them, especially in cases where a collection of several varieties is grown, as the stronger habited kinds crowd out the weaker and more delicate ones. If overcrowding is allowed, the graceful setting of the leaves on the water is at once lost, and the number of flowers greatly diminished. In some instances shade from overhanging trees is responsible for much rank growth of foliage at the expense of flowers, so such positions, if possible, should be avoided when establishing new colonies. When treating for overcrowding, thin out by reducing some of the plants. A long-handled Canterbury hoe will be found a most useful implement for this purpose in places where the water cannot be drawn off. The cultivation of nymphæas in artificially constructed ponds or fountain basins is a little more exacting, as usually the boundaries of such structures are composed of cement, thus depriving them of their natural rooting medium—mud. In such instances suitable material has to be applied when planting, and should be either added to or partly renewed each season if the plants are to be kept in a flourishing condition. This is best carried out at this time of the year, which is also suitable for introducing new plants.

BEDDING PLANTS.—The space allotted to summer bedding plants under glass is at this season taxed to its utmost, and constant care and judgment are needed to keep the many different subjects from becoming overcrowded and drawn. Some will be far enough advanced to be removed to temporary structures, where they can be provided with sufficient protection to ward off frost and heavy rains. Zonal and ivy-leaved pelargoniums may be so treated. Specimen plants of fuchsias, heliotropes, swainsonias, etc., should now be well fed to encourage all the growth possible before it becomes necessary to harden them off. Seedling lobelias, pyrethrums, asters, antirrhinums, etc., pricked out in frames should be encouraged by taking advantage of all bright days to damp the plants over just previous to closing the frames early in the afternoon.—T. B. Field, Wych Cross Place Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Caledonian Horticultural Society.

The spring show of this society was held in the Waverley Market, Edinburgh, on the 9th and 10th inst. The competitive entries did not differ much from last year's, and were above the average. The trade was well represented, and the spacious hall therefore had a very brilliant aspect. Narcissi were scarcely so numerous as on some former occasions in the nurserymen's exhibits, but there was a fine display of bulbous plants generally, and cinerarias were to the fore, and produced a distinct note of colour. Alpine plants, too, were particularly good. The weather was favourable, and there was a good turn out of visitors at the opening ceremony, which was gracefully performed by the Marchioness of Linlithgow. Lord Provost Nicholson occupied the chair, and introduced her Ladyship.

PLANTS.

For the group of orchids, on a space not exceeding 12 feet by 6 feet, variety, quality, and effective arrangement to be considered, for which, along with the first prize of £3 3s., Messrs. Sander and Sons, St. Albans, offer a cup of the value of 25 guineas (to be won thrice before it becomes the property of the competitor), Mr. James Smith, gardener to R. Brooman White, Esq., of Arddarroch, Garelochhead, was the only entrant, and was awarded the first prize. The exhibit consisted of choice odontoglossums and cypripediums.

For four stove or greenhouse plants in flower, Mr. Geo. McKinna, gardener to Sir Robt. Usher, Bart., Norton, Ratho, was first, and Mr. Andrew Findlay, gardener to A. Drybrough, Esq., Gogar Park, Midlothian, second. Mr. McKinna was also first for six plants in bloom (hyacinths and tulips excluded), and Mr. A. McMillan, gardener to the Earl of Home, K.T., Douglas Castle, Lanark, second.

Mr. Kidd, gardener to Lord Elphinstone, Carberry Tower, Musselburgh, was the only entrant for two greenhouse rhododendrons, and was awarded the first prize; and Mr. McKinna was the only entrant and was awarded first prize for four hardy rhododendrons.

For four Azalea indica there were five entries, and Mr. A. McMillan carried off first honours; Mr. Robt. Whannell, gardener to Colonel More Nisbett, The Drum, Midlothian, second; and Mr. McKinna third. Mr. Whannell and Mr. McMillan were the only entrants for two Azalea indica, and were awarded the first and second prizes respectively. For six hardy azaleas Mr. Kidd was first, Mr. McKinna second, and Mr. McMillan third. For four orchids, distinct, Mr. R. McAndie, gardener to Sir A. B. Milne, Bart., Inveresk Gate, Musselburgh, was first; Mr. Albert Jeffs, gardener to R. Hindle, Esq., Edinburgh, was second; and Mr. A. Findlay third. Mr. W. G. Pirie, gardener to C. W. Cowan, Esq., took first prize for a single orchid, Mr. McAndie second, and Mr. Jas. A. Sword, gardener to G. D. Mackay, Esq., Inveralmond, Cramond, third.

There were five entries for three exotic ferns, distinct, and the first, second, and third prizes were to Messrs. J. McNeill, gardener to Major Thorburn, Craigerne, Peebles, A. McMillan, and Thos. Hermiston, gardener to R. A. Robertson, Kirkland, Gogar, respectively. Mr. Hermiston was also first for three adiantums, and Mr. McMillan third, the second prize being withheld. There were three entries for six hardy exotic ferns, but all were disqualified, two on account of tenderness, and one because it included British species. Mr. Wm. Robertson, gardener to Miss Balfour-Melville, Pilrig House, Edinburgh, was first for six dwarf hardy ferns; Mr. Jas. Turnbull, gardener to Alec. Cowan, Esq., Valleyfield, Penicuik, second; and Mr. A. Johnstone, Hay Lodge, Edinburgh, third.

In the class for four foliage plants (exclusive of palms), Mr. John Thorn, gardener to Mrs. Hutchison, of Carlowrie, Kirkliston, was first, Mr. McKinna second, and Mr. A. Knight, gardener to Sir Wilfrid Lawson, Brayton, Carlisle, third. Mr. Thorn was also first for six foliage plants with a very fine lot of crotons and dracænas, the second and third prizes falling to Messrs. Knight and McMillan respectively. Mr. McMillan took first place with a nice lot of plants in the class for six table plants; Mr. McKinna was second; and Mr. P. Hills, gardener to Sir Geo. Bullough, Kinloch Castle, Island of Rhum, third.

For three dracænas Mr. Thorn was first, Mr. McKinna second, and Mr. McMillan third. Mr. Knight took first honours for three crotons, Mr. Thorn being second, and Mr. McMillan third; and in the three classes for palms (four, six, and one), Mr. McMillan took premier place.

There were three entrants for twelve roses in not less than six varieties, and the first prize was awarded to Mr. Thorn; Messrs. W. Galloway (gardener to the Earl of Wemyss, Gosford) and W. Young (gardener to Mrs. Fleming Hamilton, Craighlaw, Kirkcowan) being second and third respectively. There was no entry for H.P. roses.

Mr. Thorn was first for six H.T.'s, and Mr. W. T. Galloway, gardener to Mrs. Dewar, Drylaw House, Midlothian, for two climbing roses.

There were two entrants for four pots of amaryllis, Mr. James Todd, gardener to P. Roy Geddes, Esq., Parkneuk, Colinton, being first, and Mr. J. McNeill, Craigerne, second.

In the classes for pelargoniums, Mr. Wm. Brow, gardener to Mrs. Hog, Gogar Burn, Midlothian, was first for four ivy-leaved and four show, and Mr. R. Whannell was first for four zonal varieties.

Mr. D. McLean, gardener to the Right Hon. R. C. Munro Ferguson, M.P., Raith, Kirkcaldy, was first for four caladiums. Cinerarias made an excellent show. Mr. Brow was first for six large-flowering, Mr. Thorn second, and Mr. Geo. Wilson, gardener to R. S. L. Hardie, Esq., Ashley, Ratho, third. Mr. Robert Stuart, gardener to Viscount Maitland, Thirlestane Castle, Lander, took first place for six plants of stellata forms with well-flowered specimens, Mr. Brow being second, and Mr. G. Wilson third.

Mr. Jas. Turnbull, Valleyfield, was first for Japanese maples. Mr. T. Galloway was first for one deutzia, and Mr. G. McKinna for two deutzias. Mr. McKinna was also first for three Guelder roses and three lilacs; Mr. W. T. Galloway was first for three Viburnum plicatum, and Mr. J. McNeill for two hydrangeas. Mr. Brow was first for three marguerites.

There was a good show in the two classes for astilbes, but dissatisfaction was expressed by several of the exhibitors that the prizes had been awarded to plants which were not in full flower. Mr. McKinna was first and Mr. McLean second in both classes. Mr. James Cossar, gardener to Miss Watt, Spott House, Dunbar, took first place for two dicentras (Dielytras).

Mr. A. Dickson, gardener to M. G. Thorburn, Esq., Glenormiston, Peebles, was first for two pots of mignonette; Mr. R. Whannell for three pots of lily of the valley; Mr. D. McLean for six gloxinias; Mr. J. B. Hamilton, gardener to Miss Paterson, Southfield, Liberton, for six cyclamen; Mr. Wm. Brow for six calceolarias; Mr. D. McLean for six streptocarpus; Mr. R. Whannell for four clarkias; and Mr. Knight for four schizanthus.

In the class for three plants introduced since 1907, Mr. J. Thorn was placed first with the following: Nephrolepis Marshalli, Dracæna Bruanti, and Croton Mrs. T. Sanders. Mr. W. Robertson was second with Primula Bulleyana, P. Unique, and P. malacoides, and Mr. A. McMillan third with Nephrolepis Marshalli, N. Smithi, and Dracæna deremensis Warwicki.

Mr. Wm. Brow was first for six pots of Primula obconica; Mr. A. Dickson, Glenormiston, for six pots of P. Sieboldi; and Mr. Wm. Robertson for six pots of P. japonica. Mr. Dickson was also first for six pots of single Primula vulgaris varieties, and Mr. J. Cossar for six pots of polyanthus. Mr. W. Robertson was the only entrant for six pots of primulas, distinct species, and was awarded the first prize. He showed P. rosea, P. helvetica (seedling No. 1), P. nivalis, P. frondosa, P. Forbesi, and P. mollis. In the auricula classes Mr. W. Robertson was first for six and three pots respectively of alpines, and also for six show varieties, one green edge, one white edge, and one grey edge. Mr. J. Cossar was first for the single self.

The alpine plants were very good. There were two entrants for twenty-four distinct kinds, and the first prize went to Mr. W. G. Pirie, Dalhousie Castle, Mr. A. Dickson, Glenormiston, being a good second. Four entered in the class for six, and Mr. Pirie again took first place. Mr. Turnbull, Valleyfield, was second, and Mr. A. Dickson third.

Mr. J. Wilson, gardener to Sir John Gilmour, of Montrane, was first in both the polyanthus and garden narcissi classes, and he also took first place for six pots of tulips. For six pots of spring bulbs (excluding narcissi and tulips), Mr. A. Dickson, Glenormiston, was the only entrant, and he was awarded first prize. Mr. Wilson was also first for six pots of hyacinths, for which there were only two entries.

GARDEN PLANS COMPETITION.

Prizes for the best garden plans were awarded, in order of mention, to Mr. Hugh G. Oliver, Royal Botanic Gardens, Edinburgh; Mr. J. W. Forsyth, Markyate, Herts; and Mr. Archibald Macey, Godington Gardens, Ashford.

CUT FLOWERS.

In the class for narcissi, twelve bunches in not less than six species or varieties, Mr. W. G. Pirie took first place, the second prize falling to Mr. A. McMillan, who was the only other entrant.

In the rose classes, Mr. Wm. Young, Craighlaw, was first for twenty-four blooms, in not less than eight varieties, and Mr. P. R. Hills, Kinloch Castle, the only other entrant, second. There were three entrants in the twelve-bloom class, in not less than six varieties, Mr. D. Kidd being first, Mr. Young second, and Mr. Hills third. Mr. David Fraser, gardener to Mrs. Callander, Cramond House, Midlothian, was first for twelve blooms of Gloire de Dijon; Mr. John Hood, Helensburgh, for twelve blooms of Maréchal Niel; and Mr. W. G. Price, Dalhousie Castle, first for twelve blooms of any other variety than the above.

Mr. A. Williams, gardener to Lord Strathcden and Campbell, Hartrigge, Jedburgh, was first for three vases of Malmaison carnations, and also for two vases of carnations, exclusive of Malmaisons.

Mr. James Wilson, Montrane, was first for four vases of carnations, exclusive of Malmaisons. Mr. A. Dickson, Glenormiston, was first for six vases of hardy spring flowers.

Mr. D. Kidd was first for three vases of parrot tulips, and Mr. D. McLean for six vases and three vases respectively of any tulips other than parrot varieties.

Mr. G. McKinna was first for twelve trusses of hardy rhododendron flowers, and Mr. D. Kidd for twelve trusses of greenhouse kinds. Mr. D. Mackay, gardener to Chas. Dickson, Esq., Lasswade, was first, and A. Jeffs second for six spikes of orchids.

In the bouquet, etc., classes Mr. A. Holmes, Bellevue Bank, Helensburgh, was first for one white hand bouquet, and one coloured hand bouquet; Mr. McAndie was first for six buttonhole bouquets; and Mr. J. B. Hamilton for one lady's spray.

There were four entries in the decorated dinner table class, but two prizes only were awarded, the first going to Mrs. J. Wilson,

Montrane, and the second to Mr. John Hood, gardener to T. G. Bishop, Esq., Dalmore, Helensburgh.

For three vases of daffodils, arranged for effect, Mr. W. G. Pirie was first, and Mr. A. Dickson was first for three bowls of the same. Mr. James Wilson was first for two vases of lilac.

FRUIT.

Fruit was limited in the schedule to two classes—strawberries and bottled (fresh) fruit. For the former, Mr. G. Anderson, gardener to the Right Hon. A. J. Balfour, M.P., Whittinghame, East Lothian, was first with a very fine dish of Royal Sovereign. Mr. T. McPhail, gardener to Mrs. N. Hamilton Ogilvy, Archerfield, East Lothian, carried off the first prize for six bottles of fruit, for which there were four entries. Mr. J. K. Brown, gardener to J. Oswald, Esq., Dunnikier, Kirkcaldy, being second.

VEGETABLES.

For the collection of vegetables, six distinct kinds, there were two entrants, and Messrs. R. Stuart, Thirlestane, and D. Kidd, Carberry Tower, were placed first and second respectively. Mr. Stewart was also awarded the first prize for a collection of salad plants, Mr. W. F. Staward, gardener to Major-General Sir F. Lloyd, K.C.B., Aston, Salop, being second. Mr. Staward was also first in the single dish classes for two cucumbers, six tomatoes, two bunches of new carrots, six lettuce, and six new turnips. Mr. Cossan was first for fifty pods of French beans, six stalks of rhubarb, and three cabbages. Mr. J. K. Brown was first for twelve forced potatoes; Mr. D. Fraser for 1lb. mushrooms; Mr. Pirie for six heads of seakale; Mr. R. Staward for two bunches of radishes; and Mr. J. Patisson, Rutherford, Roxburgh, for six leeks.

NON-COMPETITIVE.

Messrs. Wm. Cutbush and Son, Highgate, London. — Perpetual-flowering carnations, flowering shrubs, and alpine plants. (Silver-gilt medal.)

Messrs. Dobbie and Co., Edinburgh.—Cinerarias, calceolarias, roses, hyacinths, narcissi, tulips, etc., and potatoes. (Gold medal.)

Messrs. Storrie and Storrie, Glencarse, Perthshire.—Cinerarias (radiata), ornamental borecoles, and Primula obconica gigantea. (Silver-gilt medal.)

Messrs. J. and A. Glass, Edinburgh.—Perpetual-flowering carnations, roses, etc. (Gold medal.)

Messrs. John Forbes, Hawick, Lim.—Alpine and show auriculas, alpine plants, violas, etc. (Silver medal.)

Messrs. Cunningham, Fraser, and Co., Edinburgh.—Collection of choice alpines, arranged on rockery. (Silver-gilt medal.)

Mr. David King, Osborne Nursery, Edinburgh.—Group of tulips, narcissi, and other spring flowers, with background of palms, etc., and flowering shrubs, artistically arranged on floor. (Gold medal.)

Mr. Clarence Elliot, Six Hills Nursery, Stevenage.—Alpine plants arranged on rock work. (Silver medal.)

Messrs. Thyne and Son, Dundee.—Alpine plants. (Silver medal.)

Messrs. Reamsbottom and Co., Geashill, King's County.—St. Brigid anemones. (Bronze medal.)

Messrs. Hogg and Robertson, Dublin.—St. Brigid anemones, narcissi (including new seedlings), and May-flowering tulips. (Silver-gilt medal.)

Messrs. R. B. Laird, Dickson, and Sons, Lim. Edinburgh.—Large exhibit of flowering shrubs, artistically arranged on the floor. (Gold medal.)

Mr. D. McLeod, Chorlton-cum-Hardy.—Orchids.

Messrs. Dicksons and Co., Edinburgh.—New seedling amaryllis, rhododendrons, standard geraniums, roses, etc., artistically arranged on floor. (Gold medal.)

Messrs. Young and Co., Hatherley, Cheltenham. — Perpetual-flowering carnations. (Silver-gilt medal.)

Messrs. J. Piper and Son, London and Barnes, Surrey.—Alpine plants, etc. (Silver medal.)

Messrs. Sander and Sons, St. Albans.—Orchids. (Silver-gilt medal.)

The Liverpool Orchid Nursery (Cowans), Lim.—Orchids. (Silver medal.)

Mr. Theo. E. Dawes, Syderstone Nurseries, Norfolk.—Dawes "Challenge" rhubarb. (Silver medal.)

W. B. Boyd, Esq., Faldonside, Melrose.—Saxifrages and primula.

Mr. T. Highgate, Hopetoun Gardens, Queensferry.—Brachyglottis repanda.

SPECIAL AWARD.

First Class Certificate.—Awarded to Cypripedium Rothlow (Cypripedium Rothschildianum × C. Lowianum). Exhibited by the raiser, Mr. W. Sharp, Freeland Gardens, Forgandenny.

Cornwall Spring Flower Show.

Held at Truro on April 8 and 9, the principal Cornish spring flower show was of unusual interest because the earliness of the season permitted the display of a larger number of flowering trees and shrubs than is usually the case, even in "the delectable Duchy." Daffodils were good and numerous, both trade and amateur growers and raisers contributing excellent exhibits that included not a few new varieties. The rhododendrons were a special feature, their colouring attracting general attention. One particularly good exhibit from the famous gardens of T. B. Bolitho, Esq., at Trewidden, Buryas Bridge, R.S.O., gave striking evidence of the kindly climate of Cornwall, as every truss of bloom had been gathered from out of doors. We present our readers with an illustration of this exhibit, and regret to state that our detailed report of the show has not reached us at the moment of going to press. The presence of an influential deputation from the Royal Horticultural Society lent special interest to the show on this occasion.

SIX VASES OF RHODODENDRON FLOWERS, CUT FROM THE OPEN.
Exhibited by T. B. Bolitho, Esq., Trewidden, Buryas Bridge, at the Cornwall Spring Flower Show, Truro

The Horticultural Club.

On Tuesday, the 1st instant, this club held its usual house dinner at the Hotel Windsor, Mr. G. Munro, V.M.H., taking the chair, and a fair number of members and guests, including some ladies, being present. After the dinner an interesting lecture was given by Mr. J. Edmund Clark, entitled "Some Nature Notes in South Africa," illustrated by a number of lantern slides prepared from photographs taken by the lecturer. These represented a large number of views depicting various aspects of the country and its flora and vegetation generally, including Table Mountain from many points of view, but unfortunately many of the slides were very imperfect as regards illumination and detail, which considerably detracted from their interest.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE.—March 18.

Present: C. E. Shea, Esq. (in the chair); Messrs. E. M. Holmes, A. Worsley, W. Hales, G. Gordon, and F. J. Chittenden.

DAHLIA PLANTS FAILING.—Mr. Mas- reported that the Dahlias sent from Edinburgh in which the buds had failed to start were attacked by the fungus Sclerotinia sclerotiorum.

LATHYRUS SATIVUS (POISONOUS). — Mr. E. M. Holmes showed seeds of Lathyrus sativus and those of Pisum sativum and P. arvense from India for comparison, in order to draw attention to the fact that seeds of the former plant were being sold (under the name of Mutti) for cattle food instead of the latter. They were imported from India and were now to be obtained in various markets. The seeds of L. sativus are poisonous, though the symptoms of poisoning do not always manifest themselves very quickly, and the actual poisonous substance has not been isolated.

HOLLY GROWING ON SHINGLE BEACH.—A correspondent sent a photograph of a fine holly growing on a shingle beach at Lydd, Kent, where also several other unusual plants are to be found growing wild. The bush is a large one, and looked well in the past year.

ALLEGED POISONING BY FERNS.—Mrs. S. Edmonds sent an account of the death of two cats, supposed to have been caused by eating the fronds of ferns in a dwelling-house. One had died, and a second, which later betrayed the same symptoms, which were those of an irritant poison, was killed, as recovery was deemed impossible. The first was not examined, but the second was, and pieces of a fern frond were found in the stomach. The fern was sent for examination, and proved to be Nephrolepis exaltata var. todeaoides. No record of this fern or any of its congeners being poisonous was known to any member of the committee, but the committee would be glad to learn whether animals having access to it have been known to be poisoned. The evidence in the present case seems far from conclusive, but as cats very frequently nibble ferns, and this nephrolepis is very widely cultivated, no doubt if it is really poisonous other cases may be heard of.

SCIENTIFIC COMMITTEE.—April 1.

Present: G. Gordon, Esq., V.M.H. (in the chair); Messrs. A. Worsley, R. A. Curtis, W. Hales, G. Massee, and F. J. Chittenden (hon. secretary).

FASCIATED STOCK.—Mr. H. Stuart Thomson sent from Carquieranne, South of France, part of a fasciated example of Matthiola sinuata bearing hundreds of flowers, and having a stem about $2\frac{3}{4}$ inches in width. Though fasciated plants are very frequently shown before the committee, perhaps more frequently than those showing any other aberration of growth, stocks have rarely or never been exhibited in this condition. The present specimen was growing on the cliff outside an hotel garden, and others there showed a similar habit of growth.

LOCUSTS AND COCONUTS.—Mr. Gilliat sent a note concerning the destruction of seedling coconuts over an area of 500 acres in the Federated Malay States, where the trouble from this pest has recurred in a second year. The use of paraffin had been unsuccessfully tried, and it was suggested that Paris green or lead arsenate should be used, either as a spray or by drenching some locusts collected and slightly crushed beforehand with this poison. Some species of locust are cannibals, and it might be possible to check their ravages by collecting and poisoning some of them in this way.

MALFORMATION IN DOUBLE PRIMULA.—Dr. J. MacWatt, Duns, sent a curious flower from a double primrose seedling; the calyx was much larger than usual, and had double the usual number of teeth. It was surrounded two separate and distinct double corollas, separately inserted on the receptacle and normal in every other respect.

Dundee Horticultural Association.

"The Vine" was the subject of a lecture delivered by Mr. Thomas Wilson, head gardener, Glamis Castle, at the monthly meeting of this society in the Technical College on the 4th inst. Dealing with his subject in an interesting and instructive manner, the lecturer gave sound practical hints on the formation of borders, the planting and care of young vines, training, pinching, pruning, cropping, and thinning of the fruit bunches; the peculiarities of certain varieties were pointed out, and the best methods of preventing and combating diseases and insect pests were described, while the rejuvenation of old vines was also touched upon, although the lecturer rather preferred to plant anew. A lengthy and profitable discussion ensued.

Two exhibits were staged, a good double-spathed arum from Mr. James Bethel, The Grange Gardens, and a well-flowered cyclamen from Mr. I. Staward, St. Fort Gardens, the latter receiving a cultural certificate. Votes of thanks to lecturer, exhibitors, and chairman, Mr. Wm. Christeson, closed the proceedings.

Croydon Gardeners' Society.

A few days ago Mr. Montagu Allwood lectured before this Croydon Society, and his subject was "Perpetual Carnations." There was a very large attendance, and at the close of the lecture Mr. Allwood had to answer a large number of questions. Mr. T. Butcher exhibited forced flowering shrubs; Mr. W. Coles displayed flowering bulbs grown in fibre, and Mr. T. H. West sent excellent trusses of Primula obconica flowers.

Bristol Gardeners' Association.

The recent fortnightly meeting of this association was held at St. John's Parish Rooms, Clifton, Mr. Thoday presiding over a large attendance, when Mr. White, from the Bristol Amateur Horticultural Society, gave a lecture on "Curious Plants." The prizes given by Messrs. Ayres, Binfield, and Woodward, for three vases of stove and greenhouse cut flowers (orchids excluded) were won by Messrs. Scott, Baston, and Jennings. A hearty vote of thanks was accorded Mr. White.

BORDEAUX MIXTURE.

Owing to the good results given by lime and sulphur as an insecticide and fungicide, there has been a great falling off in the use of the Bordeaux mixture. There is no question about the value of both mixtures, but the latter has lost in popularity in Canada owing to its russeting he skin of the apples in many of the best standard varieties. Perhaps too little attention has been given to the preparation of Bordeaux. The general way is to mix it by guess-work, the grower forgetting that the best results are only obtainable where care is exercised in the preparation of any spray mixture.

Bordeaux is a long-established mixture, and we have varying proportions of its ingredients. This is due in part to the desire to arrest the injurious effects above-mentioned. The standard formula is 4lb. bluestone, 4lb. lime, 40 gallons water, known as the 4-4-40. However, formulæ 4-4-50; 2-4-50; 3-5-50 apparently have given good results. Some authorities claim that it is not the strength of the application that does the injury, but that too much spray has been applied. This is a point of considerable interest, for it has been noticed where thorough heavy spraying with Bordeaux is done the greatest injury has resulted.

The point to be most careful of in making is not so much the formula used (if it has been tried), as the way to mix it. The effective part of a good mixture is the blue precipitate which will settle to the bottom of the tank when allowed to stand. This is the portion we are most concerned about. To be of most benefit, then, this precipitate should be as fine as possible, or, in other words, remain in suspension as long as possible.

To get the copper sulphate crystal into solution most quickly, break it into small particles, place in a bag, and suspend in water. If possible, secure the sulphate in the granular form, as it is more easily dissolved. The most convenient way is to mix proportionate amounts of bluestone and water; dissolve 50lb. in 50 gallons of water. Then when this is wanted for use the desired amount can be taken out by measuring, as a gallon of the liquid contains one pound of bluestone. It is necessary to use a tub or barrel to contain this mixture as it is very corrosive to tin or iron.

While the copper sulphate is dissolving, slake the lime, which should be perfectly fresh and in large lumps, by adding small amounts of warm water until it is powdered, then make into a paste. The important operation now is in mixing, or rather in not mixing, the concentrated solutions, for when concentrated solutions are mixed a very heavy precipitate is formed. For this reason the bluestone should be diluted to 20 or 25 gallons with water, the lime to a similar amount, and then the two liquids poured at the same time into the spray tank. Always strain the liquid through a fine wire screen into the tank.

NEW BOOKS.

COMMERCIAL GARDENING.

Edited by John Weathers, F.R.H.S. (The Gresham Publishing Company, 34 and 35, Southampton Street, Strand, London). Four vols. Price 9s. each.

Considering the enormous development which market gardening has undergone during the past thirty or more years, it may appear somewhat surprising that not until the appearance of this work should a book of a really comprehensive character have been published for the guidance of those who are engaged in this and other branches of commercial horticulture. It has, of course, to be remembered that the cultivation of plants, flowers, fruits, and vegetables for profit has now assumed such immense proportions and become so varied that but few writers would be prepared to undertake the difficult task of writing or editing a book in which the several branches of this great subject would be dealt with in a manner commensurate with their relative importance. Fortunately, not all have shrank from the arduous task, and the editor may be commended for the public spirit he has evinced, and be congratulated on the success he has achieved.

The work is published in four volumes of convenient size for everyday use, and within the 1,000 pages may be found information on the various matters to which those engaged in commercial gardening must give their attention. This information is not only given in a manner that it may be readily understood, but it is remarkable for its soundness. This is exactly what might have been expected, for the editor has had a practical experience in the commercial side of horticulture, and he has had the help of a score or so of writers who occupy a high position among those who are engaged in market culture and the nursery trade.

A mere enumeration of the contents of the work would form a lengthy, if not tedious list, and it must suffice to say that they include all that is of importance in the selection, the cultivation, and the selling of the various products of the nursery and market garden. The text is elucidated by a profusion of illustrations, which are not only of a high class, but have evidently been selected with due regard to utility.

To those who are engaged in commercial gardening the work is a necessity, and it is well deserving of the attention of those who have the management of private gardens, and are desirous of embodying in their practice some of the methods of the grower for market.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to druw attention, correspondents are requested to distinctly mark the paragraph.

ORIGIN OF MADRESFIELD COURT GRAPE.—N. K. D., Chester: I shall be greatly obliged if you will give me the origin of Madresfield Court grape, as I propose making some grape crosses, and should therefore be glad to know the parents of this fine variety.—Madresfield Court grape was raised by Mr. William Cox, who was head gardener to Earl Beauchamp, at Madresfield Court, Worcestershire. He crossed Muscat of Alexandria with Morocco, and thus produced this excellent grape. Madresfield Court gained a First-class Certificate from the Royal Horticultural Society in 1868.

PROPAGATION OF SEMPERVIVUMS.—S. E. G., Topsham: Please state in an early issue the best means of increasing stock of the various sempervivums, or houseleeks.—These interesting plants may be propagated from seeds sown, as soon as ripe, in pans of sandy soil, in a cold frame. They may also be increased readily by detaching the young plantlets that appear around the base of the parent stem, or from the axils of the lower leaves.

MILDEW ON ROSES.—W. S., Chingford: I have a few roses in pots, and most of them are doing well; but several plants have what I suppose to be mildew on the foliage. I am an amateur, and have derived very great benefit from the instructions given in the Gardeners' Magazine, which I have taken regularly during the past two years, therefore I take the liberty of asking what should be done with the affected plants.—Dry flowers of sulphur applied by means of special bellows, or a puff-ball arrangement, is an excellent remedy for mildew. Dust the sulphur on leaves and shoots so as to form a thin coating. A second application may be necessary in the course of a week or so. Sulphide of potassium is another excellent remedy, and is made by dissolving a half-ounce of sulphide in hot water, and adding tepid water to make up one gallon. It is a good plan to place the sulphide in about a pint of water, in an earthen jar, standing the jar in a vessel of water over the fire and allowing the sulphide to dissolve by the boiling of the water in the jar.

SEEDS OF A MEXICAN SHRUB.—A. P. C., Blackwater: Some seeds of a Mexican shrub have been sent me, and the only name given is Montanoa, but I am told the leaves are handsome, being much divided, but that the flowers are not very showy. With this meagre information, is it possible for you to determine the plant, and suggest how it should be grown?—We feel certain you have seeds of Montanoa bipinnatifida, a tender shrub with handsome bipinnate leaves. It grows six or eight feet high, and is sometimes used during the summer to lend a sub-tropical effect to warmly-situated gardens. Sow the seeds at once over gentle bottom heat, and as the plants grow give them additional root room and cooler quarters until they are hardy enough to be stood out of doors, say, in July, or they may be kept for the adornment of the conservatory. If a root is placed in heat in January new growths will appear, and these may be propagated easily after the manner of dahlias. Single-stemmed plants grow in this way and gradually hardened off for the conservatory or the flower garden are very effective. Rich loamy soil provides a suitable rooting medium. Montanoa bipinnatifida is a member of the Natural Order Compositæ, and it is sometimes known as M. heracleifolia, or Polymnia grandis.

STOCK SOLUTION OF POTASSIUM SULPHIDE.—M. E. J., Morpeth: Can you tell me whether it is possible to make up a stock solution of sulphide of potassium, from which one could easily prepare a spraying mixture without the trouble of dissolving an ounce or two of the sulphide as the material was needed? Last year I found this fungicide extremely useful, but the preparation of a few gallons every week proved very irksome. Any help will be greatly appreciated.—It is generally considered that freshly-made solution is the most effective. We are not aware that any definite experiments have been made to prove or disprove this. A stock solution will keep good for a considerable time, provided it is kept in a dark place. If a pound of sulphide is boiled as advised in the answer to "W. S.," and made into a stock solution of three pints, then two fluid ounces of it should be added to a gallon of water for spraying. The addition of the whites of a couple of eggs to the stock solution will lend just sufficient adhesiveness to the spraying mixture.

HYACINTHS FAILING TO FINISH THEIR SPIKES.—S. T. S., Tamworth: Some of my hyacinths have failed to finish their spikes this year. Growth was first-rate, and the spikes seemed to be of good size and strength, but the apex failed to develop properly, and numerous flowers did not open at all. I enclose one or two examples, and shall be very glad to learn the cause of this failure.—The failure is not necessarily due to any cultural error, but is most likely the result of improper ripening of the bulbs last summer. You will remember that the season was not a good one for bulbs, as the spring was early and warm, causing premature growth and a rapid development of foliage that was detrimental to the formation of the embryo spike for another year and the consolidation of the bulb. Then followed a long cool, wet season, and so the bulbs did not have that decided rest which is essential to their well-being in the future. We have seen many spikes similar to those sent, and we believe the explanation we have given is the correct one in such cases.

MOLTKIA.—N. T. D., Westcott: A friend has sent me a little shrubby plant which is said to come from Dalmatia. It bears some resemblance to a rosemary, and my friend tells me it is called a Moltkia. Will you please tell me the correct name, if that is possible from this meagre description, and also say what position in the garden the plant should occupy. For the time being it is in a cold frame.—So far as we can determine we believe your plant is Moltkia petræa, also known as Lithospermum petræum and L. rosmarinifolium. This little shrub has a strong resemblance to a dwarf rosemary bush, and has greyish linear leaves. From May onwards to July it should produce flowers that are rosy purple at first but change to rich violet-blue. Give it a sunny position in sandy soil, either in the border or on the rock garden. During the summer take a few cuttings and place them in very sandy soil in a close frame.

SOWING SALSAFY.—C. M., Salisbury: What is the best time to sow salsafy? I have delayed sowing because previously many of the plants ran to flower.—A good time for sowing salsafy is the third week in April; sown at that date there is little likelihood of the plants running to flower.

SELECTION OF EARLY-FLOWERING CHRYSANTHEMUMS.—F. H., Lincoln: Please give me a selection of a score or two dozen varieties of good early-flowering chrysanthemums.—The following are all excellent varieties: Almirante, chestnut-crimson; Bronze Goacher, bright bronze; Caledonia, white; Carrie, deep yellow; Chatillon, salmon on gold; Cranfordia, golden-yellow; Cranford Pink, soft pink; Ethel Blades, chestnut-scarlet; Goacher's Crimson, rich crimson; Goacher's Pink, rich pink; Harrie, bronzy orange and gold; Horace Martin, yellow; Leslie, brilliant golden-yellow; Marie Masse, mauve; Nina Blick, reddish bronze; Norbet Purvis, salmon; Normandie, pink; Perle Chatillonaise, cream and peach-pink; Polly, orange; Provence, rich pink, gold tipped; Ralph Curtis, cream-white; Roi

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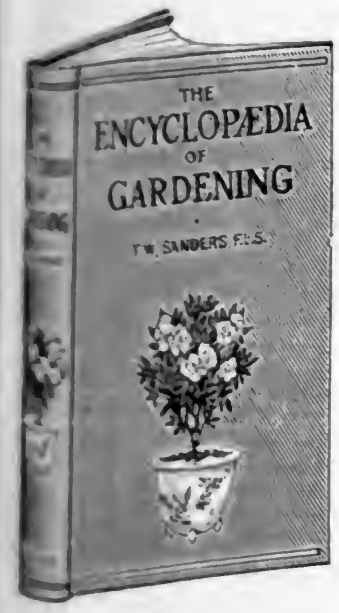

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des Blancs, pure white; Savoie, white; Wells' Crimson, crimson with golden reverse; and Wells' Scarlet, scarlet terra-cotta.

LAYERING FORSYTHIAS. — G. P., Christchurch: A friend of mine tells me that forsythias can be easily multiplied by means of layers. Is this right, and, if so, how should I proceed?—The forsythias may be propagated either by layering or by means of cuttings. The latter may either be green shoots struck in summer under handlights, or ripened wood inserted in autumn and kept in cold frames all through the winter. Layering is the easiest possible method of increasing stock, and any long shoot may be pegged down for the purpose. There is no need to notch or "tongue" the nodes, or joints, as roots come quite naturally.

PLANTING MONTBRETIAS.—S. T. B., Oswestry: I have recently taken over a new garden, and, fortunately, the soil and general conditions are good. Montbretias have appealed to me in recent years, and so I propose to plant some if the season permits. Kindly tell me the best time to plant.—Planting may be done at once if soil and weather are favourable, but any time during April will do very well. In addition to the newest variety Star of the East, excellent sorts are Prometheus, George Davison, Hereward, Lord Nelson, King Edmund, Lady Hamilton, Westwick, and Germania.

NAMES OF PLANTS.

H. T. S., Ware. — Hardenbergia Comptoniana.

C. H., Hailsham.—1, Prunus avium; 2, Berberis stenophylla; 3, Primula rosea.

E. D., Dorchester.—1, Prunus persica fl. pl., var. carnea; 2, Anemone hepatica; 3, Erica mediterranea.

S. W., Ripon.—1, Euphorbia splendens; 2, Asplenium nidus; 3, Begonia metallica; 4, Leea amabilis; 5, Helxine Solieroli.

M. N. R., Hitchin.—1, Magnolia stellata; 2, Primula frondosa; 3, Doronicum plantagineum; 4, Berberis stenophylla; 5, Scilla biflora.

P. C., Merstham.—1, Mahonia aquifolia; 2, Cupressus macrocarpa; 3, C. torulosa; 4, Monochætum Hartwegianum; 4, Dendrobium bigibbum.

D. D. F., Llandaff.—1, Erica carnea; 2, E. Veitchi; 3, Anemone nemorosa; 4, A. apennina; 5, Amelanchier canadensis; 6, Corylopsis spicata.

B. L. A., Cirencester.—1, Probably Helianthemum vulgare, send when in flower; 2, Omphalodes verna; 3, Streptocarpus Rexi; 4, Dracæna Lindeni.

A. A., Exmouth.—1, Prunus subhirtilla; 2, Ligustrum lucidum; 3, Erica carnea; 4, Anemone pulsatilla; 5, Vaccinium pennsylvanicum; 6, Veronica Hectori.

TRADE NOTE.

A USEFUL WEED KILLER.

Good gardeners will all agree that tidiness and neatness are two of the principal assets of a successful gardener, and it may therefore be argued that preparations which tend towards the achievement of such desirable results are worthy of the attention of horticultural enthusiasts. Feeling assured of this we are glad to have the seasonable opportunity of referring to the well-known and effective "Eureka" Weed Killer, made by Messrs. Tomlinson and Hayward, Lim., Lincoln. This preparation has stood the test of time, and is esteemed because it can be used with comparative safety under almost any conditions. One or two applications on paths or walks at the present time will have a permanent effect, not only in removing existing eye-sores, but in preventing their recurrence for some time to come. The "Eureka" Weed Killer is supplied through agents, but if any difficulty is experienced in obtaining, write to the makers, who have a useful range of sundries required by all gardeners.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

Date. 1913. March 30 to April 5.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Mar. 30—Sunday	2 18	49	47	55	44
,, 31—Monday	0 12	42	41	53	39
April 1—Tuesday	2 48	43	43	51	40
,, 2—Wednesday	5 0	46	44	52	35
,, 3—Thursday	8 42	51	44	53	39
,, 4—Friday	—	43	42	51	40
,, 5—Saturday	3 6	44	43	53	42
Means	(total) 22 6	45	43	53	39

Date. 1913. March 30 to April 5.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Mar. 30—Sunday	—	45	44	45	40
,, 31—Monday	0·08	45	44	45	31
April 1—Tuesday	0·08	45	44	45	29
,, 2—Wednesday	0·01	44	45	45	26
,, 3—Thursday	0·11	45	45	45	31
,, 4—Friday	trace	46	45	45	37
,, 5—Saturday	—	46	45	45	39
Means	(total) 0·28	45	45	45	33

FORTHCOMING ENGAGEMENTS

NEXT WEEK.

MONDAY, April 14.—Annual meeting of the United Horticultural Benefit and Provident Society at the Royal Horticultural Hall, Westminster, at 8 p.m.

TUESDAY, April 15.—Royal Horticultural Society's Daffodil Show; Narcissus Committee meets at 11.30 a.m.; Fruit, Floral, and Orchid Committees at 12 o'clock; Scientific Committee at 4 o'clock. Lecture at 3 p.m. on "The Origin of Life: Why it is Undiscoverable," by Rev. Professor G. Henslow, M.A., V.M.H.

WEDNESDAY, April 16.—Second day of Royal Horticultural Society's Daffodil Show. Primula Conference at Royal Horticultural Hall, from 11 o'clock to 1 o'clock, and 2 p.m. to 4 p.m.
Royal Horticultural Society of Ireland, Spring Show.
County Clare Spring Show.

THURSDAY, April 17.—Ipswich Spring Show.
Linnean Society Meeting.

Epsom Horticultural Society, Rose Show, June 30, at Woodcote Grove; Summer Show, August 4, at Epsom College.
Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.
Ealing Horticultural Society, July 9.
Weybridge Horticultural Society, July 10, at Barham Lodge, Oatlands Drive.
Ulverston Rose and Sweet Pea Show, July 18.
Birmingham Horticultural Society, July 18 and 19, in Handsworth Park.
Haywards Heath Flower Show, July 23, in Victoria Park; the twenty-fifth exhibition.
Tunbridge Wells Flower Show, July 23 and 24.
St. Quintin Horticultural Society, July 24, in the Gun Club grounds, Wood Lane, W.
City of London Rose Show, July 26, at Cannon Street Hotel.
Worth Horticultural Society, July 30.
Datchet Horticultural Society, August 4, at The Lawn.
Oswestry Flower Show, August 4.
Ranmoor Floral and Horticultural Society, Aug. 4.
Bletchley and Fenny Stratford Horticultural Society, August 4, at Bletchley Park.
Swanage Horticultural Society, August 4.
Westbury Horticultural Society, August 6.
Horsley Horticultural and Cottage Garden Society, August 16.
Aynho Horticultural Society, August 19.
Brighton Summer Show, August 19 and 20, in the Dome and Corn Exchange, and on the Western Lawn.
Kiddington Horticultural Society, August 21.
Ashton-under-Lyne Horticultural Association, September 6.
Maidenhead Chrysanthemum Show, October 30, at the Drill Hall.
Bath Chrysanthemum Show, November 5 and 6, at the Roman Promenade.
Brighton Chrysanthemum Show, November 11 and 12, in the Dome and Corn Exchange; thirty-first exhibition.
Bedford Chrysanthemum Show, November 12.
Chester Paxton Society's Chrysanthemum Show, November 18 and 19, in the Town Hall, Chester.

MARKETS.

COVENT GARDEN.

Flowers.

A steady demand prevails for daffodils, tulips, carnations, and roses. White flowers have been in great request this week.

		s. d.		s. d.
Anemones	per doz. bun.	1 0	to	1 6
Arums	per doz.	2 6		5 0
Adiantum cuneatum	per doz. bun.	4 0		6 0
Asparagus plumosus	per doz. bun.	8 0		16 0
,, Sprengeri	per doz. bun.	8 0		12 0
Azalea	per doz. bun.	2 6		3 0
Bouvardias	per doz. bun.	4 0		6 0
Camellias	per doz.	1 6		3 0
Carnations	per doz.	1 6		2 6
,,	per doz. bun.	10 0		15 0
,, Malmaison	per doz.	12 0		15 0
Cattleyas	per doz.	9 0		15 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz.	2 0		3 0
Daffodils	per doz. bun.	1 6		2 0
Eucharis	per doz.	2 0		4 0
Freesias	per doz. bun.	1 6		2 0
French fern	per doz. bun.	2 6		4 0
Gardenias	per doz.	3 0		5 0
Lapageria	per doz.	2 0		2 6
Lilac	per bunch	3 0		4 6
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per doz.	1 6		2 6
,, longiflorum	per bun.	3 0		5 0

Fruits.

English apples are now practically at an end, but they have lasted well this season, and sold well also. Cape fruits are plentiful, and meet a ready sale. Australian apples have arrived. Grapes are dear.

		s. d.		s. d.
Apples, American	per bar.	18 0	to	30 0
,, Australian	per box	11 0		24 0
,, Californian	per box	5 0		8 0
,, Nova Scotian	per bar.	10 0		16 0
,, Oregon	per box	7 0		10 0
,, Tasmanian	per box	7 0		14 0
Apricots, Cape	per box	9 0		12 0
Bananas, Canary	per bun.	7 0		12 0
,, Jamaica	per bun.	3 0		5 6
Cobnuts	per doz. lbs.	3 6		5 0
Cocoanuts	per 100	18 0		23 0
Cranberries	per case	8 0		9 0
Dates	per doz. boxes	2 9		3 6
Grape Fruits	per case	8 0		18 0
Grapes, English	per lb.	1 6		10 0
,, Almeria	per bar.	16 0		25 0
,, Cape	per box	5 0		9 0
Lemons	per case	15 0		22 0

Vegetables.

Mushrooms are fairly cheap. Forced produce from the Channel Islands and the South Coast is an increasing supply, and meets a ready sale.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 0	to	3 0
,, Ground	per bush.	3 0		4 0
Asparagus, Paris	per bun.	2 0		3 0
,, English	per bun.	2 6		3 6
,, Giant	per bun.	8 0		10 0
Beet	per bush.	1 6		3 0
Beans, Guernsey	per lb.	0 10		1 0
,, Madeira	per basket	2 6		4 0
,, English	per lb.	0 10		1 0
Broccoli, Sprouting	per bush.	1 0		1 6
Cabbage	per tally	3 0		5 0
Carrots	per doz. bun.	2 0		2 6
,, French	per doz. bun.	7 0		10 0
Cauliflowers	per tally	8 0		15 0
Celery	per doz. bun.	9 0		16 0
Celeriac	per doz.	1 0		2 0
Chicory	per lb.	0 2		0 3
Cucumbers	per doz.	4 0		6 0
Endive	per doz.	2 0		3 6
Horseradish	per doz. bun.	10 0		12 0
Leeks	per doz. bun.	1 0		2 0
Lettuce	per doz.	1 0		2 0
,, French	per crate	1 9		6 0
Mint	per doz. bun.	3 0		6 0

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VOL. LVI.—No. 3,103. SATURDAY, APRIL 19, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Beauty and Utility.

If we study the beauty of infinite forms of life which exist upon the surface of the earth and in the depths of the ocean, the beneficence which underlies the whole scheme of creation is emphatically brought home to us by so much of this beauty appearing to be absolutely independent of actual utility, and, to that extent, a free addition to the joy of existence. For the mere practical working of the vital forces organisms of the simplest possible character, devoid of any special charm of form or colouration, are as fully qualified as the most complex. A simple nucleated cell, as in amœba, which may be described as a shapeless morsel of jelly with a dot in the centre, is as devoid of any element of beauty as may well be conceived, yet it can move itself, feed itself, asd reproduce itself to perfection, so that as a fundamental of vital action, beauty or æsthetic charm is totally unnecessary. Nevertheless, starting with some such elementary life beginning, we see, as evolution proceeds, that in the simple agglomeration of cells, symmetry of form and regularity of arrangement speedily produce organisms of great beauty. Take, in the plant world, the volvox found in stagnant water. Here we have a wonderfully perfect sphere formed of a multitude of single cells, each provided with a cilium of microscopic filament, and by means of their united action the sphere revolves in its watery realm, as majestically as a world might do in its ethereal one, while, wonderful to relate, we can detect through its translucent emerald walls smaller spheres built on like lines which are eventually destined to free themselves and imitate their roving progenitor. No jeweller could equal so beautiful a gem, yet, charming as it is, it cannot excel the shapeless amœba in its powers of motion, assimilation, and reproduction. Its charm, to the human eye, when adequately viewed under the microscope, can hardly involve any utility to itself; it is a thing apart, engendered in our mind, due to the action of the great laws of Nature, which of themselves have determined our ideas of what we call beauty, and require a liberal education to properly appreciate. The untutored savage probably sees little or no beauty in his surroundings, the grandest landscape only appeals to him as a hunting ground, while, on the other hand, as we know, he and his squaws may, in their own opinion, decorate and "beautify" themselves in fashion which we ridicule as "hideous." Where, however, Nature is left alone, if "hideousness" appears, as it certainly does in some of her productions, they are the exceptions rather than the rule, and there is no doubt that in most cases their ugliness, from our point of view, has been an evolutional factor, protective or otherwise. In this connection, could we meet with Dame Nature as an actual personality, we would welcome from her an article for our columns on that floral "beauty" which our florists have in many cases evolved from her normal and simpler gems, though we very much doubt that it would meet with her unqualified approval. Since, however, man came on the scene as a potent evolutional factor, his "taste" as regards the "beauty" of the floral world, to say nothing of the animal one, from which he has also evolved some marvels, "beauty" has become a distinctly useful character in securing reproduction, and what he considers improvement in a vast number of plants, which otherwise, as wild ones, would have been comparatively rare, and wholly neglected. Nature, it is true, can still rival his best productions with many of her entirely unsophisticated ones, but these last are becoming fewer and fewer in comparative ratio with those which, starting as purely normal forms, have yielded to the persuasion of the selective cultivator, and are being replaced by plants of enhanced beauty derived from them. Or they may be, as in the begonias, due to combinations of several species whose complex offspring far and away eclipse in beauty, size, colour, and diversity anything that unaided Nature would have been likely to effect even by æons of evolution. Beauty here has undoubtedly been a useful factor, and has, in point of fact, determined the existence of a myriad forms, where, without its attraction, only a very few would have seen the light. The immense utility of cultivated flowers for decoration is, of course, outside the point of view we have started with, only the utility of beauty to the plants themselves being regarded as a vital factor.

MR. P. RUDOLPH BARR,
Who has been awarded by the R.H.S. Narcissus Committee the Barr Memorial Cup for the ensuing year.

Mr. P. Rudolph Barr, who is well known as the senior partner in the firm of Messrs. Barr and Sons, Covent Garden, and for his work in connection with daffodils, was on Tuesday last awarded, by the Narcissus Committee of the Royal Horticultural Society, the Barr Memorial Cup for the ensuing year. This cup, which was founded last year by public subscription to commemorate the splendid work accomplished by the late Mr. Peter Barr, V.M.H., in the course of his long and active life, in developing and popularising daffodils, is held for one year, and the first recipient was the Rev. G. H. Engleheart, V.M.H., who was one of the first of the amateurs to recognise the possibilities

of the creation of new narcissi. It is of much interest that the love for, and interest in, the daffodil which were evinced by the late Mr. Peter Barr should have been inherited by his talented sons, and that, as the result of this affection, combined with judgment of a high order, the firm should now be as closely identified and as actively engaged in the creation and distribution of new forms as at any period in its history. Apart from the commercial aspect of these beautiful flowers, Mr. Rudolph Barr has for many years past devoted much personal attention to them, and has long been regarded, and properly so, as one of the leading authorities on them. His thorough acquaintance with varieties was well shown by the valuable service he rendered in the classification of daffodils which was accomplished by the Royal Horticultural Society's Narcissus Committee a few years since, and it has also been exemplified in no uncertain manner by the success he has achieved as a raiser.

Appointment of Assistant Inspectors of Horticulture.—Three Assistant Inspectors of Horticulture have been appointed in the Horticultural Branch of the Board of Agriculture. These are Messrs. R. H. Lock, Sc.D., J. Snell, B.Sc. and H. V. Taylor. Dr. Lock was for some years Curator of the Cambridge University Herbarium, and during the past four years has been Assistant Director of the Royal Botanic Gardens, Ceylon. Mr. Snell has for some time been Lecturer on Botany at the Birkbeck College, and Demonstrator in Histology at the Middlesex Hospital. Mr. Taylor was educated at the Royal College of Science, South Kensington, and at the time of his appointment held a scholarship at the college, awarded for the purpose of studying plant diseases. Mr. Snell and Mr. Taylor are the sons of farmers.

Lingering Winter.—The weather experienced during the closing days of the week ended April 12 was wintry in character, and did considerable damage to tender vegetation over the greater part of England. On the 11th inst. there was a comparatively heavy fall of snow in the more easterly and northern parts of the country, and daffodils were weighed down by their fleecy covering, and suffered accordingly. On the 12th inst. the temperature was exceptionally low for the season throughout the day, and during the night there was a severe frost, which did much damage to plants in bloom. In the Royal Gardens, Kew, Magnolias conspicua and Soulangeana in the azalea garden, which were then in full bloom, had the greater part of their flowers destroyed, as did the elegant Magnolia stellata. The group of the double-flowered peaches near the Victoria Gate, which were then at their best, had many of their blossoms injured, and thereby bereft of much of their beauty. Ornamental crabs, of which several were coming into bloom, also had their flowers damaged. During the 12th inst. the mean temperature at Kew was 41 deg., or about 14 deg. below the average. The weather records of the metropolis during the past 40 years show that such low day temperatures in April are very rare. In fact, in the whole of the past four decades there were in the metropolis only three days in April with a lower temperature. These were April 13, 1892, when the shade temperature was 40 deg.; and April 5 and 6, 1911, when it was 38 deg. It is of some interest that on the two last-named dates the thermometer was higher in London than in some parts of the South of England. For example, on April 5, 1911, the temperature in the Isle of Wight was 35 deg., at Weybridge it was 34 deg., at Worthing it was 32 deg., and at Tunbridge it was 31 deg. Night frosts were of exceptional severity in the early part of April two years ago, and extended over a wide area, and did an immense amount of damage to fruit crops; and in the Channel Islands the potato crops were seriously injured. As indicating the variability of the weather in April, it may be mentioned that on April 25, 1874, the shade temperature in London was 80 deg., and on April, 1893, it was 82 deg. There can be no doubt that considerable damage was done to the blossom of fruit trees in flower, and we shall greatly appreciate communications from our readers with reference to the damage done.

American Gooseberry Mildew in Kent.—A report showing the serious spread of American gooseberry mildew in Kent was submitted to the Kent County Council at Maidstone at their meeting for the current month by the Diseases Committee. According to this report there is now a total infected area of 3,353 acres. The report mentioned that an unsatisfactory feature with regard to the disease was the great difficulty inspectors had in inducing growers to comply with notices requiring them to cut out the diseased shoots within a prescribed time.

THE BARR MEMORIAL CUP.

Forestry at the "Royal" Show.—As for some years past the Royal Agricultural Society will give special attention to forestry at the annual exhibition which this year will be held at Bristol in July. The schedule of the forestry exhibition, which will be arranged in the showyard contains twenty-two sections, more than half of which are competitive. In the several sections may be shown seedling trees, transplanted trees, boards of different kinds of timber, tree guards, field and hunting gates (which must be made by the exhibitor's own estate staff), fencing of home-grown and foreign woods, specimens showing damage done by insect and fungoid pests, the effects of pruning, creosoting and other means of wood preservation, and photographs, plans, maps, and models. The schedule for the forestry competition beyond the boundary of the showyard contains four classes for plantations, the final crop of which is to be hard woods, and four to plantations in which conifers are to be the final crop. There is a class for plantations of the rarer conifers, such as the Douglas fir, the Sitka spruce, the Japanese larch, and the Corsican pine, and also one for the best example of systematic management of existing woodland areas. Home nurseries have three classes set apart for them. Schedules may be obtained from Mr. T. McRow, secretary of the R.A.S.E., 16, Bedford Square, London, and the entries must be received by Mr. McRow not later than May 20.

Mr. Joseph Smith, the superintendent of the Public Gardens of Eastbourne, celebrated his 80th year the other day, and received many congratulations, among them being those from the employees of the Corporation under him. Mr .Smith has held his present position nearly 28 years, and of his achievements during this period may be mentioned the planning and formation of the gardens on the sea front, which from the first have proved an immense attraction. He is as alert and active as the average man twenty years his junior, and personally superintends the whole of the work that is being done in the open spaces belonging to the town. Mr. and Mrs. Smith celebrated their golden wedding about a year since, when the respect in which they are held was evidenced by the public presentations made to them.

The Rose Annual for 1913 has been issued, and the members of the National Rose Society, who receive a copy as part of their yearly privileges, will have full justification for indulging in a strong sense of satisfaction. The publication is more bulky and more profusely illustrated than either of its predecessors, and the high quality of both illustrations and text has been maintained. The half-tone blocks are this year supplemented by four coloured plates of subjects photographed in their natural colours at the society's autumn exhibition. These comprise a pyramidal arrangement of the rich yellow Rayon d'Or, a basket of twelve blooms of the brilliant crimson-scarlet Hugh Dickson, the first prize eighteen blooms in the nurserymen's section, and a basket of the orange-pink Irish Elegance.

British Association.—Sir Oliver Lodge has been elected president of the British Association in succession to the late Sir William White, for the meeting which will be held at Birmingham in September next.

The Gardens of Skibo Castle, the Sutherland residence of Mr. Andrew Carnegie, are remarkable for their roses, for these fragrant flowers have been planted in prodigal profusion, and thrive amazingly under the conditions that obtain in the northern part of Scotland. Rambling and dwarf roses are both grown in large numbers, and with an equal amount of success. Of great beauty is the effect produced by the roses that fill the eight large beds which encircle the fountain that forms so conspicuous a feature of the gardens. Each bed contains about 450 plants, and conspicuous among the varieties are Madame Abel Chatenay, Madame Ravary, Frau Karl Druschki, Juliet, Lady Battersea, Mrs. John Laing, and Richmond. There are rustic posts rising to a height of eight feet, clothed with Dorothy Perkins, Blush Rambler, Hiawatha, and other varieties of the same class, a hedge composed of the richly-coloured Gruss an Teplitz, and a pergola some 600 feet in length, on which the various climbing and rambling roses are displayed to the greatest advantage. Most delightful also is the effect produced by the roses that clothe the balustrades which support the terrace

...ays. Of the many varieties grown, Countess of Gosford, Frau Karl Druschki, General McArthur, Hiawatha, La France, Liberty, Juliet, Madame Abel Chatenay, Richmond, and White Killarney are special favourites with Mrs. Carnegie.

Fruit Growing in Western Australia.—In the course of his evidence, recently given before the Federal Fruit Commission, Mr. J. F. Moody, the Fruit Industries Commissioner in Western Australia, stated that this year there are 25,000 acres in the State under fruit, as compared with 22,000 acres in the previous year, showing an increase in planting at the rate of 3,000 acres per annum. Referring to the quality of the fruit grown in Western Australia, as compared with that of the Eastern States, he said that the chief difference was that most fruits in the Western State had a much tougher skin, and it was just this difference which gave the Western Australian product its superior export value. He believed that Western Australia was destined to become one of the leading fruit-exporting countries of the world, not excluding America. The Chairman of the Commission, who is a prominent fruit-grower of Sydney, commended generally the quality and character of the orchards and the up-to-date methods employed.

The Bletchley and Fenny Stratford Horticultural Society, which holds its fourth annual exhibition on August Bank Holiday (August 4) in the grounds of Bletchley Park, kindly lent by Sir Herbert Leon, Bart., is a society that has come into front rank with marvellous rapidity. About 140 classes are provided for garden produce, in addition to divisions for poultry, honey, and industrial work. The horticultural section is by far the largest, but considerable attention is devoted to athletic sports, and to the exhibition of horses and ponies. That the whole affair is a great attraction for the Bletchley district will be gathered from the statement that in 1912 the gate money amounted to £415 8s. 6d., and entrance fees to £36 9s. 10d. Subscriptions and special prizes added £129 2s. 6d. to the receipts, and other items brought up the income to £853 15s. 8d. for that year. After distributing £213 10s. in prizes, paying £26 10s. for bands, £113 17s. 2d. for printing, stationery, and advertising, £89 6s. 1d. for tents, etc., presenting the secretary with an honorarium of £50, and defraying a number of petty expenses, the society wound up the season with £110 16s. on the right side, which, with £9 11s. 5d. brought forward, gave the committee £120 7s. 5d. in hand to start with in 1913. Well done, Bletchley!

Horticultural Education in America.—Discussing why it is that graduates from horticultural schools do not gravitate to the best positions in nurseries, the Editor of "The National Nurseryman" (U.S.A.), considers that "the boy who goes through the public school, then through the high school, and then to a horticultural college, is too long before he gets in contact with the soil and hard productive work. There is rarely a position open on a nursery for such a man, and few have grit to begin at the bottom and work up, even with their educational equipment. The educational method is wrong; there is too much horticultural book learning in the beginning. The ideal course would be a good common school education followed by four or five years apprenticeship on a good nursery or horticultural establishment, followed by a two-year course at an experiment station or college. This is the plan followed by Kew Gardens, and is eminently successful as far as turning out practical, well-equipped men is concerned. Encourage the boys to take a four year course on the nursery before they are twenty-one years of age, and then when they do take their horticultural course at college it will count for something, and will not spoil them as practical nurserymen. It is essential they work at 'the bench' at the same time they are studying, before they get too old, and the horticultural schools only play at work."

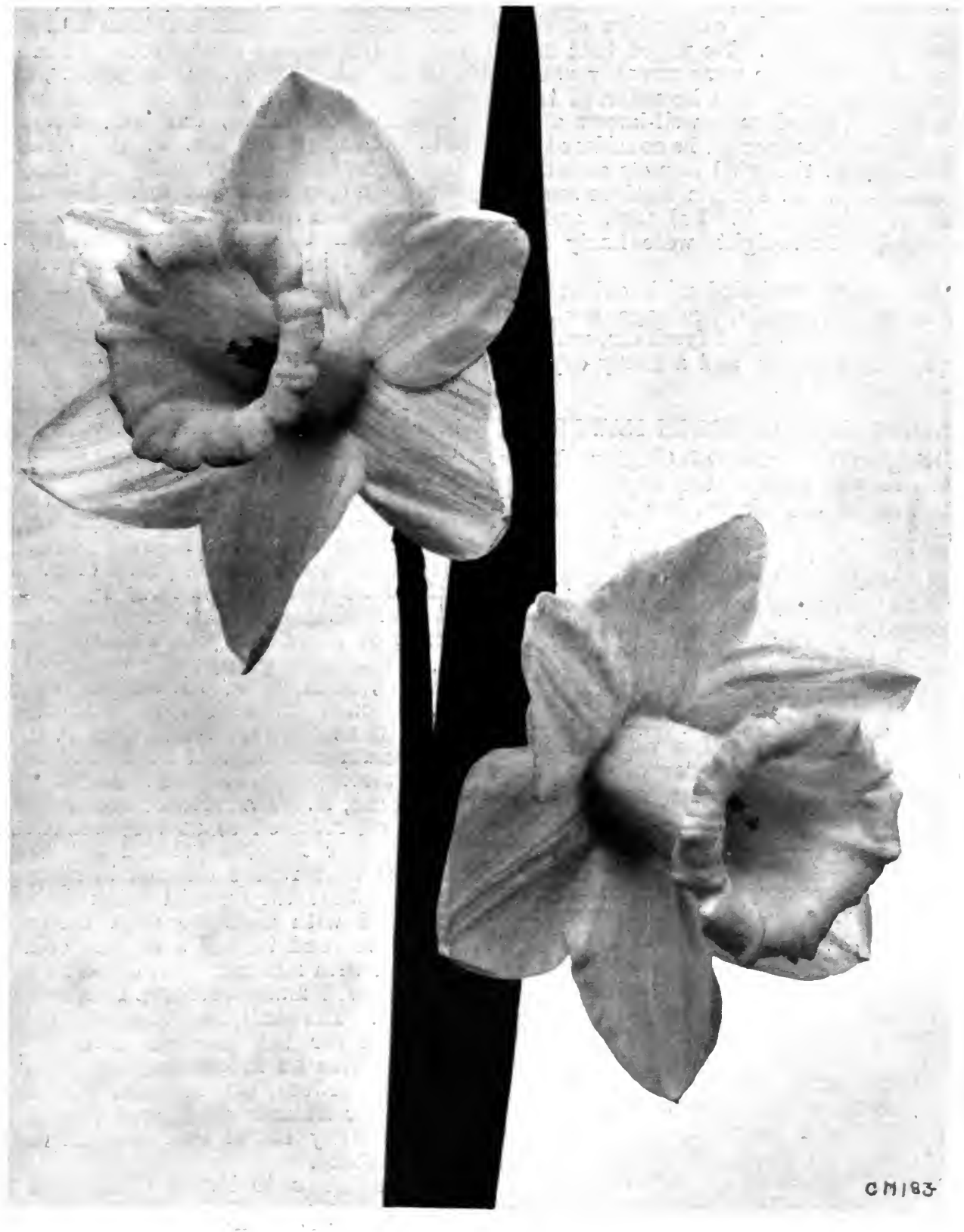
Wintry Weather in Norfolk.—Our Norwich correspondent writes: Norfolk, and especially that part of the county around Norwich, felt the full effects of the wintry weather experienced on the 11th inst. The fall of snow was equal to an average depth of about five inches, and with a strong wind blowing much damage was done to the spring flowers in the majority of gardens. The narcissi appear to have suffered the most severely from the inclemency of the weather, and, generally speaking, the flowers were at their best, but the weight of the snow brought them to the ground, and thousands were utterly ruined. On the morning of the 12th inst. a frost followed, but previous to this much damage had been done to the plum blossom by cutting winds, which had shrivelled tender subjects as if they had been burned."

PRIMULA CONFERENCE.

There was a fair gathering at 11 a.m. on Wednesday, April 16, when Sir John T. D. Llewelyn, Bart., of Penllergare, Swansea, opened the Primula Conference in the Lecture Room at the Royal Horticultural Hall, Westminster. Among those present were: Professor I. Bayley Balfour, Sir Harry J. Veitch, Rev. W. Wilks, and Messrs. H. J. Elwes, R. Wallace, D. Houston, W. Hales, W. Irving, R. L. Harrow, A. Watkins, W. Watson, E. H. Jenkins, C. E. Pearson, F. Chittenden, J. Fraser, Miss Willmott, J. B. Farmer, etc., etc.

Sir John said that it was in 1886 the previous Primula Conference was held under the auspices of the Royal Horticultural Society, and since that time our knowledge of primulas had advanced greatly, and justified the present conference. A great love of primulas had developed meantime, and there had been large discoveries of new species in China, especially in Western China. He referred to the losses sustained in the primula world since the previous conference, and cited Sir J. D. Hooker, Shirley Hibberd, Dr. Masters, Rev. F. D. Horner, B. Simonite, and Jas. Douglas.

Sir John dealt with the garden value of the primula, and, instancing the development of many species in the hands of the florists, pointed out the possibilities of the future with the newer introductions.



NARCISSUS MRS. ERNST KRELAGE.

A very beautiful Ajax variety, white, with creamy-white, frilled trumpet, and of splendid proportions. A most refined flower, although also a large one. A.M., R.H.S., in 1912; and F.C.C., R.H.S., April 15, 1913. Messrs. E. H. Krelage and Son, Haarlem, Holland.

A collection of natural hybrid primulas from Mr. R. Farrer; some from Kew; a fine series of new species from the Edinburgh Botanic Gardens; and a large number of primroses, single and double, from Dr. MacWatt, illustrated the various lectures.

EUROPEAN PRIMULAS.

Dr. J. MacWatt, of Duns, Berwick, who for many years has taken a keen interest in hardy primulas, and has formed a large collection of species and geographical forms, and has also taken up garden primroses and raised a number of double forms, showing distinct colouring, read a lengthy paper upon "European Primulas," and illustrated his remarks with a large number of lantern slides. Some of the slides illustrated specimens growing in their native homes, while others represented specimens growing in Dr. MacWatt's garden.

Many rare species were dealt with, and some directions for the cultivation of these rare kinds were given. He urged that not a few kinds in commerce were wrongly named, notably P. viscosa, which he referred to P. hirsuta, but P. frondosa, a well-known alpine gem, and a popular species, he considered was correctly named, though botanists sometimes think otherwise. P. hirsuta Balfouriana, P. Allioni, P. minima, P. Palinuri, and P. acaule Evelyn Arkwright were finely illustrated.

Dr. MacWatt concluded with cultural remarks as to soil, shade, drainage, etc., and he emphasised the need of fresh air, moisture in spring and summer, and a fairly dry condition during winter.

EUROPEAN HYBRIDS IN NATURE.

Mr. Reginald Farrer, of Clapton, Yorks, who has ranged most of the European Alps in search of alpine plants, has become intimately familiar not only with the species of primulas, but with the vast number of natural hybrids to be found in nature. His paper was a delightful one to listen to, and it conveyed a vast amount of first-hand information, together with opinions respecting the origin of many kinds, formed as a result of close observation during his plant hunts. He pointed out that crosses between primula species of different sections were rare and problematic; between species of the same subsection crosses are rare, except in the subsection Auricula. The two most prolific plants were, Mr. Farrer declared, undoubtedly P. minima and P. Auricula, these having a wide range, and thus coming into contact with many species that are more or less local. P. Auricula crosses freely with P. hirsuta (P. viscosa of gardens), and Mr. Farrer urged the use of the name pubescens for the whole large range of these hybrids, many of which, notably "Mrs. J. H. Wilson" and "The General," are of great garden value. He said that the most wholesale parent was P. minima, and all its hybrids are of use and interest, but, curiously enough, while P. minima crosses readily with very many species, it appears to spurn the attentions of P. Auricula. Mr. Farrer considered P. intermedia, P. Steini, and the fragrant violet-coloured P. glutinosa as the finest of the natural hybrids. P. viscosa he considered was also a common parent. He referred to many kinds which might be hybrids between certain species, but which he did not feel sure of at present; however, he believed there were many good natural hybrids yet to be determined.

To his entertaining and instructive paper Mr. Farrer appended a table of primula crosses, the genus being suitably divided into its several sub-sections. He concluded by asking for a wider cultivation of these natural crosses, and urged that certain hybrids, such as Kellereri, Forsteri, pubescens, Heeri, and the magnificent intermedia, should rank, for show, ease of culture, and general garden value far above any of the species, except spectabilis, Clusiana, marginata, carniolica, piedemontana, hirsuta, and Auricula.

Mr. Farrer is an enthusiast, and he glorified his subject so admirably that one began to imagine every primula was a yard high, with flower heads two feet across, and blooms not less than three inches in diameter; indeed, it almost seemed that this world was made especially for primulas, and all other flowers were accidental, but, after all, the enthusiast makes for progress.

CHINESE AND JAPANESE PRIMULAS.

The afternoon session began at 2 p.m. Professor Bayley Balfour did not read his paper on "Japanese Species of Primula," but referred to the newer Chinese species, as they were portrayed upon the screen. He pointed out that owing to recent explorations there were now about 150 Chinese species known, many of these having been originally found by Roman Catholic missionaries. So far, however, only a small part of China has been carefully explored, and the introduction of many species to cultivation was due to Messrs. J. Veitch and Son, through their collectors, Messrs. Wilson and Purdom, and to the Messrs. Bees, through Mr. Forrest and Mr. Kingdon Ward. At present, the Professor said, Mr. Kingdon Ward was still collecting in China, and Mr. Forrest was also collecting for Mr. J. C. Williams, of Caerhays Castle, Cornwall, so many other species might be hoped for. He said that Yunnan had provided a large number of the known Chinese species, but by means of a map he showed that at present we are only touching the fringe of Chinese primulas.

Professor Balfour is an enthusiast, and his observations upon the species illustrated were great appreciated. He showed P. sinensis and P. obconica, and noticed that the former, stable in the wild state, had varied greatly under cultivation, whereas the opposite was the case with P. obconica, and yet the two species grew side by side in China. He drew attention to P. obconico-Listeri, a species likely to prove of great garden value because it had the good points of P. obconica minus its stinging hairs. P. Veitchi, of the cortusoides section; P. pycnarova, and a series of woodland plants comprised in the P. geranæfolia group; the beautiful spicate species, such as P. Littoniana, P. spicata, P. nessensis, P. secundiflora, and P. pinnatifida; the miniature kinds, like P. umbrella, P. membranifolia, and P. Kichenensis; and the stronger-growing P. serratifolia, P. Beeseana, P. pulverulenta, and P. Bullyana, were all referred to as very beautiful.

Professor Balfour pointed out that some species were rather difficult to manage, and he felt that they would often do better if supplied with moisture from below instead of above, and that if a longer, cold resting period, with less moisture, could be provided, he believed many cultural difficulties would vanish. The statement that £3,000 had been granted for the erection of a large cool-house, with an indoor rockery, at the Edinburgh Gardens, was received with applause. Professor Balfour considered that in such a house many choice species could be grown successfully.

In addition to living plants and lantern slides, Professor Balfour had a large collection of photographs or rare species showing the latter as growing or as dried herbarium specimens. The lecturer was very heartily applauded at the conclusion of his remarks.

Mr. Elwes suggested a refrigerating apparatus to keep such a house as Professor Balfour had suggested sufficiently cool to ensure the plants having a long rest. He also drew from Professor Balfour the remark that collectors aided the cultivator greatly if they noted, not merely the altitude at which species were found, but also the special conditions under which the plants were growing naturally.

PRIMULAS FROM A GARDEN POINT OF VIEW.

Mr. Craib's paper, a technical one, bringing Sir G. Watts' synopsis up to date, was in the absence of the author, taken as read.

The Rev. W. Wilks read Miss Gertrude Jekyll's paper on "Primulas from a Garden Point of View," which dealt with primroses and polyanthuses in their various colour forms, alpine and border auriculas.

This short paper formed a fitting conclusion to the conference series, because it described how gardens had been and could be beautified with hardy primula species and the host of garden forms now available, especially when these were planted with a free hand, and proper sites were selected for them.

Sir John Llewelyn proposed a vote of thanks to those who had contributed papers, and this was seconded by Mr. R. Wallace, and heartily accorded. A similarly hearty vote was accorded the veteran chairman.

CARNATIONS DUCHESS OF DEVONSHIRE AND FAIRMOUNT.

On referring to the Gardeners' Magazine of March 15, I was interested in Mr. M. Allwood's article, "Perpetual-flowering Carnation Novelties for 1913." While I agree with the writer to a great extent, I must take exception to his criticism on Duchess of Devonshire, and also the optimistic and somewhat inflated character which he gave to Fairmount.

With reference to the former variety, Mr. Allwood is good enough to admit that this deep crimson is of beautiful form. However, he says "it is not quite so free-flowering as some of the varieties." I should be glad to know how Mr. Allwood arrives at this conclusion. How many plants has he grown?

As the raisers and disseminators of Duchess of Devonshire, my firm claims that it is the best all-round crimson carnation for private collections. In my opinion, no crimson variety has yet reached high-water mark of perfection, but it is claimed for the variety that it is free-flowering, and makes a beautiful plant, such as the average private cultivator delights to look upon; and I further state that it would give more flowers over any given period than any other crimson variety in existence.

It would be superfluous to give my own experience in growing the Duchess of Devonshire, but I might say that, with the large number of professional gardeners and amateurs who have grown the variety, it is a great favourite.

Last week I was in the North, and went to see a large private collection of perpetuals in the vicinity of Warrington, where even Mr. Allwood will admit conditions, owing to the chemically-charged air, are not quite ideal. This collection contained a large number of plants of Duchess of Devonshire, and the owners immedately stated that it was the best all-round crimson that he had ever grown.

I could also give numerous other opinions of gardeners who are well up in the carnation world, to say nothing of the constant reference in your columns, and other of the principal gardening papers which report shows. This must prove, by the accounts given, that Duchess of Devonshire has come to stay.

With reference to Fairmount, Mr. Allwood says that the growth is strong and healthy, and that the variety is likely to supersede the popular variety Mikado. My experience in growing Fairmount is limited, as we have only a few hundred plants. However, I have already seen enough of it to be able to say that it is nothing like so free-flowering as Mikado, and, in my opinion, it cannot lay claim to being a healthy grower. In expressing this opinion, I have in my mind stocks that I have seen growing in different parts of the country.

I think that if Mr. Allwood were to try a fresh stock of Mikado, he would very soon alter his opinion of this magnificent forerunner of the mauve varieties. Mikado will outlive Fairmount, and many other mauve-tinted varieties of recent introduction, although it is not by any means a faultless carnation.

C. H. Taudevin.

DECORATIVE DAHLIAS.

What are known as decorative dahlias have come to the front in recent years, and, notwithstanding their having to enter into competition with the extremely popular cactus section, are more largely cultivated year by year. In common with other members of this family considerable diversity is seen both as regards size of flowers and stature, but, without exception, they well deserve the appellation decorative, being capable, under favourable conditions, of producing a gorgeous display and fine effect in the garden. There is much to recommend the bringing together of these plants in substantial masses, such as large isolated beds, stretches of border, groups in the shrubbery, etc.

Here in Bermondsey extensive borders 200 feet by ten feet are planted with ten-week stocks, and among them are arranged solid blocks of dahlias, every section being represented in the most suitable varieties. It is only fair to say that the decorative kinds are second to none; in fact, those groups stand out in conspicuous fashion, and fully demonstrate their value for garden decoration. Further, they require little or no thinning of either growths or flowers, while they possess a strong constitution and stout habit of growth.

It is worthy of note that small plants form large tubers by the end of the season, so that it is possible to work up a big stock from cuttings in the usual manner. It is well known that a number of varieties in other sections fail in this direction, the tubers being little more than enlarged stems the first year. In writing of varieties it must be stated that one or two new introductions are of great merit. Messrs. Cannell and Sons have shown well a new creation, which bears the name of Queen Mary. The blooms are large, with broad florets, and a bright pink shade. Another acquisition is found in Useful, which was raised by Mr. J. T. West, and produces rose-mauve flowers on long and stiff stems.

Too much cannot be said in favour of Kaiserin Augusta Victoria, of spotless purity and wonderfully floriferous habit. It has figured largely in the London parks and gardens for some years, and attains to a height of about three feet. Souvenir de Gustave Doujon is now well known and widely distributed. It forms a capital background plant, with its seven-feet stems, surmounted by orange-red flowers of immense proportions. Messrs. Ware, Lim., have supplied a sport from this variety, a fine flower with white-tipped florets. I procured a few plants of La France last season, and was much impressed with its beauty and colouring, namely, soft rose. In some instances the blooms were tipped with silver. In Brentwood Yellow we have an ideal plant for bedding or front row work. It grows to about two and a-half feet in height, and produces immense flowers of a soft golden colour—a splendid acquisition. Scarcely second to the foregoing is Yellow Colosse, although it flowers less freely in town gardens. The last-named is content with a three-feet stature. Further comment is needless. Attraction, raised by Mr. Turner, is to be recommended, the beauty of its crimson-maroon flowers being enhanced by the presence of rose colouring at the tips of the florets, while the flowers are of great size.

Then we have Loveliness, which is worthy of its name, and must find a place in every garden. Its colouring may be described as an art shade, and what a valuable variety to supply decorative material as cut flowers.

DECORATIVE DAHLIA USEFUL.
Flowers, rose-mauve. Raised by Mr. J. T. West.

Certainly one of the most charming varieties is seen in Jeanne Charmet, in lilac and pink, the basal part being more or less suffused with gold. Built on the same plan as Souvenir de Gustave Doujon are the blooms of Mdlle. Helene Charmet, and, these being pure white, it may well be associated and rub shoulders with it. And yet another is Papa Charmet, with crimped, broad-petalled, crimson-maroon flowers. A group of this variety strikes a rich note.

As a town plant I cannot say much in favour of Madame Van Der Dael, and great is the pity that its beautiful silvery-pink blossoms are not more freely produced so placed. On the other hand, Moda Lumeire is a huge success. Delice, Phenomené, Le Grand Nainton, and Gloire Lyonaise extend the list, and each and all are worth attention, and prominent positions in the garden.

WALTER H. AGGETT.

LATE GRAPES.

Vines in late houses should now be helped forward by a moderate use of fire-heat, early closing, and good syringing twice a day; better results follow the use of a little fire-heat in March and April than double the quantity in September and October. Late grapes enjoy a temperature suitable for muscats, and as soon as the bunches are prominent 58 to 65 degrees at night may be allowed according to the outside temperature, closing with plenty of sun-heat and the usual rise during the day. Another great help at this season is a good mulching of fresh short stable manure with plenty of droppings in it: this not only acts as a stimulant, but affords a never-failing source of atmospheric moisture. Pay careful attention at all times to ventilation; a little should always be allowed at night, as it is an excellent preventive of scalding and disposes of condensed moisture.

F. JORDAN.

SOME GOOD ALPINE FLOWERS.

Convolvulus Soldanella.

A good plant we but seldom see at its best in the rock garden is one of our native flowers, Convolvulus Soldanella, a non-climbing species of the highest beauty. We seem to be too good to it in the garden, and it does not always flower there with the freedom with which it blooms on some of the sand dunes of our coasts, or the shingle which fringes some of our shores. It is a delight to come across it there, and the writer well remembers his disappointment at the result of a search in vain for it on some sand hills where it had been once recorded. It is so beautiful, with its big flowers of pale-purple or pink—large for the size of the plant, which is rarely a foot high. The secret of success is to secure small plants in pots, and to plant them out in almost pure sand, so thoroughly drained that all the surplus water passes away, or to put it in a well-drained moraine. Rich soil is its detestation, and moisture at the roots is its horror.

Coprosma acerosa.

In this New Zealander we have a curious, yet pretty plant, with narrow, pointed leaves, which are nearly evergreen. It is of straggly habit, and looks best when trailing over the rocks. Its main beauty lies in the pretty, oval, blue berries which succeed the insignificant flowers, and very attractive, indeed, do these appear on a good specimen. To see it best the plant should be well up on the rockery, and if it grows too large it should be cut back. In some places it has been found a little tender, and in all parts it ought to have a sunny, sheltered situation, where it is protected by other parts of the rockwork from the northerly winds. It must have a good root run, and should be planted in loam, leaf-soil, and plenty of grit. It is raised from seeds or cuttings.

Sedum cyaneum.

One may go through a good many rock gardens of considerable importance without ever seeing Sedum cyaneum, a species of considerable beauty, and one which has been greatly prized by many connoisseurs. This may be because of its comparative rarity, and its rarity is probably due to its tendency to tenderness in many gardens. This Bluish Stonecrop is a native of Eastern Siberia, and possibly dislikes our wet winters more than sheer cold. We have seen it in some northern gardens, but in most of these it was sheltered from the winter rains by a sheet of glass, under which it proved hardy. The writer knew a keen alpine grower who prized the possession of Sedum cyaneum so greatly that he would never part with any of his plants, or even cuttings—a bit of stinginess not often seen among those who have kindred tastes. Sedum cyaneum is only three or four inches high, and has thick, blunt, entire, opposite leaves and heads of purplish-blue flowers. The name of cyaneum suggests a brighter colour than the flowers really are. It is increased by pieces taken off and rooted in sandy soil. It prefers a gritty loam and sand, and should have a due south aspect.

Mazus pumilio.

The Dwarf Mazus first appealed to the writer a good many years ago from seeing it figured in Wooster's "Alpine Plants," then just published. The desire to own it was soon gratified, and, though one has seen many more showy alpines, yet Mazus pumilio fulfilled all one's expectations. But it was not found very easy to keep in wet winters when on the lower levels of the rock garden, but we discovered that it was necessary either to plant it on a sloping part, or to mulch it well with fine grit in autumn, so as to prevent it from damping off. Some cover their plants with a sheet of glass, raised a little above them, but this is not absolutely necessary, although a good precaution, especially if the mulching is added. This Mazus is a low-growing, creeping plant belonging to the Figworts, and it bears above its wrinkled leaves rather pretty flowers of pale-purple or violet with a white throat. The leaves lie quite flat on the soil. In the moister and shadier parts of the rock garden it requires a soil of very sandy loam with plenty of grit added, and a top-dressing of pure grit, but in sunny exposures it may have loam, leaf-soil, sand, and grit in about equal proportions. S. Arnott.

EXHIBITING AND JUDGING DAHLIAS.

The following is the text of a lecture delivered at the National Dahlia Society's Conference by Mr. C. G. Wyatt, of Salisbury:

The subjects placed in my hands to deal with are "Exhibiting and Judging Dahlias," and thought at first sight they would appear to be of the same character, and are, of course, always intimately connected, I purpose to deal with each separately, in order that our minds may be centred on one point at a time.

There is no shadow of a doubt that by far the greater part of the dahlia enthusiasm we have seen, the large amount of time and money spent, and the thousand pleasant reminiscences in the dahlia world, have been in direct association with the exhibition table and its surroundings, and, although great men among dahlias to-day are seemingly bent on bringing into greater prominence the value of the dahlia as viewed at a distance, perhaps as a plant in its entirety, in other words, for garden decoration, we can not lose sight of the fact that the dahlia is pre-eminently a flower for exhibition, a thing of beauty in every solitary blossom, and, like a charming maiden, her beauty is in her face, and not in the clothes she wears.

Perhaps in the whole realm of floriculture no flower exists which more quickly and more certainly shows the effects of good culture, almost incessant watchfulness, whole-hearted love for its care, its protection, and well-being, than the dahlia.

But I shall be wandering from my subject if I say anything more in regard to that. The old adage says: "First catch your hare, then cook it." Well, if I may say so without disrespect to those models of beauty we have in our minds, I have simply to deal with the cooking after being caught, leaving the forces which brought the flower to be a fit subject for a Royal Court function to other hands.

Before I say anything of the immediate presentation before the eyes of all beholders, I had better deal with the preliminary necessities for showing, of boxes and boards, of tubes and corks, of wires and fixtures, and these must, of course, differ according to the class of flower with which we are dealing. The sizes of boards and stands have been decreed by the National Dahlia Society, so it behoves all new exhibitors to take care that the size and height of their stands conform to the regulations, or they may find the space allotted to them is insufficient, and may, in fact, land their exhibit in that most deplorable of all happenings, disqualification.

Show and fancy dahlias will, of course, be exhibited on boards, and are prepared by the stem being pushed through a hollow cork as far as it will go, until the flower is held erect by it, when pieces from the end of the stem are pushed into the lower end of the cork holding it firmly in place, and the cork can then be fitted into the tube, and all is ready for the exhibition board.

Cactus dahlias, if to be shown on boards are dealt with in the same way. If to be shown in bunches, this will necessitate wire frames to hold them in position, the stems and wire frame being bound up together with raffia and placed in the tube. Pompons and singles are treated in the same way in smaller frames.

I do not intend to dwell longer on the modus operandi of preparing flowers for exhibition. Exhibitors know the method well, and the advice I would give to a would-be exhibitor is to make his way to some important show an hour or two before judging time, go amongst the exhibitors with his eyes open, and ocular demonstration will teach him far more than the most explicit verbal instructions could do, and he will see there is no trick or difficult manipulation needed, but that the whole preparation is simplicity itself.

I could wish it were the fashion amongst exhibitors to keep the flowers farther away from the boards, so that they may present a more natural and a less cramped appearance, but at present there seems to be no intermediate stage between placing the flowers nearly flat on the boards and raising them on long stems in vases, where, if the face of the flower is turned and fixed straight upwards, it seems to have an unnatural stiffness about it, and if, on the other hand, the flower faces downwards, nine-tenths of its beauty is neither seen nor appreciated, for the most admirable part of a dahlia is in the centre of its face, and only a small portion of its beauty lies in its exterior.

As regards the time for cutting dahlias for show, I may say we invariably cut them as soon as possible after daylight appears on the day preceding the show. Immediately after being cut the flowers are carefully carried to a cool shed and placed in stone bottles filled with water; water is plentifully sprinkled on the floor and benches, and here in the cool and the shelter, the work of preparation goes on through the day. Oftener than not the railway journey to the place of exhibition takes place that evening.

Let me advise all exhibitors to keep their eyes on the boxes whenever possible during the journey, and especially on arrival at the terminal station, or before one is aware of it the boxes will be out on the platform, stood on end, or may even be upside down, and when this occurs, unkind thoughts, ruffled tempers, and expressions more forcible than polite are imminent, and it has been said that porters surely miss a money tip and but barely miss a boot tip on such occasions.

But let us hope no untoward incident has occurred, and that the flowers have arrived at their destination in good condition. Now place the boxes in an airy, cool position, but on no account spray them or leave them damp, or they will quickly shed their florets and spoil the chances of a prize.

The first work in the morning will be to select the actual position for each exhibit, then proceed to arrange the flowers, having due regard to colours, placing light and dark ones alternately. Care should be taken that the colours do not clash; purple and mauve shades require special watching in this respect, for if brought into proximity with a scarlet the effect is disastrous. Take care that whites, yellows, and very pale shades are evenly distributed or the stand will have a one-sided, badly-balanced effect. Now be careful to name each flower correctly, and the neater and less conspicuous the name card is the better the flowers will look. Many a good stand is made hideous by badly-written, misspelt names on unsuitable material.

Above all, think more of the exhibit than of the prize, keep a cool head, and centre your whole attention on what you do, or some foolish mistake at the last moment is likely to happen, such as putting two flowers of one variety in a stand, or transposing the positions of two flowers and leaving the original names where they were, so that both flowers are wrongly labelled.

(To be continued.)

SELECT POMPON DAHLIAS.

In writing about these delightful little Dahlias one is not confronted on taking up the pen with the task of differentiating between varieties that are best suited for the production of attractive colour effects in the garden, and those which by reason of their exquisite colouring and perfect modelling are able to render good service on the exhibition stage. Why there is no reason to arrange the pompon dahlias into two distinct groups can be stated in a few words, and these should have the most careful attention from those who are interested in garden management. To be brief, all the finest of the varieties included in the section happily combine an excellent habit, with abundant flower production and blooms closely approaching perfection in form and highly attractive in colour. If it is also stated that the exquisitely formed flowers are carried well above the foliage on erect stems, it will at once be seen that these varieties afford excellent material for indoor decoration. All the varieties are not equally suitable for the supply of cut flowers for decorations, but this is not a consequence of the imperfect development of the blooms or of a weakness of stem. It is simply owing to certain of the colours being less pleasing in rooms than others, the rose-coloured and purple shades, for example. In the garden and on the exhibition stage blooms of these colours are all right, but in the subdued light of the living-room they are dull and unattractive.

To raise and prepare a stock of plants is a very simple matter. Not taking an active part at competitive gatherings beyond assisting in the judging and discussing with my friends the relative merits of varieties new and old, there is not in my case any occasion to consider which of the methods of propagation is the most conducive to the perfect development of the centre of the blooms. My practice has for many years past been to start the roots in shallow boxes partly filled with a mixture of loam, leaf-mould, and sand, and the results have been so satisfactory as to render change unnecessary. The roots are taken out of the store early in March, and placed in a structure in which a temperature of about 55 degrees is maintained. For convenience of potting later on, the tubers are shortened to one-half their length with a sharp knife, the cut being made at right angles. The cut ends are dipped in lime, and the roots are stood in the boxes, without soil, for the cut ends to become dry. At the end of seven or eight days sufficient of the mixture mentioned is filled in about them to reach to the base of the stems.

The first growth on each root is rubbed off when about an inch in length, and this check will cause other buds to shoot into growth. Later on, when the shoots are about two inches in length, they are reduced to two or three each by the removal of the most weakly. The next step is to put the roots into six-inch pots, using a compost consisting of loam, well-decayed manure, and coarse silver sand. They are kept close for a few days, and then the ventilation is gradually increased to harden the new growth. When this has been accomplished, the dahlias are removed to an unheated frame, where they remain until bedded out. In the meantime, they receive free ventilation during the day and efficient protection from frost at night. Plants now growing in small pots will, if they are at once shifted into others five or six inches in diameter, a rich compost being used, be in splendid condition for bedding out five or six weeks hence.

DECORATIVE DAHLIA QUEEN MARY.
Flowers bright pink.

Turning from the plants to the beds and borders in which they are to be grown, it should be first stated that previous to planting the soil should undergo a thorough preparation. In other words, a rather liberal dressing of manure should be applied and the ground be dug over to a depth of not less than twelve inches, the manure being well mixed with the soil in the process. In common with other dahlias the pompons require a soil for their successful cultivation that is moderately rich, but not, as some writers on these flowers would imply, reeking with manure. The big holes filled with manure which are so frequently recommended are not only unnecessary, but most undesirable. When arranged in beds wholly devoted to them, plants prepared as here advised should be put about thirty inches apart each way. Those on the other hand, that are kept in three-inch pots will have ample room if eighteen inches apart, and if with single stems and in five-inch pots put them two feet apart. Pompon dahlias are useful also for brightening up the mixed flower border late in the summer, and in my garden those used for this purpose are planted about six feet apart along the front line. The best time for planting is the end of May, and in planting the soil should be pressed firmly about the roots.

The following varieties are of high quality, and afford a wide range of colour, namely, Annie Holton, crimson, the florets tipped with white; Captain Boyton, maroon-crimson, one of the very best of the dark varieties; Daisy, amber and salmon, distinct and attractive; Glow, coral-red, very pleasing; Douglas, maroon, shaded crimson; Edith Bryant, pale yellow, margined with crimson, an effective combination of colour; Florence, lilac colour; H. E. Searle, rich orange; Ideal, clear yellow; Mars, brilliant scarlet; Montagne Wootten, white, margined with lake; Nerissa, soft rose-pink; Queen of Whites, pure white, very fine; San Toy, white, margined with carmine; Tommy Keith, cardinal-red, tipped white; and Whisper, clear yellow, margined with bronze. White Aster is an exception to the foregoing inasmuch as the flowers are not of exhibition form. They are, however, light and elegant and of quite exceptional value for floral arrangements. In the garden they are most effective, and the variety may be described as one of the most useful of the white pompon dahlias for beds and borders. J. R. S.

CYPRIPEDIUM SPECTABILE.

For a cool situation in a half-shady spot there is scarcely anything more beautiful among hardy flowers than a good group of Cypripedium spectabile. It is the finest of the North American species, and the showiest of the hardy orchids, having large flowers of a blush-white shade, overlaid with a lovely rose tint, these being carried on tall stems that vary from eighteen inches to thirty inches, according to the situation.

It succeeds best in a compost of peat and loam, in equal parts, and must not suffer from lack of moisture during the growing period, although in the winter it enjoys rather drier conditions. The best planting season is in spring, when the increasing sunheat begins to make the soil warmer, as this ensures a full season in which the plants become established. This cypripedium is very effective when intergrouped with Gillenia trifoliata and the foreground planted with dodecatheons and trilliums, all of which succeed under similar conditions. Thomas Smith.

Coombe Court Gardens.

THE ECONOMICS OF BRITISH WILD FLOWERS.

There are undoubtedly numbers of people who believe the value of plants to man begins and ends with the vegetables in the garden, and the fruit in the orchard.

But there are many British wild plants that are of equally as much value to the manufacturer as are tea, coffee, cotton, and the innumerable other valuable plants that grow abroad in the hotter regions of the earth, e.g., rubber.

In England we can number plants that produce gums, resins, and turpentine. Quite a number yield oils. Then, every colour of dye is furnished by different well-known British plants. Even marking-ink can be made from oak, and many other plants beside the elm serve for tanning leather. Everyone knows how stringy a nettle is, who has to root one up, and many other plants yield fibres or bast, while flax has been grown for linen from a time wrapt in obscurity before the Romans came.

Whole books might be written upon the question of plants suitable for use as drugs. Even in the time of Bacon superstition reigned supreme in this realm of knowledge, for by a crude kind of logic human symptoms were read into plant peculiarities, and the two were regarded as connected beneficially for the patient, with ludicrous results, such as the necessity of using yellow juices to cure jaundice. But in spite of this ignorance a fairly large number of plants have important principles, which are efficacious and of value to the physician, some being astringent, others, as henbane, narcotic, or sedative as bittersweet. The salts of lemon, so useful for removing ink, can be prepared from common sorrel. Doubtless many of the vagrants who are to be seen frequently with a pipe in their mouth know that coltsfoot leaves yield a sort of tobacco. Every summer brings with it, not only the scent of new-mown hay and roses, but a host of other delightful perfumes. Valuable ointments are also to be derived from various plants, as well as soaps.

The plants useful for edible purposes, either as fodder, cereals, bird-seed, fruit, to make jelly from, yielding tubers, spices, flavouring materials, sago, sugar, honey (by help of the bees), the score or more vegetables, old-fashioned pot-herbs, salads, pickles, confectionery, beer, wine, spirits, tea (of a sort, produced by holly), sloe, rosebay, tansy, horehound, coffee, and jalep, are probably better known to most people than any other group of useful plants.

We are but just realising the necessity of replacing our valuable timber supplies as they are used up, by the planting of young trees in the place of full-grown timber, and it is probable that few people know the peculiar use to which each of our trees may be put, for each is more suitable for one purpose than some others. Field maple is adapted for making furniture and bowls, cups, and similar light articles. Rakes are made from the wood of the sloe. Pipes (and cabinet work generally) are made of cherry wood. The wood of the bird cherry is very prettily veined, and used for the handles of tools. Yokes and the cogs of mill wheels have been made largely from the white beam tree. Mountain ash is very hard, and takes a good polish.

Hawthorn is equally hard wood. From the cornel spear shafts were made, also bows, cog wheels, skewers used by butchers, and ramrods. The ash is another hard wood used for making agricultural implements, packing cases, hop poles, walking sticks, hoops, and baskets. The keels of ships used to be made from elm, but steel has now replaced the wood almost entirely except for fishing boats. The birch is another tree which supplies the agriculturist with handles for implements. Piles under water are made of alder, which stands inundation well, and turnery bowls and kneading troughs are made from it as well. Posts and rails are made of oak, and beams in old buildings are usually oaken also. Furniture, screws, piles, and sabots are made out of beech. Walking sticks, crates, and hurdles are made of hazel wood. Hornbeam supplies material for agricultural implements, mill works, and yokes.

The willow and osier are used as supports of vines, for wickerwork, panniers, and chairs. Ships were largely constructed once from Scotch fir, and tar, pitch, and turpentine are derived from it. Small articles are constructed of juniper wood. Bows were made of yew wood. Fine-grained woods were used in the early days of wood engraving, such as lime, box, and pear, and mathematical instruments also are made of boxwood.

Inlaid work, such as Tunbridge ware, is made from holly. For turning sycamore is best, and it is useful as a veneer. Traveller's joy has been used in place of willows for basket work. Broom and ling are employed for thatching in some districts. Besoms are made from the broom, ling, birch, and butcher's broom. Skewers and toothpicks are made from the spindle tree. Gorse and sweet gale, in addition to timber trees, are used as fuel or firewood. For drawing, the spindle tree yields a good charcoal, and for gunpowder, buckthorn, field maple, cornel, alder, beech, and hazel are employed.

Miscellaneous, indeed, are the uses of plants, and whilst numbers are used as garden flowers, many more are fitted for the purpose. Some serve as ornamental shrubs, mistletoe having a unique use at Christmas time. Fuller's teasel did duty, before the stocking machines came into use, for carding wool. Rush bottoms of chairs are made from rushes. Rennet is derived from lady's bedstraw and butterwort (formerly). Soda is procured from sea blite and salt wort, both maritime plants. Rushes were used in the old rush-lights, and reed mace has served for flashing the lights of fireworks, and, with the bulrush, for making casks watertight. Grass-wrack is used for packing glass, cotton grass for stuffing mattresses and for wicks.

To protect the East Coast (and other parts) from denudation sedges and grasses have been planted, as well as shrubs, to encourage the sand which accumulates to become permanently fixed.

A. R. Horwood.

Leicester Museum.

Cedronella triphylla (syn. Dracocephalum canariense).—Plants with sweet-scented foliage are appreciated by most people, but for some reason or other this good old member of the Labiate family has almost dropped out of cultivation. It was commonly known as the Balm of Gilead, and was met with in most greenhouses, a few sprays mostly forming part of the old-fashioned nosegay. The flowers are not showy, but the leaves, when gently rubbed, give off a very pleasing fragrance. It is a plant of half-shrubby character, and may be readily increased from cuttings of the young shoots. It is a native of the Canary Islands, and introduced in 1697.—S. W.

CORDON MELONS.

There are important advantages to be derived from the training of melons upon the cordon principle even by cultivators who have no other convenience than the ordinary frame for their culture. Of the advantages to be gained from this system over that which may be termed fan training, that may be considered, there is the earlier production of fruits, and the consequent saving of labour and fuel, together with the benefit to be derived from being able to clear away the plants, and thereby make room, at an earlier date, for succession crops. Moreover, there is the possibility of growing greater variety in a given space than can otherwise be done.

The best and most convenient kind of structure in which to grow cordon melons are lean-to or hip-roofed houses or pits with south aspects. There is here an inexpensively-built pit of this description that answers its purpose admirably, from which we usually, without difficulty, gather the first crop of fruit during the last week of April or early in May, and the latest in November. This pit is a lean-to, ten feet in width, with a sunken path at the back, and a bed heated with pipes in the front, with its surface on a level with the outside ground. The pit has no front glass, but air is admitted by ventilators placed in the front wall, close to the surface hot-water pipes. This structure is specially arranged, not as an ideal one, but merely in order to show that melons can be produced in fine condition throughout the season by moderate means.

Houses or pits of this kind should, of course, be provided with trellises, that are placed about fifteen inches from the glass, and the plants should be arranged along the front of the house upon the bed. If the melons are planted out, a low ridge, or hillocks, of compost should be provided for them, to which top-dressings of fresh compost could be added at suitable intervals in order to meet the plants' requirements. Should pot culture be preferred the pots must be firmly plunged in their positions. The plants may be raised in the ordinary manner singly in two and a-half inch pots, and if they are to be grown as single cordons, which is an excellent method to adopt, and certainly the best if ripe fruit is required at the earliest possible date, they should be planted out from their seed pots at two feet apart, and trained upon their trellis until they have reached the desired height, before being stopped.

If double cordons are preferred (by which method fewer plants for a given space are required, and each one, if planted out, has increased rooting space devoted to it—conditions of doubtful advantage) the plants should be placed four feet apart, be stopped as soon as they have developed four rough leaves, and each have two growths trained from it. The principal growths should be secured to the trellis at two feet asunder, have their points stopped, as in the case advised for single cordons, their laterals thinned and stopped, in the case of those producing the fruit, at one leaf beyond the fruit. Three fruits to a single cordon, and five or six fruits to a double cordon, provided fruit of excellent quality is desired, are sufficient for a crop, while for exhibition purposes it is advisable to allow one fruit only to each single cordon plant.

In the cultivation of cordon melons in ordinary unheated pits or frames it is a good plan to form a ridge of compost throughout the length of the frame, narrower at the back than the front, upon a carefully-prepared bed of fermenting material. Double cordon plants should be used, and be planted two feet apart, which is invariably equivalent to two plants to a light. The stems of each plant should be trained, one directly to the front and the other to the back, and be stopped when they reach the sides of the pit. By supporting the stems with bricks, or with something of that kind, so that they are kept from coming into contact with the bed, there will be less likelihood of canker, and if the laterals are raised upon small forked sticks the blossoms will be kept dry, and the fruits will the more readily set.

T. COOMBER.

The Hendre Gardens.

ŒNOTHERA TARAXACIFOLIA.

The dandelion-leaved evening primrose is not very much grown, though it is by no means the least beautiful of the family. It is a trailer, somewhat similar in growth to Œ. macrocarpa, but with larger and more vigorous leafage, while its enormous pure white flowers are very conspicuous in the twilight of the summer evenings, and not altogether devoid of beauty the following morning, when they become pink. A bank, or a piece of rockwork, clothed with this œnothera is very effective, yielding a succession of blossom from midsummer to Michaelmas.

It has the advantage of doing well in damp and shady places—situations to which few purely summer-flowering plants are partial. It can also be used as a surfacing plant between tall bedding plants, such as fuchsias, balsams, zinnias, etc., or along the front of mixed borders, with a few short sticks to assist it to cover any vacant or thin places. It does not, however, do well amongst greedy perennials, as it is a lover of good things in the way of food and moisture, though an excess of these, accompanied by too much shade, will result in gross growth and too little blossom.

In light soils this œnothera may be regarded as a perennial, though not a long-lived one, and, in general, it is best treated as a biennial, or even as an annual, for if sown in February in heat and pricked off into pots it may be had in flower by the end of June, plants rased in this way growing very vigorously, and producing enormous blossoms. Or it may be raised in July, and pricked out on a nursery bed, care being taken not to move the plants late in the autumn, as this is fatal to their standing the winter, the early spring being a better time for the operation. Those with wet soils would do better to keep plants in sixties through the winter in a frame, as not many plants are often wanted, a half-dozen spreading over a good deal of ground by the latter part of the summer.

ALGER PETTS.

DAFFODILS IN THE TURF.

For the spring garden the varied forms of the narcissus are invaluable, not alone for the borders, but for naturalising in the grass, the latter method, now so largely followed, not only creating a most pleasing effect, but also being, in many cases, better suited to the requirements of some varieties than culture in tilled ground. As an instance of this two kinds may be specially cited, namely, the Tenby daffodil (N. obvallaris) and N. pallidus præcox, both of which generally succeed better in the grass than in worked ground. Several of the smaller and less vigorous kinds are well adapted for the rock garden, such as the tiny N. minimus, that in the south-west often expands its little yellow trumpets before the end of January in company with the snowdrops; the varied forms of the hoop-petticoat daffodils (N. corbularia), golden, sulphur, and white, the variety of N. triandrus known as Angel's Tears, and N. t. pulchellus, though the latter, being of stronger constitution, succeeds equally well in the border, as well as the quaintly-formed N. cyclamineus, which delights in a moist root-run.

Many of the golden and bicolor varieties of the trumpet daffodil are well suited for naturalising in the grass, such as the deep yellow Golden Spur, N. maximus, Emperor, and Queen of Spain, an attractive variety, bearing clear yellow flowers of peculiarly distinct form, the trumpets lacking the flanged rim possessed by all other varieties of this section. Of bicolors Horsfieldi, Empress, and grandis form a fine trio, and when planted in quantity have a striking effect. They are very similar in size and colour, and, attaining perfection in the order in which their names are given, extend their display over a considerable period. The old double daffodil also succeeds well in the grass, though it lacks the grace of form of the single varieties.

Sir Watkin is the most vigorous of the incomparabilis section, and is well fitted for naturalisation, while many of the numerous varieties of the same class, though of less robust growth, make themselves equally at home. The star daffodils (Leedsi) are particularly graceful and delicate, with their narrow cream-white petals and slender stems, and never reveal their attractions so fully as when growing on a grassy slope, while the Poet's narcissus, when planted in thousands, creates one of the loveliest spring pictures imaginable.

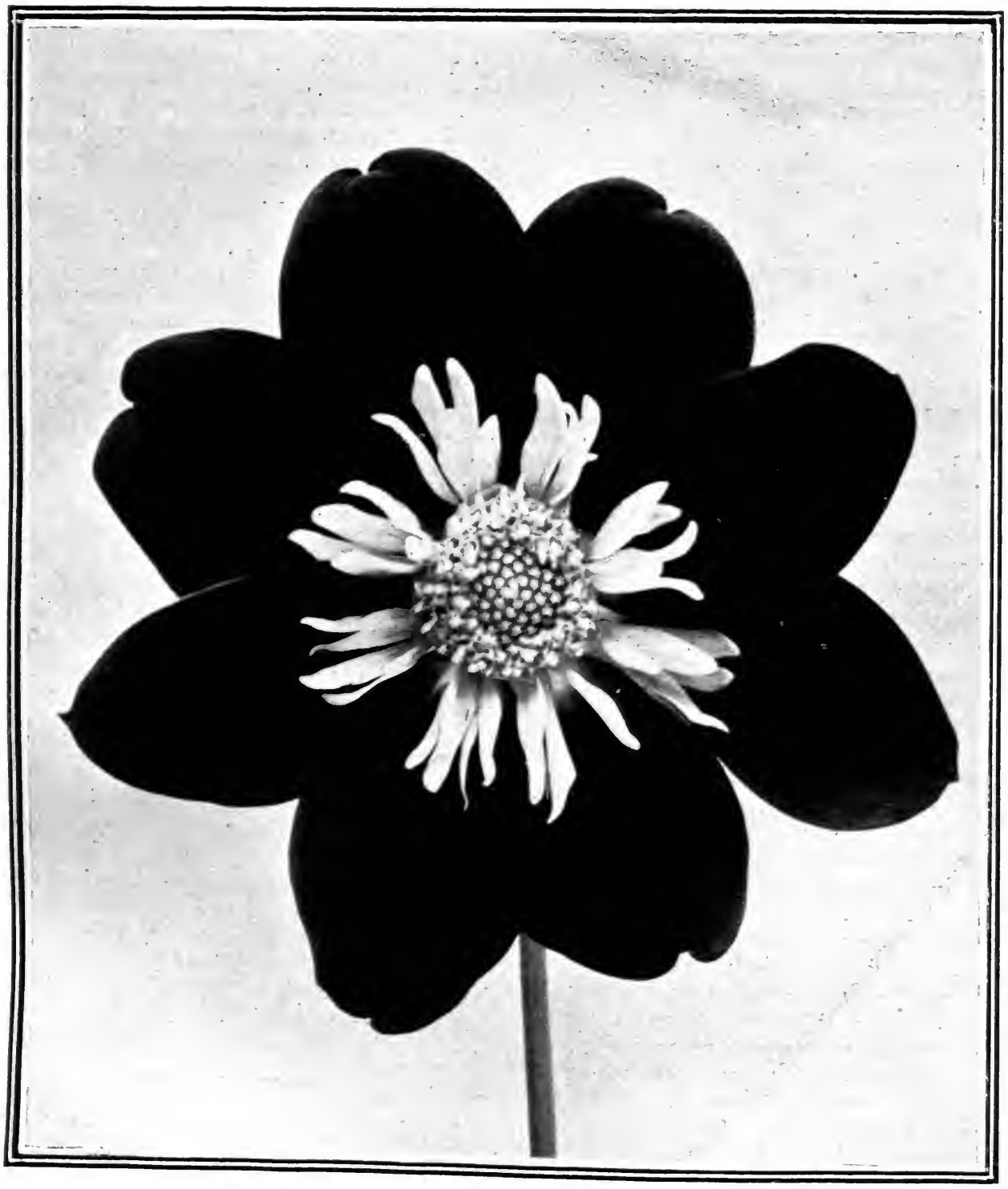
WYNDHAM FITZHERBERT.

Azalea pontica for Forcing.—Though Azalea mollis is extensively employed for forcing, almost to the exclusion of the other kinds, some of the forms of Azalea pontica can be well recommended, as they possess a wider range of colour, are less formal in growth, and their blossoms have a very pleasing fragrance, which, though not powerful, is at the same time very noticeable under glass.—T.

Golden-leaved Caladiums.—The first of the golden-leaved caladiums were raised at Chiswick somewhere about forty years ago, and at once aroused attention by reason of their distinctness from any of the other varieties then in cultivation. They are particularly bright and attractive in the spring just as the young leaves unfold themselves. In constitution these golden-leaved varieties are less vigorous than most of the others, and, though most of them are old kinds, they cannot be regarded as common. Among the earlier varieties are Princess of Wales, Princess of Teck, and Princess Royal; while more recent varieties are Golden King and Golden Queen.—S. W.

THE BEST COLLARETTE DAHLIAS.

There is abundant evidence that the dahlia is rising from the obscure position it has held in our gardens as a decorative plant, and during the coming summer thousands will be planted in beds, borders, boxes, tubs, etc., not with the single idea of growing them for exhibition but with the sole object of producing a brilliant display of flowers to "liven up" the herbaceous borders in the autumn months. garden decoration, in the ordinary sense of the word, and they are equally suitable for colour schemes, and can be planted without presenting that bizarre effect so often associated with dahlias. Their merits are, chiefly, their dwarf, sturdy habit, their floriferousness, and their early-flowering popensities, while their cultural requirements are exceedingly simple. A well-cultivated soil is essential, and plenty of water



COLLARETTE DAHLIA PRINCESS LOUISE.

Flowers, deep crimson, with yellow "collar"; raised by Messrs. Dobbie and Co., Edinburgh.

This, too, has been brought about by articles that have appeared in the Gardeners' Magazine, by the Dahlia Conference held last February, and the appearance of a quite new dahlia book; all these items have served their purpose, in arousing public interest to such an extent that garden lovers begin to wonder how it is they have neglected the dahlia so long as a garden decorative plant.

Those behind the scenes, i.e., the producers of the plants for trade purposes, are fully cognisant of the coming demand, and are preparing to meet it by raising increasing numbers of the sections they think will be most wanted, and of these the Collarette section will not be the least, for the varieties are admirably adapted for during a dry spell; then, with proper staking and tying, and the constant removal of the seed pods, we have their requirements in a nutshell. Disbudding, or even thinning out, are unnecessary items, and are best left alone, for this section is not improved by the production of large, coarse flowers. Neither is elaborate feeding required, as it only tends to produce huge succulent plants, without any corresponding increase in the number of blossoms.

Although the section has only been brought to the notice of the public since the year 1910, it has apparently made rapid strides in their estimation, and already there are something like eighty varieties in commerce—many too much like, and others that are neither a credit to the section or likely to increase the popularity of it as a garden plant. Most of the early forms produced gave shades of red or crimson, but it is pleasing to note that our own raisers are now turning their attention to the production of lighter shades and softer colours, so that we can look forward for almost any hue during the next few years.

In recommending the following varieties I have selected those that produce the finest effect in the garden, regardless of the actual form of the flower: Betty, rosy-pink, with a paler collar; Corbeille de Feu, bright terra-cotta, yellow collar, one of the best for the garden, but rarely seen at shows, as it is a bad traveller; Diamant, velvety-violet, collar light rose; Diadem, rosy-pink, white collar; Exposition de Lyon, rosy-red; Maurice Rivoire, crimson, collar white, does not exceed thirty inches in height; General de Louis, orange-scarlet, gold collar; Henri Farman, yellow, blotched red, collar cream; Leitstern, dark crimson, collar white; Madame Poirier, bluish-violet, collar white, a distinct colour in dahlias; Meteor, dark crimson, edged and tipped gold, collar cream, flowers rather thin, but very free; Prince de Venosa, rich crimson, shaded majenta, collar white; Ville de Schildt, orange, collar yellow; Madame R. Crozy, pink, collar white; Souvenir de Bernadeau, old rose, collar cream. I have only included those varieties that are self-coloured, though many fancies are beautiful.

Coming to the newer varieties which I consider worthy of note, and trial, there are Dainty, a very soft pink with a pale lemon collar; Simplicity, white, tinged pink, collar white; Lotus, white, shaded slightly with red, collar white (these three varieties are a valuable addition to the section, which has hitherto been confined to the darker shades of colour); Princess Louise, deep crimson, collar yellow (see illustration); Balmoral, bright puce, collar white, striped rose; and Holyrood, rich ruby, tipped gold, collar yellow. The last six varieties I can only judge by the flowers as exhibited, but they are all distinct, and should form good additions to any collection, however large.

Chingford. J. B. Riding.

RONDELETIA CORDATA.

There are many plants commonly grown in pots that, were it possible to plant them out in a prepared bed in the greenhouse would be seen to much greater advantage. Such a plant is this rondeletia, an evergreen native of South America. With several other interesting shrubs of a tender nature, it is planted out in a bed in the Kew greenhouse, and under these conditions it is doing remarkably well. It is now a fine bush over 6ft. in height, the shoots being clothed with stout, firm leaves, the largest of which are about six inches long, and about half as much in width. The flowers are freely borne in clusters, somewhat suggestive of those of the laurustinus. In the bud state they are deep pink, but when fully expanded of a blush tint, with a yellowish centre. In every way it is a very desirable greenhouse shrub. Flowering examples of the nearly allied Rondeletia amœna were noted at the meeting of the Royal Horticultural Society on March 18. Other well-known kinds are R. gratissima and R. speciosa, this last being at one time a favourite plant for growing into specimens for exhibition purposes.

W.

PHORMIUM TENAX.

The handsome New Zealand flax is very largely grown in the south-west, where in most seasons it flowers abundantly. The variegated form is also common, and attains large dimensions, one splendid specimen, which is growing on a sloping lawn, producing leaves exceeding 7ft. in length, while its bloom spikes, of which it bore twenty during the summer of 1912, reached a height of over 10ft. The variegated form has been found to be hardier than the green-leaved type, and is such a striking plant that it should be far more widely grown.

One drawback to the variegated form, however, is that in deep, rich soil, where it grows with great luxuriance, it often partially, and in some cases almost entirely, loses its variegation after it has assumed its fullest proportions. In the instance above mentioned there is but slight indications of variegation observable in the foliage, though at the time of planting this was most distinct. In poor soils the variegation appears to be more persistent, but this is generally the case with most variegated plants, which retain their character best when not too highly nourished with manurial matter.

Phormiums are far more hardy than is generally supposed. Plants have grown in the open, unprotected, at Dunrobin for many years. They are within 150 yards of high-water mark, and are sheltered on the north and east by trees and rising ground. Some winters have been exceptionally severe, snow on one occasion lying for nearly four months, and the temperature showing from 15 to 19 degrees of frost, with ice over a foot deep.

There are several forms of Phormium tenax. One variety has pale green recurving leaves, and is not very hardy, and is not a free flowerer except in the warmest of soils and in sheltered sites. A better form is the erect-growing, glaucous-leaved variety, which is hardy and free-flowering, and is the most suitable one for most gardens, especially in cold localities. The best-known forms are Phormium tenax, the type; P. tenax variegatum, with yellow, striped foliage; P. tenax, Powerscourt variety; P. tenax atropurpureum, with maroon-purple leaves; P. tenax Veitchi, which has also a variegated form; and P. tenax Colensoi, a small-growing plant, of which there is a variegated form that is tender. Phormiums are so bold and distinct in the open air that they are as well worthy of careful attention as are the yuccas, cordylines, bamboos, and some other of the plants of a sub-tropical character.

In the warmer districts phormiums succeed excellently if planted at the waterside. Grown in clumps in rich, deep soil, on the margins of ponds, where the roots have free access to the water, the New Zealand flax grows freely and gives a tropical aspect to the landscape which few other plants can excel. When the leaves are ripe they are most useful for tying, if they are split into very narrow strips, as they are unbreakable and, being green, are not unsightly. The leaves last for a long time when cut, and are useful in an arrangement with pampas grass, tritomas, or gladiolus. The forms now under cultivation are probably only seminal varieties. Seedlings raised from the variegated-leaved forms generally have green leaves, and of those raised from atro-purpureum, although a few are as dark as their parent, many more are of a light green. Seeds of Phormium tenax ripened in Europe will retain their vitality for at least six or eight months. From seeds of the type sown last year every plant is growing, and seeds of P. Colensoi have given equally satisfactory results.

WYNDHAM FITZHERBERT.

Kingswear.

SPECIMEN PHORMIUM TENAX AND CHAMÆROPS FORTUNEI
In the garden of Dr. Lewis, Torquay.

REHMANNIA KEWENSIS.

Although Rehmannia angulata has not been grown in this country for many years it is now a universal favourite for greenhouse decoration. Between it and the dwarf-growing, light-coloured R. Henryi a hybrid has been raised, known as R. Bricoei. It has not, however, caught on to any great extent: but R. kewensis, which was raised at Kew, promises to be as much appreciated as the typical R. angulata itself. From the latter the newcomer differs in several flowering shoots being pushed up from the base of the plant, which is well furnished with foliage. The flowers are large, and yellowish-blush, with a dark crimson blotch in the interior of the upper segments. Probably, from the fact of their being seedlings, there is a certain amount of individual variation in the different plants, but all are striking, and in every one the crimson blotch forms a dominant feature, especially at a little distance, as it stands out so markedly from the rest of the flower. At present this Rehmannia does not appear to be in commerce. There was an admirable illustration of this newcomer in the GARDENERS' MAGAZINE of June 29, 1912. S.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CYPRIPEDIUMS.—The late winter and early spring-flowering cypripediums have now passed out of flower, and should be repotted if that be necessary. They will be producing new roots, and if fresh potting compost is afforded now these quickly get hold of the material and become re-established before the hot summer season arrives. For all the plain-leaved section we find that a compost consisting of about two parts fibrous loam to one of peat and chopped sphagnum moss, with sufficient broken crocks and sand added to render the compost porous, is the most suitable. For the variegated or tesselated leaved section, half the compost should consist of peat. The hybrids having C. bellatulum or C. niveum as one of the parents are among the most beautiful of all cypripediums, and it is unfortunate that many growers find difficulty in their cultivation, and are discouraged by unsatisfactory results. There can be no doubt but that situations in which plants have to be grown make a great deal of difference. In a pure country atmosphere there is little difficulty, and in such lovely kinds as C. Venus, C. Boltoni, C. Angela, C. Antigone, C. Wm. Lloyd, C. Chapmani, C. F. K. Sander, C. Lowiebel, C. Schofieldianum, C. Dom Carlos, etc., we have orchids worthy of all consideration that can be afforded them in every collection. We find it best in dealing with this section to attend to repotting immediately the plants pass out of flower. The pots used are well drained with lime rubble and crocks, to about two-thirds their depth. The plants are in most cases surface rooting, and no great depth of potting compost is necessary, and as a rule the roots pass down close to the sides of the pots in preference to penetrating the potting compost. The material we find most useful is two parts turfy loam to one of peat, with a little sphagnum moss added. Careful watering is necessary after repotting, but as soon as the plants have become re-established they require an abundance of root moisture during their season of growth. They must be kept carefully shaded from strong light at all seasons. Some kinds are more sensitive to light than others, but the whole of them soon show the effects of strong light by becoming yellow, and this must be carefully avoided. The atmosphere about the plants must at all seasons be reasonably humid, and frequent dampings among the pots is essential immediately after repotting.

CYPRIPEDIUM FAIRIEANUM we find does better among the warmest section during the growing season, and should be removed to the intermediate section in the autumn as soon after they show their flowers as possible. The cooler treatment we find retards growth, and does not produce flowers of the finest quality. The hybrids of C. Fairieanum are now so numerous that space does not permit of their enumeration. Practically all sections of the genus have been used in hybridisation since the reintroduction of C. Fairieanum, and consequently we have hybrids flowering at all seasons of the year. In most cases these are best treated in the warm intermediate house.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

VIOLETS.—Attention must now be given to the plants which will be required for blooming next season. Although under favourable conditions young plants may be propagated readily from the old ones by division of the roots at the present time, the best method of propagation is that of inserting cuttings in the autumn. If the cuttings were inserted closely together in a cold frame in a sandy compost they will now be ready for planting out in a well-prepared border facing north or east. The soil should have been dug several weeks back, and a good quantity of well-rotted cow dung should have been used in the process. The surface of the soil must now be broken up with a fork, and raked over with a fine rake. Put the single varieties out about a foot apart; the double kinds may be given a little less room. Planting must be done firmly. Red spider is a persistent enemy of the violet, and is a frequent cause of failure. Therefore special precautions must be taken to combat this enemy. Light dustings of soot at frequent intervals is not only distasteful to this pest, but it is also a valuable stimulant to the growth of the plants. Violets require plenty of moisture at the roots, and during dry spells of weather they must be sprayed twice daily.

CYCLAMEN.—The young plants may now be given a slightly lower temperature. A position near to the glass in a shallow, heated pit will suit them until the weather becomes warm enough to place them in cold frames. The pots must be stood on a cool, moist base. Repot when they are sufficiently well rooted, keeping the corms above the surface of the soil; five-inch pots are usually large enough in which to flower one-year-old plants. A compost consisting of good fibrous loam (with the finer particles sifted out), leaf-soil, dried sheep dung, with a little sharp sand and finely broken old bricks to keep the whole porous, will suit them. Unless the plants have recently been repotted air may be admitted more freely now than formerly, but cold draughts must be avoided. Always syringe the foliage with rain water twice a day, and keep the atmosphere moist by frequently damping the surroundings. Never apply water to the roots until it is needed. Greenfly must be watched for, and, should they be present on the leaves, lightly fumigate with a nicotine compound. Old plants which are maturing seeds must be well supplied with moisture at the roots. Keep them growing on a shelf near the glass exposed to the sun.—E. Harriss, Lockinge Gardens.

HARDY FRUITS.

FIGS.—As these are usually supplied in pots, planting may be done with advantage much later than would be the case if the trees had to be lifted from the open. Figs thrive in some parts, and produce very heavy crops of luscious fruits annually with very little care and attention, especially where the soil is resting on chalk, and the position is somewhat sheltered from the north and east winds, but in the less favourable parts the trees need to be grown on a good south wall, and the roots restricted to a space of three to four feet wide, and as much in length, by slabs or bricks, and the depth of the border should be about 2ft. 6in. Use abundant drainage, over which place turves, grass side downward, and fill in with good loam, rather light, and old mortar rubble and wood ashes. This mixture will need to be made firm, so that the roots may have something to grip. Fig trees require plenty of head room for extension of the branches, and to induce short-jointed wood that will ripen thoroughly by the end of the growing season, otherwise the results will be unsatisfactory. Trees that may have been left unpruned till late, a method usually practised in the colder parts, where protection is afforded in the winter months, will need to be taken in hand without further delay. Secure all the main branches in the required positions, and then fill in with the rest, but do not attempt to shorten the leaders, as it is from these that the fruits are produced.

ALPINE STRAWBERRIES.—Plants that were raised from seeds sown in February should be carefully attended to as regards pricking them off in boxes, and encouraging them to grow and become sturdy for putting out by the first or second week in May. They should be given good soil and a light position in moderate warmth, near the glass; much harm may be done by over-watering during the early stages of growth.

PERPETUAL FRUITING STRAWBERRIES.—St. Joseph, St. Antoine de Padoue, etc., put out for the production of a late crop will need to be kept clear of weeds, and some of the earliest bloom will have to be removed to allow others to spring up for the late autumn supply. These, like the early and mid-season strawberries, require plenty of space, rich soil, and firm planting. During the hot weather good soakings of water will assist both the crop and plants, and should the foliage become infested with red spider thoroughly syringe the under side of the leaves a few times with clear water.

FRUIT PROSPECTS.—There is an abundance of apple-blossom buds, and plums and peaches are flowering well, but pears are rather patchy. Trees that bore heavily last year, although well fed at the roots, are showing the fewest flowers. Attend well to all late planted or severely root-pruned trees, and should the weather set in dry, do not let them suffer from want of moisture. Keep the large branches well syringed in sunny weather until fresh growths and roots have formed.—H. Markham, Wrotham Park Gardens.

THE KITCHEN GARDEN.

VEGETABLE MARROWS.—To provide plants for the main crop, seeds may be sown forthwith. Sow them singly in 3½in. pots, and place in gentle heat; when germination has taken place remove the young plants to a cool frame, and gradually harden off ready for planting out. The early sown plants put out in heated pits or on hotbeds in frames will need constant attention as regards thinning and regulating the growths, airing, watering, etc. It is advisable to set the flowers in the same way as melons, and during this period the atmosphere of the pit should be kept rather dry.

ONIONS.—Seedlings raised under glass for the production of very large bulbs may be planted out in showery weather, taking great care in lifting them from boxes not to damage the roots. The rows may be fifteen inches apart, and the plants twelve inches apart in the rows. Plant firmly, keeping the roots as near the surface as possible. During dry weather an occasional sprinkling of water should be afforded.

PEAS.—Sowings of main crop varieties should be made according to requirements; the seeds should be sown in well-prepared trenches as advised in previous notes on peas. There should be no delay in staking the rows as soon as the young plants are well through the ground. Where protection is needed against the ravages of sparrows, stout black thread stretched over the rows on short sticks will be found an efficient safeguard.

NEW ZEALAND SPINACH.—On light soils where it is a difficult matter to keep up a constant supply of the ordinary summer spinach, the New Zealand spinach makes an excellent substitute. It may either be sown where it is intended to grow, which should be on a warm, sunny border, or raised under glass in boxes and transplanted when of sufficient size. Sowings should be made of chervil, borage, chicory, marjoram, radishes, lettuce, spinach, and turnips.

BRUSSELS SPROUTS.—The young plants from the early sowing, after being duly hardened off, should be planted on well-manured ground. Set them two feet apart in the row, and allow the same distance between the rows. The ground should be made firm prior to planting.—W. Messenger, Woolverstone Park Gardens.

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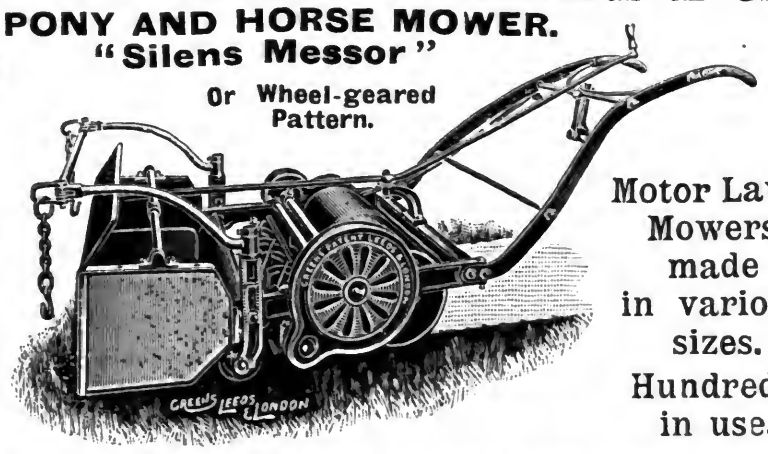

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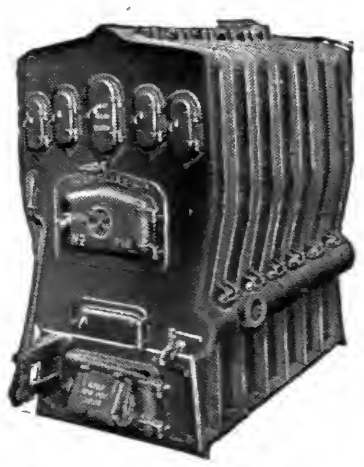

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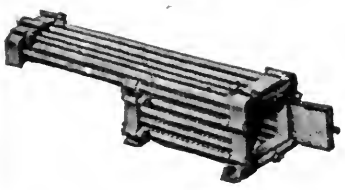

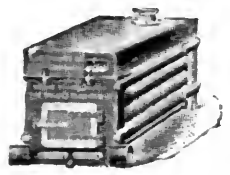

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EXHIBITIONS AND MEETINGS.

Perpetual Carnation Show, Leamington.

APRIL 10 and 11.

The energy and enterprise of the Perpetual-flowering Carnation Society found a new outlet in the organisation of a provincial show, which was held in the Winter Hall, Leamington, on Thursday and Friday, April 10 and 11. The object in view was to broaden the sphere of the society's operations, and bring to the immediate notice of Midlanders the claims of the society, and the value and charm of perpetual-flowering carnations. This is a departure which deserves commendation, and the choice of Leamington as the place of the first of these migratory shows was a happy one. It is about as central a spot as could be chosen, and the Winter Hall is a fine, spacious, and well-lit building, admirably adapted to the purpose of a flower show.

As to the display of carnations staged, it may at once be said that in every sense of the word it was a good show. The hall was comfortably filled with exhibits, there being three rows of tables down the body of the hall for exhibits in the vase classes, whilst the ends and both sides were occupied by the trade growers. Decorated tables were accommodated in an adjoining room. Taking a general survey of the hall the effect was pleasing, and it may be remarked that a greater range of colour was evident than would have been possible to obtain with perpetual carnations alone a few years ago. This is unquestionably due, in a large degree, to the many home-raised varieties that have been forthcoming of late, and for which the British growers merit praise.

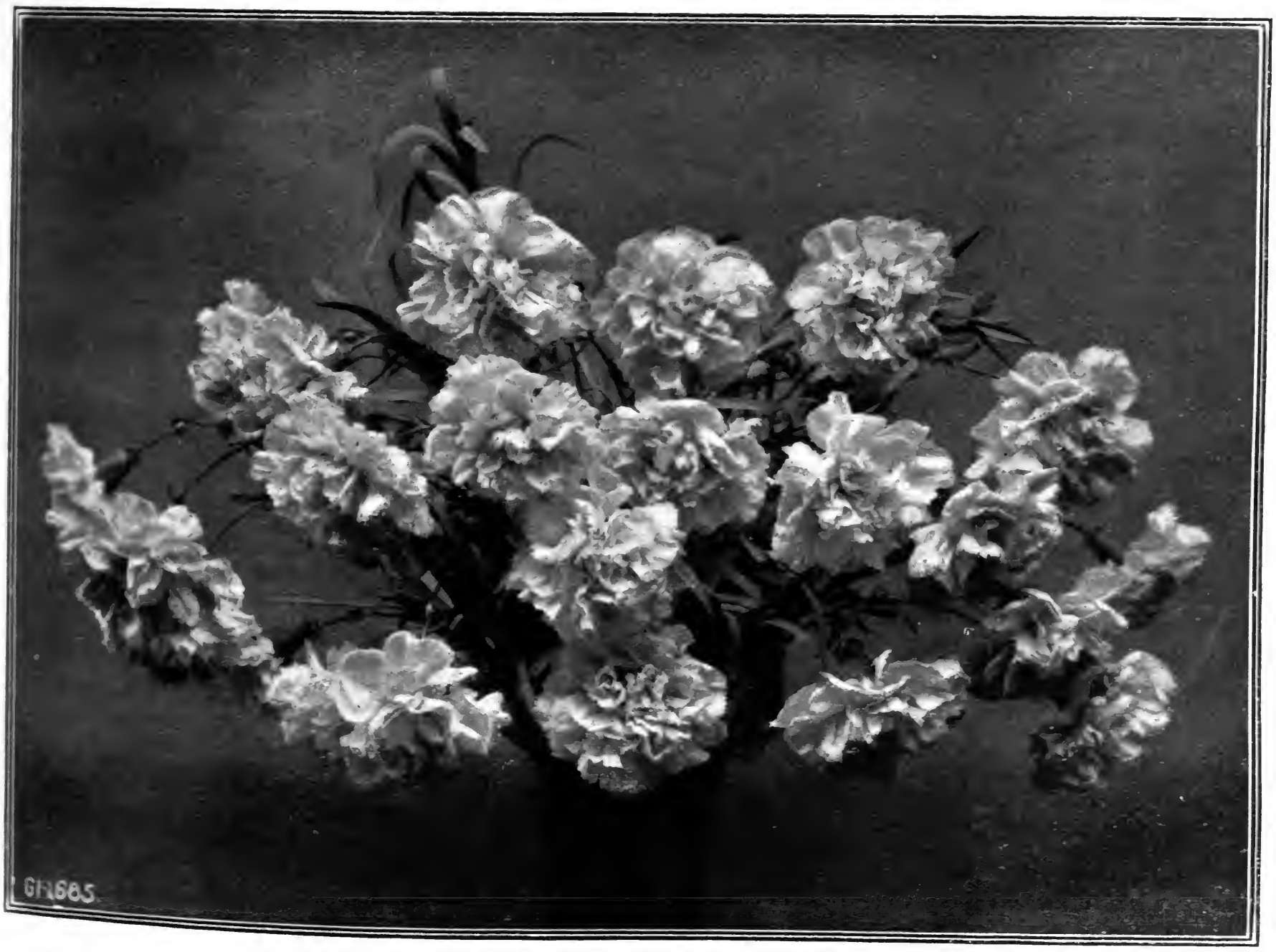
GROUPS OF CARNATION FLOWERS.

The opening class was for a semi-circular group of cut carnations arranged for effect with decorative plants and foliage, for which the American Florists' five-guinea cup and £3 were offered as the premier award. There were two entries, but they were strong, and Mr. C. Engelmann, Saffron Walden, whose exhibit was placed first, may be congratulated on making an exceedingly fine display of beautiful blooms, well arranged, and in choice varieties. The lovely yellow fancy, Sunstar, occupied a prominent central position in the group, and showed its breadth of petal and pleasing colour to advantage. Variegated Corola was one of the most distinct varieties, its rosy-pink and crimson-splashed petals being well placed in a short, stout calyx. Smilax and asparagus were lavishly used to hide the bamboo stands, and give the right setting to a brilliant lot of flowers. Messrs. W. Wells and Son, Lim., Merstham, Surrey, who received second prize, adopted the columnar style of arrangement of their principal stands, filling it with a groundwork of Scarlet Glow, Wodenethe, Triumph, and others. Lady Northcliffe and Gloriosa, two varieties that rather resemble each other, of the coral-pink shade, occupied the most prominent positions, Salmon Enchantress, R. F. Felton, and Dorothy Gordon filling in the background.

VASES OF CARNATIONS.

The Brunton Cup, for three vases of British-raised novelties, was won by Mr. Engelmann with Triumph, My Rose, and Lady Northcliffe. There is no gainsaying that My Rose is a handsome variety, with flowers of excellent form, broad substantial petal, and capital calyx. The stems are, perhaps, a trifle slender, but the colour is fine, and the fragrance delightful. The American Carnation Society offered a challenge cup for three vases of American novelties, the winner in this class being Mr. W. H. Page, Tangley Nurseries, Hampton, who scored over Mr. Englemann. The winning varieties were Gloriosa, White Wonder, and Washington, the last-named being a rich full rose-coloured flower, but rather too small. Benora (some large, well-developed blooms), White Wonder, and Canary Bird were Mr. Engelmann's varieties. The latter is a yellow, rather thin and ragged in appearance, and just faintly tipped with pink on an occasional petal.

A bold display was made with seven vases, distinct varieties, twenty-five blooms of each, Mr. Engelmann leading the way with a very fine exhibit, using varieties we have already mentioned. Colonel F. C. W. Rideout, Clury Nurseries, Langley, Bucks, came second, also showing well-known kinds. Mr. W. H. Page led for five vases, showing Salmon Britannia, a very neat and pleasing flower; Mrs. C. W. Ward, White Wonder, Gloriosa, and Enchantress. Second prize in this class was awarded to Mr. A. E. Usher, gardener to Sir Randolph Baker, Ranston, Blandford, who had Carola amongst his varieties in grand form. Mr. H. J. Dudney, South Road, Erith, coming third. Mr. H. T. Mason, Hampton Hill, Middlesex, won for three vases with White Wonder, Gloriosa, and Lady Meyer, the last-mentioned also securing a special for best vase in the three classes for vases. The same variety took the lead in the single vase classes, this time being staged by Mr. E. Guile, Newport, Essex. Colonel Rideout was placed second with White Enchantress, Mr. Engelmann's Sunstar coming in third. Beacon, shown by Mr. H. T. Mason, received highest honours for the vase of fifty blooms, Mr. Engelmann's Carola being placed second; and Mikado, staged by Colonel Rideout, coming third.



FIRST PRIZE VASE OF CARNATION LADY MEYER.
Exhibited at the Leamington Perpetual Carnation Show by Mr. E. Guile, Newport, Essex.

Messrs. Perkins and Sons, Coventry, exhibited a most beautiful basket of crimson and pale pink carnations, with trials of Asparagus plumosus and croton leaves, and was awarded the first prize; Mr. W. Harper, Leamington, being second; and Mr. W. J. Garner, Hale, Altrincham, third. Messrs. Perkins and Sons repeated their success with bouquets, but took second with three sprays, Mr. Harper excelling in this class.

DINNER-TABLE DECORATIONS.

Some tasteful arrangements of carnations for dinner-table decoration were put up, the successful exhibitor being Mr. A. E. Usher, Blandford. He had an unusually tall centrepiece of very effective design, suitable for a large table, and this he decorated with salmon-pink carnations, croton leaves, and asparagus. Half a dozen small vases were placed around, trails of asparagus running toward them from the base of the centrepiece. Mr. Harper, Leamington, was second with an arrangement that presented a rather stiff and heavy appearance, owing to the flowers having been somewhat too generously used. T. C. Loosemore, Esq., Weymouth, was third with another very pleasing table. In the Warwickshire class for decorated table Mr. H. Cleaver, Newbold Lawn Gardens, Leamington, and Miss L. Hamilton, Studley College, Warwick, were the prize-winners.

AMATEURS' CLASSES.

Some excellent exhibits were staged in the amateurs' section, the classes being so planned that even growers of a very few plants had reasonable opportunity for staging in at least one or two classes. This is an arrangement that will do much to maintain and increase interest in the society and its shows, and is calculated to do much in extending the cultivation of these beautiful flowers. A charming decorative vase of Lady Alington secured a first prize for Mr. E. Burbidge, gardener to Mrs. Fenwick, The Croft, Hillmorton, the blooms being of good quality, and very nicely arranged.

Mr. A. E. Usher had a very good set of seven vases containing seven blooms each, for which he received first prize. R. F. Felton, one of the set, also received special as the best vase in the five leading amateur's classes. Scarlet Glow was also one of Mr. Usher's varieties, its dazzling colour attracting everybody's attention. T. C. Lissmore, Esq., obtained premier honours in the class for three vases, being followed by Miss F. Norman, Moor Place, Much Hadham, Herts. Mr. Usher again won for seven blooms of one variety, showing grand flowers of Carola. Mr. Usher had the best six plants, which were so well grown as to bespeak expert cultivation. Mr. Burbidge, gardener to Miss Fenwick, The Croft, Hillmorton, came second with a nice set in smaller pots, but well grown. Mr. Usher repeated his success in the class for twelve plants, his Sunstar and Triumph being particularly vigorous. There were a number of classes provided by trade growers for varieties of their own raising, Mr. Usher's name appearing with great prominence in these classes as a successful exhibitor.

In the small classes for bone-fide amateurs who do not employ a regular gardener many nice flowers were staged, but the general failing was that they had been cut with stalks much too short, and, consequently, did not display themselves so well as would otherwise have been possible. The prize for the best vase of six blooms in the section went to Rose Enchantress, put up by Stewart Robinson, Esq., The Creole, Kington. Mr. Loosemore, Weymouth, had the best mixed vase of twelve blooms.

Several classes for carnations grown in the county of Warwickshire brought out some very good flowers, and honours were well divided. Miss G. A. Fenwick, The Croft, Hillmorton, had some lovely blooms of R. F. Felton, Lady Alington, and Carola, winning first prize for the three vases. Miss Hamilton, Studley Castle, had the best vase of twelve assorted flowers; and Mr. F. Daniels, The Gardens, Birdingbury Hall, Rugby, scored for nine flowers in variety, and again for six of one variety, showing Carola really well grown.

NON-COMPETITIVE.

Messrs. Allwood Bros., Haywards Heath, Sussex, made a bold and highly attractive display, in which their very bright variety, Mary Allwood, was most conspicuous; there were also several good vases of recently-introduced varieties, including La Rayonnante, Geisha, Wivelsfield Wonder, and Mrs. F. M. Crook.

Another very interesting and attractive stand was that contributed by Messrs. Young and Co., Hatherley, Cheltenham. There were about half a dozen tall epergnes filled with large masses of finely-developed blooms, of such varieties as Mrs. C. W. Ward, Hon. Lady Audley Neeld, Duchess of Devonshire, the deep crimson variety which continue to steadily gain in popularity, and the very pretty fancy, Mrs. Greswold Williams. The table base was furnished with smaller bunches, and neat little vases of half a dozen or so blooms in each.

Mr. A. F. Dutton, Iver, Bucks, used ornamental baskets to hold his flowers. It is a method that enables one to make a novel display, and show the decorative value of the flowers, but we noted that all the stems were rather stiffly wired, giving just a bit too formal an appearance to the stand. His new variety, Mrs. A. F. Dutton, was well shown. It is a very good flower, of rosy-salmon shade, the petals being of good substance, and the stems long and stout.

Messrs. Stuart Low and Co., Bush Hill Park, put up a big mass of Baroness de Brienen, together with good vases of Benora, Fairmount (one of the Mikado type), Colossus, a shapely flower that appeals to us, its colour, size, and substance being good. There were a host of other varieties on this stand, which occupied a large space.

A very long table was well filled with capital flowers by Mr. C. Engelmann, Saffron Walden. The whole of his flowers were splendidly grown, and many very choice varieties were staged. A quite new variety of great promise is Albion, a bright pink flower of perfect outline, on stiff stems that require no support. It has excellent growth, and is a novelty that will become a general favourite. Pocahontas is one of the best-shaped, broadest-petalled crimsons we have seen, and Sunstar, the bright yellow, gives the colour most needed.

MISCELLANEOUS.

Messrs. Hewitt and Co., Solihull, put up a miscellaneous exhibit of azaleas, spiræas, and other flowering plants, over a groundwork of ferns.

Robert Sydenham Limited, Tenby Street, Birmingham, put up a stand of choice daffodils, using the rustic table decorations for the purpose. The idea was excellent, showing these receptacles to be well adapted to the smaller narcissi, which furnish them admirably.

Messrs. R. H. Bath, Lim., Wisbech, also exhibited daffodils, having a number of first-rate varieties on view. Crystal Queen, Peter Barr, and Lady of the Snows were three cream trumpets of merit, and Lucifer, Firebrand, and Scarletta were orange or scarlet-crowned varieties of distinct character.

Messrs. E. A. White, Lim., Beltring, Paddock Wood, Kent, had an exhibit of Abol specialities, showing syringes with adaptable nozzles, fine enough for spraying any insecticide required to be used for carnations. They also had samples of a new shading powder, called the "Abol" shading, obtainable in white, light green, and dark green.

SPECIAL AWARDS.

Large Gold Medal.—To Messrs. Stuart Low and Co., Bush Hill Park, Middlesex; to Mr. C. Engelmann, Saffron Walden; and to Mr. A. F. Dutton, Iver, Bucks.

Silver Medals.—To Messrs. Young and Co., Hatherley, Cheltenham; and to Messrs. Allwood Bros., Haywards Heath.

Award of Merit.—To Sunstar, shown by Mr. C. Engelmann.

Cornwall Daffodil and Spring Flower Society.

This successful society, which enjoys the patronage of Her Majesty Queen Mary and Her Majesty Queen Alexandra, holds an exceedingly interesting show every spring. It is fortunate in possessing as hon. secretary the Hon. John Boscawen, who has held that position ever since the society was first formed, and whose unfailing tact and courtesy render all the arrangements perfect.

This season is such a remarkably early one that at the time of the show, which was held on April 8 in the large Market Hall at Truro, the majority of the daffodils were past their best, with the result that the large class for cut blooms did not fill, greatly to the regret of exhibitors and visitors, who remembered the marvellous stands shown in former years by Messrs. J. C. Williams and P. D. Williams. However, amends were made by the hard-wood flowering shrubs, which have never been so fine as they were this year, a fact proved by the bestowal of a Silver-gilt Banksian medal on the first-prize stand, and Silver Banksian medals on the second and third prize stands.

DAFFODILS.

In the class for the best collection of thirty varieties of daffodil in commerce, the first prize was awarded to Mrs. Soltau-Symons, of Devon, who was awarded a Silver Banksian medal. In the stand were good examples of Scarlet Eye, Cœur de Lion, Incognita, Madame de Graaff, Dorothy, Maggie May, Whitewell, Cavalier, Castile, Ibis, and Beacon. In the class for thirty varieties of daffodil in commerce or not in commerce, the prize was won by Lady Margaret Boscawen, whose Cornish Cream, Garnet, Branston, Will Scarlet, Flamingo, Blood Orange, and Dorothy Kingsmill were very good. In the class for six trumpet varieties, first prize was won by Mrs. Soltau-Symons, who had J. B. M. Camm, Fairy, Madame de Graaff, Mrs. Crosfield, Weardale Perfection, and Emperor. For six incomparabilis varieties first prize was won by Mrs. Soltau-Symons with Lady M. Boscawen, Will Scarlet, Lucifer, Noble, Strongbow, and Whitewell. For six Barri varieties first prize was won by Miss Clarice Vivian with Wheatear, Greeneye, Stonechat, Ptarmigan, Beacon, and Peveril. For six Leedsi varieties first prize was won by Mrs. Soltau-Symons with Citron, Eoster, Maggie May, White Lady, Mrs. Langtry, and Duchess of Westminster. For three poeticus varieties first prize was won by Miss Clarice Vivian with Cassandra, Horace, and Comus. For fifteen distinct varieties first prize was won by Mrs. Soltau-Symons with Lady M. Boscawen, Horace, Eoster, Weardale Perfection, Cassandra, White Lady, Incognita, Madame de Graaff, Castile, Beacon, Seagull, Cresset, Whitewell, Horner, and Cavalier.

The value of the bulbs in eleven classes is limited to ten shillings. Finest trumpet variety—first prize, Miss Mabel Williams, with Monarch; finest incomparabilis bloom—first prize, Mrs. Soltau-Symons, with Lady M. Boscawen; finest Barri bloom—first prize, Mrs. Soltau-Symons, with Cavalier; finest Leedsi bloom — first prize, Mrs. Soltau-Symons, with White Lady; finest bloom of Triandrus and Cyclamineus hybrids—first prize, Mrs. Soltau-Symons, with Dorothy Kingsmill; finest poeticus bloom—first prize, Miss Mabel Williams, with Cassandra.

For fifteen varieties in commerce or not in commerce, price of bulb unlimited—first prize, Mr. J. C. Williams; second prize, Mr. P. D. Williams. These two stands were almost equal, there being very little between them. In the first-prize stand, 312, with primrose perianth and spreading orange crown; 218, white perianth with flat yellow crown edged orange-scarlet; X 3, creamy perianth, pale yellow straight cup; 265, white perianth, deeply formed orange cup; B 5, white perianth, almost scarlet cup; and White Admiral were very fine. In the second prize stand, excellent varieties were White Wax, large white trumpet; Moonbeam, white perianth, small white cup; Snow King, very large poeticus with wide yellow eye, edged

Finest trumpet bloom—first, Mr. F. P. Williams, with Cleopatra; finest incomparabilis bloom—first, Miss Clarice Vivian, with Goldfinch; finest Barri bloom—first, Miss Clarice Vivian, with Wheatear; finest Leedsi bloom—first, Miss L. Williams, with Lavender; finest Triandrus and Cyclamineus hybrid—first, Mrs. Soltau-Symons, with Countess Grey.

MISCELLANEOUS FLOWERS.

Three bunches of anemones—first, Mr. R. H. Henderson-Bull; one bunch of Anemone fulgens—first, Mr. R. Fox; polyanthuses, three varieties in a basket—first, Mr. A. P. Wyatt; primroses (single), three varieties in a basket—first, Lady M. Boscawen; primroses (double)—first, Miss J. E. Lord; collection of hardy spring flowers—first, Mr. P. F. Williams, with Muscari Heavenly Blue, Calochortus platypetala, Narcissus hybrid between Queen Hume and triandrus, Ourisa macrophylla (Award of Merit), Tulipa retroflexa, Primula denticulata, Epimedium sulphureum, Anemone bracteata flore pleno, Erythronium Johnsoni, E. revolutum, Anemone blanda alba, Primula Forresti.

SHRUBS.

The best group of rhododendron blooms came from Mr. J. C. Williams, who showed forty very fine seedlings (Silver-gilt Flora Medal). Mr. J. C. Williams also obtained a Silver Banksian Medal for a collection of the following rhododendrons: R. Yunnanense, R. concinnum, R. oleæfolium, R. intricatum, R. racemosum, R. Augustini. For three large pots of sprays of outdoor rhododendrons, Mr. R. Fox was first with R. arboreum, crimson, white, and pink; one jar—first, Mr. D. B. Shilson, with Cornubia, crimson-scarlet; finest bloom of camellia—first prize and Award of Merit for Lady Buller.

For a group of hard-wood flowering shrubs Rev. A. T. Boscawen came first (Silver-gilt Banksian Medal). The stand contained Ribes speciosum, Spiræa argnta, Erica melanthera, Kennedya latifolia, Boronia heterophylla, Acacia verticillata, Prostanthera violacea (a beautiful purple-flowered shrub found by Capt. Dorrien-Smith in New Zealand), Veronica macrocarpa, Cytisus albus, Pentapteriginia rugosum (Award of Merit), Ceanothus azureus, Pernettya ciliaris (Award of Merit), Viburnum Carlesi, Andromeda acuminata, Fuchsia cordifolia, Correa magnifica, Pyrus japonica, P. j. alba, Pittosporum eugenoides, and Erica mediterranea. The deputation from the Royal Horticultural Society were delighted with the excellence of the display in this class, and expressed themselves amazed at the variety of the exhibits.

Mr. T. A. Dorrien-Smith, of Tresco Abbey, Isles of Scilly, exhibited a marvellous selection of rare plants in flower, these including Arctotis arborescens, A. aureola, an enormous flower-spike of Brachyglottis reinoldi, Grevillea sulphurea, G. Thelmanniana, G. alpina, G. rosmarinifolia, Acacia longifolia, A. Hartheriana, A. verticillata, A. cyanophylla, Correa virens, C. ventricosa, C. cardinalis, C. Harrisi, C. magnifica, C. alba, C. bicolor, C. picta, Sophora grandiflora, Fuchsia exoniensis, Echium callithyrsum, and two hybrid Echiums, Beschorneria yuccaoides, Sedum arboreum, Kennedya nigricans, Fuchsia serratifolia, Psoralia affinis, Agonis marginata, Illicium anisatum, Leucopogon lanceolatus, Fuchsia cordifolia, Coleonema album, Pittosporum Tobira, P. T. variegata, and a wonderful collection of other pittosporums, including P. Ralphi, P. Colensoi, P. Mayi, P. eugerioides, P. undulatum, P. umbellatum, P. bicolor, P. cornifolium, P. crassifolium, and P. crassifolium. A gold medal was awarded to this collection. The Rev. A. T. Boscawen received a First-class Certificate for Grevillea Hookeriana, a plant bearing numbers of bright red flowers, in shape somewhat resembling a bottle-brush.

MISCELLANEOUS EXHIBITS.

The attractions of the show were much enhanced by the nurserymen's exhibits.

Messrs. Barr and Sons, Covent Garden, had an exceptionally good display of daffodils, for which they received a silver-gilt Flora medal. Among the flowers were Chamois, Olympia, Maid of Athens, Lohengrin, Chancellor, Peter Barr, Icepeak, Sunrise, Minerva, Buccaneer, Pyramus, Calpurnia, Penguin, Seraphin, Marie Louise, Buttercup, and Torchlight, all uncommon varieties. Mr. C. Bourne, Bletchley, also showed daffodils, for which he was awarded a Silver-gilt Flora Medal. In the stand were Incognita, Bernardino, Golden King, Radiant, White Countess, Lemon Queen, White Slave, Goldfinch, and Little Joan. Mr. J. C. Martin also showed daffodils, and was awarded a Silver Banksian Medal. Among his varieties were Bowerbird, Gullrock, Eaglet, Bronze Queen, Carnation, Kingfisher, Brunette, and Silver Penny. Messrs. Barr were given an Award of Merit for Daffodil Venus, and Mr. J. C. Martin for daffodil Silver Penny.

Messrs. R. Veitch and Son, Exeter, had a most interesting stand, in which were Raphiolepis indica rubra, Gerbera hybrids, Psoralea arborea, Agapetes buxifolia, Camellia reticulata, Daphne cneorum, Lonicera nitida, Grevillea longifolia, Exochorda Alberti macrantha, Magnolia Kobus, Acacia acinacea, Genista elegans, Grevillea alpestris, Lewisia Howelli, Osmanthus Delavayi (Award of Merit), Senecio rotundifolia, and Lotus peliorhyncus. Mr. G. Reuthe, Keston, staged Ribes australis, Rhododendron Elsæ (Award of Merit), Trillium erectum, Fritillaria armena rubra, Arctostaphylos Stanfordiana, Olearia angustifolia, Anchusa myosotidifolia, Sarracenia purpurea, Soldanella montana, Myosotidium nobile, Omphalodes nitida, Veronica pimelioides, Stachys corsica, Veronica Armstrongi, and Corokia virgata. This stand was awarded a Silver Flora Medal.

The Devon Rosery, Torquay, showed a fine collection of pot roses in full bloom, amongst which were Earl of Gosford, Archduchess Marie, Immaculata, Aunchen Muller, Climbing Kaiserin Augusta Victoria, Countess of Gosford, Liberty, and Ma Capucine. They also exhibited Pyrus malus angustifolius, P. m. Scheideckeri, new weigelas, Acacia verticillata, A. pendula, Boronia elatior, B. heterophylla, and Erica persoluta alba. They also showed a large number of fine apples, of which Lane's Prince Albert, Winter Peach, Belle de Pontoise, Bowhill Pippin, and Bramley's Seedling were especially good. They were awarded a silver medal.

Messrs. Treseder, Truro, staged six enormous plants of Dicksonia antarctica, with wide-spreading fronds, Spiræa Queen Alexandra, Acacia Drummondi, A. armata, A. longifolia, Eriostemon neriifolium, Cyrtomium Rochfordi, Senecio Greyi, Erica australis, Acacia cordata, A. linifolia, and Indigofera australis.

East Anglian Horticultural Club.

At the April meeting two papers were read in a competition upon "The Growing of Decorative Chrysanthemums for the Best Results." The first prize was awarded to the one sent in by Mr. C. H. Fox, Catton House Gardens, who dealt practically with his subject, both from the market man's and private grower's point of view. Mr. D. Howlett kept entirely to the private grower side, and aimed at perfection in pot culture. His points were just those one would follow to have a healthy-looking plant with foliage down to the rim of the pot. Pests and insects were well treated upon. The subject brought out an animated discussion. There was a good exhibition of flowers, pot plants, and vegetables, giving the room a charming appearance. Messrs. Daniels Bros., Lim., Norwich, sent forced shrubs. Hobbies, Lim., sent roses. Mr. Frank Neave made a fine feature of pelargoniums. Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., achieved a great success with strawberries and orchids, while the President (Mr. F. Williams) had beautiful examples of azaleas and mignonette. During the meeting the question of the summer outing was discussed, and it was decided this year to go to the Cambridge Botanic Gardens on Thursday, July 24.

Royal Horticultural Society.

The two-day exhibition held on April 15 and 16 at the Royal Horticultural Hall was a very fine one, and everyone seemed agreed that it was one of the very best yet held. The daffodil fanciers had a great time, and in the competitive classes exhibits were numerous, with but few exceptions, while the new flowers were delightful. Orchids were not so plentiful as usual, but hardy flowers, alpines, roses, and carnations were shown largely and well.

There was some little grumbling because the remains of an exhibition held the previous week were not cleared early enough on Monday, April 14, by the time many exhibitors reached the hall. The orchid people also had a grumble because at first it seemed that plants submitted for award would have to remain the two days. The Rev. W. Wilks made matters easy for the orchidists, and all through a rather trying time Mr. Smith—who acted as show superintendent in Mr. S. T. Wright's absence because of indisposition—was suavity itself.

The veteran, Mr. John Heal, V.M.H., received many congratulations upon the completion of fifty years' service in the employ of Messrs. J. Veitch and Sons, while Mr. P. R. Barr was a happy and proud man after the Narcissus Committee had awarded him the Barr Memorial Cup for the ensuing year.

The attendance on the first day was very large, inconveniently so, but there were very few people present between six and eight o'clock in the evening.

FLORAL COMMITTEE.

Prof. J. Bayley Balfour, Royal Botanic Gardens, Edinburgh, sent a beautiful collection of primula species to illustrate his lecture at the Primula Conference on Wednesday, April 16. Primula Reidi, with its heads of drooping white, bell-shaped flowers, and with farina on stems and calyces, was a most charming little plant, and was greatly admired; with this were P. Forresti, P. malacoides, P. Juliæ, with its blue flowers and neat campanula-like leaves; P. nessensis, P. pinnatifida, P. Geraldiana, and several other kinds.

Mr. Jas. Douglas, Edenside, Great Bookham, staged some wonderful auriculas, which attracted much attention from the visitors. Some of the best forms were John Ridd, May Day, Favourite, Lady Veitch, a grand claret variety; Harrison Weir, and Mrs. Jas. Douglas; also a fine plant of Myosotidium nobile, carrying some fine heads of flower. From Messrs. Phillips and Taylor, Bracknell, came a nice display of auriculas and hardy primulas.

Some beautiful alpine auriculas were set up by Messrs. Jas. Veitch and Sons, and the yellow Buttercup was very attractive; the same firm exhibited nemesias in pots—Blue Gem was a very lovely variety of soft blue colour—Primula obconica, and some handsome hippeastrums, the rounded, deep rosy-red variety Eurasian gaining an Award of Merit. The Chelsea firm exhibited standard plants of varieties of Azalea indica, and, by way of contrast, staged Androsace tibeticum, about two inches high, with clusters of little pinky-blush flowers (A.M.). Mr. J. Crook, Camberley, massed a very fine and bright lot of polyanthuses, and Messrs. Bakers, Wolverhampton, presented various saxifrages, the pretty Ranunculus montana, with golden flowers, Incarvillea grandiflora, and the dainty dwarf iris named Bluebeard.

Rhododendrons from Messrs. R. Gill and Sons, Falmouth, were a fine display, and in the exhibit the grand blooms of the white R. Nuttali and the yellow R. Dalhousie were splendid.

Messrs. Sutton and Sons, Reading, had a most pleasing exhibit of cinerarias arranged in masses of colour; these included varied shades of pink, scarlet, blue, and so on, the plants were dwarf, and carried fine heads of inflorescence.

The bottle-brush tree (Metrosideros floribunda) and the tall spiked rosy-flowered Erica King Edward VII. were well shown by

Messrs. Stuart Low and Co., Enfield. Messrs. H. B. May and Sons, Upper Edmonton, had a large miscellaneous exhibit.

Zonal pelargoniums were staged by Messrs. H. J. Jones' Nurseries, Lim., Lewisham, in capital form. Messrs. H. Cannell and Sons, Swanley, sent a glorious bank of zonal pelargoniums, which were remarkable for their size and brilliant colours.

Messrs. W. Cutbush and Son, Highgate, presented a small display of carnations arranged in bamboo stands. Mr. H. Burnett, Guernsey, had an exhibit of glorious perpetual carnations, and he had the yellow Mandarin in fine form among the more popular varieties. Messrs. Allwood Brothers, Haywards Heath, also did well with carnations.

Messrs. G. Jackman and Son, Woking, also presented hardy plants, tastefully arranged. the saxifragas. Iris Susiana was flowering in splendid condition, as were also the dwarf irises.

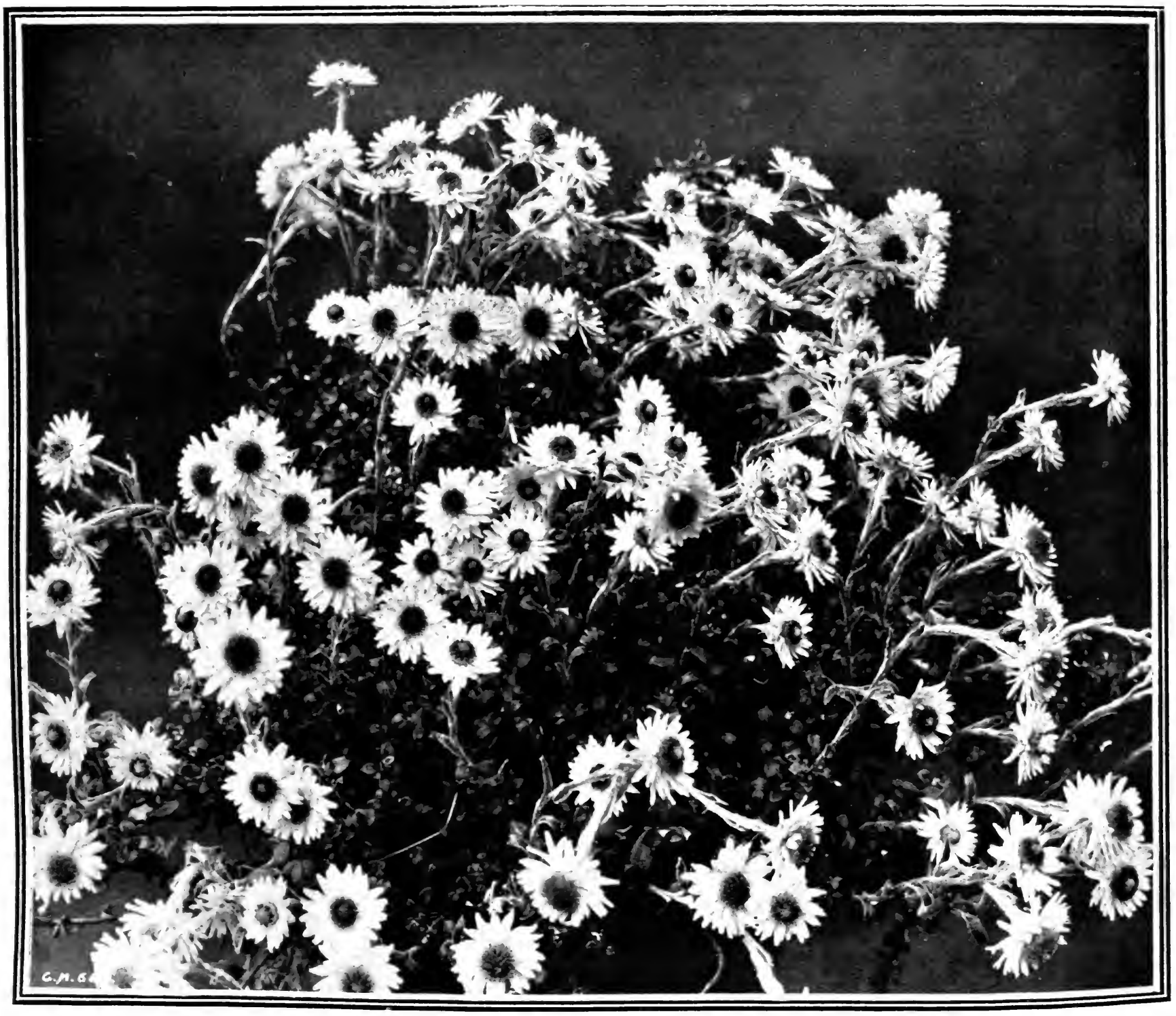
Mr. James Box, Lindfield, Haywards Heath, occupied a corner of the hall with rock and alpine plants tastefully arranged with sandstone. The background was formed with acers, cedrus, veronicas, and similar plants, while a fine collection of alpines were grouped in the front.

Mr. R. d'E. Day, Sutton Scotney, Hants, made a bright exhibit of Spanish irises, which he appears to grow to perfection. The best forms were Cajanus, Blanche Fleur, King of the Blues, and Raphael. Mr. E. C. Bowell, Cemetery Road, Cheltenham, exhibited a collection of rock plants in pots arranged in moss; some of the best subjects were Arabis Billardieri rosea, Saxifraga Strachyi alba, and Anthemis Hauschnechli.

noted a large variety of aubrietias, primulas in variety, saxifragas, Viola gracilis, Arenaria grandiflora, and some good examples of double primroses, while acers, pinuses, and azaleas were utilised to make a background. Messrs. T. S. Ware, Lim., Feltham, were represented by a pretty and well-arranged rockery, on which the alpines looked particularly at home. Some of the chief subjects were Aubrietia Dr. Mules, Conandron ramondioides, Erysimum helveticum, with Primula rosea, marginata, and viscosa in fine form.

From Messrs. Blackmore and Langdon, Bath, came a fine strain of polyanthuses arranged in blocks of colour, the white, crimson, and yellow forms being especially fine.

Messrs. B. R. Cant and Sons, Colchester, arranged a nice display of roses in the Annexe, and roses were charmingly shown by Mr. George Prince, Longworth.



HELICHRYSUM BELLIDOIDES.

Flowers white. A.M., R.H.S., April 15. Mr. A. Hemsley, Crawley.

Primula Sieboldi was bright and clean, Morisia hypogæa was a mass of golden flowers, while Iris Excelsa, I. cyanea, I. Eburnia, and I. florida were quite attractive, arranged in masses. Messrs. Whitelegg and Page, Chislehurst, showed alpine phloxes, aubrietias, red saxifrages, Viola papilio, and the blue Gentiana acaulis in round baskets. Mr. C. Elliott, staged a small rockery, on which were to be seen Gentiana acaulis, Morisia hypogæa, saxifragas, and Androsace Chumbyi. From Mr. G. W. Miller, Clarkson Nursery, Wisbech, came a spring-like show of polyanthuses, pansies, daisies in variety, double primroses, and arabis, all remarkably well developed.

The Wargrave Hardy Plant Company, The Arcade, Liverpool Street, exhibited a fine table of alpine plants in the Annexe. The aubrietias were a fine feature, as were also

From Messrs. R. Wallace and Co., Colchester, came an attractive group of alpines arranged naturally. Aubrietias in variety were attractive, as were also patches of Saxifragas Clibrani, and S. L. G. Godsell. Tulipa stellata was also to be seen; while Primula Juliæ and P. denticulata were prominent amongst other plants. Mr. Maurice Prichard had a lovely mass of the rosy free-flowering and deliciously fragrant Daphne cneorum in the centre of a rock garden exhibit, where aubrietias, saxifragas, and primulas were abundant and beautiful. Messrs. G. and A. Clark, Dover, massed vigorous and brilliant polyanthuses, St. Brigid anemones, and the fine double geum, Mrs. J. Bradshaw, in bold fashion.

Messrs. J. Cheal and Sons, Lim., Crawley, Sussex, occupied the end of a double table with a display of rockery, on which were

The new White Tausendschon rose, exquisitely beautiful, with fine clusters of large semi-double, white flowers, was shown grandly by Messrs. Wm. Paul and Son, Waltham Cross, Herts, and was the feature of their group of climbing roses, though Rowena was also a fine variety, finely shown.

Messrs. J. Macdonald and Son, Harpenden, again showed grass raised from seeds sown on a canvas preparation, ready for laying down to form a lawn.

ORCHID COMMITTEE.

Trichopilia Backhousiana, with its drooping spikes of white and cream flowers, was very finely represented in the group staged by Messrs. Hassall and Co., Southgate; Cymbidium eburneo-Lowianum, and Miltonia Bleuana grandiflora were also fine in this group. Mr. A. Harrison, Oneglia, Italy.

sent a few dendrobiums; and Mr. E. H. Jenkins, Orchid Dene, Twyford, put up some grand spikes of fine odontoglossums, Cypripedium Hassalli with wine-coloured dorsal sepal; Odontoglossum Aurora, one of the Rosa hybrids, was conspicuous in this group.

Odontioda Devonsiana was shown by Mr. Ashforth, gardener to F. Menteith Ogilvie, Esq., The Shrubbery, Oxford; it bore a spike nearly 4ft. long, with numerous branches of mulberry-purple flowers. Mr. G. F. Waters, Balham, and Messrs. J. and A. McBean, Cooksbridge, showed a few orchids. Messrs. Sander and Sons, St. Albans, presented good forms of the fragrant Cattleya Schröderæ, the bright Renanthera Imschootiana, Brassocattleya Langleyense, B.-c. Empress of India, and the new Maxillaria Fletcheriana, with creamy sepals lined with rose; the petals have deeper lines, and the lip is dull tawny yellow. This gained an A.M.

A nice group of orchids from Mr. Sidney Tracy, Tracy's Nursery, Twickenham, contained goodly spikes of odontoglossums, cattleya Schröderæ, Brasso-cattleyas, masdevallias, chrysisbractescens, and other good things. A glorious flower was Lælio-cattleya Ingramii Holford's var. (F.C.C.), with lovely yellow sepals and petals, and an intense rich purple lip with paler rim; this was shown by Mr. H. Alexander, orchid grower to Sir George Holford, Westonbirt, Tetbury. From the same collection came Odontoglossum Pescatorei Lady Holford (F.C.C.), with unusually large flowers, the sepals tinted with rose, and the white petals each with a single purple spot.

Cattleya Robert de Waverin, with a brilliant light purple lip, was finely shown by Mr. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, South Woodford. Oncidium concolor, Phalænopsis Aphrodite, the lovely Brasso-cattleya Queen Alexandra, and a fine form of Lælio-cattleya Dominiana were shown in capital condition by Messrs. Charlesworth and Co., Haywards Heath. Mr. H. S. Goodson (gardener, Mr. Day), Putney, contributed odontoglossums, odontiodas, masdevallias, and the chaste Cattleya intermedia alba.

DAFFODIL COMMITTEE.

A very fine group of daffodils from Messrs. Barr and Sons, Covent Garden, was a centre of attraction for specialists. Some of the finest things were Ceadmon, a fine poet (A.M.) with a crimson rim to the orange-yellow cup. St. Olaf, a lovely broad-crowned Leedsi form (A.M.), with white, broad perianth and pale cream-tinted, crimpled crown, was generally liked. Other fine varieties were Torchlight, White Knight, Altkönig, a golden jonquilla hybrid; Miss Willmott, Southern Gem, the handsome Cœur de Lion, and Tara Ranee, with broad golden-orange crown. The Wargrave Plant Farm, The Arcade, Liverpool Street, had a small stand of daffodils, and Messrs. Sutton and Sons, Reading, put up blocks of such varieties as Cardinal, Argent, Red Crest, Lady Mary Boscawen, Red Flag, and Southern Gem, with smaller sets of Evangeline, Incognita, and Homespun, all excellent varieties. Messrs. Backhouse, Sutton Court, Hereford, brought up a few seedling daffodils, and Gauntlet, with vivid orange crown, was the most striking variety.

Unusually fine were the Darwin tulips grown in bowls of fibre, without drainage, by Messrs. R. H. Bath, Lim., Wisbech. This was a first-rate exhibit, and one that cannot fail to gain many adherents for "fibre culture." Mr. Farncombe Sanders was over a yard high, and carried grand flowers. Mr. A. Hemsley, Crawley, showed a small collection of daffodils, but crowded his blooms somewhat. He staged Helichrysum bellidioides (A.M.), a low-growing, creeping, white-flowered, everlasting flower of perennial habit, and perfectly hardy. King Alfred was a daffodil finely shown in the group of flowers displayed by Messrs. Jas. Veitch and Sons.

Very bold and effective was the great sheet bank of daffodils arranged by Messrs. Jas. Carter and Co., Raynes Park. It was a high bank, with a few contrasting conifers, and the varieties massed were White Lady, Homer, Gloria Mundi, Mdme. de Graaff, Incognita, Duchess of Westminster, Dazzler, Firebrand, Beauty, Albatross, and Barri conspicuus. Some capital daffodils were staged by Robert Sydenham Limited, Tenby Street, Birmingham, and some of the best on view were Horace and Brighteye, poeticus varieties; Beacon, Red Chief, Will Scarlet, Rosella, Cresset, and Watchfire, all with brilliant orange crowns, and such useful old varieties as Mdme. de Graaff and Queen of Spain.

Mr. Christopher Bourne, Bletchley, staged some beautiful vases of tulips; Mrs. Moon, City of Haarlem, Moonlight, the splendid mahogany-coloured King Harold, Inglescombe Pink, and Bouton d'Or, were lovely. Mr. Bourne had also a number of fine daffodils, a few of his best being Golden Idol, trumpet; Great Warley, with wide and deep golden crown; Queen of Hearts, a fine bit of colour; Little Joan, a dainty little white Leedsi; and Red Lady, with a neat deep orange cup. From Lissadel, Sligo, came some capital daffodils, many of them being unnamed seedlings. Whitewell, Incognita, Seagull, the creamy-white Atalanta, White Queen, and the fine white trumpet variety Mrs. R. Sydenham were a few of the outstanding named sorts. Triandrus hybrids were very pretty. Messrs. Walter T. Ware, Lim., Bath, had a few fine daffodils on view, and their pièce de résistance was Europa (A.M.), a giant trumpet variety, a bicolor with broad light yellow trumpet and widespreading white perianth segments. Campernelle The Giant was very striking, and it should make a fine garden daffodil.

Very choice were the new daffodils shown so finely by Mr. A. M. Wilson, Shovell, Bridgewater, Somerset. A large number of the newest sorts were under number, and these included some lovely poeticus varieties, but a few of the finest named kinds were Brambling, Ceres, with flat golden crown; the exquisite Buttercup; Centurion, with a frilled pale yellow trumpet; Madrigal, with orange crown; Abigail, a fine pale cream trumpet variety. Messrs. E. H. Krelage and Son, Haarlem, showed the lovely white trumpet variety, Mrs. Ernst Krelage, and gained an F.C.C. for it; it is a grand, symmetrical and substantial daffodil.

Among the daffodils displayed by Messrs. J. R. Pearson and Sons, Lowdham, we made special note of the brilliant little Firebrand, the creamy magnate Homespun in fine condition, Macebearer, with orange-yellow cup; Homer, a famous poet; and Florence Pearson, one of the best of the creamy trumpet varieties. Messrs. Cartwright and Goodwin, Kidderminster, displayed their flowers, as usual, with isolepis, and had a pretty exhibit. Crœsus, Southern Gem, Matthew Arnold—a dark-eyed poet, Chancellor, and the white Lord Kitchener were a few leading varieties. Last, but not least, the Rev. G. H. Engleheart, V.M.H., Dinton, Salisbury, had a wonderful exhibit of new daffodils, all under number; his poeticus varieties were exquisite—especially one labelled 700A; and the broad-crowned varieties were not less beautiful.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. Sutton and Sons, Reading, made a really brave show of vegetables for the season. The background was formed with mounds of Broccoli Latest of All, Cabbage Sutton's April, and some fine examples of the Sutton Rhubarb, while Lettuce Golden Ball and Sutton's White Heart were to be seen. Some splendid pods of Pea Duchess of York attracted the visitors. French Beans Princess of Wales and Tender and True were fine in colour, while asparagus, cucumbers, tomatoes, mushrooms, radishes, seakale, carrots, and turnips were also seen in fine condition; in fact, it was a remarkable collection for the early period.

Mr. A. Metcalfe, gardener to Lady Wernher, Luton Hoo, Luton, gained a cultural commendation and Silver Banksian Medal for a grand lot of forced fruits of Royal Sovereign strawberry.

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CHEMICAL UNION, Ltd, IPSWICH.

London Daffodil Show.

VINCENT SQUARE, APRIL 15 and 16.

It has been said repeatedly that the Narcissus Committee of the Royal Horticultural Society have been lacking in their duties towards the claims of the daffodil, and that they have not pushed these hard enough, but the show held on Tuesday last should teach the critics that the committee are quite alive to the needs of the case.

There were no less than fifty-two classes, most of them filled, and it can safely be said that a finer display of daffodils has never been seen in the hall before. The Council of the R.H.S. generously give a large number of cups and medals as prizes, and the Schedule Sub-committee of the Narcissus Committee makes itself responsible for the cash awards. We congratulate the Society and the Committee upon the success of the show.

The premier open class for a collection of daffodils, in forty-eight varieties of three stems each, brought out a strong competition, there being five entries, the first prize, a gold medal or silver cup, being awarded Mr. E. M. Crosfield, Cossington House, Bridgewater, who staged a really fine display. The flowers were beautifully clean and bright, and were a thorough representative collection. The most conspicuous vases were Radiant, Mowglie, Samson, Dictator, Hela, Lolah, Mrs. E. Crosfield, Tiara, Frostbound, Charles Surface, and Ring Dove, also some fine seedlings under numbers. The second prize was awarded Mr. F. H. Chapman, Rye, Sussex, who staged clean, bright flowers, but they were a considerable distance from the winner. A few of the best specimens were Mrs. Veitch, Heroine, Tritoma, Ibis, Alys, Will Scarlett, Maggie May, Minstrel, Sea Horse, and quite a quantity of seedlings under number. Mr. Christopher Bourne, Simpson, Bletchley, was third, having fine examples of Queen of Hearts, Red Lady, Mrs. Veitch, Florence Pearson, and Zenith.

For twelve bunches of large trumpet varieties, Messrs. E. H. Krelage and Son, Haarlem, was awarded first prize for a very handsome display. The flowers might have been gathered an hour previously, so fresh were they in appearance. The varieties employed were Hope of Holland, South Pole, Glory of Haarlem, Frans Hals, Mrs. E. H. Krelage (a splendid variety), Thackeray, Duke of Bedford, and fine seedlings, all of great promise. Messrs. Cartwright and Goodwin, Kidderminster, were a capital second, the best forms being Caradoc, Mrs. H. J. Veitch, Onslaught, King Alfred, King Solomon, Diogenes, and Master of Balliol, while Mr. W. A. Watts, St. Asaph, secured third place.

The class for twelve Incomparabilis varieties only secured two entries, Mr. W. A. Watts winning first prize with a charming exhibit. The best varieties were Great Warley, Homespun, Orangeman, Perseus, and Whitewell; Messrs. Cartwright and Goodwin won second prize with a good level exhibit, their best examples being Cigar, Furze Bloom, Mrs. W. Miles, and Red Sunbeam. The Barri section was better supported. For twelve varieties, three stems each, there were four entrants. Mr. C. Bourne was first, the most noteworthy varieties being Red Chief, Incognita, Queen of Hearts, Red Eve, and Zenith. Mr. F. H. Chapman was second with well-arranged vases of Ethelbert, Senator, Rotherside, and Equinox; while Mr. W. A. Watts was third.

The class for nine Leedsi varieties was represented by four exhibitors, Mr. Chris-Bourne winning first prize with fine examples of White Lady, Lord Kitchener, Evangeline, Little Joan, Dewdrop, and Bianca. Messrs. Cartwright and Goodwin were second, having good vases of Mrs. W. O. Wolsley, Aquarius, Leading Lady, and Eddington; while Mr. W. A. Watts was third. The Poeticus division was not strongly represented, only three competitors staging nine distinct varieties. Mr. C. Bourne led off with fine sorts, some, however, being on the side of youth the first day. The most prominent varieties were Acme, Geo. Herbert, Tennyson, Black Prince, Stephen Phillips, and Virgil; while Mr. W. A. Watts secured the third prize.

Two competitors shared the honours in the class for nine Polyanthus (Tazetta) varieties. Messrs. Cartwright and Goodwin secured the first prize with good typical examples of Irene, Alsace, Jaune à Merveille, Klondyke, and Orient. Mr. W. A. Watts was second with Irene, Maestro, and Jaune à Merveille in fine form. Strange to relate, there were only two exhibits of double daffodils in six varieties. Mr. W. A. Watts led off with clean, fresh examples of Codlins and Cream, Golden Rose, and Primrose Phœnix; the other vases were rather weak. Messrs. Cartwright and Goodwin were second with Inglescombe Phœnix, Whirligig, and Primrose Phœnix in capital condition.

The collections of daffodils in twenty-four varieties secured a strong entry, no less than five collections being staged. The first prize was well won by Mr. N. G. Lower, Presteign, who staged his flowers in perfect condition. The most striking were Sunrise, Olympia, Weardale Perfection, Bernardino, Will Scarlet, Glory of Leiden, Horace, and Beacon. Mr. S. F. Staffworth, Frieston Priory, Boston, was second, having good bunches of Glory of Leiden, Weardale Perfection, King Alfred, Cigar, Orangeman, Diogenes, and Mohican. The Rev. T. Buncombe, Black Torrington, was a good third, his varieties of Albatross, Harold Fynn, Weardale Perfection, Horace, and Treasure Trove being especially good.

For six long trumpet varieties, the Rev. T. Buncombe won handsomely with clean, bright examples of Emperor, Weardale Perfection, Treasure Trove, Sybil Foster (very fine), Madame de Graaff, and The Colonel; Mr. W. B. Cranfield, East Lodge, Enfield Chase, was placed second, and Mr. S. F. Staffurth third. Class 12 was for six bunches of Incomparabilis varieties, but there were only two exhibits. The Rev. T. Buncombe led off with Gloria Mundi, Chryseis, Whitewell, Mabel Cowan, and Princess Mary, followed by Mr. H. R. Darlington, Park House, Potters Bar, who must have been very close to the winner.

Mr. H. R. Darlington had a walkover in the class for six vases of Poeticus, and was deservedly awarded first prize, Ibis, Virgil, and Horace being prominent. The same exhibitor won the first prize for six Tazetta varieties, under the same conditions as in the last class; while he led off again for three bunches of double varieties, followed by Mr. W. B. Cranfield.

United Horticultural Benefit and Provident Society.

The annual meeting of this society was adjourned on Monday, April 14, as, owing to some little delay in connection with matters concerning the new State side of the society's affairs, it was not possible to present the fully-audited accounts.

Members will be promptly notified of the date of the adjourned meeting, and a large attendance is hoped for on that occasion, as the late secretary, Mr. Collins, will be then presented with a handsome token of the respect in which he is held by all members.

The Nurserymen, Market Gardeners', and General Hailstorm Insurance Corporation, Lim.—The eighteenth annual general meeting of shareholders of this company was held on Friday, the 4th inst., at the registered offices, 41 and 42 King Street, Covent Garden. The Chairman, Sir Harry J. Veitch, presided, and reported that during the year the company had received five claims for 212 glasshouses damaged. In one nursery 93 out of 100 glass-houses were affected. The income from premiums amounted to £2,579, less bonus of 15 per cent. to the assured, £387 11s. 7d., giving a net premium income of £2,191 17s. 1d. The amount received from interest and ground rents amounted to £962 19s. 7d. A dividend of 1s. 6d. and a bonus of 6d. per share, free of income tax, was declared. £1,300 was added to reserve fund, making the reserves £20,500, and the balance carried forward. Messrs. Robert Piper, Joseph Rochford, Edmund Rochford, and William Sams were re-elected directors.

ANSWERS TO CORRESPONDENTS.

SCALE INSECTS ON CRAB APPLE.—J. F. C., Croydon: Will you please tell me what the enclosed specimens are? I scraped them from the stems of a crab apple tree. If they are injurious insects kindly tell me how to get rid of them.—The insects sent were examples of the Mussel Scale (Lepidosaphes ulmi). This pest is sometimes found in large quantities on apples and pears, and as it sucks the sap of the tree it proves injurious, and, in addition, if the infestation is a severe one, then the fruits may be attacked as well as the branches. It is too late to take the best measures for eradicating the pest, such as spraying with caustic alkali wash or with a mixture of lime, salt, and sulphur, but you may improve matters by carefully scraping the stems without injuring the tree, and following this with an application of a tobacco, sulphur, and soft soap solution; this should be applied by means of a stiff paint brush. Boil 1lb. of tobacco paper in a half-gallon of water until the nicotine has been extracted; strain and add an ounce of soft soap and four ounces of sulphur, and then add hot water to make up one gallon of solution. If this mixture is used warm and applied at once to the main stems and branches, the tree will be greatly relieved, and further measures may be taken next winter.

IMPROVING A LAWN.—L., Henley: Will you please tell me how best to treat a lawn that is mossy, and of poor appearance? The soil is gravelly in some parts, and chalky in others, but the turf is poor all over. I have been advised to dress the lawn with a mixture of sulphate of ammonia, kainit, and superphosphate; would this be a good plan, and what proportions should be used? Any advice given will be greatly appreciated, but I am afraid I cannot do much until autumn.—Mix old potting-soil with old decayed hot-bed or mushroom-bed manure, at the rate of two parts of the former to one of the latter, and pass the whole through a quarter-inch mesh sieve. First mow the lawn closely, then rake out the moss with iron rakes, and apply the soil and manure mixture at the rate

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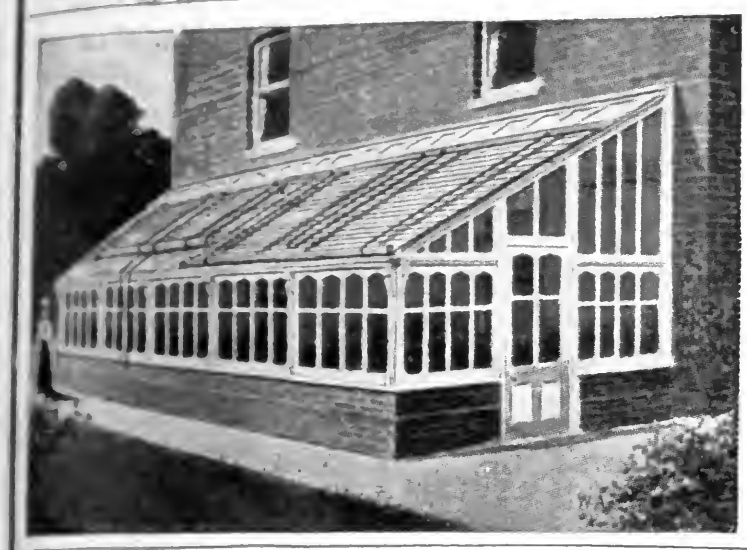

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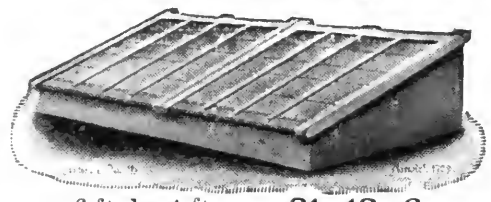

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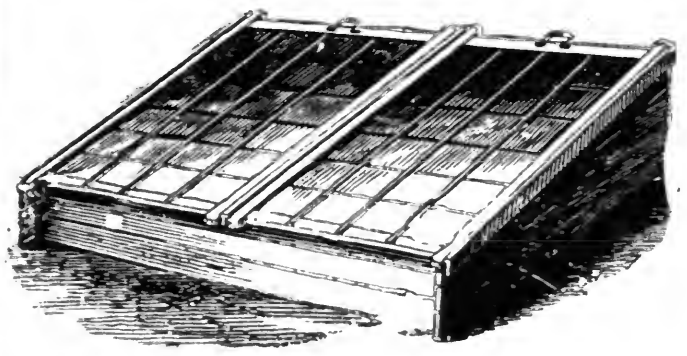

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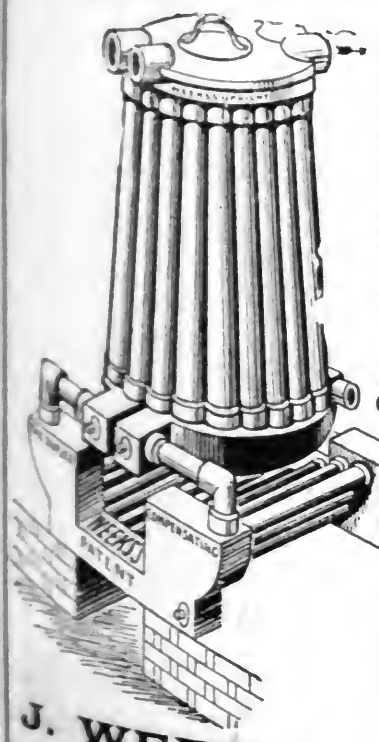

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of about a barrowload to every six or eight square yards. As soon as this has been spread carefully apply three pounds of bone superphosphate per square rod. Work over the whole lawn with the back of a rake, so as to work the new material well down to the grass roots. Write us again next August with respect to autumn treatment.

STANDARD PLANTS OF SPARMANNIA AFRICANA.—L. G., Northampton: Kindly tell me the best and quickest method of growing Sparmannia africana as a standard plant. —Insert cuttings at once in sandy soil in gentle heat. Place them singly in small pots, and as soon as rooted pot them in rich light soil and keep them in a warm greenhouse where the conditions are suitable for quick growth. Allow the plants to grow straight away; do not pinch out the growing point, but suppress any side growths that may appear. Pot as necessary, and see that there is no check either from lack of moisture or root room. When the stems have reached the desired height pinch out the growing point, and subsequently pinch out the points of the other growths that form, so as to provide the foundation for a good head. Fuchsias, pelargoniums, heliotrope, etc., are all treated in similar fashion for the production of standard plants, but the general practice is to start with cuttings at the end of the summer or in early autumn, and keep the plants growing quite steadily through the winter; early in the year when growth becomes active it is not difficult to obtain quite good standards in this way.

YELLOW CARPETING PLANT.—F. B. S., Chepstow: I am in want of a good low-growing yellow plant for carpeting a large bed during the summer time, and am rather at a loss to know what to use. If you will kindly suggest likely subjects in your next issue I shall be greatly obliged.—The field for choice is not a wide one. There are yellow-flowered violas and violettas, and probably these will prove most useful provided the taller plants in the bed are not placed too closely together or are of a dense, spreading habit. A good form of the golden pyrethrum is not without merit, but it loses colour in the shade. Lysimachia Nummularia aurea, the yellow-leaved form of the common Creeping Jenny, is a suitable plant, and keeps almost flat upon the ground.

NAMES OF PLANTS.

L. W., Newport.—Sibthorpia europæa variegata.

B. D., Filey.—1, Cochlioda vulcanica; 2, Trichopilia suavis; 3, Strelitzia regina.

K. R., Ruislip.—1, Chamæpeuce diacantha; 2, Brassica caudata; 3, Leucojum vernum.

P. S. C., Grantham.—1, Dossinia marmorata; 2, Nidularium cyaneum; 3, Tulipa Clusiana; 4, Quercus Ilex variegata.

S. M. E., Petersfield.—1, Erica carnea; 2, Todea superba; 3, Selaginella apoda; 4, Forsythia intermedia; 5, Kerria japonica fl. pl.

T. F., Sherborne.—1, Thuia orientalis aurea; 2, Thymus serpyllum vulgaris; 3, Raphiolepis indica; 4, not recognised; 5, Prunus triloba; 6, Lonchitis pubescens.

GARDENING ENGAGEMENTS.

Mr. Walter John Dowson, M.A., has been appointed, on the recommendation of Kew, Mycologist in the East Africa Protectorate.

Mr. Louis F. Ruse, a member of the gardening staff of the Royal Gardens, Kew, has been appointed a probationer gardener for service in India.

Mr. J. Blakemore, who has been foreman during the past six years at Blyth Hall Gardens, Rotherham, has been appointed gardener at Avon Castle, Ringwood, the seat of the Earl of Egmont.

Mr. F. Utting, some years gardener at Wyaston Grove, Ashbourne, has been appointed gardener to J. R. Starkey, Esq., M.P., Norwood Park, Southwell, Notts.

Mr. H. J. Salloway has been appointed head gardener to the Countess of Cadogan, Deene Park, Wansford, Northamptonshire.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

Date. 1913. April 6 to April 12.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 6—Sunday	7 42	47	44	54	43
,, 7—Monday	3 24	43	40	49	39
,, 8—Tuesday.....	5 24	42	39	48	34
,, 9—Wednesday..	0 30	42	40	47	39
,, 10—Thursday....	—	47	44	50	37
,, 11—Friday.....	—	38	36	47	38
,, 12—Saturday.....	3 24	38	33	41	34
	(total)				
Means ..	20 24	42	39	48	38

Date. 1913. April 6 to April 12.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
April 6—Sunday	—	46	45	45	40
,, 7—Monday	—	47	46	45	33
,, 8 Tuesday.....	trace	45	45	46	28
,, 9—Wednesday..	trace	46	45	46	32
,, 10—Thursday....	0·03	45	45	46	27
,, 11—Friday.....	0·37	45	45	46	34
,, 12 Saturday	—	44	45	46	29
	(total)				
Means ...	0·40	45	45	45	32

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

TUESDAY, April 22.—Midland Daffodil Show; two days.

WEDNESDAY, April 23.—Royal Horticultural Society's Examination in Allotment and Cottage Gardening.

North of England Horticultural Society's Spring Show at Leeds.

THURSDAY, April 24.—Norwich Spring Show.

SATURDAY, April 26.—Ghent Quinquennial Horticultural Exhibition; nine days.

Epsom Horticultural Society, Rose Show, June 30, at Woodcote Grove; Summer Show, August 4, at Epsom College.

Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.

Ealing Horticultural Society, July 9.

Weybridge Horticultural Society, July 10, at Barham Lodge, Oatlands Drive.

Ulverston Rose and Sweet Pea Show, July 18.

Birmingham Horticultural Society, July 18 and 19, in Handsworth Park.

Haywards Heath Flower Show, July 23, in Victoria Park; the twenty-fifth exhibition.

Tunbridge Wells Flower Show, July 23 and 24.

St. Quintin Horticultural Society, July 24, in the Gun Club grounds, Wood Lane, W.

City of London Rose Show, July 26, at Cannon Street Hotel.

Worth Horticultural Society, July 30.

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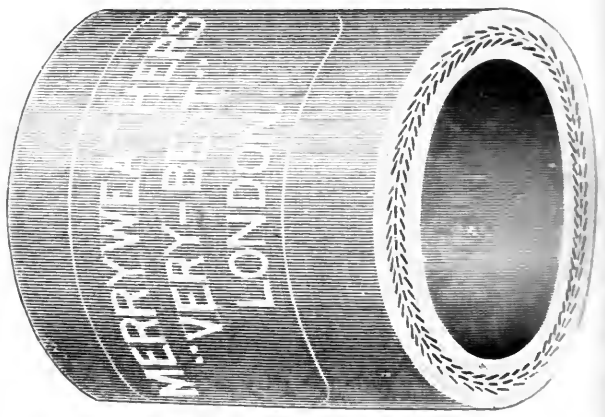

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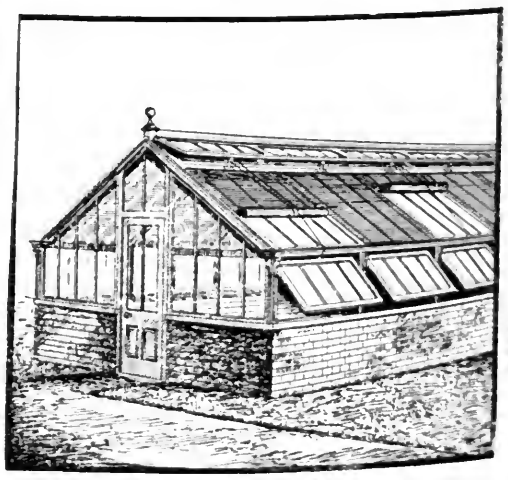

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GARDEN {FROM STOCK} FRAMES

VOL. LVI.—No. 3,104. SATURDAY, APRIL 26, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Town Trees.

The importance of trees in relation to town life is so great that the characteristic growth of the several kinds should be well known, and their adaptability to the various positions usually available in towns for their culture be fully understood by those more or less concerned with open spaces and street planting within town areas. Those who base their opinions on superficial observation may perhaps regard the statement of this proposition as superfluous; but, for evidence that this is not the case, it is only necessary to carefully observe what is being done in some of the urban open spaces. Within recent years considerable improvement has been effected in the methods of dealing with town trees, and where the open spaces are under the charge of men who have had a horticultural training there is usually but little of which complaint could well be made. In the smaller towns where there is no proper gardening staff a different state of things frequently obtain, and the trees are less satisfactory than could be desired. In some instances the trees have not been selected with due regard to the positions they occupy, and in others the management is weak, more especially with respect to the all-important details of pruning, which annually gives rise to much criticism. It would be well if an allround improvement of the knowledge of town trees could be made for the purpose of enabling those to whom the care of such trees are entrusted avoiding serious mistakes, and of placing those who have a penchant for indulging in criticism to know when it may properly be made. One point on which further enlightenment is desirable is the selection of trees. We are in full agreement with Cowper that "No tree in all the grove but has its charms," but the planter should first consider, in making a selection, the question of suitability with which the poet was in no way concerned. He has no occasion to seriously consider the statement made by Cowper, but it is essential he should select trees that possess such charms as will be displayed to the best advantage in the positions they are to occupy, and will also be in harmony with the environment. Hitherto, when selecting trees for town planting, attention has almost exclusively been given to forest trees that, under fairly favourable conditions, attain to a very large size. The two favourite trees have long been the lime and the plane, and they still enjoy a high degree of popularity. Their capacity for resisting the effects of atmospheric impurities is a strong point in their favour, and the tender green of the one and the rich verdure of the other are so pleasing as to have contributed in no small degree to the popularity they enjoy. While fully recognising the merits of these trees, which are so noble in aspect as to at once compel admiration when growing in park or woodland, it appears necessary to point out that when planted in the streets they can only be kept within bounds by an annual pruning of some severity. If the pruning is done by an expert who is fully conversant with the habit of the trees they are presentable, but when carried out by someone not skilled in the use of the pruning knife the appearance presented by them is far from pleasing, and of these there are very large numbers in our towns. We suggest that, instead of planting these two trees to the exclusion almost of all the other kinds that thrive in towns, some of the trees of more moderate growth might be selected with advantage. Certain of the robinias are, for example, excellent for towns, and there is perhaps no finer tree for street planting than the Scarlet Chestnut, which is seldom utilised in beautifying towns, although largely planted on the Continent for that purpose. This and other trees of moderate growth and great beauty are neglected, probably because of the belief more or less prevalent that selections for planting in both large and small towns should be made on precisely the same lines, and those only possessing the power of resisting the effects of the most deleterious impurities of the atmosphere be planted. This is a mistake that should be avoided, for its effect is to banish many beautiful trees that will grow as satisfactorily in towns of moderate size as in the open country. There is yet another point that is well deserving of consideration, and that is the difference in the time at which individuals of the same kind commence to make new growth. The planes show but little variation in this respect, but among the limes and horse chestnuts there is a difference in the time of leafing ranging from two or three days to a fortnight. The desirability of uniformity in the time of the leafing of trees forming avenues or long lines as in streets can hardly be questioned, but those who may be disposed to do so should carefully observe the lime trees in the same street from early in the spring. In the course of their observation they will see that some of the trees are well in leaf before the others have burst their buds, and they will notice that the early trees receive considerable injury should a severe frost be experienced. Should the observations be continued into the summer it will be observed that those trees which commenced to grow early will be the first to show "the sere and yellow leaf." If the limes and the horse chestnuts were to be sorted out according to the time of leafing, warm, sheltered towns might, if it was desired to enjoy the tender green leafage as early in the season as possible, be planted with those commencing to grow at an early

MR. W. A. WATTS.

period. On the other hand, in towns fully exposed to the effects of frosts and easterly winds, the trees making their growth at a later period could be planted, and injury to the young growth be thus avoided.

Mr. W. A. Watts, who for some years past has occupied a prominent position among those who devote attention to the cultivation and raising of daffodils, is a solicitor by profession, but about fifteen years since he commenced gardening as a hobby, and subsequently gave up his legal practice. Commencing with border carnations, he achieved much success with these fragrant flowers, winning medals and other prizes at Westminster, Birmingham, Shrewsbury, and several other of the principal centres. One year he was first in the open class at Shrewsbury, and was awarded four first-class certificates for new varieties. In the raising of new forms Mr. Watts has constantly kept in view the importance of a robust habit and good stems. Mrs. Harley, a blush-pink flower, The Master, bright crimson, Otter, Pied Piper, two yellow grounds, and W. A. Watts, rose-pink, are considered the best of the varieties he has raised. Mr. Watts has done some good work among the primroses and polyanthuses, and the success of his efforts has brought him numerous medals and prizes and some certificates. The daffodils are, however,the favourite flowers of Mr. Watts, and by perseverance along well-devised lines he has succeeded in raising a number of varieties possessing a high degree of excellence, among them being Aled, Brenig, Idwel, and Sindal. Recognising the importance of daffodils as garden flowers, Mr. Watts is a strong advocate for the encouragement of the strong-growing varieties, and consequently endeavours to select from his seed-bed such varieties, knowing something of the disappointment that is felt when varieties bearing flowers of great beauty are lacking in constitutional vigour. Mr. Watts is interested in tulips and some other bulbs, and, as in the case of daffodils, these are grown with much success by him at St. Asaph.

Fighting the Woolly Aphis.—One of the most destructive of the pests with which fruit growers have to contend is the Woolly Aphis, and the difficulty in dealing with it is greatly accentuated by the fact that the roots as well as the stems of the trees are attacked. Recognising the importance of keeping the roots as well as the branches of trees free from the Woolly Aphis, Messrs. Chivers and Sons, of Histon, near Cambridge, have adopted a plan of fighting the pest, which it is believed, will prove highly successful. A solution of carbon bisulphide is injected into the ground around the tree at several places about two feet from the trunk. This preparation gives off fumes that kill the insects and destroy the eggs. It was used successfully in France when the Phylloxera was devastating the vineyards, but its adoption in this country by Messrs. Chivers over several acres of their fruit plantations is the first attempt to use it on a large scale in connection with apple culture.

Ghent Quinquennial Exhibition.—This great horticultural exhibition will be opened on Saturday, April 26, by the King and Queen of the Belgians. The wonderful new building in which the major part of the floral display will be made has been built at a huge expense, and will form a permanent souvenir of the great Universal Exposition now being held in this famous horticultural centre. The main hall is about four acres in extent, and there are two annexes, each occupying two and a-half acres. Orchids, rhododendrons, azaleas, palms, stove plants, new plants, lilies, and tulips will be important features of the show, but the general arrangement promises to be the great thing, and even finer than anything Ghent has yet achieved in this direction. The jurors are drawn from almost every European country, and include a considerable number of horticulturists from Great Britain. We shall give a full account, with illustrations, of this magnificent exhibition in our issue of May 3.

Daffodils at Eaton Hall.—The Duke of Westminster very generously threw open the beautiful grounds at Eaton Hall to the public on Friday and Saturday last, so that the glorious display of daffodils, in beds, borders, and woodlands, produced by Mr. N. F. Barnes, might be enjoyed by the residents of Chester and neighbourhood.

Experiment Station for Cheshunt.—The Education Committee of the Herts County Council are now engaged in considering a scheme for establishing an experimental station at Cheshunt in connection with the market gardening industry which occupies so important a position in the parish. The work at the station will be devoted chiefly to investigations in soil sterilisation and other matters of immediate importance to those engaged in the cultivation of useful crops and ornamental plants under glass. The question of establishing an experiment station at Cheshunt is the outcome of a suggestion made by Dr. E. J. Russell, the director of the Rothamsted Experiment Station, who has done so much in assisting the growers in the solution of several of the problems associated with market gardening under glass.

International Flower Show at New York.—It is now considered that this great exhibition will be a financial success. From a purely horticultural point of view, it lost a good deal in effect from the fact that the exhibits had to be arranged on several floors of a huge building. Nowithstanding the great efforts of Messrs. C. H. Totty, W. Duckham, and H. Bunyard, the great show was hardly so imposing as was anticipated, not a few competitors dropping out at the last moment. Cut roses and carnations were the prime features of the display. Sir Jeremiah Colman's odontioda created a sensation. Liliums were also fine. Mr. W. A. Manda secured practically all the awards for new plants. Matchless is the new carnation par excellence, and it was awarded our own Perpetual-flowering Carnation Society's gold medal; it is a very fragrant white variety. The Britishers present have had a great time, and Mr. W. Wells (Merstham) considers that it would occupy him for the rest of the year if he accepted all the invitations he has received. Mr. Stuart Low (Enfield) was present, and acted as one of the judges of orchids.

A Spring Rose Show will be held at the Royal Horticultural Hall on Thursday, May 1, by the National Rose Society. This is the society's first spring exhibition, and twenty-seven classes, with liberal prizes, have been provided. The promise for a fine display is excellent.

Testimonial to Mr. E. Viner.—Mr. Viner (a working man), of Frome, Somerset, the raiser of one of the forms of Countess Spencer sweet pea in 1901, has since become an invalid, and unable to earn his living. An influential committee of members of the National Sweet Pea Society promoted a testimonial to him, and Mr. Cuthbertson, of Edinburgh, who has acted as treasurer, reports that the actual amount subscribed was £76 6s.: the outlay for printing and postages, £7 16s. 8d., leaving a free balance of £68 9s. 4d. Two or three friends subscribed an additional £1 10s. 8d. to enable him, in the name of the subscribers, to present Mr. Viner with £70, which he has most gratefully acknowledged. There were 106 subscribers, all parts of Great Britain being represented in the list, as well as Germany, the United States, South America, and South Africa, the amounts ranging from £10, given by the National Sweet Pea Society, down to two 3d. subscriptions from employees on the Shelley Sweet Pea Farm.

Purchase of the Crystal Palace.—The question of the purchase of the Crystal Palace and grounds for the general public came before the General Purposes Committee of the London County Council a few days ago, and this committee decided to recommend the Council, under certain conditions to make a grant of £50,000. We may add that the whole question was raised in connection with the Lord Mayor's appeals for funds to secure the Crystal Palace.

The Late Mr. William Bennett, who was head gardener at Rangemore, Burton-on-Trent, for forty-five years, to the late Lord Burton and the Dowager Lady Burton, left £5,440.

City of London Rose Society.—This society, as our readers are aware, has been formed to foster and increase the love of the rose and of rose growing amongst City workers, who stand most in need of the freshening influence and beneficial relaxation that the exercise of such a hobby affords. The schedule of classes and prizes for the first exhibition, to be held at Cannon Street Hotel, on June 26, has been issued, and we find that it has been modelled on N.R.S. lines, competitors being grouped according to the number of plants they grow. There are classes for nurserymen and for ladies, as well as for the rank and file, and there are cups and pieces of plate galore, as well as cash prizes. Mr. A. E. Protheroe, 67, 68, Cheapside, is the secretary of the society.

Royal Botanic Society's New Treasurer.—At a meeting of the Fellows of this society it was announced that Sir William Dunn had been elected treasurer in the place of the late Mr. C. Brinsley Marley. Sixteen new Fellows were elected, and the names of 120 candidates for election at the next meeting were read.

Suffragette Outrage at Handsworth Park, Birmingham.—A partly successful effort to destroy the boathouse in Victoria Park, Handsworth, Birmingham, was made during the night of April 21, or early on April 22, presumably by Suffragettes. Fire lighters and paraffin were freely used over the boat cushions, but these did not blaze much, consequently though boats, cushions, etc., were so badly damaged as to be useless, the damage to the boathouse itself was very slight. Victoria Park is one of the many fine public parks belonging to the City of Birmingham.

Economic Aspects of Ornithology.—An exhibition of interest to botanists, entomologists, and ornithologists will be held from May 3 to June 1 in the Palace des Beaux-Arts at Liege. The object of the exhibition is to illustrate the economic aspects of ornithology, and will be based on treatises relating thereto, and will include collections of birds, insects, and such plants as yield by means of their seeds a large proportion of the food of birds.

MIDLAND DAFFODIL SHOW.

Fine weather is a great asset to any society, and such an asset the Midland Daffodil Society had on Tuesday, when its daffodil show was opened at the Edgbaston Botanic Gardens. The gardens themselves, thanks to Mr. Humphreys, were bright with daffodils and tulips, and the rock garden in bloom with its primulas, aubrietias, and other spring flowers, while in the houses cinerarias, orchids, etc., were gay. Visitors came in goodly numbers, and the daffodil specialists were present in great force, some coming from the end of Cornwall, and others from Scotland, while old Mr. Van Waveren, despite his 86 years, came over from Holland, and Mr. Manger came from Guernsey, all bringing or looking for new varieties.

Birmingham Show is a regular Mecca of the fanciers, and it is the last of the daffodil shows where flowers are seen in quantity. On this occasion the competition was splendidly keen, and, on the whole, the flowers were in fine condition. Mr. Crosfield, Mr. P. D. Williams, Mr. A. M. Wilson, Mr. W. T. Ware, Rev. G. H. Engleheart, Mr. Bourne, Messrs. Barr and Sons, Messrs. J. D. Pearson and Sons, Robert Sydenham Limited, and Messrs. Cartwright and Goodwin, all had novelties, and a large amount of business was done in these new things.

Mr. Robert Sydenham, generous as ever, dispensed a hospitality that was greatly appreciated, and which made the wheels of business run easily, while Mr. H. Smith, the secretary of the society, made his usual complete arrangements for everyone concerned.

OPEN CLASSES.

It is no easy matter to find good blooms of fifty varieties of daffodils, fairly representing the various sections, at this date, but six competitors did so, and premier position was awarded to the Rev. J. Jacob, Whitewell Rectory, Whitchurch, Salop. His flowers were very fresh, and in excellent variety as regards form and colour. Conspicuously good were Will Scarlet, Incognita, The Doctor, Whitewell, Florence Pearson, Horace, Heroine, Bernardino, The Fawn, Lorna Doone, Coreen, Queen Alexandra and Weardale Perfection. Second prize fell to Messrs. Cartwright and Goodwin, Kidderminster, for a fine set, Mr. C. Bourne, Bletchley, coming third.

Five exhibitors came forward in the class for six yellow trumpet daffodils, three flowers of each, and here Mr. W. A. Watts, St. Asaph, led with bold blooms of Monarch, Magog, and seedlings; Rev. J. Jacob second with King Alfred, Cleopatra, etc.; and Mr. W. A. Milner, Totley Hall, Sheffield, third. Mr. W. A. Watts led for six white trumpets with Mrs. Betteridge, Cyclen, Mdme. de Graaf, Beren, Glaslyn, and a seedling; Mr. J. Mallender, Bawtry, second. In this class Mr. Brodie, of Brodie, and Mr. C. L. Adams presented a special piece of plate as the first prize.

In the bicolor class for six trumpet daffodils, three flowers of each, there were four entries, and Mr. W. A. Watts was first again, showing noble flowers of Adwel, Golden, Arwin, Bangor, Weardale Perfection, and Cethin; Rev. J. Jacob second; and Mr. J. Mallender third.

Mr. Watts was again to the front in the class for six incomparabilis varieties, and here he showed Homespun, Lemon Queen, Pyrie, and some of his own seedlings; Rev. J. Jacob second. For bicolor incomparabilis the Rev. J. Jacob came to the front, and he had Bernardino and Whitewell in splendid form; Mr. C. Bourne second, and Mr. W. A. Watts third.

Mr. Watts came again in the class for Barri varieties, and here his Occident, Beacon, and Torchlight were good; Rev. J. Jacob second.

For six white perianthed Barri varieties, the premier prize fell to Mr. C. Bourne, Bletchley, who showed Bullfinch, Ethelbert, Cossack, Rev. Eve, and Snowbird; Mr. F. Herbert Chapman, Rye, second, and Rev. J. Jacob third; five entries. Lady Moore in Mr. Jacob's set, was very attractive by reason of its wide orange-rimmed crown.

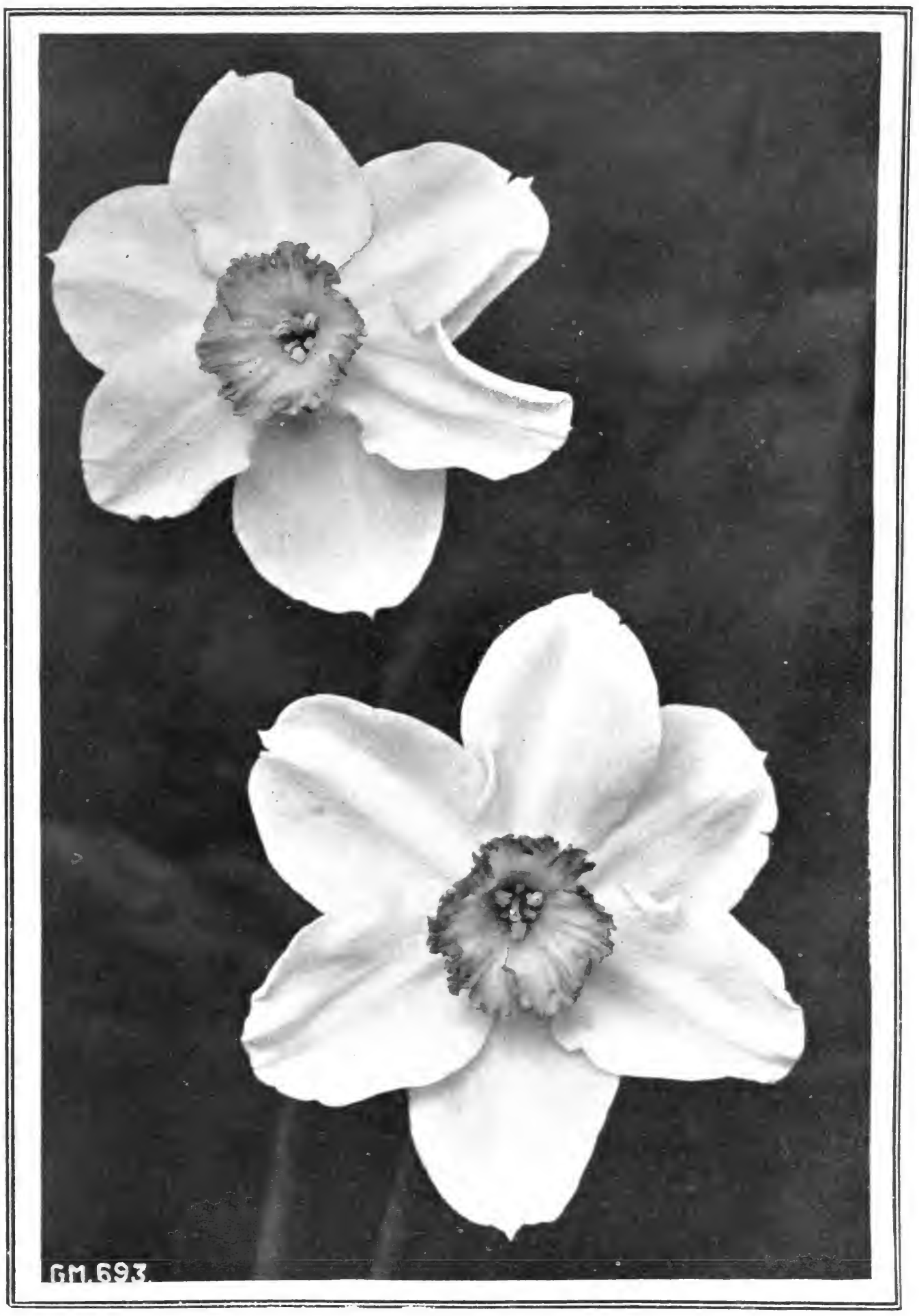
In the Leedsi class, twelve varieties were asked for, and here the Rev. J. Jacob scored, his best blooms being of Hon. Mrs. Franklin, Endurance, Evangeline, Lord Kitchener, Matthew Henry, and H. C. Bowles; Mr. C. Bourne second; two entries were disqualified for showing Barri varieties. Mr. Watts had the best three triandrus hybrids, and both Dewis and Cibyn were charming; Messrs. Cartwright and Goodwin second, their Cairngorm being a notable variety. The latter firm won first prize for tazetta and tazetta hybrids with bunches of Irene, Orent, Ideal, Jaune à Merveille, Elvira, and Klondyke.

The class for nine poeticus varieties brought out five entries, and made a pretty display. Mr. C. Bourne was placed first for George Herbert, Barcarolle, Virgil, Homer, Stephen Phillips, Lullaby, Orange King, Laureate, and Horace—a fine set; Messrs. Cartwright and Goodwin second, and Mr. F. Herbert Chapman third.

Mr. C. Bourne, Bletchley, was easily first for a decorative exhibit of daffodils, with vases and baskets of poeticus, Leedsi, and Barri varieties associated with ferns; Mr. J. Pope, King's Norton, second; and Rev. J. Jacob third, the latter spoiling his display by the use of dry moss among his flowers.

In the single bloom classes Mr. Hawker, Ivybridge, had the best poeticus flower in Dulcimer; the best double flower was Golden Rose, from Mr. J. Pope; Mr. P. D. Williams had the best Jonquilla hybrid—a seedling; Mr. Ridley, Wincanton, had the best single Leedsi flower, a fine Moonbeam; Queen of Hearts secured a first prize for Mr. Bourne in the Barri section; Mr. Welchman's The Commonwealth was the best yellow trumpet; Mr. A. M. Wilson's White Knight the best white trumpet, and Mr. Wilson's "P.B.F." the finest bloom of a bicolor trumpet variety.

Only one entry for a dozen species or varieties of species was filled, and this, from Mr. R. Bruce Watts, Harborne, was awarded a second prize; he showed N. gracilis, N. Macleai, N. abeissus, N. moschatus (of Haworth), N. triandrus albus, N. Santa Maria, N. tenuior, N. odorus campernelle, N. Queen of



NARCISSUS TINSEL.

A beautiful Barri variety, with pure white perianth segments and yellow cup, exhibited by Robert Sydenham Limited at the Midland Daffodil Show.

Spain, N. princeps, N. maximus, and N. biflorus.

SEEDLINGS AND NEW VARIETIES.

The Bourne Daffodil Cup, offered for the best dozen daffodils raised by the exhibitor, was won by Mr. Ernest Crosfield, Cossington, Bridgwater, with exquisite varieties, chiefly Barri and Poeticus sorts; some were numbered, but Dell, white with neat soft yellow crown; Winsome, orange crown; Ring Dove, a neat eyed poet with crimson edge and yellow crown; Nomad, the fine Touchstone, and Orb were the finest of the named sorts. Mr. W. Welchman, Upwell, Wisbech, came second with trumpet varieties, Hereward and Clodia being among his best. For half a dozen seedlings, not in commerce, and raised by the exhibitor, Mr. A. Wilson, Shovell, Bridgwater, led with unnamed varieties, but his No. 51 and 191 were lovely, neat flowers, with rich-hued crowns; Mr. W. A. Watts second; and Mr. J. Pope, King's Norton, third.

For three varieties under similar conditions, Mr. P. D. Williams, St. Keverne, Cornwall, scored with lovely flowers, his Susan, white, with small cream crown and green centre was a delightfully cool flower; while No. 795, with a salmon-pink shading running well into the perianth segments, was a great advance; ten entries. Messrs. Cartwright and Goodwin second; and Mr. C. H. Cave, Margotsfield, third.

The Novice Seedling Challenge Cup, open to raisers who have never before won a prize for seedlings was awarded to Mr. N. Y. Lower, Presteign, with unnamed flowers, but the fine, clear orange crown of 86 was much admired; Mr. C. L. Adams, Kidderminster, second; and Mr. W. Wilson, jun., Holmesfield, Sheffield, third; eleven entries.

A grand set of twelve daffodils not in commerce for more than four years, won for Mr. E. Crosfield the Cartwright Cup in fine style; he showed superb blooms of Winsome, Orb, Flattery, Cæsar, Anchorite, Sarchedon, Noblesse, Ring Dove, Touchstone, Dick Turpin, Dell, and Snow King, and every flower was in superb form; Messrs. Cartwright and Goodwin second.

Mr. C. Bourne scored for six varieties that have not been in commerce more than four years, and he did so with Miss Willmott, Black Prince, Evensong, Lemon Belle, Queen of Hearts, and Giraffe; Rev. J. Jacob, Whitewell, Whitchurch, second, and Mr. H. D. Phillips third. Mr. H. G. Hawker, Ivybridge, Devon, led for three varieties with Orange Ring, Crimson Comet, and Dulcimer; Rev. T. Buncombe, Black Torrington, Devon, second; and Mr. F. H. Chapman, Rye, third.

Mr. Crosfield obtained the Herbert Chapman Trophy for six poeticus daffodils that have not been in commerce more than four years, and he displayed beautiful examples of Sarchedon, Nellie Price, Madrigal, Cæsar, Snow King, and Ring Dove; Mr. A. M. Wilson a close second and Mr. C. Bourne third; four entries. The Walter Ware Cup for a dozen varieties of triandrus hybrids fell to Mr. W. A. Watts.

AMATEURS.

Premier award for six varieties, any division, that have not been in commerce for more than four years, was won by Mr. N. Y. Lower, with good examples of Giraffe, Snow King, and some seedlings; Rev. T. Buncombe second; and Mr. T. Batson, Beaworthy, third. The best collection of two dozen varieties came from Mr. E. H. Ward, Ludlow.

Mr. T. Batson was first for three Barri varieties, with Rosa Bedford, Harold Finn, and Greeneye; Mr. N. Y. Lower second; seven entries. Mr. Lower was first for six Leedsi daffodils, his White Lady and Evangeline being especially good; Mr. E. H. Wood, Ludlow, second; six entries. Four came forward in the class for three tazetta varieties or hybrids. Mr. J. A. Kenrick, Harborne, leading with Jaune a Merveille, Aspasia, and Klondyke.

Mr. E. H. Wood had the best six poeticus varieties, and Mr. Lower was a capital second, among four competitors. Mr. Gumbleton, Tewkesbury, was first for three double sorts with Golden Rose, Primrose Perfection, and Codlins and Cream; Mr. R. Bruce, Waite, second.

For a dozen varieties of daffodils, not to cost more than 5s. per dozen bulbs, Mr. A. Taylor, Olton, led with Glory of Leiden, Katherine Spurrell, White Lady, Emperor, Leonie, Mdme. de Graaff, Barri conspicuus, Seagull, Homer, Crown Prince, Nelsoni aurantius, and Princess Mary; Mr. R. Bruce Waite second, and Mr. J. A. Kenrick third. Mrs. Ridley, Wincanton; Mr. W. T. Mitchell, Leek Wootton, Warwick, won prizes in classes open to those who have not won three first prizes previously.

In the remaining classes Mr. E. Deakin, Mr. A. Taylor, Mrs. Ridley, Mr. W. F. Mitchell, Mr. G. Stocks, Doncaster; and Mr. E. Winchester, Rubery, Birmingham, won leading awards.

Mr. J. A. Kenrick had the best pots of Dutch and of Darwin tulips, and of tazetta narcissi, and he also scored for cut tulips. Mr. S. Mortimer won first prize for four baskets of polyanthuses.

Mrs. A. M. Macdonald, Harborne, scored for a table of daffodils, with Barri conspicuus and Japanese maple foliage; Mr. E. Deakin, Hay Hall, Hay Mills, second.

NON-COMPETITIVE.

Across the end of the lower hall Messrs. Barr and Sons, Covent Garden, put up a display that was worthy of their name and fame. The flowers were good and well set up. Of the newer daffodils on view, Zuave, with broad, wide, orange-rimmed crown; Sunrise, creamy-white, with bright yellow crown; Red Beacon, a fine Barri, with orange crown; St. Olaf, certificated in London last week; Mrs. G. H. Barr, one of the best white trumpets; Snow King, a very pure and solid poeticus form; Fiona, with very big, straight cream-yellow trumpet; and Primrose Phœnix, one of the best of the double daffodils. Altogether there were about a hundred and forty varieties in this group. Messrs. Walter T. Ware, Lim., Bath, put up a lot of new things, many of them unnamed, but Flounce, a broad, flat-crowned Barri, with glorious, frilled, orange and orange-yellow crown, was the variety that every eye turned to instinctively. Mr. Vincent Slade, Taunton, submitted single and double pelargoniums, and his bunches of St. Louis, Pres. Baillet, Dagata, Burford, C. H. Curtis, and Mrs. G. Cadbury were dazzingly brilliant. He had also a grand and vivid crimson polyanthus on view, named Slade's Crimson Giant, a fine thing for spring bedding.

Robert Sydenham Limited, Tenby Street, Birmingham, exhibited both daffodils and tulips, but the former were most in evidence, and the flowers were delightfully fresh. Albatross, Ethelbert, Red Chief, Torch, Lulworth, the broad-crowned Orange Gem, Cornelia, and Stonechat were all excellently displayed, but the pick of the group was Tinsel, a lovely Barri variety with pure white perianth segments, and a charmingly frilled light yellow cup that is faintly tinted with orange round the rim. A quite large exhibit from Messrs. J. R. Pearson and Sons, Lowdham, Notts, contained a number of very fine flowers, notably of Chaucer, Crescent, the brilliant Cœur de Leon, the wonderfully broad-crowned Prima Donna, Heroine, Whitewell—a fine form, Crœsus, Priscilla, a giant Leedsi, Gipsy Queen, a new Barri variety, with soft creamy-yellow perianth, and large rich yellow, frilled crown that is stained with deep orange at the rim; Norah Pearson, and Elfrida Pearson were other good new things.

Banks of beautiful cinerarias, in blocks of various colours, were submitted by Messrs. Sutton and Sons, Reading; the rose-pink and the crimson varieties were especially fine. These banks were broken up by smaller displays of early vegetables, admirably arranged, and the subjects finely grown and most inviting. The Sutton rhubarb, early carrots and turnips, tomatoes, and peas attracted much attention. Mr. S. Mortimer, Farnham, was responsible for a pretty exhibit of perpetual carnations, but no less attractive were his several dozen flowering plants of All-the-Year-Round stock, a fragrant, white-flowered variety of high merit.

Mr. H. Ellison, West Bromwich, brought up a fine selection of the newer ferns, and arranged these around a central grouping of the graceful Phœnix Rœbelini, one of the very best of palms for home decoration. Messrs. R. H. Bath's exhibit was not an extensive one, but it contained beautiful blooms of the rich Refulgence, the wide-trumpeted Crystal Queen, the drooping Parnassus, and the Golden Buttercup daffodils, as well as of Argent, the double form, Evangeline, Whitewell, Miss Willmott, and Orangeman. The tulips, in bowls of fibre, from Wisbech, provided a great attraction, and as evidence of the lasting power of well-grown tulips, it may be noted that some of the bowls were shown at the Royal Horticultural Hall, the previous Tuesday.

A charming rock garden exhibit from Messrs. Bakers, Wolverhampton, produced a most pleasing effect. The bright saxifrage Red Admiral, and S. Bathonensis occupied a central position, while fine colonies of Primula cortusoides, Incarvillea grandiflora, Erinus hirsutus, Viola gracilis, the modest little Houstonia cœrulea, the beautiful white Ranunculus amplexicaule, Lychnis alpina, and Dianthus cæsius Baker's var. had each their special attraction.

The Rev. G. H. Engleheart, Dinton, Salisbury, again brought up a lovely lot of new seedling daffodils, all under number. No great daffodil show is complete without Mr. Engleheart and his novelties; every faucier crowds about them, and soon the varieties become distributed all over the country. The most talked about flower in Messrs. Cartwright and Goodwin's group was Emerald Eye, a Barri variety with pure satiny-white perianth, white-tinted crown, and beautiful green centre—a most delightful flower, chaste and exquisite.

Messrs. B. R. Cant and Sons, Colchester, contributed a beautiful lot of cut roses, and their stand of Fortune's Yellow was the central feature. Mr. C. Bourne, Bletchley, displayed daffodils and some capital tulips.

AWARDS OF MERIT.

Norah Pearson. — A refined trumpet variety, with fine upstanding flowers, perianth cream-white, trumpet clear soft yellow, frilled at the mouth; Messrs. J. R. Pearson and Sons, Lowdham.

Dulcimer.—A bold poeticus variety, with white perianth and neat orange and yellow crown; Mr. H. G. Hawker.

Kingdom.—A fine giant Leedsi with broad substantial white perianth, and a light yellow, well frilled, wide trumpet or large cup; Messrs. Walter T. Ware, Bath.

Cairngorm.—A very bold triandrus hybrid, light yellow, with a fairly large and broad, frilled trumpet; Messrs. Cartwright and Goodwin, Kidderminster.

Queen of Hearts.—A fine Barri variety figured in our columns last year. It has a soft yellow perianth, and bright orange cup; a very effective and pleasing flower; Mr. Christopher Bourne, Bletchley.

MEDALS.

Gold.—To Messrs. Barr and Sons, Covent Garden.

Silver-Gilt.—To Messrs. J. R. Pearson and Sons, Lowdham; to Robert Sydenham Limited, Birmingham; to Messrs. B. R. Cant and Sons, Colchester; to Messrs. Bakers, Wolverhampton; to Messrs. Cartwright and Goodwin, Kidderminster; to Mr. S. Mortimer, Farnham; to Messrs. Sutton and Sons, Reading.

Silver.—To Messrs. R. H. Bath, Lim., Wisbech; to Mr. Vincent Slade, Taunton; to Mr. H. N. Ellison, West Bromwich; to Mrs. R. O. Backhouse, Hereford; to Mr. C. Bourne, Bletchley; to Messrs. Walter T. Ware, Lim., Bath.

NEWER CACTUS DAHLIAS.

For some few years past we have heard constantly that the fate of the cactus dahlia is sealed, though up to the present there is little if any evidence of its decadence in popularity. On the contrary, while the raisers can keep us supplied with good novelties year after year, cactus dahlias are likely to be grown more than ever, and it is something new, something novel, that the exhibitors and fanciers are always looking out for. Then there is the ever-increasing army of garden lovers, who require their cactus dahlias solely for garden decoration, and the production of cut flowers. This section of growers, I fear, has in the past been somewhat neglected, for it was thought that what was good enough for exhibition purposes was equally good for the garden, and this has proved a stumbling block in the path of the dahlia's progress as a popular garden flower.

However, it is pleasing to note that great strides have been made in the right direction during the past four years, and it will undoubtedly be more manifest in the near future. It will certainly take time to educate the public up to the fact that they can grow exquisite cactus dahlias in their gardens that will produce flowers well above the foliage, and on long, stiff stems; in fact, I shall go so far as to prophesy that a decade hence a bad stem will be unknown among the cactus varieties, be they exhibition or garden sorts.

In these notes I am not concerned with cultural details, but I wish to deal with the newer varieties, as they are known to me. Those that are being distributed this spring I have only seen at the exhibitions last autumn, but those sent out in 1912 I have seen growing, and can form a better opinion of their merits, though it is quite

CACTUS DAHLIA DOLLY.

Flowers crimson-scarlet tipped with white. Raised by Messrs. J. Stredwick and Son.

impossible to judge the merits or otherwise of a dahlia with a single season's trial, especially such a cold, cheerless season as we had last year, which was quite unsuited to the proper growth and development of the dahlia.

Some of the best and most striking novelties for this spring are: Edith Carter, a beautiful flower, yellow, heavily suffused with bright rosy-carmine; F. W. Fellowes, a very large flower, with long, straight florets, and a good, high filbert centre, bright orange in colour; although it failed to obtain an award, it is, to my way of thinking, one of the finest novelties of the year; George Schofield, a much incurved form, yellow deepening to apricot (see illustration); Pegasus, a fine fancy form, with flowers of average size, white, with pink tips, striped and speckled with red; John Riding, an enormous flower, with long, incurving florets, a rich, deep crimson, a variety that should satisfy any exhibitor or fancier; Dolly, a beautiful bicolour flower, of remarkably good form, the colour crimson-scarlet, passing to white (see illustration); Mrs. Pearson, fawn, shaded pink, very refined flower; Sportsman, a scarlet variety that is very distinct and has a splendid stem.

Coming to the varieties that were sent out last spring, some of the most satisfactory were Esther, a soft and pleasing shade of rose-pink; Fulgent, a brilliant crimson, very striking; Fred Wenham, a rich pink and fawn variety with a salmon centre; Golden Wave, a rich deep yellow; John Woolman, scarlet, shaded rose; Mrs. Brandt, salmon-buff, shading to yellow in the centre; Miss Stredwick, soft yellow, heavily suffused pink; Miss Hills, reddish-bronze, overlaying salmon; Olympic, deep crimson self; Richard Box, clear light yellow; Uranus, white, striped scarlet, a good exhibition form; and Mrs. Stephens, pale primrose, very large.

No doubt many of the others are equally good, but the season was much against them, and I expect better results this coming season.

J. B. Riding.

MAGNOLIA SALICIFOLIA.

Professor Sargent, in his "Forest Flora of Japan," directs attention to this species, and describes how he and the late Mr. J. Veitch found it in 1892 growing on Mount Hakhoda. They were successful in obtaining seeds, and the plants raised from them were the forerunners of all which are now to be found in American and European gardens. The species is quite distinct from others previously grown, and it may be recognised by its narrow, deciduous leaves, which are often from four to five inches long, and have a peculiar habit of narrowing gradually to both ends. The glistening white flowers are fragrant, three and a half to four inches across, and composed of long, narrow petals. They appear in April or early May, but, so far, plants have not attained their best flowering age in this country.

The species is described as forming a slender tree, 15 to 20 feet high, in its native country, but here it appears likely to develop a bushy habit, with slender branches. Like other magnolias, it requires a moist rooting medium, and the most satisfactory results may be looked for by planting it in light, loamy soil containing a little peat. In Japan its best proportions are attained when it is growing in rich soil about the margins of streams, where the ground never becomes dry. From what can be seen of it at present, it is likely to prove almost as decorative as the well-known M. stellata.

W. Dallimore.

EXHIBITING AND JUDGING DAHLIAS.

(Continued from page 276.)

That some little excitement, some little feeling that one's lungs are not large enough to hold all the breath we would like to get into them, is pardonable, especially if competition is close and one's flowers are just as good, and in one's own estimation slightly better, than those of our fellow competitors, but, generally speaking, worry and excitement, if carried to excess, go a long way in damaging an exhibitor's chance of a prize.

Now let us suppose the flowers have been all arranged for weal or woe, and the work of the judges begins. How different the feelings, and often the manner, of a judge from those of an exhibitor. The latter has been driven out from amongst the exhibits like a dog out of a church, possibly by a big gentleman in blue wearing, under Britannia's hat, a haughty look and many buttons. Judges, on the other hand, flourishing pencil and book, pass this authority unchallenged and unharmed, and they proceed to pass judgment on the exhibits which for hours have been the object of much care, not a little expense, and much thought and expectancy.

The first efforts of judges should be to carefully find out how far the stands of the particular class being judged extend, where the division is, and to make sure there are no stands of this class on another table or round a corner. Each stand is then minutely looked through, and all blemishes carefully taken stock of, the characteristics of each stand noted and every point of it criticised, and it is surprising how often this scrutiny will totally alter the opinion which a first glance engenders, i.e., that there is very little to choose between them. Now the judges (and there should always be three of them) proceed collectively to eliminate those usually termed the "tail end," that is the worst stands, leaving only the three, or maybe four, which are to receive awards, and if any uncertainty occur as to the order of these, they should, whenever possible, be placed side by side, in order that the same light, the same surroundings and background, may influence each in the same way, for if this is not done, light, or possibly the want of it, may act unfairly towards some of them.

And now I come to the danger zone, for as yet there is not, in my opinion, as much guidance as there ought to be from the authorities of our National Society as to the value of the various good points found in dahlias when exhibited, but of this I will speak later on. The plan adopted now in most cases where stands run each other closely, is to allow a certain number of points, say five, as the utmost limit of an extremely good flower, or bunch, or vase, and to decrease these according to the estimated value of each flower or bunch as the judges collectively may determine, adding them up as the flowers of each stand are finished, and awarding the prize, of course, to the highest number of points.

This method may, and often does, answer fairly well, but I am strongly of opinion it does not go far enough, it does not go deep enough. Too much is left to the personal likes and dislikes of the judges, and if they happen to be, as in most cases they are, fewer than three, the danger of the judges' personal bias weighing in the balance is appreciably enhanced.

Now that the classes and sections of dahlias are multiplying year by year, this is more and more likely to show itself, and the bewilderment in a few years, both for exhibitors and judges alike, will give, unless we are careful, such a spirit of uncertainty to exhibitors, they will consider it so much a matter of chance, that fewer will sum up courage to show, and the interest in dahlia showing will decline.

Many will remember I called attention to this some ten years ago, and nothing that has occurred since has altered by opinion in the least in regard to it. An exhibitor is in justice entitled to know the value of the various good points in a dahlia, and if some day our society draws up a code of rules for judging dahlias, a guide, not only to ourselves, but also to the hundred and one horticultural societies up and down the country, where dahlias are judged by gentlemen's gardeners and others, whose acquaintance with the good points of a dahlia is more or less uncertain, I consider it will go a long way towards justifying its existence as a national authority for the encouragement of, and disseminating interest and information in dahlia culture.

If we turn to the directions given for dahlia judging in the Royal Horticultural Society's "Rules for Judging," it will be seen they advise—and I really think a paper I read on the subject before the R.H.S. many years ago suggested the idea—that points should be given to the several qualities of a flower. However, they direct that:

2 points should be given for good form.
2 ,, ,, for good centre.
2 ,, ,, for colour and freshness.
1 ,, ,, for size.

Now we have here four lines giving points to four good qualities in a dahlia, and I might as well say candidly, I disagree with three out of the four.

Let us take the top two first. They are, two points for good form and two for a good centre, and I ask did anyone ever see a dahlia of good form, worth two points, unless it had a good centre? These two, therefore, might just as well be amalgamated. Now we take the last, which directs that one point be given for size. Surely there are not many exhibitors of dahlias who would wish judges to follow this in its exactitude. I do not say size is the chief factor in a good dahlia, but surely size deserves more than one point out of seven.

The suggestion I made some years ago for judging dahlias of all classes was that each flower or bunch of flowers should be given by the judges—

4 points for good form.
3 points for good size.
2 points for colour and freedom from blemish.
1 point for setting up.

These would give ten points for each perfect specimen or bunch well set up, and they would be modified according to the value of each good quality in each separate flower or bunch.

The course I suggest would in some cases be unnecessary, for exhibits are not always so close in merit that the superiority of the one is not manifest without recourse to counting the points of each flower, but I refer to cases, and they are many, where competition is keen and the value of each exhibit not so apparent.

We have, for instance, no guide to tell us now if a stand, perfect in form but mediocre in size, should, or should not, be placed before one perfect in size but perhaps not so good in quality.

I cannot help thinking that if exhibitors, and especially amateur exhibitors, knew that judges judged by rule rather than by caprice or partiality for some one or other quality in the dahlia, it would create greater confidence and increase the number of dahlia exhibitors.

I had intended saying something in regard to judging new varieties for certificates, but I will content myself with saying I think decisions in this should be by ballot and not by show of hands.

The matters I have spoken of are well worth discussion, and if anything I have said or suggested tends to infuse new hopes and aspirations in dahlia growers who are not now dahlia exhibitors, let me promise them they will soon derive increased pleasure in dahlia culture, a more close attachment to and admiration for the Queen of Autumn, and let me wish them with all my heart success on the show day.

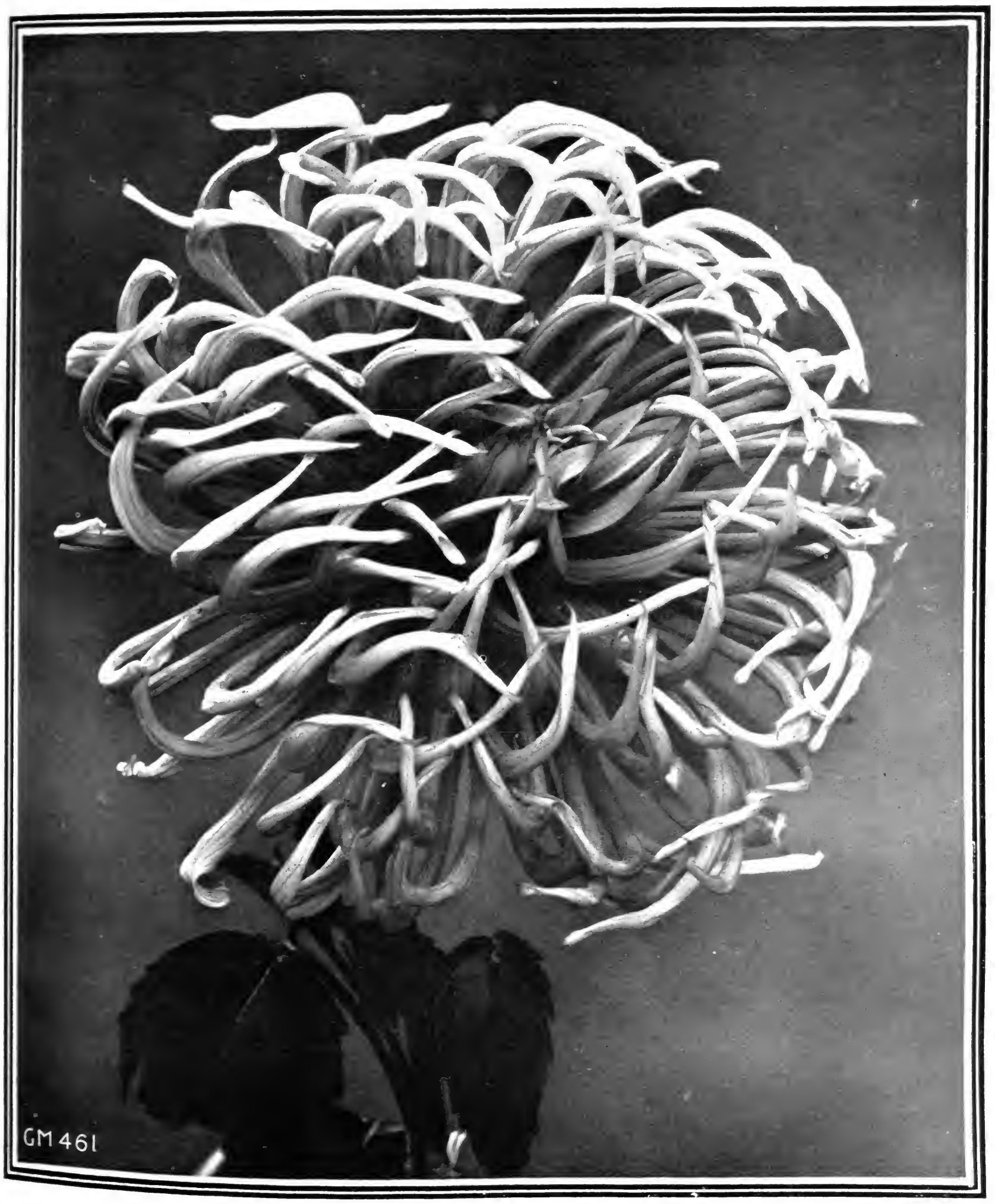
PAEONY FLOWERED DAHLIAS
IN PARKS AND GARDENS.

The rapid rise in popular favour of the paeony-flowered dahlias for garden decoration and cutting has been almost phenomenal. From a small beginning in 1905, when a few flowers were staged in London, these varieties have, in seven years, come to occupy a foremost position in our gardens. Should space in the garden or pleasure ground permit, it would be an easy matter to get together a collection of one hundred named sorts.

To a Dutch grower belongs the honour of the introduction of this race, but several British growers quickly recognised the possibilities of such flowers, and have easily out-distanced their Dutch neighbours in the raising of new and improved varieties. A glance at the names of the newer sorts is ample evidence of this, for whereas the first dozen we grew all had Dutch names, with few exceptions the newer introductions have British names.

Though first greeted with uncomplimentary remarks, the undoubted merits of the pæony-flowered dahlias for garden decoration attracted the attention of flower lovers, i.e., those who grow the flowers which make the greatest show in the garden without an exceptional amount of care and attention. One has only to visit a London flower show in the autumn to recognise the demand of the buying public for the pæony-flowered dahlias. With few exceptions, trade growers give this section the most prominent position in their groups, and they would not do this unless there was a demand for the plants.

The two most important considerations in dahlias for garden decoration are freedom of flowering, and that the blooms shall be borne on long, stiff stems well above the foliage. The pæony-flowered section fulfil both of these conditions, and are robust in habit. The earlier varieties were generally tall and vigorous in growth, and thus not altogether suitable for small gardens. British raisers speedily remedied this failing, and among the newer sorts a number are dwart in habit. A few of the best of these are included in the list of varieties at the end of these notes.



CACTUS DAHLIA GEORGE SCHOFIELD.
Flowers pink with yellow centre. Raised by Messrs. J. Stredwick and Son.

For public parks and gardens, where, as a rule, there is ample space for growing effective masses or groups of plants, the pæony-flowered dahlias are unsurpassed by any of the other eight or ten sections into which dahlias are divided. Another point in favour of the dahlia is their adaptability to the climatic conditions of a town garden, the dahlia always being looked upon as a valuable town plant, and, of necessity, the most frequented public parks and gardens are situated in or near large towns.

While, for the sake of variety and interest, it is desirable to grow a large collection of varieties in large parks, the most striking effects are obtained, particularly at a distance, by planting bold masses or large beds of one sort. For this purpose the creamy-yellow variety, King Leopold, holds a foremost place, and other effective sorts for grouping are Duke Henry, Liberty, Mrs. T. G. Baker, and Baron G. de Graucy, while the newer Countess Grey should prove effective when widely distributed. For a collection of named varieties a border should be set apart, not too wide, easy of access by visitors, and with each variety plainly labelled. While the interest of the public in gardening seems to be yearly on the increase, it is also the duty of the man in charge of a public garden to foster this regard and interest, not only for the honour of his own department, but also for the sake of the horticultural community at large. We find a named plant more attractive to visitors than unnamed ones, and the name is often jotted down in a note book.

In addition to the self colours, the blending of numerous soft and delicate tints or the shading of others is very pleasing in these dahlias. Ladies in particular are attracted by the wonderful tinting and shading, particularly when the flowers are cut with long stalks, and used in large vases for indoor decoration. The following list is sufficient evidence of the wide range of colour present in the pæony-flowered dahlia of to-day.

The varieties preceded by an asterisk indicates the twelve most suitable varieties when only a small number are required:

Baron G. de Graucy.—Creamy-white flowers, borne on long stems.

Bronze Gem.—Rich bronzy-red, very effective in large groups.

Careless.—A deep claret shade, or carmine-rose.

*Codsall Gem.—Deep yellow centre, lighter towards the edges of petals, dwarf in habit.

Colonel Cody.—Yellow, shaded with buff and apricot, dwarf.

*Connie Humphreys. — Light yellow centre, shading to white at the ends of the petals, dwarf habit.

*Countess Grey.—A delightful shell-pink shade, one of the best novelties of 1912, dwarf grower.

*Countess of Lonsdale.—A rich maroon-crimson, very distinct and effective flower.

Dr. K. W. Van Gorkom.—White, deeply shaded rose, one of the older varieties, and still a favourite.

*Duke Henry.—Dark red, with a shade of carmine.

Fanny.—Amber-yellow, suffused with pink.

Faust.—A brick-red shade, marked with orange.

Geisha.—Orange-scarlet and yellow.

Germania.—A crimson-scarlet variety, and one of the most popular of the older introductions.

Glory of Baarn.—Lovely soft pink, large blooms, borne on stiff stems.

*Hon. Mrs. Walter Forbes.—Orange-yellow.

*King Leopold.—Canary or creamy-yellow, the tallest variety we grow, grand for massing in large beds.

Lady Cleeve.—Yellow, suffused with mauve.

Lady Muriel Paget.—One of the best pure whites.

Lady Norman.—Apricot-yellow, suffused with pink.

Lady Saville. — Rich orange-scarlet, tipped with buff, an effective flower.

Leveller.—Rich crimson, good grower.

*Liberty.—Perhaps the brightest of all the red varieties, scarlet-red.

Merveille.—An effective orange-yellow shade.

*Mrs. A. McKellar.—Terra-cotta, shaded salmon, a charming shade.

Mrs. E. J. Wythes.—Carmine-rose, white centre.

Mrs. Geoffrey le M. Mander.—Bright rose, shaded yellow and white.

Mrs. George Gordon.—Creamy-white, a massive flower, and a very desirable variety.

Mrs. R. Cooke.—Rosy-carmine, with lighter shading at edges of petals.

Mrs. T. A. Weston.—Opening creamy-white, later shaded with pink, yellow centre; a novelty of 1912.

*Mrs. T. G. Baker.—One of the largest and best pure white varieties.

Mrs. W. E. Whineray.—Rosy-mauve, yellow centre, a large flower.

*Mrs. W. Kerr.—Pale pink, suffused rose, one of the best of the dwarfer varieties.

Romolo Piazzani. — Yellow ground, shaded with salmon.

Queen Emma.—Rosy-lilac, one of the first introduced, and still worthy of a place in large collections.

Salome.—Bright orange, shade buff.

Sunset.—A useful dwarf variety, orange-yellow and red.

S. T. Wright.—Reddish-apricot, yellow centre, very free.

The Warrior.—Deep red, shaded plum, habit dwarf.

*W. H. Morter.—Golden-yellow and red, distinct, dwarf, and beautiful.

A. Osborn.

GARDEN CACTUS DAHLIAS.

To meet the demand caused by the development of a taste for cactus dahlias, suitable for garden decoration, specialists are now concentrating much time and attention on the raising of varieties specially adapted for that purpose.

Tastes and fashions change. It was not so many years ago that it was almost useless, from a trade point of view, to place any new cactus dahlia on the market that did not come up to the exhibition standard when cut and arranged on a show-board. Discussing this subject recently with a member of an old firm closely associated with the dahlia, he gave it as his opinion that many beautiful flowers, which would have proved great acquisitions for the garden, had been thrown on the rubbish heap. It was so in the case of his firm. We may therefore reasonably hope that, as raisers have now encouragement to introduce cactus varieties specially suited for the garden, we shall see in a few years striking improvements on existing varieties. As lovers of the garden cactus, however, we have reason to be satisfied with the advance made during the last two years. Such sterling varieties as Record, Sunray, Richard Box, Stability, Jenny Wren, Kathleen, Bridal Crown, and Treasure, to mention only a few, have been sent out. Many others have received high commendation from the N.D.S. and other societies, and we hope the trials this year will reveal a number of others that are really good. In any case, it should sift the wheat from the chaff.

It is hardly necessary to say that an ideal plant should have its flowers thrown well above the foliage on erect stalks. There are scores with hard, wiry stems, but perfection has not been reached. In many cases they have the fault of the stalks not being quite long enough. There are, however, many with flowers that rise sufficiently above the foliage to make a dazzling display in the autumn.

Varieties.

The following twelve are really good, give a wide range of colour, and in most cases the flowers are produced in profusion well above the foliage. Miss Willmott, orange-yellow, 5ft.; Penguin, pale gold, 4 to 5ft.; Sweet Briar, beautiful pink, 3ft.; White Ensign, 3ft.; Hon. Mrs. Greville, orange, tinted pink, 4ft.; Erecta, pretty shade of pink, 3½ft.; Manve Queen, 3ft.; Mary Purrier, scarlet, 4ft.; Rosetta, violet rose, 3½ft.; Star Gazer, yellow, shading to rich apricot, 3ft.; Mrs. J. H. Usmar, coppery-orange, suffused coral pink, 4ft.; Stalwart, crimson-scarlet.

Yellow, in varying shades, with suffusings and tippings of other colours, predominate in the best garden cactus dahlias, and, consequently, many that are good are omitted from this list.

Miniature or Pompon Cactus.

The miniature or pompon cactus dahlias are of somewhat recent introduction, and when carefully selected charming subjects for the garden. They are the exact counterpart of the others, except in size of bloom and plant. For planting along the front of borders or on the margin of beds in which the larger kinds are planted, they are very useful. They are also most attractive in beds wholly devoted to them. These also are receiving attention at the hands of the raisers, and several varieties have favourably caught the eye of the National Dahlia Society and the Royal Horticultural Society's Committees. The variety Kathleen, herewith illustrated, has all the qualifications required of a garden plant, combined with freedom of flowering, with blooms borne on long, wiry stems, and is bound to become very popular. The colour, lilac-mauve, is somewhat of a rarity in this class. A few of the best of the generally known varieties are Queen of Pinks, pink; Coronation, bright crimson-scarlet; Mary, centre of petals pure white, edged crimson; The Bride, pure white; Mignon, bright pink, base of petals lemon; Sovereign, yellow, and Cerise Gem. The varieties contained in these two lists cannot fail to give satisfaction if assisted with proper cultivation.

Culture.

It is to be feared that the garden cactus dahlias are not always given a proper chance of showing their true value. Tiny young plants are in many cases put out, and have for some time to fight for their very existence, unless the weather should be particularly kind and assist them with warm rain, and dull days. First, then, the foundation of the dazzling displays to which we all look forward, can only be laid by putting out strong, healthy plants. This is even more important with the cactus section than some other types, for many of the earliest blooms, on the very best varieties, are partly hidden while the plant is making strong growth. It is therefore necessary to have a good start, and build up a fine plant ready to flower at

the beginning of August. It will then have its energies concentrated on fulfilling its mission, namely, producing flowers in abundance, instead of foliage, which would be the case with those which are late. To procure fine plants they should have their final potting about the end of April, or in the first week in May, and be then put into the largest pots they are likely to profitably fill with roots by planting-out time.

When potted, place them in a frame, and keep close for a few days, shade from very strong sun, and spray occasionally with rain-water. After a few days commence to give air; gradually increase it as the growth progresses; spray the plants, and close the frame early for a time. Under such treatment healthy plants will quickly establish themselves in their new pots, and, though they may not appear to be growing freely, they will be rapidly making roots, which is of vital importance. Give air freely according to the weather, eventually allowing full exposure, and aim at sturdiness. If the plants have come through to this stage free from insect pests, there will not be much to fear under good culture.

Preparation of Soil.

During the winter the ground intended for them should have received attention in the way of trenching or deep digging, and the surface left in a rough state. Here a few words as to manuring may be useful. This is a point on which various opinions exist. In my opinion heavily-manured ground is not advisable for garden dahlias, for it has a tendency to encourage an excessively luxuriant growth and a correspondingly small percentage of blooms. No hard-and-fast rule can be laid down. A poor, impoverished soil will certainly require manure in moderation. For a well-drained heavy soil, such as the plants thrive in, the best method is to scatter a small portion of very short rotten manure (we use mushroom manure) over the entire surface, at the end of April, and fork well in. The top may still be left rather rough, and finally broken down with rakes a week or two before planting time.

Planting.

This important operation should commence in the last week of May or in the first week of June, according to climatic conditions, and Cowper's words—

"The crowded roots demand enlargement now,
And transplantation in an ampler space.
Indulged in what they wish, they soon supply
Large foliage,"

seem particularly appropriate. If time permits—and it will be time well spent—it is an excellent plan to have a well-prepared mixture of soil ready to place around the roots of each one. It is remarkable what a help this is to them. Failing that, work the finest soil obtainable near the roots. Carefully stake each plant as the operation proceeds, and pay attention to tying as required. If the position is an open one, not sheltered from winds, it will save much anxiety when rough weather prevails. Sufficient space must be allowed for full development. Four feet may be taken as a good average for the larger type, and three and a-half feet for the pompon cactus. A little soot and lime scattered around the stems will assist in keeping away slugs, and be beneficial to the plants.

If plants from cuttings are used no thinning will be necessary, unless they are backward, in which case it would be well to assist them by allowing fewer growths. In the case of old tubers, three shoots may be taken up, each one, of course, receiving a stake, and no thinning ought to be required. Water two or three times a week until well established, unless one is fortunate enough to be saved this trouble by Nature's watering-pot.

Duffryn Gardens. ARTHUR J. COBB.

AMONG THE ALPINE FLOWERS.

"Is this a time to be cloudy and sad,
When our mother Nature laughs around;
When even the deep blue heavens look glad,
And gladness breathes from the blossoming ground?" *W. C. Bryant.*

Truly is the spring a time of rejoicing to the lover of the alpine flowers. From rocks and banks these favourites spring; from the margin of the water garden, or from the bog they send up their beautiful blossoms to gladden his admiring eyes. We may not yet be in the full enjoyment of the utmost wealth of our rich array of early alpines, but we have passed the threshold, and are delighting ourselves with the charms of the beauties which present themselves for us to admire. To choose from among the many, without appearing to pass a slight upon those we cannot praise, is to run a serious risk lest we should be misunderstood, and lest it should be supposed that only the flowers we name are worthy of notice. That is a grave error, yet we must run the risk and select a few only from the wealth of grace and beauty which is spread before our choice.

Saxifraga Petraschi.

Many saxifrages are before us, and it is impossible to select one or two without feeling that, after all, we are neglecting the opportunity of doing justice to other and equally lovely flowers. Yet as we look upon Saxifraga Petraschi, we feel that this is one of the saxifrages which call for notice now, though it will shortly be past in the south, if not already gone. It is one of the many white-flowered rockfoils which present themselves in a perfectly embarrassing array for our suffrages.

It is presumably a hybrid, and, in all probability, S. Burseriana is one of its parents. Its pleasing spiny foliage is attractive enough, but it is when it is in bloom, with its sheets of biggish flowers (one speaks comparatively, using S. Burseriana as one of the comparisons), it is handsome, with its lovely white flowers borne in closer array than on many others of this Kabschia section. On a rocky knoll it looks charming, with the pure white flowers thrust up from between the rocks or spreading into little masses, and contrasting well with the dark stones. S. Petraschi seems to be easier to do than many of its kindred of the Kabschia group, and a little top-dressing annually, or twice yearly, will do much to prolong its health and happiness, and will conduce to the greater enjoyment of its owner. Where S. Petraschi came from I cannot tell, but it does no discredit to its place of origin.

Epigæa repens.

The charming Mayflower of North America, or the ground laurel, as it is also named in its native homes, is a beautiful shrub for the shadier and cooler parts of the rock garden, and in a cool corner its leathery leaves, brightened by the racemes of little pink and white flowers, are extremely beautiful in their own modest way. There is here no garish attempt to reveal any points of gay colouring. The reverse is the case. Epigæa repens compels admiration by its modest mien, and by its simple beauty. One cannot help bestowing one's admiration upon it, as we see the contrast between the leathery, shining leaves and the wax-like, delicately-coloured blossoms. This mayflower is a plant for the cool and shaded part, and in a nook of the rock garden well towards the base and facing north it will be at home, and will creep along and soon occupy a good space. It loves peat, but will not despise loam. It likes moisture at the roots, yet will not rebel against a drier place among stones. At home it revels in sandy soil, or in rocky ground, but there it must have the shade of trees to give it fullest success. This is a sufficient hint to all who attempt this charming little shrub, and who seek to accommodate it as happily as may be in its land of adoption.

Primula Forresti.

One finds a curious difference of opinion about Primula Forresti, yet those who have studied the genus well, and who see this plant in proper condition, and in fitting surroundings, cannot but praise the beautiful, yellow, drooping flowers. They are of a bright yellow, and pass off to orange. The leaves have long petioles, and they, and the flowers, have the fragrance of ripe fruit. It may appear superfluous to describe a primula such as this, which has for some time been before the public, but one always finds many readers who have not become acquainted with such a flower, or who have been deterred by its previous cost from acquiring it.

P. Forresti is now cheap, and it may well find its way into many more gardens. Raised from seeds, it can be obtained in quantity, but it is so free that it divides well after a year or two. I am of opinion that it likes a moist soil, and that it will flourish under the same conditions as Primula Bulleyana. I have generally met with it about six or nine inches high, so that it may be welcomed as a good addition to even the small rock garden.

Other Flowers.

There is a perfect galaxy of other flowers. Anemones of the nemorosa, pulsatilla, vernalis, and other types; violas in plenty; rock or bog-loving primulas in alluring choice; the later daffodils and narcissi; the dwarfer tulips; quaint and curious fritillarias; still some late grape hyacinths, crocuses, arabises, American erythroniums of exquisite beauty, aubrietias, potentillas, and dwarf alliums, with a cytisus or two. The Canadian bloodroot, and many other flowers, are in blow, attesting the kindliness of the flowers in ministering to our delight.

S. ARNOTT.

AMASONIA CALYCINA.

This is a very showy winter-flowering plant of neat habit of growth. It should be propagated in spring from the side shoots and grown in gentle heat throughout the summer. The cuttings should be taken off when they are about three inches long, and inserted in small pots filled with peat and sand. If stood in a propagating case they will soon root, and then should receive a shift into pots of larger size, this time adding a little loam to the compost.

By autumn the plants will be about a foot high, and will then commence to bloom. When in flower they are very interesting objects, as the bracts, which are red, are produced freely on the upright spikes. The calyx of the flowers is also red, while the corolla is of a sulphur-yellow colour, which makes the plants very attractive.

H. C. P.

SWEET PEA NOTES.

Even in wet, cold districts the planting season is now in full swing, and where advantage was not taken of the few dry days earlier in the month, no opportunity should

POMPON CACTUS DAHLIA KATHLEEN.
A new garden variety with rose-mauve flowers. Raised by Mr. J. T. West.

now be lost of putting the plants out, for should the weather turn warm early in May they will commence blooming before they have made sufficient new roots to sustain them properly, and so may keep in a rather weakly condition throughout the whole season.

I have often put forward the advantage to be gained from shaking the roots almost free from soil before planting, and at no time is this more necessary or essential than late in the season; when the roots are left in a mass the heat of the sun quickly dries this out, and the plant suffers considerably even though the soil may be comparatively moist all round them. The removal of soil is not the check some people would have you believe, provided due and proper care is taken to fill fine soil firmly around the well-spread-out roots. This and a few sprayings overhead on warm dry days will soon set the plants growing again, and, though they may not at first appear to grow so quickly as those not shaken out, at the end of a month or even less they will be in a much better condition to stand the effects of drought.

Planted out sweet peas do not suffer so much from the ravages of slugs as do those sown in the open ground, but these pests are sufficiently dangerous, especially during a wet spell, to make a note of warning not out of place; do not forget a light dusting of soot every week or ten days. If this is not absolutely necessary as an antidote to slugs, it adds just a little fertiliser to the soil, which is a decided advantage.

Early-planted Sweet Peas.

Those who were fortunate enough to plant out during the mild, dry spell early in March have every reason to congratulate themselves, and the condition of the plants now (although we have had 10 degrees of frost on them) fully bears out my advice to plant as early as possible in March, providing the soil and weather conditions are favourable. Rarely have I seen peas looking so well as those on moderately light soil, planted some five weeks ago; unfortunately, our soil was too wet to plant upon until about April 7, and then the holes had to be filled in with prepared soil.

During the winter one has seen the use of potash manures almost universally advocated, and in some instances even to the exclusion of other forms of manure equally as essential. Those of us who have watched the effects of various manures on sweet pea plants over a lengthened period, know to what extent potash may be used to advantage. By these remarks I am not under-estimating the great value of potash, but those growers who desire a vigorous growth in their plants, over a long season, will be well advised to proceed with caution, as an over-supply of this fertiliser will harden the bine much more than is desirable. Although potash may be one of the best manures to use for warding off an attack of the dreaded streak disease, I am quite convinced that a fairly vigorous and free growth is also one of the points that should be aimed at. Permanganate of potash, just sufficient to colour the water, may be used as a spray for the foliage, and this might prove as effective as a great deal of potash applied to the roots.

Thomas Stevenson.

Woburn Place Gardens.

CLERODENDRON FALLAX.

Though this plant has been known in gardens for a great number of years, it is not often that we see it well grown. Why this should be so is difficult to understand, seeing that its cultivation is of the simplest form possible.

Plants may be raised from cuttings inserted in a brisk heat in spring, or from seeds sown as soon as ripe. Those from cuttings make the most compact specimens, while seedlings usually make but one shoot and flower from the crown, forming quite a large head of bright red flowers, which last a long time in perfection. As a decorative pot plant this is very showy during the winter months on account of its colour.

When the plants have received their final shift in June they should be transferred to a cold frame, but the lights must be kept close and the plants shaded from the sun until well established, a little air being then admitted on all favourable occasions when the weather is warm. One of the great mistakes made in growing these plants is keeping them too warm in the summer, as growth so made is flabby, and therefore the plants do not bloom so freely as they otherwise would.

H. C. P.

NEW PLANTS AND FLOWERS.

BRASSO-LÆLIO-CATTLEYA KING EMPEROR.

A very fine trigeneric hybrid, the parents being Lælio-cattleya callistoglossa and Brasso-cattleya Digbyano-Mossiæ. The flowers are eight or nine inches across, white, tinted with lilac, the big wide lip deep purple with a paler margin, and a yellow and white throat. F.C.C., R.H.S., April 15. W. R. Lee, Esq. (gardener, Mr. Branch), Plumpton Hall, Heyrod, Manchester.

LÆLIO-CATTLEYA LUMINOSA HOLFORD'S VARIETY.

This is a glorious orchid with large flowers, the outspread sepals and petals being rich, almost golden, yellow, while the bold lip is intense crimson-purple with deeper shading. F.C.C., R.H.S., April 15. Lieut.-Colonel Sir George Holford.

MAXILLARIA FLETCHERIANA.

A curious and distinct species imported from Peru. The fleshy flower is carried on an erect, stout scape, and has creamy-white sepals and petals, these having rose-red lines, but the lines are heaviest upon the petals. The tip is tawny yellow. A.M., R.H.S., April 15. Messrs. Sander and Sons, St. Albans.

ODONTOGLOSSUM MRS. THOMPSON.

Of unknown parentage, this attractive hybrid has white-ground flowers, heavily blotched with deep violet-purple. The white apex to the lip is very clear. A.M., R.H.S., April 15. W. Thompson, Esq., Walton Grange, Stone, Staffs.

ODONTOGLOSSUM PESCATOREI LADY HOLFORD.

A lovely form, with exceptionally large flowers, fully 3½ inches across. The petals are white, and have in almost every case one purple spot; the sepals are white, faintly rose-tinted towards the apex. Lip white, with red-purple marks in front of the yellow crest. F.C.C., R.H.S., April 15. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

ANDROSACE TIBETICUM.

A dainty little plant, collected by Mr. Purdom in Northern China. It grows about two or three inches high, and has little tufts of neat, hairy green leaves. The flowers are in little umbels of eight or twelve tiny, blush pink flowers. Each bloom has a tiny yellow eye. Altogether a charming little plant that should become very popular with lovers of alpines. A.M., R.H.S., April 15. Messrs. Jas. Veitch and Sons, Chelsea.

AURICULA SUFFRAGETTE.

An attractive fancy variety, with large yellow flowers, each having a well-defined white band of paste. A.M., R.H.S., April 15. Mr. Jas. Douglas, Great Bookham.

DAFFODILS.

Mrs. Ernst Krelage.—A very lovely white trumpet daffodil with a faint creamy tint in the finely-formed and beautifully-frilled trumpet. The latter is 1½in. long, and as much broad across the mouth. The perianth has a spread of four inches, the outer segments being 1⅝ inch broad. This variety gained an Award of Merit in 1912, and now receives the higher award. F.C.C., R.H.S., April 15. Messrs. E. H. Krelage and Son, Haarlem, Holland.

Cædmon.—A fine poeticus variety of strong growth, fine form, and substance. The crown is broad, orange in the centre, with a zone of yellow, and a broad rim of dark cinnabar red. The outer segments were 1⅝ inch across, and the whole flower 3½ inches wide, while the crown is ¾ inch broad. A.M., R.H.S., April 15. Messrs. Barr and Sons, Covent Garden.

St. Olaf.—A charming Leedsi variety with broad soft white perianth segments, the outer ones 1⅝in. across; the frilled crown is 1½in. wide, and the whole flower is 3½ inches across. This has stout but not massive stems. The crown is greenish yellow right in the centre, but otherwise the colour is deep cream, with a very pale yellow rim. A.M., R.H.S., April 15. Messrs. Barr and Sons, Covent Garden.

Europa. — A grand upstanding trumpet variety, stout-stemmed, finely-formed, substantial, and handsome. The broad perianth segments are white, the bold trumpet being pale-yellow with a deeper tinge in the frilled rim. A.M., R.H.S., April 15. Messrs. Barr and Sons, Covent Garden.

HIPPEASTRUM EURASIAN.

A large and beautiful variety with very broad, rounded segments. The colour is deep and rich rose-red or carmine-rose, a distinct and lovely shade. A.M., R.H.S., April 15. Messrs. Jas. Veitch and Sons, Chelsea.

PRIMULA MAXIMOWICZI.

A distinct and faintly fragrant species, collected by Mr. Purdom in Northern China. The leaves are lanceolate, rather fleshy, and slightly waved along the crenate margins. From the centre of the tuft of foliage rises a stout spike, about nine inches high, bearing a dozen or so of small, pendulous flowers upon its upper four inches. These flowers are deep cinnabar-crimson, and produced in distinct tiers, but more often the fashion of P. japonica than P. sinensis, for the axis does not appear to elongate in P. Maximowiczi. A.M., R.H.S., April 15. Messrs. J. Veitch and Sons.

NARCISSUS CÆDMON.

A beautiful Poeticus variety, finely proportioned, with substantial, rounded, pure white segments and a yellow crown that is red at the base, and has a well-defined cinnabar-red rim. A.M., R.H.S., April 15. Messrs. Barr and Sons, Covent Garden.

HELICHRYSUM BELLIDIOIDES.

A lowly, hardy, perennial "Everlasting" flower, figured on p. 286, in our issue of April 19. This species seems especially made for the rock garden, and for a warm, rather dry place; it has creeping stems and tiny, ovate, greyish leaves that are silvery on the under side. The flowers are about half an inch across, borne singly on 3in. to 4in. stems, and they are white with yellow centre, the ray flowers being sharply-pointed. A.M., R.H.S., April 15. Mr. A. Hemsley, Crawley.

PRIMULA VISCOSA BEAUTY.

A beautiful garden primula derived from P. viscosa (hirsuta) crossed with Auricula Innocence. The trusses are large, and the individual blooms about 1¼in. across, bright violet-purple with a white eye. A.M., R.H.S., April 15. Mr. James Douglas, Great Bookham.

MAIN CROP AND LATE PEAS.

The task of keeping up a constant supply of green peas of good quality throughout the season taxes the skill of the cultivator under any circumstances, and there is increased cause for anxiety if the weather during summer proves to be very dry. It is at this season that the greatest difficulties commonly arise, in connection with our endeavours to avoid a break in the supply, and unless they have been carefully guarded against, by skilful management, in the preparation of the soil, and other important details of culture, we cannot reasonably expect to be wholly successful.

Very early crops produced from sowings made under glass are naturally much valued, and cultivators sometimes receive deserved praise and commendation for the pains taken and skill displayed in their production, but I suggest that, as a rule, they are comparatively easily obtained as compared with good mid-season and late crops.

All experienced cultivators will agree that soils vary considerably with reference to their suitability for culinary peas, but whatever their character, whether heavy or light, deep cultivation and liberal supplies of manure (farmyard by preference) are important factors in contributing to success. My experience with heavy land leads me to prefer the work being done in autumn or early winter, for if left until after these dates, the soil becomes too wet to be satisfactorily trenched until spring, and when done at that time the soil does not sufficiently consolidate to prevent the crops suffering in a greater or lesser degree from the effects of excessive aridity.

To clear land of slugs it should be dressed with gas lime some weeks previous to being cropped, at the rate of a wheelbarrow load to a perch, and in any case when being prepared for plants or seeds have its surface deeply broken and raked over. In cases where the soil is deficient of lime, a fair dressing, if applied in spring and forked in, will be beneficial to the crop. An important matter that has of late years been often advocated by some of our most successful practitioners, and is, consequently, becoming more general than formerly, is that of sowing or planting very thinly, and allowing increased space between the rows of the plants, the distance in either case being governed by the height and strength of the variety grown.

On dry land, especially, it is advisable to sow in trenches, and this practice answers best when it is done upon previously trenched and heavily manured quarters. In cases, however, where the soil has not been treated in this way, the trenches should be deeply worked and have liberal supplies of rich farmyard manure incorporated with the soil.

Where heavy cold land, such as ours, has to be dealt with, better results can be obtained from crops that are sown previous to the beginning of April by raising plants under glass than can be done by sowing seeds in the open. In raising plants under glass the seeds can be sown in the old, well-known method, upon turves or in pots or boxes, and in either case be placed in a freely ventilated structure, be thoroughly hardened, and transplanted while they are still sturdy, and have their roots under close control. When planting those raised upon turves, the turves should be embedded, end to end, in trenches. Those raised in pots, after being turned out, should be planted in like manner. Plants raised in boxes must be carefully dealt with, be lifted without damage, and planted singly in rows or trenches, with two lines of plants forming each row. If the soil is in an unsatisfactory working state, some specially-prepared material should be firmly placed about the roots, and if the ground is very dry a good watering should be given once the planting is completed.

Successional late crops should be sown up to the first week in July, but as varieties vary considerably in the length of time they take in becoming fit for use, and as, moreover, the state of the weather has considerable influence upon this matter, no strict rule can be satisfactorily laid down respecting the time that should be allowed to elapse between each sowing. As a deterrent to slugs and birds, and also as a nourishing element, it is advisable to dress the plants while they are young with soot. A more efficient plan, however, of dealing with birds, is to protect with nets up to the time the plants are earthed and staked. As soon as the staking is done a good mulching with stable litter should be afforded to check evaporation, but in wet seasons, owing to the cold nature of our soil, we have found mulching more or less detrimental. At no time should the crops be permitted to suffer from lack of root moisture, and therefore thorough waterings with clear water, supplemented by occasional soakings of farmyard liquid manure, should be given whenever necessary. Upon dry soils especially a light dressing of nitrate of soda, distributed during the early stages of growth and immediately previous to rain or before watering, will invigorate the plants.

Mildew is one of the most virulent enemies that the cultivator of late crops of peas has to contend with. It is aggravated by negligent and unskilful culture, such as bad tillage, thick sowing, and shortage of root moisture, while some varieties appear to be more subject to its ravages than others. It is likewise more troublesome in some situations than in others; for example, high temperatures by day and low by night are favourable to its development and crops placed in low situations are very subject to its attacks.

Varieties have become so numerous as to cause perplexity; at the same time the raisers of new ones well deserve gratitude for the benefits that we receive from their hands, though I frankly admit that the number of varieties we grow here are somewhat strictly limited, and I am almost ashamed to admit that we are so far from being up to date in this respect as to have not yet had cultural experience with that remarkably fine main crop variety, Quite Content. Of main crop varieties, Alderman, Criterion, Duke of Albany, Prestige, and Veitch's Main Crop; and of late varieties, Autocrat, Late Queen, Sturdy, and Gladstone have invariably given us much satisfaction. Autocrat took the place of Ne Plus Ultra; it is excellent in every way.

The Hendre Gardens. T. Coomber.

PRIMULAS FROM A GARDEN POINT OF VIEW.

The following is the paper read before the Royal Horticultural Society at the Primula Conference, on April 16, by Miss Gertrude Jekyll, V.M.H.:

When we consider the main uses of our garden primroses we find that they fall into three groups, namely, those for borders, those for the rock garden, and those for boggy ground. The border kinds alone need a further sub-division, suggesting distinct ways of use, for there are what we call the true primroses, namely, those that are all on single stalks; there are the polyanthus or bunch primroses; then the old florists' polyanthus, the double primroses, and the border auriculas. They all agree in preferring the soil of light loamy character with some leaf-mould, and a place where they are never dried up, and where they can have either slight shade, or, at least, a non-sunny exposure.

Primroses.

The native primrose of our woods, one of the most charming of flowers, is no doubt the origin of the coloured primroses. If one might have a perfect place for them it would be a partial clearing in just such a region as the natural haunts of the wild plant—a wood of oaks with an undergrowth of hazel, such as occurs in nearly every farm and private property throughout the land, and not infrequently adjoins the garden. A path slightly depressed, with irregular, shallow banks on either side, and passing through the wood in easy sweeping lines, would provide the best possible way of growing and enjoying the primroses; for, though they are also indispensable in the actual garden, they are rather more rightly placed in the setting of woodland.

It will be all the better if the plants of the main sub-divisions are kept quite distinct, either by following one another along the length of the path, or by having a separate little path for each kind. This is the more desirable, because the varieties are so easily mixed by chance pollination by bees. Indeed, where the Giant cowslips are grown their influence is so strong that they must be kept quite away from the bunch primroses, and can hardly be admitted in the same garden.

The earliest to bloom will be the true primroses. Even these, if the best effect is desired, must have some kind of division in colour-grouping; for they vary from palest pink to richest crimson, and from faintest lilac to deepest purple, thus at once suggesting two distinct colour-groups. And there will be found a third group of warm colouring, of which the strongest are of a red approaching scarlet, which will agree with neither of the others, and must be treated by itself. It was from a purple primrose with a colour inclining to violet that Mr. G. F. Wilson raised his blue varieties. These again must be kept distinct from the rest, but they group charmingly with the very useful early-blooming white, seed of which can be found in the trade lists.

In these days when good hardy flowers are so much prized and so well used, it is difficult to account for the general neglect of the fine old double primroses. They should be in every garden, except those on light soils, for in these they do not flourish. In any soil of a loamy nature the double lilac, white, and pale yellow will grow freely, and are among the best of spring flowers. The crimson and some other shades are a little more exacting, but are well worth trying. The equal neglect of the old florists' polyanthus is more easy to understand, for, though it has much charm, it is rather a thing to look at in the hand than of value as a conspicuous plant for the garden; still, without considering the show points of special marking and lacing of edges, a free-growing strain of these might well be among our early flowers, and, planted rather closely and fully set with bloom, would have an effect of richness that would be of

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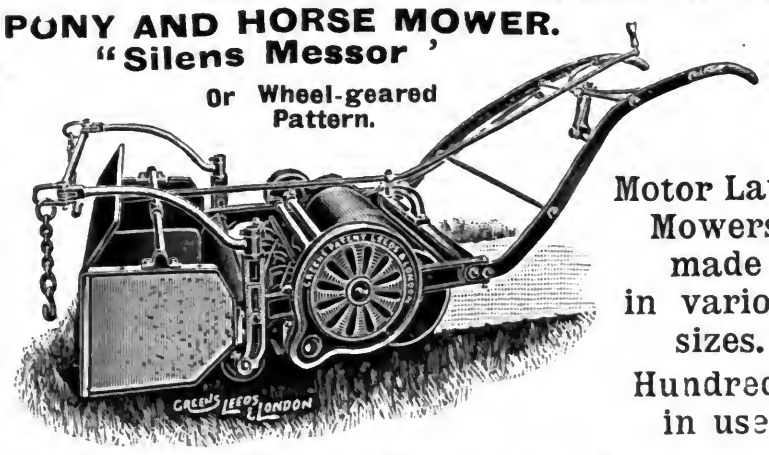

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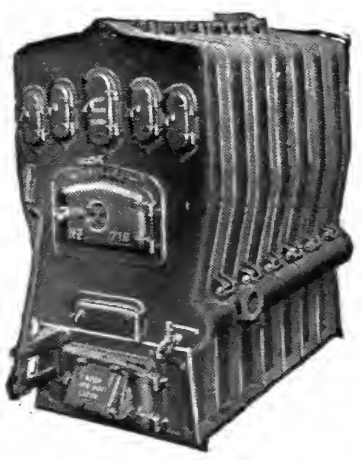

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SPECIMEN PAGE.

ENCYCLOPÆDIA OF GARDENING.

tion, front of shrubberies. Plant, Nov. to Feb. Propagate by seeds sown ¼ in. deep outdoors in March, or in boxes of light soil in temp. 55° in Feb.; cuttings inserted in sandy soil under bell-glass in Oct.; layering in Oct. C. alnifolia suitable for forcing to flower in winter.

SPECIES CULTIVATED: C. alnifolia (Sweet Pepper Bush), white, Sept., 4 ft., Florida; alnifolia Michauxii, 4 ft.; alnifolia paniculata, 4 ft.; acuminata (White Alder), white, Sept., 10 ft.; arborea, white, Sept., 8 ft., Madeira; canescens, white, Aug., 8 ft., China.

Clianthus (Glory Pea; Parrot's-bill; Sturt's Desert Pea).—Ord. Leguminosæ. Greenhouse climbing shrubs & herbaceous perennials. First introduced 1832.

CULTURE: Compost, two parts loam, one part leaf-mould & silver sand. Position, pots or beds in greenhouse. Pot or plant, March. Prune in April, shortening young shoots to within 2 in. of their base. Water freely March to Sept., moderately afterwards. Syringe foliage daily April to Aug. Temp., Oct. to March 45° to 50°; March to Oct. 55° to 65°. C. puniceus succeeds outdoors against warm walls in Devonshire. Propagate by seeds sown ¼ in. deep in well-drained pot of light soil in temp. 75° in March; cuttings of shoots inserted in sandy soil in temp. 75° to 85° in March or April.

SPECIES CULTIVATED: C. Dampieri, scarlet, April, 3 ft., Australia; puniceus magnificus, crimson, May, 6 ft., New Zealand.

Cliff Brake Fern.—See Pellæa.

Climbing Dahlia (Hidalgoa Wercklei).—See Hidalgoa.

Climbing Fern (Lygodium scandens).—See Lygodium.

Climbing Fumitory (Adlumia cirrhosa).—See Adlumia.

Climbing Groundsel (Senecio mikanoides).—See Senecio.

Climbing Hydrangea (Schizophragma hydrangeoides).—See Schizophragma.

Climbing Snake's-tongue Fern (Lygodium scandens).—See Lygodium.

Clintonia.—Ord. Liliaceæ. Hardy herbaceous perennials. First introduced 1788.

CULTURE: Soil, sandy peat. Position, moist shady border. Plant, Oct. or March. Propagate by division of roots in March or April.

SPECIES CULTIVATED: C. andrewsiana, rose, April, 2 ft., California; borealis, yellow, May, 1 ft., N. America; umbellata (Syn. Smilacina umbellata), white, May, 9 in., N. America; uniflora (Syn. Smilacina uniflora), white, July, 6 in., California.

Clitoria (Butterfly Pea). — Ord. Leguminosæ. Stove evergreen flowering climbers. First introduced 1739.

CULTURE: Compost, equal parts peat, leaf-mould, loam, & silver sand. Position, pots, tubs, or beds in light plant stove. Pot or plant, March. Water freely April to Sept., moderately afterwards. Temp., Oct. to March 55° to 65°; March to Oct. 70° to 80°. Propagate by seeds sown ¼ in. deep in light soil in temp. 75° in March; cuttings of side shoots inserted in sandy peat in temp. 80° at any time.

SPECIES CULTIVATED: C. ternatea, blue, July, 4 ft., E. Indies; ternatea alba, white, May; ternatea cærulea, blue, May; ternatea major, brown, Aug.

Clivia (Caffre Lily).—Ord. Amaryllidaceæ. Greenhouse evergreen flowering plants. Fleshy-rooted. Formerly known by the generic name of Imantophyllum. First introduced 1823.

CULTURE: Compost, two-thirds good loam, one-third decayed manure & sand. Position, sunny, close to glass in greenhouse. Pot, Feb. Water freely March to Sept. 65° to 75°. Propagate by seeds sown in light soil in temp. 75° in March; division of roots at potting time.

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marked value among the flowers of the spring season.

Bunch Primroses.

Following the true primrose in time of blooming are the large bunch primroses, and of these, though there are also fine things among the pink and red colourings, the best in garden effect are the whites and yellows. Carefully grown strains, the result of nearly a lifetime of watchful selection, have produced beautiful flowers of large size and handsome habit. Stalks a foot long and individual blooms two inches across are by no means uncommon, and yet there is nothing of coarse appearance about the flower. Among the whites and yellows alone there is an extraordinary variety of detail, which, while it is not apparent in the mass, makes the plants extremely interesting as individuals; hardly any two that may be seen near together have the same physiognomy. The disparity is mainly in the form and disposition of the petals, for some are smooth-edged and others largely or finely notched; some are round and clear while others are imbricated; some are flat and others waved.

The old florists' distinction of pin-eye and thrum-eye also alters the character of the flower, for though it is not noticeable or of any importance when the plants are seen in the mass, yet, when the individual bloom is observed, the single flower and the whole charm gain by the thrum-eye, where the anthers rise above the pistil and form a symmetrical centre, and especially when this is further enhanced by a raised, fretted ridge at the edge of the tube, forming a kind of crown and giving the flower what is called a pin-eye. In the pin-eye the pistil rises above the anthers and shows alone, and the more ornamental detail is wanting.

In a woody garden where some thousands of these bunch primroses are grown the effect is extremely striking. The yellows have developed to a tint of the deepest orange, which gives great richness to the mass of full yellow-colouring and additional value by contrast to the tenderer tones of pale yellow and white that are seen in the more distant stretches of the garden.

At the time of fullest bloom the best are marked for seed, and every year some thousands of seedlings are raised; one portion of the garden being given to the divided plants and another to the seedlings. In the case of a good loamy soil the seed may be sown at once, but in lighter soils it is found better not to sow till spring. In stronger soils the plants may also stand two years if it is desired, though it is generally safer to divide yearly.

Auriculas.

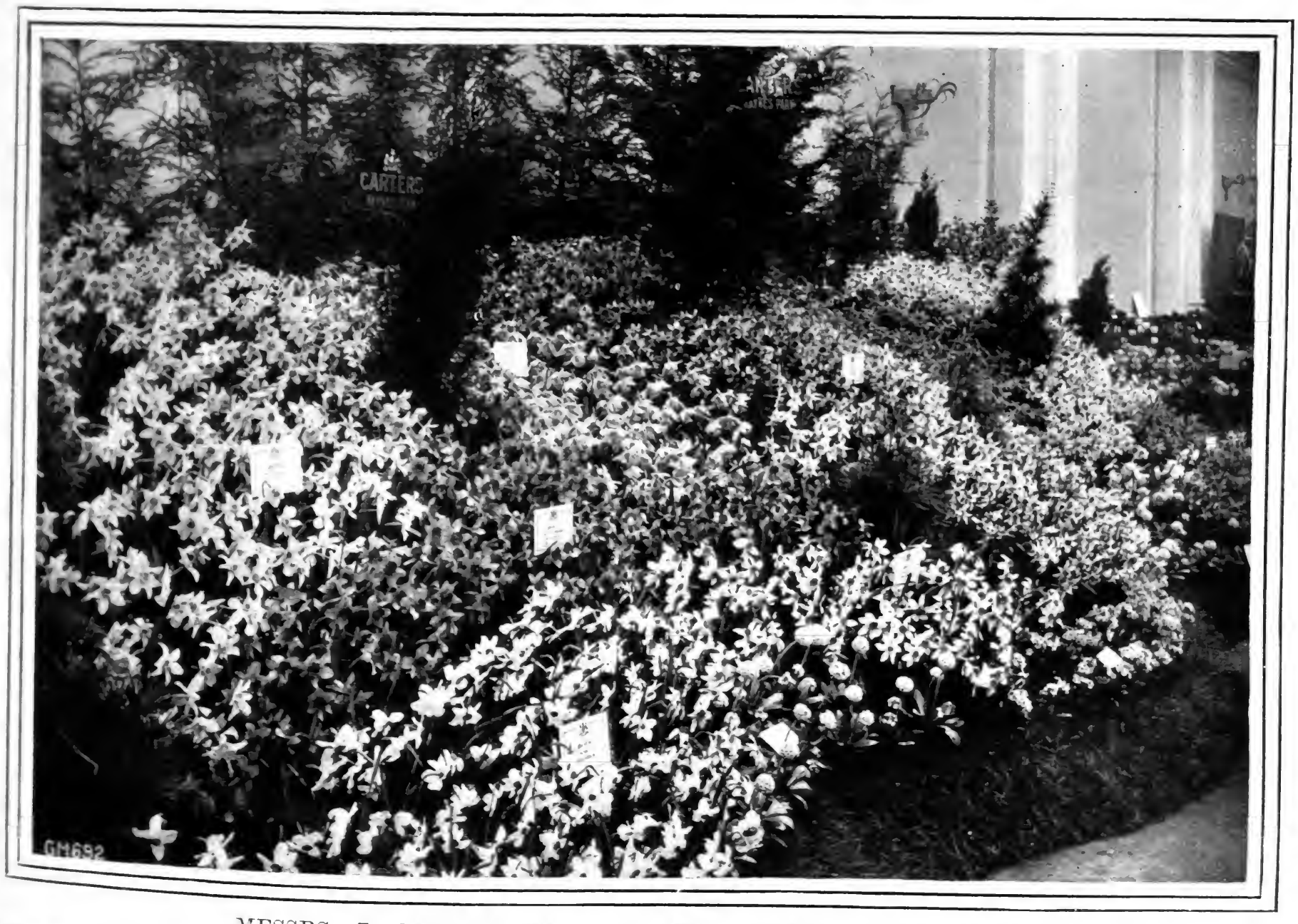
Border auriculas enjoy a rather stiffer soil, and especially one that contains chalk. They are derived from natives of the Alps and are in beautiful ranges of colouring of purple, crimson, and yellow. The border varieties are commonly called Alpine auriculas to distinguish them from the show kinds, though the name is ambiguous and even misleading, as there are several primula species of the auricula class, natives of the Alps, that are grown in rock gardens. The most showy and easily grown of the border auriculas are some very large forms having yellow and brown-bronze flowers with a white eye that have been raised in Scotland.

Primulas for Rockeries and Bogs.

The second group of primulas for popular use—namely, those best suited for rock gardens will partly overlap the first, for all the border auriculas will be in place in the lower rocky regions, while the best of the true alpine species with their white varieties and a number of natural hybrids, will find places in other cool rocky clefts and hollows. The prettiest of these will be among Primula Alloni, P. glutinosa, P. hirsuta, P. integrifolia, P. marginata, P. minima, and P. viscosa; the planter bearing in mind that some of these belong to the calcareous and some to the granitic regions. Thus P. auricula, P. integrifolia, and P. minima will be thankful for lime in any form and, for preference, limestone rock; while P. hirsuta, P. marginata, P. glutinosa, and P. viscosa will flourish in sandy peat with granitic rock or sandstone.

The primulas that, from the garden point of view, it is convenient to put in the third division are those that may be regarded as bog plants. These will include the pretty little P. farinosa of our own northern moors and of Alpine marshland, three Himalayan species, and one from Japan. The Himalayan are P. involucrata, a beautiful little primula, quite easy to grow and strangely neglected; the early-blooming P. rosea, with buds of brilliant crimson followed by the full bloom of rosy pink, and P. sikkimensis. This, when well grown in a fairly large mass rising from black boggy ground, and seen in shade, is a wonderful picture of plant beauty; the full heads of hanging sulphur bells having that curiously luminous quality that is only observed in this and one or two other flowers of this rare colouring. Lastly, of the well-known bog primulas there is P. japonica. The type colour is a rather strong magenta red, of a quality that does not please a critical colour-eye, but there is a good white variety and many intermediate shades of pleasing pink.

It is still well grown at Wisley, but it was a wonderful sight to see it for the first time some twenty years ago, when it was a comparatively new garden plant, as grown by the late Mr. G. F. Wilson, by the side of a shallow peaty ditch in shade in the lower ground. It showed a fine plant in good quantity, so placed that it could develop to the utmost its capacity for the display of beauty and the evidence of well-being. It was one of the many good lessons taught by Mr. Wilson that one is thankful to remember and glad to acknowledge.



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WORK FOR THE WEEK.

THE ORCHID HOUSES.

SHADING.—With lengthening days the sun's rays grow stronger, and it is necessary to take every precaution against harm to the foliage. It is my experience that plants are more easily damaged by strong light in the spring of the year than at the close of the summer and during autumn. This is easily understood if we consider the dark winter period and the sappy nature of the growths, these latter being naturally more susceptible to injury than would be the case after the bright weather usually expected during the summer season. It is desirable then to let all the blinds down as soon as the foliage of the plants feels warm to the hand. In the cool division, not only the sun's rays, but also very bright light, must be reduced, and great care must be taken that the blinds are not removed from the roof too early in the afternoon, or the foliage of odontoglossums will become discoloured, ripen quickly, and decay, with the result that these will soon have a number of leafless pseudo-bulbs.

PERMANENT SHADING.—I consider for the north of England it is quite time enough to put permanent shading on the roofs after we are free from frosts and snowstorms. If the stippling is put on before then we find the first rain after a frost reduces the shading very considerably, and the work has to be done over again. This is undesirable, for unless the whole of the glass has been properly washed so as to remove what was put on before, the application of a second coat does not look well. It is necessary to whiten the glass between the divisions of the blinds, where they do not quite meet, as we find in most cases where lath roller blinds are employed for shading purposes, but it is desirable to put off covering the roofs until about the second week in May. We find whiting mixed with butter-milk and a little linseed oil makes good shading. This may be applied thinly to all the divisions. There is less risk of glaring light affecting the plants under these conditions, and it permits the blinds to be lowered later in the morning and drawn up earlier in the afternoon. All sidelights and gable ends of the houses should be permanently shaded now. A bright day should always be chosen for putting on the permanent shading.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

EUCHARIS GRANDIFLORA.—The stock of eucharis may now be overhauled and thoroughly cleaned, and should the bulbs be overcrowded in the pots, a number may be repotted. Place five or six of the best bulbs in a 9in. pot, or rather more of the smaller bulbs. The pots must be well and carefully crocked, for though when in full growth eucharis enjoys plenty of water, it will not endure stagnant soil. A suitable soil consists of good fibrous loam, a little peat, one-seventh of sand, and a little well-decayed manure. Pot firmly, just covering the bulbs, afterwards keep close and shaded, syringe well in bright weather, but withhold water from the roots until the plants are fairly active, and then apply carefully until the soil is well permeated with roots.

PANCRATIUM FRAGRANS.—This requires much the same kind of treatment and a similar soil to that recommended for eucharis. It may be flowered satisfactorily either grown singly in 6in. or 7in. pots, or three bulbs in a larger size. When repotting is contemplated it is well to do the work just after the commencement of growth. Offsets may be utilised for the increase of stock if this is desired.

CENTROPOGON LUCYANUS. — When rooted these may be potted up, and the plants treated as usually recommended for Plumbago rosea, excepting that only one or two stoppings will be necessary, for they naturally produce strong growths from the base which give fine flower spikes. As winter is approached watering must be more carefully attended to, for the plants are easily overwatered, and in such case roots are destroyed. For plants for house decoration, or for cut flowers for vases or table decoration, C. Lucyanus will amply repay careful attention.

ERANTHEMUM PULCHELLUM.—Where there is a demand for blue flowers in the winter months, this is a very serviceable plant, and if well grown and finely flowered it is very beautiful. Cuttings taken now root readily, and grown on steadily will make good stuff in 6in. or 7in. pots. Pinch the tips occasionally to ensure busy growth, and as the pots become filled with roots do not allow them to suffer from lack of nutriment. A later batch may be propagated for flowering in smaller pots.

COLEUS THYRSOIDEUS.—This is another valuable winter-flowering plant. Cuttings inserted as recommended should now be ready for potting, and if grown steadily and pinched occasionally, will make large specimens. Here, however, we find small plants the most useful. To obtain these a few are propagated, potted up, and stopped once. They produce three or four growths each, which are taken and inserted as cuttings, four or five inches in length, singly, in small 60's. When rooted they are potted into 48's, allowed to flower without stopping, and they produce spikes about eighteen inches in length.—H. Prime, Hatfield Gardens.

FRUITS UNDER GLASS.

PINES.—Queen pines that have received special treatment from early in the year will now be making rapid progress. Remove all galls from around the crown and base of the fruits, and reduce the suckers to one or two on each plant. Give sufficient weak liquid manure or guano water to well moisten the whole ball when required. The late cold, boisterous weather has rendered an even temperature almost impossible. It should be 75 deg. for mild, and 70 deg. for cold nights. Guard against having the water in the pipes very hot when there is a prospect of a sunny day, as this robs the house of moisture. It is necessary to exercise much care in this matter. Keep a watchful eye on the bottom heat to prevent it exceeding 90 deg., and slightly spray the plants overhead on bright days.

SUCCESSIONAL PINES.—These will now be making growth freely, and may be shut up with a temperature of 85 to 90 deg., well damping the walls, and floors, and lightly spraying the plants occasionally on bright days. Allow the temperature to gradually decline to 65 deg. for cold nights, and 70 deg. on mild nights by ten p.m.

MELONS.—Although the weather has not been severe, the absence of sun has rendered the liberal use of firing necessary, especially where fermenting materials have not been largely used in maintaining bottom heat and atmospheric moisture, the latter being the best of all preventives of red-spider. Feeding from this stage forward must be on a liberal scale until the fruits attain full size, and the more frequent the change of food the better the progress, and the finer the fruits. The night temperature should range about 75 deg. and by day from 80 to 85 deg., and 90 to 95 deg. after closing with sun-heat and a thorough syringing. Remove all useless sprays, and preserve every premier leaf, pinching laterals one leaf in advance of the fruit. Increase the temperature as the days lengthen, when air can be admitted freely. When in free growth, the plants will require liberal supplies of tepid water, stimulants being reserved for the swelling of the fruits.

FORCED CHERRIES. — As soon as the earliest varieties show signs of ripening, a somewhat drier atmosphere is necessary, and the houses will require ventilating as freely as may be consistent with the weather. Well mulch and water shortly before the fruits change colour, which will generally carry the trees over until the crop is gathered. Keep a sharp lookout for green or black fly, and fumigate when the foliage is quite dry when necessary.

PLUMS that were started rather early will now be swelling their fruits, which must be well thinned with grape scissors. Give preference to the fruits where there are most leaves. Mulching, feeding, and syringings must be continued for some time, as the earliest of these will have barely passed the stoning stage. Pure soft water only should be used for syringing as the bloom of these, like grapes, is easily damaged. Pay attention to grubs, and keep down aphis by occasional fumigations.—F. Jordan, Warter Priory Gardens, York.

THE FLOWER GARDEN.

HERBACEOUS BORDERS.—These will exact increased attention from now onwards, as the occupants are growing freely, and perhaps the most important detail connected with their management is giving support to the many subjects liable to become damaged by heavy rains and rough winds. Staking needs a certain amount of skill and judgment. It should be done artistically, and a good knowledge of the habit of the various plants is essential to enable the operator to carry it out. Nothing mars the effect of a border more than ugly stakes towering above a plant when it is in flower; stakes should be arranged so as to be as inconspicuous as possible, and this can be done by placing them in such a manner that growths can be tied in front of them, hiding them from view, and by judging the height of the stakes from the habit of the plant. Some objects will now need attending to in this direction, such as pæonies, lupins, delphiniums, and Oriental poppies, and unless this work is kept well in hand, it cannot be done to advantage, as once a plant becomes beaten down and left for a few hours nothing will induce the growths to grow back into their normal position.

EARLY FLOWERING CHRYSANTHEMUMS.—In recent years these have become deservedly popular, and no flower garden should be without a representative collection. Nonin's new introductions have provided us with some good varieties to choose from, which prove both interesting and useful additions to this already extensive class. In some localities it is only occasionally that plants remaining in the open ground will survive the winter, and rather than run the risk of losing the stock, old stools are lifted in the autumn to be propagated from. The young plants resulting from the practice will now be far enough advanced to plant out. The ground in which they are to be put must be previously well dug and enriched with rotten manure. As planting proceeds, each plant should have a stake put to it and receive a tie; this will prevent loss through the brittle stems becoming broken. A dressing of soot round each plant will do much to check the attacks of snails, which are very partial to them at this stage, and it also acts as a stimulant. Should the plants have been stopped once during their preparatory stage, they will not again require attention in this respect, but can be allowed to grow naturally. Any surplus plants may with advantage be planted in a reserve border, from which they can be lifted later on in the season, to fill gaps inevitable in herbaceous borders where use is made of biennials. With care they can be safely transferred to such positions until well on into the season, provided it is carried out during dull weather and plenty of water is applied to the roots until they have taken fresh hold.—T. B. Field, Wych Place Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

The following are the awards made to new plants and other exhibits at the show held by the Royal Horticultural Society on the 15th and 16th inst.:

CERTIFICATES AND AWARDS.

First Class Certificate.—To Lælio-cattleya Luminosa Holford's var., and to Odontoglossum Pescatorei Lady Holford, from Lieut.-Col. Sir George Holford (gardener, Mr. H. Alexander), Tetbury, Gloucestershire; to Narcissus Mrs. Ernst Krelage, from Messrs. L. H. Krelage and Son, Haarlem.

Award of Merit.—To Narcissus Europa, from Messrs. Walter T. Ware, Lim., Bath; to Narcissi Cædmon and St. Olaf, from Messrs. Barr and Sons, Covent Garden; to Hippastrum Eurasian; to Primula Maximowiczi and to Androsace tibeticum, all from Messrs. Jas. Veitch and Sons, Chelsea; to Primula viscosa Beauty and Auricula Suffragette, from Mr. Jas. Douglas, Great Bookham; and to Helichrysum bellidoides, from Mr. A. Hemsley, Crawley.

MEDALS.

Gold.—To Messrs. Sutton and Sons, Reading, for early vegetables.

Silver-gilt Flora.—To Messrs. Barr and Sons, Covent Garden, for daffodils; to Messrs. R. H. Bath, Lim., Wisbech, for daffodils and tulips.

Silver-gilt Banksian.—To Messrs. J. Veitch and Sons, for azaleas, primulas, etc.; to Mr. A. M. Wilson, Shovell, for daffodils.

Silver Flora.—To Mr. Barclay, Spetchley, for primroses; to Mr. H. Burnett, Guernsey, for carnations; to Messrs. B. R. Cant and Sons, Colchester, for roses; to Mr. Maurice Prichard, Christchurch, for hardy flowers; to Mr. C. Bourne, Bletchley, for daffodils and tulips; to Mr. S. Florey, Tracy's Nursery, Twickenham, for orchids; to Mr. E. H. Davidson, Twyford, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; and to Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver Banksian.—To Mr. Jas. Box, Limpsfield, for rock garden; to Messrs. H. Cannell and Sons, Swanley, for pelargoniums; to Messrs. Wm. Cutbush and Son, Highgate, for roses and carnations; to Mrs. Jas. Douglas, Great Bookham, for auriculas; to Messrs. H. B. May and Sons, Edmonton, for ferns, etc.; to Mr. G. Prince, Longworth, for roses; to St. George's Nursery Company, Uxbridge, for calceolarias; to Messrs. Sutton and Sons, Reading, for cinerarias, and also one for daffodils; to Messrs. Hassall and Co., Southgate, for orchids; to Mr. A. H. Metcalfe, gardener to Lady Wernher, Luton Hoo, for forced strawberries; to Messrs. J. R. Pearson and Sons, Lowdham, for daffodils; to Robert Sydenham, Limited, Birmingham, for daffodils; to Messrs. J. Carter and Co., Raynes Park, for daffodils; to Messrs. Cartwright and Goodwin, Kidderminster, for daffodils; to "Lissadell," Sligo, for daffodils.

Bronze Flora.—To Messrs. T. S. Ware, Lim., Feltham, for rock garden.

Bronze Banksian.—To Messrs. Barr and Sons, Covent Garden, for rock garden; to Messrs. G. and A. Clark, Dover, for primroses, etc.; to Mr. Day, for irises; to Messrs. R. Gill and Sons, Falmouth, for rhododendrons; to Messrs. Stuart Low and Co., Enfield, for acacias, etc.; to Messrs. Wm. Paul and Son, Waltham Cross, for rambling roses; to Messrs. Phillips and Taylor, Bracknell, for auriculas, etc.; to Mr. G. Renthe, Keston, for rhododendrons, etc.; to Mr. L. R. Russell, Richmond, for clematis; to Wargrave Plant Company, The Arcade, Liverpool Street, for rock garden; and to Messrs. Reamsbottom and Co., Geashill, Ireland, for anemones.

London Daffodil Show.

The great pressure on our space in our last issue rendered it necessary to leave over a portion of the report of this interesting exhibition, and we have now the pleasure of giving the portion that was left over.

Six Barri varieties were represented by four exhibitors, Mr. S. F. Staffurth leading off with clean examples of Crown Prince, Cresset, Glitter, and Firebrand; Mr. H. R. Darlington was second, and the Rev. T. Buncombe third. The six varieties of Leedsi made a brave show. Here Mr. H. R. Darlington was again successful. His varieties were in fine condition, the best being White Lady, Waterwitch, White Countess, and Selene. Mr. S. F. Staffurth followed with Longfellow, very fine, Diana, and Evangeline; while the Rev. T. Buncombe brought up the rear.

For twelve varieties, three stems each, Mr. R. Morton, Grange Dene, Woodside Park, won well. His best vases were Lady Margaret Boscawen, Maggie May, and Lucifer; the Rev. Canon Fowler, Earley Vicarage, Reading, was second with clean, well-developed flowers; and Mr. G. Stocks, Doncaster, third. Mr. R. Morton was first for three trumpet varieties, the varieties Van Waveren's Giant and King Alfred being in perfect form. The same exhibitor was the only competitor in the next four classes, and was awarded firsts, seconds, or thirds, as the judges thought necessary to meet the case. The Rev. Canon Fowler gained a second prize for three Incomparabilis varieties, while Mr. R. Morton secured the prizes for both classes of the Barri section.

For twelve daffodils, distinct, introduced into commerce during or since 1909, Mr. C. Bourne was placed first, staging some fine examples of Lemon Belle, Queen of Hearts, Miss Willmott, Red Eve, and Evensong. Mr. F. H. Chapman was second, while three entrants appeared to exhibit twelve varieties not yet in commerce, Mr. E. M. Crosfield won first prize with some charming varieties, the chief being Discus, Touchstone, Mowglie, Bayards, Ibex, Loki, and Willonyx; Mr. W. Welchman, Upwell, Wisbech, was second, staging some fine trumpet varieties, Hereward, Dreamland, King Cyrus, The Commonwealth, and Lord Cromer being quite the best; Mr. F. H. Chapman being third.

Mr. C. Bourne led off for six varieties not in commerce, Barbara, Imperialist, and Stephen Phillips being really fine; Messrs. W. A. Watts and J. Mallender, Scrooby, Bawtry, following in the order named. For three varieties, Messrs. Cartwright and Goodwin were the only exhibitors, and were awarded second prize. The new Triandrus varieties not in commerce secured three entries, Mr. E. M. Crosfield winning with some fine white varieties, but only one of the twelve white varieties; Mr. W. A. Watts followed, also with unnamed seedlings; while Mr. F. H. Chapman brought up the rear again.

Mr. A. M. Wilson, Shovell, Bridgewater, was placed first for six seedling varieties, Gascon, Miami, Harpagon, and Anicet being remarkably fine; Mr. P. D. Williams, St. Revene, Cornwall, was placed second with Lysander, Hornet, and Susan as conspicuous varieties; Mr. W. Welchman was third. Mr. W. A. Watts won first prize for three seedlings raised by the exhibitor, the varieties were St. Asaph, Mercury, and Aden; Mr. T. Batson, Bedworthy, Devon, was second. The classes for single blooms were well filled, and attracted much attention from the exhibitors as well as the visitors, but many of the varieties seemed to be under number only.

Kent, Surrey, and Sussex Daffodil Society.

The seventh annual exhibition took place on April 17 in the Great Hall, Tunbridge Wells. On the whole, the display was not quite so good, nor the standard of excellence so high as on previous occasions, due undoubtedly to the unparalleled vagaries of the season. The opening of the show was greeted by a thunderstorm, accompanied by heavy rain and hail, the latter conditions prevailing best part of the afternoon. Non-competitive exhibits assisted largely in the matter of attraction, the two most conspicuous being the stands of daffodils put up by Messrs. Barr and Son, and Mr. F. Herbert Chapman. The former contained many choice blooms of new and rare varieties, whilst the latter displayed a goodly number of magnificent blooms of unnamed seedlings, in addition to other choice varieties.

In the competitive classes, J. A. Nix, Esq., won the first prize, and silver challenge cup, to be held for one year, for a collection of daffodils, consisting of ten varieties of each of the three groups, viz., Trumpet, or Magni coronata, Chalice-cupped, or Medio coronata, Saucer or flat-crowned (Parvi coronata), including varieties of poeticus, one vase only of each sort with three stems of bloom. Contained in this collection were fine blooms of Mrs. G. H. Barr, Henri Vilmorin, Cygnet, Rev. D. R. Williamson, Weardale Perfection, and Monarch representing the trumpets; Pilgrim, Lucifer, and Gloria Mundi, the chalice-cupped; Red Beacon, Kingsley, Incognita, Ibis, Horace, and White Lady those of the saucer or flat-crowned. C. G. A. Nix, Esq., was second. For twelve distinct single varieties, representing the three groups as above, Miss A. L. Nix secured premier award, showing Rev. D. R. Williamson, Monarch, Will Scarlett, Red Beacon, Cassandra, Weardale Perfection, Royal Star, and Horace; Miss V. Warren second.

For six distinct single varieties of true trumpet daffodils, three stems of bloom of each, Miss V. Warren took premier award, followed by Miss E. D. Roberts. Miss Warren also secured premier award for six distinct single poeticus varieties, showing very fine blooms of Scholar, Lonata, O. W. Holmes, Cowper, J. Godfrey Saxe, and Kingsley; Mr. W. Bull being second. For the finest single bloom of trumpet daffodil, C. A. J. Nix, Esq., was first with Mrs. G. H. Barr; Miss A. L. Nix second with Weardale Perfection; and Miss V. Warren third with Yellow Knight. C. G. A. Nix, Esq., scored with Maid of Athens, for the finest single, chalice-cupped bloom; Miss V. Warren second with Hon. Mrs. Frecklin; J. A. Nix, Esq., and Miss A. L. Nix equal third with Will Scarlett. For the finest single Parvi coronata bloom, C. A. J. Nix, Esq., led with Red Beacon, followed

J. A. Nix, Esq., with the same variety; and Miss V. Warren third with Ivy Nunn. J. A. Nix, Esq., scored for the finest bloom of poeticus, followed by Miss Warren, both showing Kingsley; C. G. A. Nix, Esq., third with Homer.

The premier award for the finest single stem of bloom of an obvious triandrus hybrid, fell to Miss Warren for Maid of Kent. Miss Warren was also successful in the class for three distinct varieties of seedling narcissi raised by the exhibitor, but not in commerce, showing exceedingly fine blooms of Etheldreda, Kent, and John Gunn Warren.

Broughty Ferry Horticultural Association.

The April meeting was held under the presidency of Mr. James Bethel in the Y.M.C.A. Hall. "Practical Hints on Exhibition Roses" was the title of a lecture delivered by Mr. John Simpson, head gardener to the Earl of Dalhousie, at Panmure House. The lecturer clearly defined his methods of cultivation from the process of budding on the seedling briar until the dressed bloom was under the critical eye of the judge. A south-west aspect was advised, and deep, well-drained loam, inclined to be stiff, was the ideal soil. November planting was best. Pruning, as soon as growth was visible in spring, he described as thinning-out the weak, and cutting-back the strong shoots to about three eyes from the base. Hoeing, disbudding, and insect pests, as well as fungoid diseases were all touched upon; while a list of the best roses for exhibition purposes was given. The lecture was well received, and his remarks evoked considerable discussion.

The monthly prize was voted to Mr. D. K. Meston, The Lodge Gardens, for a well-flowered Dendrobium thyrsiflorum. Other exhibits consisted of a good example of Cattleya hybrida and Dendrobium densiflorum from Mr. Alex. Duncan, Carbet Castle Gardens, roses and seedling carnations from the lecturer, and a malformed arum from the President.

United Horticultural Benefit and Provident Society.

The monthly meeting of the above society was held in the R.H.S. Hall on Monday, April 14, Mr. Charles H. Curtis in the chair. Five new members were elected, and two members were allowed to withdraw £5 16s. 9d. and £5 respectively from their deposit accounts; fifteen members were also allowed to withdraw double the amount of interest, amounting to £59 13s. 6d. The sick pay for the month on the ordinary side amounted to £60 5s. 6d., and on the State side, £23 5s. 10d.; while maternity claims came to £12. The sum of £5 18s. 10d. standing to the credit of a member who lapsed thirty years ago was passed for payment.

The adjourned annual meeting will take place on May 5, when the report and audited financial statement will be placed before the members.

NOTICE.

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Norfolk and Norwich Spring Show.

This event was originally fixed for April 24, but late in February the committee could foresee that the season would be early, so altered the date to the 17th. The fickleness of the weather, however, caused another setback, for on the night of the 11th the district was visited by the heaviest fall of snow for the year, causing much havoc among the narcissi and outdoor flowers in general. Nevertheless, some of the growers of the district were able to stage very good blooms, even though these had been down to the ground under snow.

At the outset we must congratulate Mr. George Davison, Westwick House Gardens, for his contribution to the show. He won all the first prizes possible for narcissi, and secured a gold medal for a batch of seedlings. He has made a name for montbretias, but when one saw these glorious trumpet flowers of his—they were staged without name or number, so we cannot individualise—one wondered how he had succeeded. King Alfred, Glory of Leiden, Madame de Graaff, and others were simply not comparable with some of these seedlings when placed side by side with them. Much more will be heard of these in the future. Mr. H. Woodhouse, gardener to Sir Herbert Cozens Hardy, staged a very fine up-to-date lot of all varieties, and took several prizes. Mr. Frank Neave, Lingwood, was a notable exhibitor also in this class, and likewise took first place for herbaceous flowers.

Tulips, polyanthus, pansies, violets, and flowering shrubs were also much in evidence. In the latter class Mr. J. Notley, gardener to E. G. Buxton, Esq., Catton, had a splendid exhibit, and was easily first. This exhibitor also came out well in the pot plant section, securing a meritorious first for a group of flowering and foliage plants, first for roses in pots, first for mignonette, and first for a single foliage plant. Mr. E. Greene, gardener to Edmund Reeve, Esq., Catton Grange, had the best cinerarias, schizanthus, pelargoniums, and rambler roses, the plants doing the grower great credit. He was the only exhibitor of strawberries, and had well-berried plants with good size and colour.

Salads and vegetables were not a strong feature. Mr. E. Greene had a well-arranged basket, and the best cucumbers were staged by Mr. W. Joice, a local grower. He also had the best tomatoes, the variety being Holmes' Supreme.

The best educational feature of the show was the trade contributions. Messrs. Daniels Bros., Lim., Norwich, had a varied display which brought them many compliments. It comprised roses in large numbers and great variety, forced shrubs of all kinds, lilies, pelargoniums, schizanthus, and alpine and rock plants in profusion, with a variety of choice cut flowers as a centre effect.

Messrs. Hobbies, Lim., Dereham, made a display worthy of the traditions of this firm. Roses, as one might expect, were much in evidence, but other things were not omitted; clematis, of many hues, were good, so were the lilacs, laburnums, and Pyrus malus.

Messrs. A. J. and C. Allen, Norwich, had a most creditable exhibit of all kinds of roses in pots, ramblers, polyanthas, teas, hybrid teas, and briers each being represented. Messrs. R. Wallace and Co., Colchester, set up such a display of saxifrages, aubrietias, primulas, and hosts of other rock garden flowers that seemed to fascinate a crowd of admirers all the time. Mr. R. C. Notcutt, Woodbridge, showed to the best advantage the utility of early forced standard shrubs, and most judiciously incorporated palms, acers, and other foliage plants. Mr. G. W. Miller, Wisbech, made a pleasant display, primarily of orchids in many types, but helped greatly also by his alpines and other hardy flowers.

The secretary, Mr. C. E. Pilling, and the executive are to be congratulated upon the arrangements. There was just a slight falling off over the previous year in attendance, due, no doubt, to a big counter-attraction.

French Horticultural Society of London.

The annual dinner of this useful society took place at the Cafe Royal, Regent Street, London, on Saturday, April 19, when Mr. P. Rudolph Barr presided over a record attendance. Many prominent horticulturists were present, including Sir Harry J. Veitch, Sir Albert Rollit, Mr. N. N. Sherwood, Mr. George Barr, Mr. C. Harman Payne, Mr. G. Schneider, Mr. J. F. McLeod, Mr. W. Howe, Mr. A. Dimmock, Mr. T. Bevan, Mr. D. Ingamells, M. Hiehle, M. Ripard, Mr. C. H. Curtis, Mr. Tivey, Mr. Giles, etc.

The function was a most pleasing one. The Chairman made a capital speech, dealing chiefly with the great influence for good the society exerted upon young continental gardeners, who came over to England to learn our language and extend their knowledge of horticulture. Mr. Barr induced nine or ten friends to become honorary members during the evening. Sir Albert Rollit responded for "Horticulture," and spoke in his usual interesting and humorous fashion. Mr. G. Schneider, its founder, responded on behalf of "The Society," and he was the recipient of a very handsome clock, presented by young members of the society. M. Ripard and M. Sansy spoke, and Mr. C. H. Curtis responded for "The Press." Mr. Dimmock replied for "The Visitors," and both Sir Harry J. Veitch and Mr. C. Harman Payne were called upon for speeches, and each delighted the audience. Mr. G. Cuthbert gave "The Chairman." Everything went off well, there was plenty of good music, and nearly everyone stayed to the end of a long programme.

Dumfries and Galloway Gardeners' Association.

A large attendance and a capital paper marked the last meeting for the present session of this association on April 19. Mr. S. Arnott occupied the chair, and introduced the lecturer of the evening, Mr. Wm. Hutchinson, The Gardens, Terregles, Dumfries. His subject was "The Malmaison Carnation," and the essayist, who has had a long experience of this flower, and who cultivates it with marked success, gave an admirable account of the origin and rise of this class of carnation, together with full details regarding its management in its various stages. Mr. Hutchinson expatiated concisely and well on the great value the Malmaison possessed for decorative and other purposes, and pointed out how valuable it proved to the gardener in many ways. The cultural details were very fully, yet succinctly, stated, and a résumé of the various points, such as propagation, the best houses, composts, potting, drainage, temperature, manuring, and the treatment of diseases, was given in an able manner; while the several treatments required for plants in their first, second, third, and even fourth years were detailed. Mr. Hutchinson finding old plants useful for the supply of late blooms. A list of the best varieties was also given.

Mr. D. Hunter, hon. secretary and treasurer, made an interim statement of the membership and financial position, this being of a satisfactory character in every way. Consideration was taken up of the proposed summer excursion, and a remit made to a committee; while it was remitted to the ordinary committee to make arrangements for the new session, the general meeting to be held in September.

Gooseberry Bushes.—These, on poor soils, will be greatly benefited by having good soakings of liquid manure at intervals, especially if the berries are expected to grow to a good size. Gooseberries are not infrequently found growing in a somewhat out-of-the-way spot, but for the production of good fruits yearly they, like other fruits, require good cultivation and attention. Top dressing and the timely thinning of the bushes are items that should not be neglected, and the same remarks apply to red and black currants.—H. Markham.

NOVELTIES AND RARITIES AT BEES' NURSERIES.

"There is nothing new under the sun." Thus it has been written, but, nevertheless, every horticultural enthusiast takes a keen delight in discussing the "new things" he discovers, or acquires, and is ever eager to learn from others of the latest introductions, whether they emanate from distant lands or from the hands of hybridists and plant breeders at home.

We need not split straws to insist on the technical inaccuracy of calling a plant "new," that has inhabited far-off lands for centuries, for it is from a practical point of view only reasonable to base our calculations upon the date of introduction into Britain, and we have during the past few years received a very large number of new introductions, particularly from China, the majority of the plants sent from that vast country being sufficiently hardy to thrive under the conditions prevailing in the British Isles.

Within the past ten years our gardens have been enriched in a wonderful degree by the new plants discovered and sent home by Wilson, Forrest, Purdon, and Kingdon-Ward, and many of these newcomers have already made themselves thoroughly at home in gardens in every quarter of the British Isles, whilst there are many more good things of which stock is being worked up in the nurseries from whence the travellers went forth, and these will be put into commerce in the near future. The floral wealth of China is apparently inexhaustible, for, as was shown by Professor Balfour at the recent Primula Conference, that we have, despite the large number of primulas explorers have sent us, only touched the fringe of Chinese primulas, to say nothing of the many other families of plants that await the attention of those whose enthusiasm and courage urge them to renewed effort for the benefit of British horticulture.

The Sealands Nurseries, which belong to Messrs. Bees, Lim., are extensive (about 300 acres), and devoted mainly to the cultivation of hardy perennials and roses, and it is here that the plants are to be found that Mr. George Forrest sent home as a result of his first two expeditions to China, while more recently Mr. Kingdon-Ward has sent further consignments of seeds gathered during a successful journey in the interests of this progressive and enterprising firm.

Readers of THE GARDENERS' MAGAZINE already know a good number of the earlier introductions, among which were the exquisite Primulas Forresti, Bulleyana, Littoniana, and malacoides, as well as Incarvillea brevipes, Potentilla Veitchi, which both Mr. Forrest and Mr. Wilson sent home, as, too, was the case with Meconopsis integrifolia.

It will not be long before a good many other plants which I saw at Sealands will be as widely known and largely grown as any of those I have just mentioned, for they have only to be seen to win the affections of any hardy plantsman. Of the primulas it would be difficult to say definitely which is the choicest or most beautiful, but Primula sikkimensis will, at any rate, find general favour. It is a plant of robust, vigorous growth, some eighteen inches in height, with bright glassy foliage, and it bears an abundance of glowing purple-crimson flowers in whorls. The individual flowers measure an inch or more across, so that a colony of half a dozen plants in full flower will make a splendid display of brilliant colour. Some of the prettiest primulas are rather difficult to bring through an average English winter, being impatient of dampness during their resting period, but P. angustidens is not one of these. It will thrive like a polyanthus.

Equally interesting in its way is P. secundiflora, which may briefly be described as a purple P. Sikkimensis. The exact colour is not easy of description in writing, for, although it has not a velvety sheen, it is a rich shade, with depth in it, that prevents any unpleasant impression such as an ordinary dull purple induces. The modest drooping bells, nodding in the faintest breeze, are produced in abundance on tall, perfectly erect stems, and they are delightfully fragrant.

Totally distinct from either of the foregoing, and, in fact, quite unlike a primula, so far as form of flower is concerned, is P. muscarioides, a valuable acquisition to any collection of primulas, if only to demonstrate the remarkable variety in form and colour that exists in a single genus. P. muscarioides ranks among the tiniest of them all, but it must not straightway be assumed that it is a "miffy" little plant, that demands incessant care and effort to keep it in existence. It is hardy and good-tempered, and, although a miniature, its little flowers are of so rich a purple that it is quite attractive, whilst the grape-hyacinth-like shape and arrangement of the flowers is a feature that makes one take a second glance at the label, with a mental query, "Is this a primula?"

Then there is Primula pulchelloides, the foliage of which would justify the name persicifolia. This also has nodding flowers in the way of P. Sikkimensis, the colour being lilac verging to a rosy-mauve. The whole plant is coated with yellow meal or farina, adding another note of distinction to an extremely interesting plant. Space will not allow of detailed eulogies of P. farinosa Beesi, P. Beesiana, and other members of the family, for there are so many other subjects that claim attention.

It may, perhaps, appear strange to give first place to a plant of which I have not yet had the pleasure of seeing flowers, and which, indeed, has not bloomed in its new home, but Incarvillea lutea has such outstanding claims for notice that I must deal with it before turning my thoughts in other directions. The fact that Mr. Forrest was enabled to send home a good photograph of a specimen flowering freely in its native habitat puts me on safe ground, for this photograph affords convincing proof that here we have a real aristocrat among hardy plants. A strong plant, of noble proportions, is depicted having five or six tall, erect stems, bearing handsome flowers, which Mr. Forrest tells us, are of a fine shade of yellow. The plants growing at Sealands have leaves from two to three feet in length, and the health and vigour of these young plants augur well for their conduct when they reach the flowering stage. Readers of THE GARDENERS' MAGAZINE who have seen the reproduction of Mr. Forrest's photograph of Incarvillea lutea, which appears in Messrs. Bees' catalogue, will readily agree with me that this plant will long retain a high place in our affections.

Delphinium yunnanensis adds another member to this popular family, and it is one that possesses characteristics distinctive enough to prevent likelihood of its confusion with its relatives. The foliage of the plant is cut and splashed with greyish-white after the manner of some of the eryngiums. It produces grand blue flowers, and is a plant that should prove very useful to the plant breeder, as well as being an interesting addition to our collections of larkspurs. Not yet ready for distribution, but worth waiting for, is a very neat little plant named Didissandra lanuginosa. Its foliage resembles a ramondia, while its flowers are of similar form to those of haberlia. I cannot vouch for the hardiness of this pretty little subject, but let us hope it may prove equal to our trying climate, and, at any rate, if it should be necessary to give slight protection during winter, it is well worth the trouble.

It often happens that a dry, sun-baked spot in a garden causes its owner some anxiety to find something in the way of plant life that will clothe the earth with verdure, and for such a purpose Ephedra Gerardiana Sikkimensis may well be recommended. It is free-growing, with wiry stems, of rush-like appearance, and in autumn it bears innumerable tiny scarlet flowers, nesting in the angles and joints of the foliage, and, whether on exposed parts of a rockery, on a dry wall, or a steep bank, the trailing growths and bright-coloured flowers are calculated to make presentable what might otherwise be bare and uninteresting patches. Codonopsis meleagris, Dracocephalum tanguticum, and Buddleia macrostachya yunnanensis have already been described and figured in these columns, and readers have also either seen or heard of that lovely plant Roscœa cautlioides, which was one of the most interesting of the new plants exhibited at the International Exhibition last year. It is good to know that plants have come well through the past winter without protection at Sealands—a spot, by the way, that is well adapted to test the hardiness of either man or plant, and we may, therefore, predict that before many years we shall see the shimmering, satiny, charmingly tinted flowers of Roscœa cautlioides in every collection of hardy plants that lays claim to be at all representative, for it is totally different from anything else we have, although, to a certain degree, it resembles an iris in general appearance. I do not know any plant which can be compared with it for the exact shade of its yellow flowers, for they are neither primrose, sulphur, nor canary, but are of a truly delightful shade.

It must not be supposed, despite the great attention Messrs. Bees, Lim., have devoted to Chinese plants, that novelties from other countries have been ignored, for that would be entirely erroneous. A New Zealand plant that is all but hardy in this country—requiring a sheet of glass to ward off winter rains—is Celmisia grandiflora, with big rosettes of thick hoary foliage and large daisy-like white flowers. Then there is Celmisia spectabilis argentea, which was another of the novelties the firm showed at Chelsea, and has stood the winter at Sealands with just handlight protection during wet weather. The silver-leaved Lupinus argenteus is a shrubby plant that claims more than passing notice. The leaves are small, but plentiful, and both they and every part of the woody stems are clothed in whi

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and the flowers, borne in spikes of good length, are lavender-blue and white. It is good to learn that propagation is proving easy, and fine batches of young plants are coming along, doubtless to find a very ready sale, for it is a subject that only needs to be seen to be appreciated. Oxalis adenophylla, which was illustrated and described awhile since in these pages, is another gem that is destined to become widely grown, and Weldenia candida, shown in the set of new and rare rock plants that won the Farrer Cup for Messrs. Bees, Lim., is accurately described in their catalogue as possessed of "beauty of quite an extraordinary character." At present, limitations of stock compel almost a prohibitive price being asked, but when a little cheaper there will be a big demand for this little gem, with its rosette of pale green leaves and glistening white flowers that resemble the blossoms of a wide-open crocus.

For several years Messrs. Bees, Lim., have had hybridists at work among various kinds of plants, and they have many excellent things in store both among alpine and border plants, and also a number of promising roses.

Viola gracilis has been occupying attention of late, and some of the hybrids and selected forms I saw when at the nursery are vast improvements on the type, excellent as it is.

For some years the writer has held the opinion that if the alpine mimulus were taken up and carefully fertilised and selected we should soon have an entirely new and infinitely lovely race of easily-grown and wonderfully-prolific plants suitable for rockeries, beds, borders, or waterside. Messrs. Bees, Lim., have had the task in hand, and results are satisfactory in the highest degree, for they are placing on the market a set of really lovely hybrid mimulus which produce large flowers of distinct and beautiful colours. Being true hardy perennials these should become widely distributed and largely grown.

Brief reference must be made to a set of dwarf rhododendrons that are suitable for rock culture, named R. myrtifolia, R. arbutifolia, R. daphnoides, and R. hirsutum. These are all of neat, compact habit, and just the style of flowering shrub required for prominent positions in the rock garden. Another handsome and distinct rhododendron noticed is R. bullatum, which has very effective reticulated foliage, the underside being covered with a showy golden-brown, felt-like tomentum. The plant has come from China. A climber of Mr. Forrest's introduction is Jasminum Beesianum, which bears bright cherry-red flowers, and has large, almost leathery, foliage. Visitor.

TRADE NOTE.

A box of delightful perpetual carnation blooms from Mr. C. F. Van der Sluys, La Ramée, Guernsey, reminds us that with the increase of spring sunshine such carnations are now at their best. The box included finely-coloured, well-filled, and substantial flowers of Marmion, Rose Doré, and Rose Pink Enchantress, as well as very clear blooms of White Perfection and White Enchantress. We have greatly appreciated the beauty and fragrance of these flowers.

CATALOGUES RECEIVED.

BARR AND SONS, COVENT GARDEN.—In this firm's new catalogue of hardy perennials, alpine, and aquatic plants, selections for various positions in a garden are given, but otherwise the plants are listed in alphabetical order, with a few pages specially devoted to new and rare plants.

G. COOLING AND SONS, BATH.—Collections of seeds for gardens of various sizes are a feature of this firm's spring catalogue. Illustrations are numerous and good, and there are useful lists of sundries and of bulbs for spring planting.

A. F. DUTTON, IVER, BUCKS.—A most attractive booklet showing the great extent of the carnation industry at Iver. Border, perpetual, and Malmaison varieties are listed, and collections of varieties are arranged for amateurs. The illustrations are excellent, and the variety Mrs. A. F. Dutton figures in colours on the front page.

ANSWERS TO CORRESPONDENTS.

LEVELLING RIDGE AND FURROW PARK LAND.—E. W., Northampton.—I shall be glad of your help in the following matter. We have a park which was once an arable field. Before being sown down it was thrown up in ridges for drainage. My employer does not like the appearance of the part, and so I want to know the best method of removing the ridge and furrow appearance without destroying the turf.—Leave the turf alone until next September, meanwhile arranging to deal with the matter as early as possible during that month. Work up a large stock of fine rich soil, and see that sufficient tools, planks, etc., are ready when the time arrives, so that the work may be done as expeditiously as possible. Decide upon the level to be followed, because if the ridges are filled into the furrows the general level will be lowered. Remove the turf and dig or plough a given area at one time; digging will be best, as it will make levelling an easier matter. Add the new soil previous to raking and levelling, make all firm, and re-lay the turf. Roll well, and spread fine soil over the turf, working it into the joints of the turves with a stiff broom. If everything is carefully planned out beforehand a very large area can be dealt with in a comparatively short time. If expense is no object the work could be done at once, but if a hot, dry season followed, a great deal of the turf would be killed unless special arrangements were made for watering on a large scale.

CULTIVATION OF THE VALLOTA.—W. S., Streatham: Some of our young men would be greatly obliged if you would kindly publish an account of the best method of cultivating Vallota purpurea (the Scarborough Lily). This plant seems to be a very troublesome one to grow successfully in this district, therefore I feel sure you will come to our aid.—Vallota purpurea is a greenhouse plant—indeed, it is almost hardy, hence any attempt to treat it as a stove plant will certainly lead to failure. As a general rule potting is done about July, a little while before the spikes begin to develop, and when new roots are being formed; but the finest examples we have seen were from bulbs potted in January. These were potted every second year, part of the stock being dealt with each season. The bulbs were shaken from the old soil and all small ones removed, the flowering size being repotted, placing nine in a ten-inch pot. The compost used was good loam, spent mushroom bed manure, and some old mortar rubble and sand. Efficient drainage was provided, and care taken not to give too much water while the plants were taking possession of the new soil. Greenhouse treatment and a light position followed potting, and a sunny frame sufficed during the height of summer. Under these conditions flower spikes developed in August, and the flowers were at their best at the beginning of September. As each flower faded it was removed, but the spike was never cut, being allowed to die down. Immediately the flowers began to fade the water supply was very much reduced, and the plants induced to rest, but severe drying off so as to cause all the leaves to die was not practised. The vallota loves sunshine and fresh air, and it appreciates a few doses of weak liquid manure when well established, especially the second season after potting.

DISEASED PEAR GROWTHS.—A. W., Hyde Park: I am sending herewith a few shoots of my Winter Nelis pear tree, and shall be much obliged if you will kindly tell me the cause of its malady. Wherever the tree is pruned it invariably dies back a considerable distance from the cut portion. I have also a Sturmer Pippin apple, which also resents being cut back. My garden is close to the sea, at Milford-on-Sea, Hants, where we grow all kinds of fruits, including pine-apples, oranges, etc. I have a great many varieties of apples and pears, and usually our cultivation is successful. Any information you can give to one who has been a subscriber to The Gardeners' Magazine for fifty years will be greatly appreciated.—The shoots sent are badly attacked by canker, and were evidently predisposed to attack by reason of their green and sappy condition. Judicious pruning should be at once carried out, removing all badly infected branches and painting the wounds with Stockholm tar. If

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there are wounds on older branches pare them down to clean, healthy wood and bark, and paint with Stockholm tar. When cutting back the infected shoots, do so a good distance behind the nearest infected part, because the mycelium travels in the tissues, and so may not be entirely eradicated. It is probably because the previously damaged shoots were not cut back sufficiently to remove the whole of the diseased portion that the canker has spread. Promptly burn all the shoots and branches removed. Allow the diseased trees to crop very lightly; watch for and promptly deal with any further outbreaks, and next winter spray the trees thoroughly with a sulphate of iron solution.

MINT RUST.—C. R. D., Cheam: I enclose a few pieces of mint taken from a narrow bed growing in warm, moist position near a garden wall. The stems are distorted, and of a yellowish colour. Kindly tell me what the disease is, and how to remedy it.—The mint is suffering from an attack of mint rust (Puccinia menthæ), and as the whole cycle of the life of this fungus takes place on the mint prompt measures should be taken to eradicate the disease. The mycelium is perennial in the underground stems, hence it is necessary to entirely remove and burn all infected plants, carefully digging them up so that no portion is left in the ground to continue the disease. Propagate a new stock from stem cuttings made from clean, healthy plants, and make a new plantation quite away from the old one. Old beds, where the plants have become matted together, and more or less starved, seem most liable to infestation.

THE MOONLIGHT BROOM.—S. J., Warminster: I had a plant of the Moonlight Broom given me last season, and, as advised, planted it upon a rather dry rocky bank. It was a very straggling specimen, and looks even more ungainly now, therefore I should like to know how to deal with it so as to bring it into a better shape. By the way, what is the correct name of the Moonlight Broom?—The Moonlight Broom, Cytisus praecox pallidus, is a charming flowering shrub, and yours is planted in a most suitable position, as the plant loves sunshine and a moderately dry rooting medium. Directly after it has flowered cut the growth hard back, and this will induce shapeliness, many growths, and greater freedom of bloom the next season.

FLOWERS FOR A BLUE BORDER.—N. H. K., Lincoln: Will you kindly indicate a few of the best plants for use in the preparation of a blue border, as I am anxious not to omit anything of importance.—Anchusa italica in variety, with violas, lavender, aquilegias, annual and perennial asters, eryngiums, echinops, geraniums, campanulas, dracocephalums, galegas, gentians, Lithospermums, scabiosas, verbenas, delphiniums, erigerons, iris, polemoniums, mertensias, aubrietias, muscaris, scillas, linums, anemophalodes, aconitums, ajuga, anemones, clematis, lupins, myosotis, and salvias, are all families that include blue-coloured flowers which should find a place in a blue border.

NAMES OF PLANTS.

A. C. B., Handsworth.—1, Odontoglossum cirrhosum; 2, O. Adrianæ.

O. W., Shepperton.—1, Berberis Hookeriana; 2, Prunus serrulata fl. pl.

S. N. A., Abingdon.—1, Rhododendron racemosum; 2, Berberis stenophylla; 3, Primula rosea; 4, Morisia hypogæa.

E. N., Grays.—1, Retinospora obtusa pendula; 2, Pinus Laricio; 3, Cupressus macrocarpa; 4, Phyllostachys viridi glaucescens; 5, Cupressus Lawsoniana variety.

J. S., Alverston.—1, Cupressus torulosa (probably); 2, Juniperus chinensis albo variegata; 3 and 4, send more characteristic specimens; 5, Pittosporum undulatum; 6, send when in flower; 7, a species of Kleinia; 8, Pulmonaria officinalis; 9, Anthericum variegatum; 10, Staphylea colchica; 11, Streptosolen Jamesoni. You have greatly exceeded the rule which limits specimens sent for naming to six.

MARKETS.

COVENT GARDEN.

Flowers.

The brighter and warmer weather has improved business; daffodils are coming from the North, but supplies are reduced; tulips, roses, carnations, and violets are in great request.

		s.	d.		s.	d.
Anemones	per doz. bun.	1	0	to	1	6
Arums	per doz.	3	0		4	0
Adiantum cuneatum	per doz. bun.	4	0		6	0
Asparagus plumosus	per doz. bun.	8	0		16	0
,, Sprengeri	per doz. bun.	8	0		12	0
Azalea	per doz. bun.	2	6		3	0
Bouvardias	per doz. bun.	4	0		6	0
Camellias	per doz.	1	6		3	0
Carnations	per doz.	1	6		2	6
,,	per doz. bun.	10	0		15	0
,, Malmaison	per doz.	12	0		15	0
Cattleyas	per doz.	9	0		15	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz.	2	0		3	0
Daffodils	per doz. bun.	1	6		3	0
Eucharis	per doz.	2	0		4	0
Freesias	per doz. bun.	1	6		2	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	2	0		3	0
Lapageria	per doz.	2	0		2	6
Lilac	per bunch	3	0		4	6
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per doz.	1	6		2	6
,, longiflorum	per bun.	3	0		5	0
Lily of the Valley	per doz. bun.	6	0		18	0
Marguerites	per doz. bun.	1	6		2	6
Odontoglossums	per doz. blms.	2	0		4	0
Pelargoniums	per doz. bun.	4	0		8	0
Roses	per doz.	1	6		6	0
Smilax	per doz. trails	2	0		3	0
Spiræa	per doz. bun.	2	6		6	0
Tulips	per doz. bun.	7	0		15	0
Violets	per doz. bun.	1	6		4	0
Wallflowers	per doz. bun.	1	0		1	6

Fruits.

The supplies of American and Canadian apples are shortening, but Cape and Australian fruits are a large supply, and meet a ready sale.

		s.	d.		s.	d.
Apples, American	per bar.	18	0	to	30	0
,, Australian	per box	8	0		15	0
,, Californian	per box	5	0		8	0
,, Nova Scotian	per bar.	10	0		18	0
,, Oregon	per box	7	0		10	0
,, Tasmanian	per box	7	0		14	0
Bananas, Canary	per bun.	7	0		12	0
,, Jamaica	per bun.	3	0		5	6
Cobnuts	per doz. lbs.	3	6		5	0
Cocoanuts	per 100	18	0		23	0
Cranberries	per case	8	0		9	0
Dates	per doz. boxes	2	9		3	6
Grape Fruits	per case	8	0		18	0
Grapes, English (new)	per lb.	4	0		6	0
,, Almeria	per bar.	16	0		25	0
,, Cape	per box	5	0		10	0
Lemons	per case	15	0		22	0
Mangoes	per doz.	6	0		8	0
Melons	each	1	0		8	0
Nectarines, Cape	per box	8	0		15	0
Oranges	per case	12	0		25	0
,, California	per box	10	0		13	6
,, Jaffa	per case	7	0		9	0
Peaches, Cape	per box	8	0		15	0
Pears, Cape	per box	4	0		7	0
,, Californian	per case	12	0		15	0
,, Tasmanian	per case	12	0		16	0
Pineapples		2	6		4	0
,, Cape	per doz.	4	0		6	0
Plums, Cape	per box	3	0		6	0
Strawberries	per lb.	2	0		6	0

Vegetables.

Forced produce is abundant, and supplies of early cabbages are now coming in well from the South and from France.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	0	to	3	0
,, Ground	per bush.	3	0		4	0
Asparagus, Paris	per bun.	2	0		3	0
,, English	per bun.	2	6		3	0
,, Giant	per bun.	7	0		10	0
Beet	per bush.	1	6		3	0
Beans, Guernsey	per lb.	0	8		0	10
,, Madeira	per basket	2	6		4	0
,, English	per lb.	0	8		0	10
Broccoli, Sprouting	per bush.	1	0		1	6
Cabbage	per tally	3	0		5	0
,, (new)	per doz.	2	0		2	6
,, Cornish	per crate	5	0		6	6
Carrots	per doz. bun.	2	0		2	6
,, French	per doz. bun.	7	0		10	0
Cauliflowers	per tally	8	0		15	0
Celery	per doz. bun.	9	0		16	0
Celeriac	per doz.	1	0		2	0
Chicory	per lb.	0	2		0	2½
Cucumbers	per doz.	4	0		7	0
Endive	per doz.	2	0		3	6
Horseradish	per doz. bun.	10	0		12	0
Leeks	per doz. bun.	1	0		2	0
Lettuce, Cos	per doz.	2	0		3	0
,, French	per crate	2	0		3	6
Mint	per doz. bun.	3	0		6	0
Mushrooms	per doz. lbs.	6	0		10	0
Onions	per bush.	2	0		3	0
,, Spanish	per case	4	6		5	6
Parsley	per doz. bun.	2	0		3	0
Peas, French	per pad	4	0		5	0
Radishes	per doz. bun.	1	0		1	6
Rhubarb	per doz. bun.	0	10		1	6
Seakale	per doz. bun.	8	0		15	0
Spinach	per bush.	2	0		3	6
Tomatoes, English	per doz. lbs.	10	0		13	0
,, Canary	per case	15	0		22	0

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

Date. 1913. April 13 to April 19.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 13—Sunday	8 42	37	34	47	27
,, 14—Monday	0 48	43	39	49	36
,, 15—Tuesday	1 12	48	46	52	43
,, 16—Wednesday	4 24	48	47	51	45
,, 17—Thursday	10 30	45	41	51	32
,, 18—Friday	—	44	44	52	37
,, 19—Saturday	5 42	51	47	54	45
Means	(total) 31 18	45·1	42·4	50·6	37·6

Date. 1913. April 13 to April 19.	Rain.	Temperature of the Soil At 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
April 13—Sunday	—	42	44	46	16
,, 14—Monday	0·06	44	44	45	25
,, 15—Tuesday	0·26	45	45	45	39
,, 16—Wednesday	0·06	46	45	45	41
,, 17—Thursday	0·05	45	45	46	22
,, 18—Friday	0·07	45	46	46	29
,, 19—Saturday	—	46	46	46	42
Means	(total) 0·50	44·5	45·0	45·4	30·4

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

TUESDAY, April 29.—Royal Horticultural Society; Narcissus and Tulip Committee meets at 11.30 a.m.; Fruit, Floral, and Orchid Committees at 12 o'clock; Lecture at 3 p.m. on "Spring Border Plants," by Mr. George Bunyard, V.M.H.; Scientific Committee at 4 o'clock.

National Auricula and Primula Society's Exhibition at Royal Horticultural Hall.

WEDNESDAY, April 30.—National Auricula and Primula Society's Midland Show at the Botanic Gardens, Edgbaston; two days.

The following dates of exhibitions have been recently announced:

Epsom Horticultural Society, Rose Show, June 30, at Woodcote Grove; Summer Show, August 4, at Epsom College.

Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.

Ealing Horticultural Society, July 9.

Weybridge Horticultural Society, July 10, at Barham Lodge, Oatlands Drive.

Ulverston Rose and Sweet Pea Show, July 18.

Birmingham Horticultural Society, July 18 and 19, in Handsworth Park.

Haywards Heath Flower Show, July 23, in Victoria Park; the twenty-fifth exhibition.

Tunbridge Wells Flower Show, July 23 and 24.

St. Quintin Horticultural Society, July 24, in the Gun Club grounds, Wood Lane, W.

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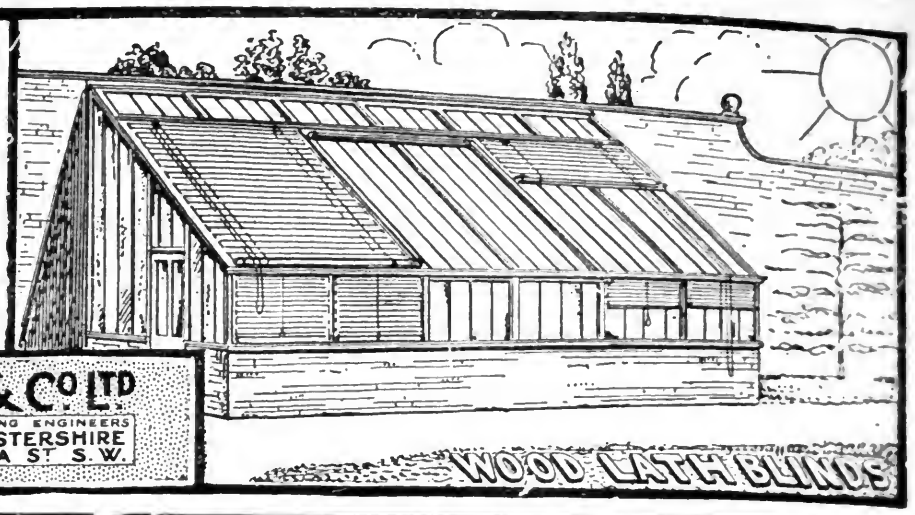

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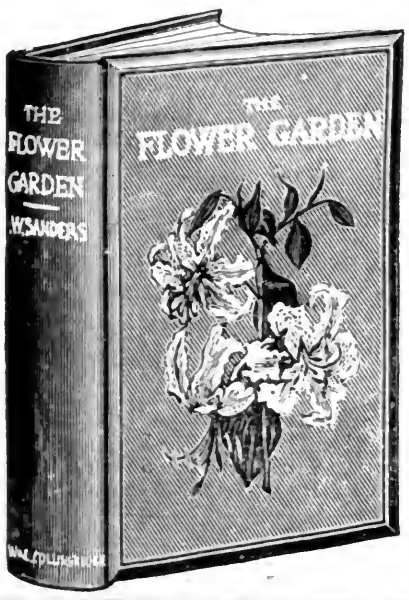

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VOL. LVI.—No. 3,104. SATURDAY, MAY 3, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Lessons from the Ghent Quinquennial.

As the comprehensive report which we publish in our present issue so clearly shows, the great horticultural exhibition that has been held at Ghent during the past week has fully maintained the traditions of this famous old Flemish city as one of the great centres of commercial horticulture, not only of Belgium, but of Europe. Ample evidence is also afforded that the whole of the multiferous details were carried out with a degree of completeness and success as to reflect the highest honour upon those who were responsible for the management of this great and highly important undertaking. Not one of the many members of the international jury with whom we had the pleasure of conversing when we were at Ghent expressed himself as otherwise than profoundly impressed by the completeness of the success that had been achieved; and some of the British horticulturists who on this occasion made their first visit to the Ghent Quinquennial, stated that they were amazed by the wondrously beautiful colour effects that met their eye on entering the great hall, and delighted by the charming combinations of flowers and foliage that attracted their attention in the course of their tour of inspection. It is pleasant to bestow praise when so thoroughly deserved as was the case at Ghent; but our object is not to indulge in commendatory platitudes, but to briefly refer to a few of the object-lessons that this great gathering afforded. One of the first of these lessons was a sense of failure on the part of past horticulturists in not giving attention to the question of providing within the metropolitan area a building with some ground attached that is really suitable for flower shows. It was very generally thought when the Horticultural Hall was built, and not without justification, that it would suffice for all but the largest gathering; but so great has been the advance in gardening since then that it hardly suffices for the fortnightly shows. The question is a difficult one, if not practically impossible of solution, for the acquisition of land in a really convenient position of sufficient size to accommodate an exhibition hall with an area of seven or eight acres will hardly admit of profitable discussion at the present time. What might have been accomplished at some distant period is, of course, problematic; but we are taught by one of the lessons of the Ghent Quinquennial, that by the exercise of foresight and enterprise, and the united effort of all concerned, the society has had for a long time a suitable position wherein to hold the quinquennial gatherings that have had so beneficent an influence on the prosperity of the nursery trade of Belginm. Another lesson of great practical value is that on the importance of so arranging an exhibition that the plants, flowers, etc., form a harmonius whole, instead of bting, as is so often the case a certain number of units, which may or may not be related to each other. In the two halls the arrangements were such as to suggest two delightful gardens, one furnished with greenhouse and hardy plants, and the other with plants from tropical and sub-tropical regions. These were not simply grouped on the grass without reference to their environment, but the contributions from the several exhibitors were so arranged that, while representing the individuality of the exhibitors, they constituted as it were a charming picture. The groundwork was green turf, intersected with broad, gracefully curving walks, and on the turf were beds of various shapes, and, in suitable positions, mounds and raised borders, and in the eastern and western annexes of the great hall the ground was slightly undulated. The walks were formed with a dull-coloured sand that was pleasant to walk upon and agreeable to the eye, as the colour did not, as in the case of bright gravels, clash with the colours of the flowers near the walks. Thus it was that in passing through the exhibition the visitor had constantly spread out before him a flower garden of great beauty, while the interest was constantly maintained by meeting at frequent intervals with plants differing more or less in colour or character. Another object-lesson to which many of those who are concerned with horticultural exhibitions in this country should give their attention is the regulation of the top light. At Ghent it has long been the rule, whether the structure be of a permanent or temporary character, to have a certain amount of glass in the roof, and subdue the light by means of thin canvas suspended from the roof. As we enjoyed the soft light produced by the canvas suspended cloud-like overhead, we were reminded of the great difference in the attractiveness of plants and flowers exposed, as at Olympia in 1911, to the direct effects of brilliant sunlight, and of the improvement that would have been made in the appearance of the big tent at Chelsea on the occasion of the International

FIELD-MARSHAL THE RIGHT HON. LORD GRENFELL, G.C.B., F.S.A., LL.D.,
President of the Royal Horticultural Society.

Horticultural Exhibition last year, had thin canvas been so employed as to hide the framework of the roof. To the quality of the plants, flowers, fruits, and vegetables seen at our exhibitions there is no occasion to refer, for it is generally acknowledged, both at home and abroad, that British cultivators have no superiors. It is probably due to this fact that the various authorities have become somewhat lax in the conditions under which exhibitions are held. Not improbably it is thought that the high state of development of the various products is sufficient to attract and satisfy visitors. To a certain extent this may be the case, but it does not in any way relieve the wealthy societies of their responsibility of providing the means whereby the products of the garden can be presented to public notice in the best possible manner. We are anticipating with much interest whether any reforms in methods of exhibiting will be made by the Royal Horticultural Society at Chelsea, as compared with the shows held in the gardens of the Inner Temple, where, owing to the limited space, a satisfactory method of procedure was impossible.

Field-Marshal Lord Grenfell, G.C.B., G.C.M.G., LL.D., who has succeeded Sir Trevor Lawrence, Bart., as president of the Royal Horticultural Society, and whose portrait we have the pleasure of giving herewith, may not be a horticulturist as that term is usually understood, but he is keenly interested in gardening; and, as evidenced by his brilliant military career, possesses administrative ability of an exceptionally high order. Entering the Army in 1869, Lord Grenfell served in the Kaffir and Zulu wars some ten years later. Between 1882 and 1892 he was engaged in the several Egyptian expeditions, and was Sirdar of the Egyptian Army from 1885 to 1892. Subsequently Lord Grenfell occupied at different periods the positions of Inspector-General of the Auxiliary Forces, Governor and Commander-in-Chief of Malta, and commanded the Egyptian Army, the 4th Army Corps and the Forces in Ireland. In recognition of his service Lord Grenfell was raised to the peerage as Grenfell, 1st Baron of Kilvey, in 1902.

Bluebells at Kew.—The Royal Gardens, Kew, are peculiarly attractive at this season of the year, when the beeches, limes, and bush chestnuts are breaking out into fresh green leafage, and when the grass possesses rich greenness not seen again through the year. There are early-flowering shrubs in abundance, and alpine flowers in great variety and beauty. Tulips provide rare masses of glowing colour, while wallflowers and polyanthuses yield sweet fragrance. But away beyond the cultured portions of the gardens, in that wonderful bird paradise, the Queen's Cottage grounds, the bluebells are fine, and well worth a visit, as the many acres of these lovely flowers possess that charm which attaches to all things beautiful in a state of nature.

Trial of Spraying Machines at Wisley.—A practical demonstration of spraying machines and syringes was held, under the auspices of the Royal Horticultural Society, at the Wisley Gardens, on Wednesday, April 23. A large number of machines and a great variety of nozzles and attachments were brought forward by well-known makers, including Messrs. G. and W. Purser, Messrs. Hartjen and Co., the Four Oaks Spraying Machine Co., Messrs. Robinson Bros., Ltd., the Boundary Chemical Co., Messrs. E. A. White, Ltd., Messrs. Cooper, Pegler, and Co., Messrs. Benton and Stone, and Messrs. Cooper and Nephew. We shall publish a full, illustrated report of the trials in our issue for May 17, when we shall specially deal with insect pests of trees, plants, and vegetables that engage the attention of cultivators at this season of the year.

History of Orchid Culture.—In our next issue we shall publish a freely illustrated article dealing with the historical aspects of orchid culture in Great Britain. Written in a popular style the article will place the reader in possession of the more important facts relating to the early introduction of orchids into this country, the difficulties experienced by the earlier cultivators, the introduction of species, hybridisation of orchids; and it will contain a reference to some of the chief cultivators and raisers and their work.

Gift of Roses to the Queen.—The Royal Society of St. George presented the Queen with a beautiful gift of English roses, arranged to represent a ship, on St. George's Day. Her Majesty was much pleased with this floral offering, its design, and its commemorative interest.

Tree Planting for Profit.—On the 18th inst., Mr. Augustine Henry, V.M.H., who has recently been appointed Professor of Forestry at the Dublin University, lectured at Carpenters' Hall, London, on "The Choice of Trees for Profitable Planting. In the course of his lecture he stated that in making a selection the planter must be guided by the suitability of the trees to soil and climate, quick returns from rapid growth, and increasing value of timber. Native trees were not always best for these purposes. Trees introduced from similar climates of the Pacific Coast of North America or the Corsican Highlands had proved most profitable. Among the conifers recommended were the Corsican pine, the Douglas fir, the Sitka spruce, and the Pinaster pine. Of the broad-leaf trees the Spanish chestnut, the so-called Italian poplar, and the ash gave the best returns. Sir Herbert Maxwell, F.R.S., who presided, said the large audience proved the growing interest in the neglected study of Forestry. He was glad to see so large a gathering, for the subject was of great national importance, because the demand for timber in our various industries was constantly increasing, while our sources of supply were being rapidly exhausted.

Mr. J. F. McLeod, who has been head gardener and bailiff at Dover House, Roehampton, since 1889, has been left an annuity of £250 by his employer, the late Mr. J. Pierpont Morgan, who left legacies to many of his employees in England and America. We are glad to learn that Mr. McLeod's services have been so signally and handsomely acknowledged.

Buoyancy of Seeds.—Mr. Lloyd Praeger contributed to the recent meeting of the Royal Dublin Society an interesting communication on the buoyancy of the seeds of some British plants. At the outset of his communication Mr. Praeger referred to the fact that the importance of the question of the buoyancy of seeds in water in connection with the dispersal and distribution of plants has been long recognised. The experiments of Darwin, Martins, Thuret, and Guppy lead to the generalisation that only about one-tenth of a flora bear seeds capable of more than a very brief period of buoyancy. The present experiments were undertaken in order to furnish further data for a study of the dispersal of our native species. Hitherto results were available for about 330 native species, but the number of species tested is now raised to 900. The results bear out the conclusion already mentioned; also Guppy's conclusion that the buoyant seeds belong mainly to maritime and marsh species. Some results relating to fresh and dried fleshy fruits and also to fruiting branches were given.

Origin and History of Garden Vegetables.—Those who have had the pleasure of hearing the Rev. Prof. E. Henslow, V.M.H., lecture upon the origin of our popular vegetables, will be glad to learn that the Royal Horticultural Society has now issued a reprint of the professor's lectures in booklet form, at 2s. There are 71 pages of matter, many reproductions from old illustrations of vegetables, and an excellent index. The title of this interesting and valuable reprint is "The Origin and History of our Garden Vegetables, to which is added their Dietetic Values."

Research Scholarships in Agricultural Science.—The Board of Agriculture propose to award in October next 12 research scholarships in Agricultural Science, of the annual value of £150, and tenable for three years. These scholarships have been established in order to train promising students under suitable supervision, with a view to their contributing to the development of agriculture, either by carrying out independent research or by acting in an advisory capacity to agriculturists. They will be granted only to students who show distinct promise of capacity for advanced study and research in some one of the sciences bearing on agriculture. Applicants must be graduates of a university or holders of a diploma of a university or college of university rank, and application should be made not later than June 9 next on a form to be obtained from the Secretary, Board of Agriculture, Whitehall Place, London, S.W.

Lime-sulphur Wash and Potato Disease.—In the summer of 1912 experiments were conducted at the New York Agricultural Experiment Station for the purpose of testing the relative merits of lime-sulphur wash and Bordeaux mixture as a preventive of potato disease. It was found in the trials that while the Bordeaux mixture greatly reduced the percentage of diseased tubers, and increased the bulk of the crop, the lime-sulphur wash had comparatively little effect as a preventive of disease, and reduced the yield, as compared with the unsprayed plots. The wash is described as having scorched the tips of the leaves, and caused them to die off prematurely.

Eradication of Meadow Saffron.—Two implements have recently been described in the German journals which have been designed for the eradication of the Meadow Saffron, Colchicum autumnale, from meadows. One of these consists of a digging iron, to which pieces of iron or steel are fixed cross-wise with the lower edges sharpened for cutting. In use the implement is driven into the ground over the colchicum, and the corm is cut to pieces and the portions quickly decay. The other implement is a short, three-pronged iron, moving on a hinge, and fixed at the end of a digging iron, resembling a crowbar, with the lower part somewhat flattened. On the implement being driven into the ground, the prongs close in an upward direction, but, on turning it round in the ground, so that the prongs are underneath the corm and in pulling it up the prongs open and grasp the corm from below, so that it can be pulled out of the ground. So far it has not been found possible to clear the ground in a shorter period than two or three years. It is, therefore, of some importance to know that in a similar period the colchicum can be eradicated by the use of a heavily-weighted bush-harrow. This implement is

...over the ground twice in the autumn ... an interval of two or three days, and ... observing the flowers the following ... seeding is prevented. The meadow ... is a poisonous plant, and therefore ... should not be allowed in meadows ... which it is growing.

Colour in Flowers.—In the course ... highly interesting lecture given before ... members of the Royal Institution, Dr. ... Frankland Armstrong stated that the ... extracted by alcohol could be ... as a separate deposit, and the ... petals still be able under certain ... to assume fresh colour-adornment. The present hypothesis was that ... colourless substance, chromogen, was ... into pigment by oxidation. This ... easily brought about in the plant cells ... means of oxydases. The two factors, ... and oxydase, were necessary to ... production of colour, and if either was ... there was no colour. Considerable ... had been made in unravelling the ... presented by colour, which ... two types—the plasteid pigments, ... in water, generally yellow or red, ... the carrot or tomato, and the soluble ... anthocyanin pigments, red, rose, ... blue, and other shades of which ... garden flowers afforded examples. A ... might be coloured by either type or ... both.

Afforestation in the Black Country.—The Midland Re-afforesting Association continues its excellent work of planting timber trees upon the ugly pit-mounds and slag-heaps of South Staffordshire. The annual meeting was held at the University Buildings, Birmingham, this week, and Sir Oliver Lodge, who presided, stated that a grant of £100 had been promised from the Development Fund for the ensuing year, and so their work was receiving Government recognition. A scheme of experimental planting is to be drawn up and presented to the Board of Agriculture. The actual area the Midland Society would like to see planted is 14,000 acres, but the work is severely limited by lack of funds.

Wages of Kew Gardeners.—The claims of the working gardeners at Kew for higher wages are stated in a leaflet by Mr. William Purdom, secretary of the Kew Gardens Employees' Union. It is said that about fifty gardeners are employed at a wage of 21s. per week, while the labourers employed receive 23s. and 24s. Both classes of employees work from 6 a.m. to 6 p.m. in summer, and from daylight till dusk in winter; while the labourers have a half-holiday every Saturday, the gardeners only receive this every other week. It is also pointed out that, while the gardeners at Kew have a wage of 21s. per week, those working in the Royal parks receive 27s., and gardeners in the parks under the London County Council receive from 27s. to 30s. The official reason for this difference is that the gardeners at Kew enter the Royal Gardens, Kew, for the improvement of their knowledge of the scientific and practical aspects of horticulture, and, with reference to this, Mr. Purdom says: "The gardeners enter the service at Kew as skilled workmen, and are treated as such throughout their stay, with the exception that they are not paid even at the rate of unskilled workmen."

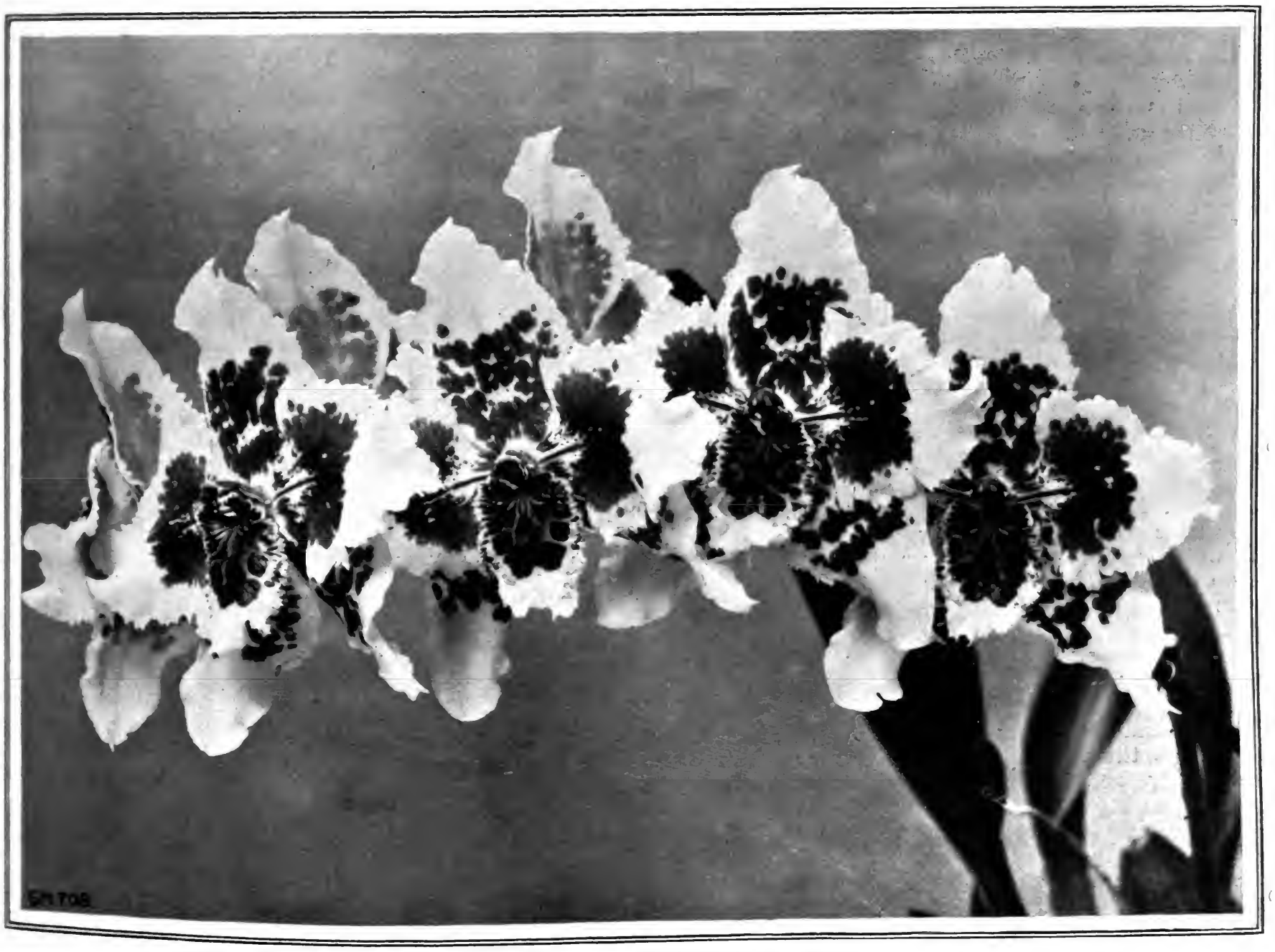
Tobacco Culture.—According to a statement recently made by Mr. Runciman one hundred and twenty-eight acres have been approved by the Customs for the cultivation of tobacco in Great Britain.

FEIJOA SELLOWIANA.

A dozen years or more ago attention was directed to this myrtaceous shrub as a promising fruit for the warmer regions of the globe. It was first introduced by the late M. E. André in 1890, but it was some years after before it was generally distributed. It is a native of Southern Brazil and Uruguay, where it is said to attain the dimensions of a large shrub or small tree. From a botanical standpoint it is very nearly related to the guava, and the fruit is reported to be equally delicious. I am not, however, aware if it has fruited in this country, or, even if it has, whether the fruits are such as to merit the praise which has been bestowed upon them. From a decorative point of view, however, this Feijoa is well worth growing, for when in bloom it is decidedly striking. A specimen is trained up the end of the Economic House at Kew.

As it is but little known, a brief description of this Feijoa may be useful. It forms a freely-branched shrub, whose rather slender shoots are clothed with oblong-shaped leaves, three to four inches in length, and of a deep green tint. The flowers, which are borne in small clusters, are individually, when fully expanded, about a couple of inches across, and composed of four fleshy petals of a curious hooded shape. These petals are purplish inside, and almost white on the exterior; but, owing to their hooded shape, set up by the incurving of the edges, the outside with its paler tint is exposed. As with other members of the myrtle family, the long, slender, bright red filaments, with yellow anthers disposed in a brush-like cluster in the centre of the flower, form a very conspicuous feature of the inflorescence.

K.



ODONTOGLOSSUM AMABILE VAR. ZEUS.

Flowers pure white, with rich rosy-crimson markings. A.M., R.H.S., April 29. Lieut.-Colonel Sir George Holford (gardener, Mr. H. Alexander), Westonbirt, Tetbury.

MAY-TIME AMONG THE ROSES.

With an early Whitsuntide some ardent rosarians may, perhaps, have more time at their disposal than usual, and a few notes may be welcome. At all seasons there is quite a lot of important work to be done in the rose garden during this month, when all life is abounding.

In mid-Sussex we have apparently been much more fortunate than in the Midlands and North, from which places I am receiving quite a shoal of letters bemoaning the almost entire loss of our generally hardy Wichuraianas and Ramblers. My own have not completely lost their leaves, and in many cases have not had their soft points checked, except in a few exposed situations. At the time of writing these are carrying long, young growths, springing from the best and partially-ripened eyes on last year's rods. It seems rather strange, that, although these and a few others in sheltered places are so forward here, we are by no means earlier than usual with our hybrid perpetuals, teas, and hybrid teas, in the more exposed beds. At present I look for a good season, seeing we have the first and important essential of well-ripened and frostless wood except among these few precocious growers.

The disbudding of rose growths, noted in April, should be very general now, for one should be able to decide before so many of our early and mid-June varieties open. The early battle against insects and mildew may also be urged, for we cannot well do worse than allow these enemies to get a firm holding.

Should warmer weather set in, there will be considerable progress in the growth of maiden roses, budded last summer. On looking over our own I am quite satisfied by the way they have come through the winter, so far; but fear our northern friends can scarcely say the same, according to their reports of what should have been sound and hardy growth. By the end of the month our dwarf maidens will need careful suckering, the soil cleaned and loosened around them, some soft and suitable mulch used, and the surrounding soil drawn up towards the young roses. Our own rows strongly resemble earthed-up potatoes, and when this is done carefully there is a considerable support afforded to the young plants. They are not only sheltered a bit, but helped against wind, while at the same time earthing assists a junction of rose and stock. But wait until the bud has moved, and do not actually cover it.

If you are forward not a few of these dwarfs will need heading to secure stout and bushy plants. In the case of a few varieties, grown in the maiden stage chiefly to procure good exhibition blooms, no heading will be needed. I allude to Horace Vernet, Louis Van Houtte, Alfred K. Williams, Baroness Rothschild, Comtesse de Ludre, Gloire de Chedane Guinoisseau, Gustave Piganeau, Ulster, and Xavier Olibo, from the hybrid perpetual section; while from the hybrid teas we may select Lady Mary Fitzwilliam, White Lady, Tennyson, G. C. Waud, Lyon Rose, Mrs. David McKee, Mrs. Theodore Roosevelt, Pharisaer, Queen of Spain, and William Shean, which have come better with me for that purpose when not headed at the first.

This reminds one of the need for some support to dwarf maidens, and whatever is used give a little thought to the average growth of each variety. Let your supports be of three distinct lengths, not using a five or six-feet sticks for a moderate grower of a little over eighteen inches, or a two and a-half feet one as support for an extra vigorous grower or climber. Some of the latter may need a stout stake standing six feet or more from the ground. The plants not only look vastly better, but enjoy more of the necessary light and air when staked with a little judgment.

The stems of standards will need attention, and suckers removed. One can manage a large quantity in a short time if the work is done while the shoots are young and soft.

Some of our wall roses may be very dry at the roots even thus early in the season, especially when planted close to cellars and basements. Water freely with weak liquid manure as most of them will be carrying nearly full growth, and be imposing a great strain upon the roots now.

ROSARIAN.

GROUPING ALPINE PLANTS.

There is much to recommend in the more natural massing of the plants that are employed to furnish rock gardens than that which at present obtains.

The charm and fascination of the alpine flora, as seen in its native habitats, is due, in great measure, to the widespreading drifts which present distinct aspects of vegetation, both as regards colouring and habit. This lends character and fine effect, and it is to be deplored that many rock gardens, the construction and planting of which has involved a big outlay, lack these essentials to real success.

Apart from the fact that many rare gems come to grief when called upon to enter into competition with species that have little to recommend them beyond a rampant habit of growth, the dotting of mixed plants over the whole surface spells mediocrity. It is of vital importance that the grouping be carried out in a free and natural manner, and he who is wise in his generation will inspect and gather inspiration from the splendid examples that exist at Kew and other large public gardens. In this way, backed up by personal taste, artistic perception, and an innate love for the subjects dealt with, formality will be conspicuous by its absence.

I am not quite sure as to whether the practice of planting coarse and sometimes irrelevant subjects in newly-formed rock gardens, with a view to hiding a good deal of its surface until the legitimate inmates have made their presence felt, is a good one. At any rate, it may be said with truth that where they are allowed to deprive the alpines of light and sunshine it is a huge mistake, and, to my mind, the better plan is to steer clear of obstacles, and to do everything possible to bring about a well-furnished rock garden without calling in the aid of temporary plants.

WALTER H. AGGETT.

Hovea Celsi.—In the days when hard-wooded plants were so universally grown this was regarded as a good test of the cultivator's skill, for very careful attention was needed in order to have it at its best. It is a native of Australia, and, like many other old-time favourites, belongs to the natural order Leguminosæ. It is of rather rambling habit, and needs to be pinched freely when young in order to lay the foundation of a bushy specimen. The leaves, which in shape are narrowish and ovate, are of a deep green colour, while the pea-shaped flowers, borne in clusters in the axils thereof, are of a beautiful deep blue. It is also known as Hovea elliptica.—K.

FRITILLARIA PERSICA.

The culture of the majority of the Fritillaries is by no means a simple matter, but the subject of this note has the merit of being one of the easiest to grow of the whole race, which is, as a rule, not especially adapted to ordinary border culture. The stately Crown Imperial (F. imperialis) is certainly, in common with F. persica, by no means exacting in its requirements, and grows vigorously in the herbaceous border, where its large, pendant bell-shaped flowers, clear yellow or orange-red in hue, give a welcome spot of colour in the early spring.

F. persica, though admittedly inferior to the Crown Imperial in brightness of colouring, is an interesting and attractive plant of graceful habit, but is seldom met with in gardens. Strong specimens throw up flower-stems over three feet six inches in height, the upper sixteen inches of which carry blossoms. As many as thirty blooms are sometimes carried on a single spike. The flowers are of shallow bell-shape, drooping, and nearly an inch in diameter. They are brownish-purple in hue, much the colour of a Black Hamburgh grape, and have a grape-like bloom. On reversing the flowers, the golden anthers are seen to contrast charmingly with the dark interior. The leaves are lanceolate and glaucous green in tint, the lower ones being six inches in length and one inch in breadth, diminishing in size as they ascend the stem.

This fritillary flourishes in heavy or in light soil, and in sunny as well as partially-shaded positions, while moisture, which is indispensable in the case of some species, is not necessary, since the plant may be seen making good growth and flowering well in dry borders. A bulb once planted generally makes good progress, the flower-spikes increasing in number and size as the years pass. The plant is of robust constitution, and is perfectly hardy in the southern counties. The plant is elegant in growth, and has a striking and unique personality, which renders it welcome in the border. It has this year bloomed fully three weeks earlier than its usual season.

WYNDHAM FITZHERBERT.

EPIPHYLLUM MAKOYANUM.

This is totally distinct from the well-known Epiphyllum truncatum, which is represented in our gardens by several varieties. While the growth of S. Makoyanum is a good deal after the manner of that of E. truncatum, it differs markedly in other respects, as the flowers are scarlet, and as regular in shape as a cactus, being thus totally unlike the oblique blooms of E. truncatum. Furthermore, this last flowers in the winter, while E. Makoyanum blooms in the spring, or even in early summer. There is a nearly allied kind, E. Gaertneri, which is a good deal like E. Makoyanum; indeed, the difference between the two is only apparent on close inspection.

Both these can be grafted on to the pereskia as readily as E. truncatum itself, and they succeed under just the same treatment. A method not often seen, but a very effective one with both these sections of epiphyllum, is to train a strong shoot of pereskia up the rafter or roof of a warm greenhouse on which the sun shines. When sufficient space is covered with the pereskia it is then grafted here and there with the epiphyllums, and as they grow and form tufts on the branches they have at all times a singular, and when in full bloom, a striking effect. S. W.

THE GREAT INTERNATIONAL HORTICULTURAL EXHIBITION AT GHENT.

VIEW IN THE GREAT EXHIBITION HALL, GHENT,
In which Azaleas, Carnations, and Rhododendrons were the chief features; the Carnations are shown on the right.

IN connection with the first great Universelle Exposition held at Ghent, Belgium, the Société Royale d'Agriculture et de Botanique de Gand held its seventeenth quinquennial horticultural exhibition from Saturday, April 26 to May 4. On previous occasions the exhibition has been in the Casino and a temporary building, but now a large new site has been obtained close to the Exposition Générale, and upon it a superb new central hall, covering over four acres, with annexes and salle extending the covered area to over seven acres, has been built, and a magnificent building will remain as a souvenir of the greater exhibition. Would that we horticulturists had such a hall in London for flower shows. At present the Royal Horticultural Hall is admittedly all too small for the majority of exhibitions, and the Crystal Palace is also too far from the City of London for most people.

Let us say at once that the exhibition was not so varied in character as our own International, but far more effective, because under the care of M. Bervenich, it was disposed as a great, well-balanced garden, with long beds, borders, banks, and winding paths, while the painted scenery in several parts of the great hall carried on the area apparently to an immense distance. The paths were not, as is usually the case in this country, formed with a strong yellow gravel that clashes with many of the flowers exhibited, but with sand of very subdued colouring with a faint tint of green. This sand was pleasant to walk upon and restful to the eye, and in general appearance suggested a walk through a woodland glade on which moss had begun to make its appearance.

The main building was devoted to azaleas and other subjects that either thrive in the temperature of a greenhouse or conservatory, or are quite hardy; the orchids found a home in the series of large salons; and the stove plants, remarkable for the beauty of their flowers or foliage, were arranged in the large salle on the north side of the main building. This structure was heated with a well-arranged system of hot-water pipes, which were placed in grating-covered tunnels along the middle of the principal walks, and maintained a temperature sufficient for the plants, and not so high as to be unpleasant to the visitors. As is customary at the horticultural exhibitions held in this old Flemish city, Indian azaleas were shown in immense numbers, and in all sizes, ranging from small plants with heads twelve inches or so in diameter, to huge specimens six or more feet in diameter. The immense space given to these greenhouse shrubs is explained by the fact they form one of the great features, if not the greatest feature, of the nursery trade of the district of which Ghent is the centre. Arranged with more or less taste in the great hall, the display of colour was such as to suggest a vast azalea garden of dazzling splendour. The colour effect was almost too brilliant, notwithstanding the skill with which the light had been subdued by the thin canvas cleverly suspended from the roof. Therefore, as the eye ranged over the vast masses of colour, one could have wished that a few tall palms, with wide-spreading leaves or tree ferns of large size, had been arranged at suitable intervals on the floor of the building to form a relief to the great areas of brilliantly coloured flowers.

JUDGING.

An exhibition that includes 841 classes, besides non-competitive displays of great size and merit, needs a small army of judges to make certain that the prizes are awarded promptly. Judging commenced on Friday, April 25, the jury assembling at 8.30 a.m., when they were welcomed by M. Callier, the president. At the roll call every member of the jury received a packet

containing a schedule, a pocket-book and pencil, cards of admission to certain social functions, a red note to be exchanged next day for a complete catalogue of classes, exhibitors, jurors, and prize-winners, and a neat little silver-gilt medal-like souvenir, which, pinned on the coat, secured for its wearer free entrance to the exhibition, and, incidentally, the salutes of every gendarme and official.

About three hundred and fifty jurors, gathered from Belgium, England, Ireland, Scotland, France, Germany, Italy, Switzerland Austria, Denmark, Egypt, Spain, Holland, Luxembourg, Russia, and Sweden were grouped into forty-nine sections, each with its own president, secretary, and two commisaires; indeed, everything was done to expedite the work, and secure the publication of the awards at the earliest moment.

The Britishers who answered to the roll call were Sir Harry J. Veitch, "President d'Honneur General"; Messrs. J. S. Brunton and R. Ker, vice-presidents; Sir F. Moore, Sir Jeremiah Colman, and Messrs. H. Alexander, Jas. Backhouse, C. H. Curtis, W. Cutbush, R. Cuthbert, W. Cuthbertson, C. Englemann, R. Findlay, George Gordon, V.M.H., J. J. Guttridge, John Heal, V.M.H., James Hudson, V.M.H., Stuart Low, F. Menteith Ogilvie, J. S. Moss, Jas. O'Brien, W. H. Page, George Paul, V.M.H., C. Harman Payne, Chas. E. Pearson, R. Hooper Pearson, H. T. Pitt, A. R. Rolfe, H. F. C. Sander, C. H. Taudevin, Arthur Turner, P. C. Veitch, W. Watson, Jas. Whitton, J. Weathers, and J. Gurney Wilson.

SOCIAL FUNCTIONS.

The Ghent Society fully recognises the value of social functions. There was luncheon to the jury in the Casino on Friday, a Raont at the Bourse du Commerce on Sunday morning, and the dinner to the jury and officers at the Casino on Sunday evening, all of which were agreeable functions, and enabled horticulturists of many nationalities to meet and renew friendships. M. Callier, the president of the society, and M. Jules de Cock, the indefatigable secretary, were ever ready to render assistance.

As there were an unusual number of Britishers present on this occasion, it was suggested on the Friday that there should be a British gathering at the Hotel de la Poste on Saturday evening, so Sir Frederick Moore and Mr. R. H. Pearson arranged matters, and Sir Harry J. Veitch, V.M.H., President-General of the Jury, occupied the chair. Those present were: Sir Harry Veitch, Sir Jeremiah Colman, Sir F. W. Moore, Messrs. W. Watson (Kew), W. Cuthbertson (Edinburgh), J. Whitton (Glasgow), Professor Newstead and Professor Stevens (Liverpool), C. Harman Payne (Catford), W. Pettigrew (Cardiff), J. Guttridge (Liverpool), R. H. Pearson ("Gardeners' Chronicle"), Stuart Low (Enfield), P. C. Veitch (Exeter), H. Alexander (Westonbirt), R. Cuthbert (Southgate), George Gordon and C. H. Curtis (Gardeners' Magazine), W. Cutbush and L. Cutbush (Highgate), J. Weathers (Isleworth), F. Sander, Fritz Sander, and Louis Sander (St. Albans), Jas. Hudson (Gunnersbury), C. E. Pearson (Lowdham), J. S. Brunton (Burnley), W. H. Page (Hampton), John Heal (Chelsea), R. Ker (Liverpool), G. Wolfe (Bathgate), George Paul (Cheshunt), J. Collier (Reigate), C. Taudevin (Cheltenham), A. Findlay (Glasgow), J. Frogbrooke (Leyton), T. Bevan (Finchley), S. Brooks (Finchley), A. F. Dutton (Iver), C. Englemann (Saffron Walden), Arthur Turner (Slough), H. T. Pitt (Stamford Hill), J. S. Moss (Bishop's Waltham), J. Willis (Harpenden), Cairns (Glasgow), and J. McKercher (Highgate).

The toasts of "His Majesty King George," and "Their Majesties the King and Queen of the Belgians" were duly honoured at this gathering, and then Sir Harry Veitch gave "Continued Prosperity to the Ghent Quinquennial Exhibitions," and, in doing so, said that it was 51 years ago since he first came to a Belgian exhibition. Since then he had seen great changes in the style of the show and in its personnel. He referred to the several outstanding features, and especially to the "Yellow Pæony." Sir Jeremiah Colman proposed "Horticulture" in very happy fashion, and alluded to the growing taste for plants and flowers. Sir Frederick Moore gave "The British Jurors," and made a very hearty and breezy speech, in which he referred to the pride all felt that Sir Harry Veitch had been appointed President-General of the Jury. Britishers had turned out well on this occasion, and had not only come over themselves, but exhibited orchids and carnations in grand style to uphold and advance British horticulture. Mr. W. Cuthbertson and Mr. Pettigrew replied, and each said that some things in connection with a great exhibition were done better on the Continent than at home, and it was as well to take note of them. Mr. Cuthbertson emphasised the difference between the judging arrangements of Chelsea in 1912 and of Ghent in 1913, to the detriment of the former. Mr. George Paul very happily gave "Our Chairman," and feelingly alluded to their friendship of over sixty years, commencing with the days when both were at school together in Germany, and to the high position Sir Harry holds in the world of horticulture, and to his great kindness to all in need of help. Needless to say, this toast was received with great enthusiasm, cheers and musical honours. "Auld Lang Syne" concluded these unique proceedings.

Curiously enough, the Dutch growers dined together the same evening at the same hotel.

ORCHIDS.

Never before have orchids been so nobly exhibited at Ghent as on this occasion. Several salons downstairs and a series of handsome salons upstairs were filled with the choicest of these choice plants, making together a galaxy of elegance, glowing colour, chaste beauty and grace that merited and received the commendation of everyone who saw it. At previous quinquennial exhibitions there have been several small orchid exhibits of rather poor quality, and these detracted from the general effect, but this time every display was good; some were of extra merit, and a few were super-excellent. Our Belgian friends scored heavily, the leading amateur and trade growers showing their very best plants, splendidly grown and in fine style. The outstanding features were the glorious Miltonias from M. Jules Hye de Crom, the grand general exhibit from M. Firmin Lambeau, the odontiodas from M. Vuylsteke, M. Pauwels' cymbidiums, and Messrs. Charlesworth and Co.'s exhibit.

Just as Sir George Holford's collection was the great feature of the 1908 exhibition at Ghent, so on this ocasion the glorious and magnificent contribution made by Mons. Firmin Lambeau, Brussels, was the outstanding feature among the orchids. M. Lambeau secured the king of the Belgian's prize for the finest orchid display, and the award was well deserved, as it filled a very large salon and the hybrids and varieties were of the highest excellence, but if we offer a word of criticism it is only that the arrangement of the larger group was a trifle flat. When we being to discuss individual plants of great merit, the difficulty of ever stopping at once commences, and visions of a big catalogue of rarities rises in the mind's eye. However, we must make note of Brasso-cattleya Vilmoriana, the yellow B.-c. Leemannæ, B.-c. Ministre Helleputte, B.-c. Princess Elizabeth var. Madame Lambeau, and the delicate blush-tinted B.-c. Langleyensis, with four glorious flowers. Then, too, there were the golden L.-c. Lucia, and the exquisite golden-salmon L.-c. Firmini var. Ville de Gand, Cattleya Dusseldorfi var. Undine with a half-dozen pure white blooms, Phaius Norman, Odontioda Vuylsteke, O. Charlesworthi, O. Vesuvius of brilliant hue, and the wonderful O. Coronation, carrying fifteen magnificent scarlet, rose and yellow flowers. Besides all these there were literally hosts of high-class hybrid odontoglossums, fine forms of Cattleya Trianæ, and C. Schroderæ, and C. Mendeli, the bright Rananthera Imschootiana, and golden panicles of oncidiums with long, graceful spikes of Cymbidium Pauwelsi, C. Alexanderi, and the C. insigne from which these have been derived. Put in palms for a background, maidenhair fern for a ground work, a neat plaited wickerwork margin, and imagine the whole occupying a space about 60ft. by 8 or 10ft., and you have a faint idea of M. Lambeau's chief group; but he had three other groups in the same room, wherein the finest things were L.-c. Roi Albert, of L.-c. Dominiana style; Cœlogyne pandurata, a big cymbidium Humblotii, Eulophiella Elizabethæ with six spikes of dainty flowers, a long, graceful, and elegant Odontoglossum Phœbe, one of the finest of the O. cirrhosum crosses, and Odontoglossum Ville de Gand, a glorious hybrid with red, brown, and white colouring, and fringed petals.

Mons. Jules Hye de Crom, Ghent, came forward with a contribution of gorgeous orchids set in a large case; his varieties of Miltonia vexillaria were superb, but his odontiodas were equally fine, especially O. Vuylsteke, O. Bradshawiæ, O. Albert Hye de Crom, rich rosy crimson, Cattleya Schroderæ alba, var. Louis de Hemptinne, C. speciosissima alba The Empress, the long, white, yellow-lipped C. Suzanne Hye de Crom, and its var. eburnea, and Cymbidium Pauwelsi were all good. Exquisitely beautiful was Cattleya Schroderæ alba var. Louise Pauwels, a fine white form, while even finer, because so distinct, was Miltonia Madame Jules Hye de Crom, with large, solid, pure white blooms of most beautiful texture, with a purple flush at the base of each petal and a butterfly-like blotch of crimson-maroon at the base of the lip, with lines radiating into the whiteness of the larger area. This magnificent orchid had nine flowers, the largest nearly four inches deep, and three inches broad. Mons. and Madame Jules Hye had each a fine exhibit of miltonias, the forms of M. vexillaria showing a very fine range of colouring; with these were the beautiful M. Hyeana, M. Bleuana, and M. Bleuana nobilior; some specimens of M. vexillaria carried a dozen spikes, and every plant was perfectly grown. M. Hye de Crom was awarded many prizes, including a special work of art.

Mons. Charles Vuylsteke, Loochristy, Ghent, had a most attractive exhibit of seedling odontoglossums and odontiodas, carefully set over asparagus and moss in a huge glass case. We are not so startled now by M. Vuylsteke as a few years ago, but nevertheless he had some wonderful things on view, especially among the odontiodas. O. Blushing Bride had rounded flowers, white, heavily flushed with rosy blush, and with a heavy yellow crest on the white lip; O. Pierrot has the purest white ground flowers of good shape, the centre of each sepal and petal marked with very pale red-brown, this is most distinct, and adds to the range of colouring among odontiodas; O. Gloria Mundi would have set us all on fire had we not seen his splendid O. Coronation of a year or two ago; O. Gloria Mundi is crimson-scarlet on a blush ground, and the flowers are as large and finely-formed as those of a first-class odontoglossum. O. Proserpine is of the Bradshawiæ type; O. Brilliant has lovely, deep rose-coloured flowers; O. Vuylstekæ Roi des Belges has purple shading; while O. Vulcan has intense crimson colouring. Among the odontoglossums in this case the most striking were O. Saturnus, almost wholly coloured with deep blue-purple; O. Diamant, pure white; O. Queen Elizabeth, purple spotted over white; O. excellens Themis, large yellow; O. Armide, deep crimson-maroon, and O. Pomone, almost a blue odontoglossum.

M. Comte de Hemptinne, St. Denis, Westeren, Ghent, secured a gold medal for a delightful group of varieties of Odontoglossum crispum, every spike representing a fine form of this old species, but invariably the varieties were light-ground ones, heavily-blotched flowers being conspicuously absent. The Comte won a first prize for a Brasso-cattleya with B.-c. amabilis var. Madame T. Pauwels, with a gorgeous orange lip. He further secured a work of art for a group in which odontoglossums were conspicuously good and

cuvillias very showy. Brasso-cattleya Ingleton, a pure white hybrid between B. Digbyana and C. Trianæ alba was greatly admired and much commented upon. The Baron de Hemptinne's Cymbidium Lowianum, carrying five and twenty spikes, was an enormous specimen.

M. Maurice Verdonck, Chaussee de Brusegh, Goedbrugge, filled one salon with a brilliant assemblage of interesting orchids, and he had arranged his plants roughly in geographical sections. Many medals fell to his share. In the larger group his batch of Cymbidium Jamesianum was an attraction, and seldom is this white-flowered species seen in such good condition; Oncidium Marshallianum and O. splendidum, odontoglossums in great variety, cypripediums we have almost forgotten all about in these days of abundant hybrids; Dendrobium densiflorum with over a dozen spikes, Cœlogyne Massangeana with long drooping spikes; Phalænopsis Rimestadiana and Cattleya Schroderæ massed in great style, and a batch of varieties of Odontoglossum crispum were among M. Verdonck's chief successes.

De G. Ballion, a Ghent amateur, was awarded a gold medal for a delightfully-arranged group of oncidiums, odontoglossums, and odontiodas, with a fine Phalænopsis Schilleriana. Cymbidium Pauwelsi and the superb Brasso-cattleya Mariæ with huge purple-fringed flowers, and the new albino cypripedium memoria Alma Gevaert, derived from Maudiæ were a few of the most striking plants.

With a mirror to obtain effective reflections, and a high pyramid of Renanthera Imschootiana, mixed with Phalænopsis Rimestadiana and dark forms of Dendrobium Wardianum, M. Praet, Mont St. Amand, made up a showy exhibit. In the foreground Miltonias were associated with the golden Oncidium concolor, and there were splendid Brasso-cattleyas. Lælio-cattleya Hycana superba, and a four-spiked specimen of Miltonia vexillaria leucoglossa, with a fine example of Odontioda Vuylstekeana were among the finest plants in the centre of the display. M. Praet secured a work of art and a gold medal.

M. Charles Dietrich, Chateau Val Duchesse, Anderghem, had a most delightful group of orchids in the salons upstairs. It filled the width of a large room, and was composed chiefly of grand Brasso-cattleyas, cattleyas, and lælio-cattleyas. B.-c. Imperatrice de Russie with six flowers, B.-c. Vilmoriana with Mossiæ-like throat, B.-c. Maronæ, B.-c. Thorntoni, B.-c. Lehmanæ, and grand varieties of Cattleya Mendeli and C. Schröderæ were greatly in evidence, and produced a noble effect, to which the odontiodas and odontoglossums lent added grace. A work of art fell to M. Dietrich's share of the spoils. Lælio-cattleya Lucia inversa, one of the Charlesworthi breed, a strong grower carrying about half a dozen blooms on each 30in. spike, was well shown by Messrs. Vacherot and Lecoufle, Boissy, St. Leger; a score of plants were shown and there were three and twenty spikes. In some cases the sepals and petals were quite yellow, while in others they were salmon-buff, but the lip was ruby-purple all through.

A forest of spikes of Odontoglossum crispum, arranged over maidenhair ferns, was shown by Messrs. Duchesne and Lanthorne, Watermael, Brussels, and as the varieties were almost all white ones, this was a very chaste display, and one that commanded the attention of all the lady visitors. A gold medal fell to Messrs. A. and G. Jannsens, Merxem, Antwerp, for a collection of orchids wherein Miltonia vexillaria was very fine, with Cattleya Schröderæ, the bright C. Lawrenciana, C. Mendeli, Cymbidium Pauwelsi, and the deep crimson-purple Odontoglossum crispum roseum. A corner group of Phalænopsis Rimestadiana was very effective, chiefly because the exquisite white flowers, borne on graceful spikes, were placed in a dark corner of a rather dark salon, and against a dark background. The beauty of these blooms, and the number of plants growing on a central branching tree stump, arrested attention from those passing through to see the floral designs.

M. C. Maillard, St. Andre lez Lille, won a gold medal for a collection of varieties or hybrids from odontoglossums, and in a very attractive group he had O. concinnum, O. eximium, the yellowish O. Loochristiense, O. Aireworth with bluish tinting; O. Doris, O. Charlesworthi, carrying a patent of nobility in its Harryanum lip; and the very charming Odontioda Ajax, with yellow lip and rosy-crimson sepals and petals.

Lastly we come to the Salon Pauwels, a smaller room than the one occupied by M. Lambeau, but one that was grandly filled by Messrs. Theodore Pauwels and Co., Meirelebeke, Ghent, with splendid orchids arranged with great taste and grace. A bank of Phalænopsis Sanderæ, P. Rimestadiana and P. Schilleriana, had an edging of Oncidium concolor. The noble Eulophiella Hamelini, carrying heads of big rose-purple flowers on stout spikes 5ft. high, was the central feature of one mound; each spike carried over two dozen fleshy blooms. Behind this rose Cymbidium Alexanderi and the pink forms of C. Pauwelsi, while a fine Chysis-bractescens hung high over all. The finest grouping, however, was of miltonias, cattleyas, Oncidium concolor, and odontiodas, but it was the background of somewhere about fifty grand spikes of Cymbidium Pauwelsi (C. Lowianum and C. insigne), set over Cattleya Schröderæ and Dendrobium Schröderianum, that was the grand and striking feature of a glorious exhibit. Nothing like such a display of splendid cymbidium spikes has ever been seen at once before. Messrs. Pauwels received hosts of medals for such gems as Lycaste Skinneri Hellemensis, deep rose; a fine branching spiked Phalænopsis Schilleriana, and a well-grown and especially fine form of Cœlogyne pandurata with eight very large green and black flowers; a huge Masdevallia Harryana; Cypripedium Alcibiades Roi Albert, with wonderfully broad, white, green-based dorsal sepal; a grand white form of Lycaste Skinneri named La Perle, a real beauty; and for Odontioda Vuylstekeæ Reine des Belges, a richly-hued beauty in the way of O. Coronation, but with rosier ground colouring. Besides gold, silver-gilt, and silver medals, the Messrs. Pauwels secured the fine work of art offered by M. Firmin Lambeau.

AN EFFECTIVE DISPLAY OF PALMS AND FERNS, GHENT.

BRITISH-GROWN ORCHIDS.

The larger part of one salon was occupied by Messrs. Charlesworth and Co., Hayward's Heath, this firm bringing over a truly noble contribution to the great show. Palms formed an excellent background, and ferns and moss were used as a base for the growing orchids. Right up amid the palms were the golden spikes of Oncidium Marshallianum and the softer hued Cymbidium eburneo-Lowianum, and the purple Odontoglossum Thompsoni. A comparatively small plant of Cymbidium Humbolti figured near the centre, and all over the group rose charming spikes of Odontonia Edna, Odontioda Bradshawiæ, O. Charlesworthi, O. Diana, O. Lutetia, O. Latona, Odontoglossum illustrissimum Black Prince, O. Wilckeanum

Imperator—a grand variety; O. Dora, O. Aireworth, the heavily blotched O. crispum Ganda, with cattleyas and miltonias in abundance, lælio-cattleyas and brasso-cattleyas, and such choice things as Eulophiella Elizabethæ, with three fine spikes; the black and green Cœlogyne pandurata, Aonia polystachya, with a little cloud of tiny white flowers; a fine form of Phaius simulans, and the bright yellow and carmine Brasso-catlælia Joan, var. Rayon d'or. There were other good things, but these must suffice in connection with a group that was ever a centre of admiring throngs, and which secured a charming work of art as prize.

A splendid bank of orchids in one of the salons was evidence of the enterprise of Messrs. Stuart Low and Co., Bush Hill Park, Enfield. The arrangement was excellent, the evil of crowding having been carefully avoided. There were excellent specimens of Cattleya Trianæ, C. Schröderæ, Dendrobium Wardianum, Lælio-cattleya Dominiana, Brasso-cattleya Imperatrice de Russie, B.-c. Langleyensis, B.-c. Fowleri, Oncidium lamelligerum, with spikes several yards long; Odontioda Charlesworthi, and a fine form of Odontoglossum Harryano-crispum. The group was edged with the drooping spikes of the golden Oncidium concolor. A work of art was awarded to the Enfield firm.

Sir Jeremiah Colman (gardener, Mr. J. Collier), Gatton Park, Reigate, won prizes for Odontoglossum crispum, a lovely large bush-tinted form; Dendrobium Lady Colman, with large purple-tipped sepals and petals, and a grand lip; and for Odontioda Vuylstekæ var. Lady Colman.

NEW PLANTS.

It must regretfully be conceded that new plants were not a specially attractive feature, but it must also be admitted that in these days a really new plant of horticultural value is not easy to find. In place of imported species, however, it must be remembered that hybrids are now abundant, and every month adds new kinds to the ranks of orchids, etc. At Ghent, the finest new plant was a hybrid pæony, and not a rare tropical plant from some far-off land. There was a general regret that the new primulas and the new flowering shrubs from China, with which we have become very familiar at home, were not exhibited at Ghent.

Messrs. Sander and Sons, St. Albans and Bruges, were the largest exhibitors of new plants, and most of the subjects they showed we have previously commented upon, notably Socratea Forgetiana, which we figured last year in connection with the Bruges Exhibition; the quaintly-cut, large-leaved Trevisia Sanderi, from Annam; Dieffenbachia Sanderi, a Peruvian species, with huge green, cream blotched, and almost stemless leaves; the elegant Alocasia Micholitz, with sagittate leaves and white rib and veins on velvety-green ground; Phœnix andamanensis, Maranta Sanderæ, and the huge Alocasia colossa, with leaves about 3ft. by 2ft. on long stems, green, with cream-coloured mid-rib and side ribs. This firm's new Camellia Fred Sander was a great attraction; it has bright red semi-double flowers, the petals broad and somewhat curled, and finely fringed along the margin; this fringing gives the flower a most distinct appearance; eight good plants, 1½ft. high, each carried from six to twelve large blooms.

Polypodium Mandaianum was staged by Mr. W. A. Manda, St. Albans, and New Jersey, U.S.A., and was as much admired here as elsewhere. M. de Smet Duvivier sent a fine creamy variegated form of Ficus australis, quite showy. Mr. Manda also showed a variegated-leaved Primula obconica, which seemed to have sacrificed size of bloom in giving variegation; Fourcroya Watsoni came from the same source. M. Jules de Cock, Meirlebeke, showed Maranta Oppenheimi tricolor, a free-growing and bright variety, with cream, green, and white colouring.

The most striking new plant in the whole of the great Ghent show was a pæony, a lovely hybrid Moutan variety, that bore four flowers, three of them fully expanded, and very much resembling huge salmon-buff double begonias! At the base of each petal, down almost out of sight, was a rich crimson blotch. Everybody persisted in calling this the Yellow Tree pæony, but it was a lovely thing. It flowers naturally early in June, and is quite hardy, and so it misses the late frosts that so often trouble the flowers of P. Moutan. M. Lemoine, of Nancy, told us—and he, by the way, was the raiser and exhibitor—that this new pæony, Pæony hybrida La Lorraine, was the result of crossing P. lutea and P. Moutan var. Queen Elizabeth, the latter salmon tinted.

The comparatively new white, sweetly-scented Viburnum Carlesi was capitally shown by Messrs. J. Blaauw and Co., of Boskoop, and we gathered that it is being grown very extensively in the Boskoop district. This is a charming early-flowering hardy shrub, with rondeletia-like clusters of white, fragrant blossoms.

M. de Smet Duvivier, Mont St. Amand, presented a very pretty, finely-cut maidenhair named Adiantum Makoyanum; Dracæna Deremensis Warnecki, lined with white on green; the deeply-cut Philodendron Duvivierianum, and Pollia condensata, a tradescantia-like plant, with creamy-white and creamy-green variegation on its green, broadly lanceolate leaves; the plant is less than a foot high as shown, and should possess attractions for lovers of stove plants.

An interesting exhibit of plants introduced from China and Japan was made by M. Maurice L. de Vilmorin, Les Barres, Loiret, France. The examples were all small ones, however, and so did not do themselves justice. They were chiefly shrubby kinds, and some of them were quite new, while others have been known for some time. M. Vilmorin published an illustrated catalogue of these introductions, and members of the jury were able to take one, and thus the collection was rendered the more interesting. In this catalogue were coloured illustrations of Pyracantha crenulata Yunnanensis, Pinus Armandi, Chrysanthemum indicum, and Rodgersia pinnata superba.

NEW HOLLAND PLANTS.

Hitherto it has been possible to say in the reports of the Quinquennial exhibitions held at Ghent, that while many of the beautiful greenhouse plants from Australia and the Cape had been practically banished from British gardens, they were still held in high estimation by owners of garden lovers in Belgium. This no longer holds good in an unqualified manner. On this occasion there was evidence that while still grown in considerable numbers in the district of which Ghent is the centre, they are less popular than at any previous periods. The entries in a few of the classes were fairly good, but in some it was otherwise, and, while numerous specimens exhibited were of considerable proportions, some lacked the freshness and vigour which bespeak the close attention and the culture which are usually bestowed upon plants when at the zenith of their popularity. While the display of these plants was not equal to that which we have been accustomed in this old Flemish town, yet the collections shown were such as to form a good feature and to afford pleasure to those who appreciate the distinctive charms of New Holland plants, and have seen with regret their gradual decline in public favour in this country.

Classes were provided for collections ranging from six to fifty plants, and one of the most noteworthy of these was that for six specimens exhibited by M. Firmin de Smet, Vinderhaute-lez, Ghent. This comprised a large finely-flowered specimen of Diosma ericioides, an example of Erica arborea alba, about seven feet in height and clothed with its snow white blossoms from the apex to the rim of the pot, Acacia armata, a huge, densely-flowered bush at least twelve feet in height and fully as much in diameter, and a huge pyramidal specimen of A. verticillata about ten feet high and splendidly flowered. M. F. de Smet obtained the premier award—a gold medal—for a collection of ten acacias distinct, but the specimens differed so appreciably in merit that the group was hardly so satisfactory as one could wish. Some were remarkably fine, while others were decidedly poor. In a second class for large collections M. F. de Smet was again awarded a work of art, and staged many admirable examples of cultural skill.

In competition for the prizes for fifty hard-wooded plants, M. Firmin de Smet was awarded the first prize, a work of art, with the felicitations of the jury, and deservedly so. The specimens were of comparatively large size, characterised by freshness, and finely flowered; and of special merit were Eriostemon linearifolium, probably the finest of all the members of the genus, and Acacia paradoxa, a handsome form of the Armata type. M. Jules de Cock, Meirlebeck, Ghent, was awarded the gold medal for twelve hard-wooded plants, with felicitations, the specimens being of moderate size, but fresh and exceedingly well flowered. The more noteworthy examples were those of Brachysema acuminata, an attractive species of brilliant scarlet flowers, which was regarded with much favour by past generations of cultivators, and large standard specimens of the rich crimson Australian Bottle Brush (Callistemon salignus) and the cream-coloured Sparmannia africana.

Of quite exceptional merit was the group of hard-wooded plants shown and arranged in the western annexe because of the splendid development of the whole of the plants. They were all of large proportions, splendidly flowered, and characterised by the freshness usually associated with plants that have usefulness on their side. Polygala oppositifolia was represented at its best, and Acacia verticillata was simply a huge pyramid of flowers. This fine group was exhibited by Mme. Osterrieth-Mols.

Associated with the New Holland plants in the eastern annexe was a trophy group of stove and greenhouse plants which was arranged in the foreground of a representation of Australian scenery, and produced a striking effect. Conspicuous among the other good specimens were a huge, freely-flowered example of the pure white Rhododendron fragrantissimum, and the rich yellow R. Nuttalli, one of the most handsome of the Himalayan species, a fine example of the brilliantly-coloured Anthurium Scherzerianum Wardi, and a specimen between three and four feet in diameter, and densely flowered of the beautiful soft salmon-red Azalea rosæflora, the finest example of this beautiful dwarf azalea that has yet come under our notice.

Of great interest in this section of the exhibition was the huge collection of New Holland and other greenhouse plants shown by M. Victor Heasset, Ghent, not for competition. The collection included probably five hundred plants, all of considerable size, ranging from begonias to acacias, from agaves to magnolias, and from clivias to eucalyptus. M. Heasset was awarded a work of art for his wonderful collection.

Messrs. Stuart Low and Co. contributed liberally to this section, and were awarded the gold medal for a collection of fifteen specimen New Holland and Cape plants, and silver-gilt medals for ten acacias, distinct, and twenty plants of the fragrant Boronia megastigma.

FERNS.

These elegant plants were freely displayed, and many of the large-growing kinds now rarely grown at home could be seen here, making huge specimens.

A very interesting group of ferns and selaginellas was disposed in one corner of the annexe by Madame Ghellinck de Walle, Chateau de Wondelgen. The selaginellas, in wide pans, were particularly good, notably S. varians, S. Mertensi variegata, M. cuspidata, S. Kraussiana aurea, S. Watsoniana, S. cæsia, the very pretty S. mutabilis, and the tiny S. elegans, S. rubricaulis and S. albo spica. Adiantum Glory of Mordrecht and Nephrolepis elegantissima were the finest ferns.

Lomaria Drapsiana, from M. L. J. Draps Dom, Laeken, is a fine fern with a spread of

five or six feet, its narrowly-divided fronds making up a large rosette of elegant green-ness, nearly four feet high, the young central fronds of paler green rising well above the older fronds. Microlepia speluncæ was a fine example of an old fern, also shown by M. Jules Dom.

The Glory Fern (Adiantum Gloire de Mordrecht) is evidently as much a favourite on the Continent as at home, because of its elegance and its freedom of growth and ease of culture as compared with its near relative A. Farleyense; Messrs. Draps, Dassonville de Forest, Brussels, showed it well, but especially fine were the lovely specimens from Messrs. Bier and Ankersmit, Melle lez Gand, as in these the frilling of the pinnæ was particularly good, and the pink young fronds rose well above the older frondage. This is possibly a variant on the Glory Fern, as it was labelled Roem de Mordrecht. This firm displayed the newer nephrolepis in fine style, and their N. Piersoni compacta was a picture of health and beauty; and so was Adiantum æthiopicum elatum, 6ft. across.

M. Jules de Cock, Meirlebeck, was a large exhibitor of ferns, and conspicuously fine in his prize collection of thirty specimens were them at the Ghent Quinquennial Exhibition, for there they are so largely and well flowered that the glorious colour effects are well-nigh sufficient to take the breath away of those who see them for the first time. There were fifty-four classes for Indian azaleas, of which four were for collections of one hundred plants, and twelve for collections of fifty plants. It is not difficult to understand that, with so large a number of classes, the number of plants shown must be enormous if the classes are well filled. The competition is invariably of the keenest, and it is by no means uncommon to see four or five hundred plants in one class. The conditions of competition are so arranged as to obtain, as far as practicable, an adequate representation of the several sizes of azaleas that are the most plentiful in Ghent; usually the largest number of plants exhibited are those ranging between 18in. and 30in. in diameter. The flower production is simply marvellous, and there are at the Exhibition many hundreds of plants that are so densely flowered as to render it well-nigh impossible to push the point of a pencil down between the blooms without injury to them. The whole of these are arranged in meter, but hardly so attractive and densely flowered as when of a smaller size; M. Louis Chabet, an effective single variety of a red-purple hue, more valuable for the contrast it affords to the brilliantly-coloured varieties than for decorative purposes generally; Madame Leon Chabet, an exquisitely beautiful variety, with large, single, soft pink flowers, which are elegantly frilled at the margin; Phœbus, an effective semi-double variety, with flowers of a brilliant orange-scarlet hue; and Mdme L. Coppé, a charming semi-double variety, with flowers of a soft pink hue, deeper pink in the centre. Messrs. Sander and Sons, St. Albans and Bruges, followed closely for second place, and were awarded a gold medal. Their specimens were a size smaller than those forming M. d'Haene's collection, but they were uniformly perfect throughout, and the varieties included a goodly proportion of those of comparatively recent introduction. Among the finest of these were M. Victor Cuvelier, rich rose-purple, with bright, deep orange-red blotch on the upper segments; Liebig's Superba, a fine variety, with brilliant rose-carmine flowers; Vervaeneana, one of the most beautiful of the salmon-pink semi-

A BRILLIANT DISPLAY OF INDIAN AZALEAS, GHENT.
The plants depicted were the usual nursery size in five-inch pots.

Platycerium grande, P. Willincki, a fine Cyrtomium Rochfordi, its fringed fronds being greatly admired; Polypodium glaucum cristatum, and Adiantum Farleyense. M. de Cock's collection of Stag's-horn ferns was of special interest, because it included Platycerium alcicorne, P. a. majus, P. Hilli, P. grande, P. perfectum, a bold, tall grower; the very broad-fronded P. angolense, P. biforme, P. grande, P. Willincki, and P. Hilli majus.

INDIAN AZALEAS.

Because of the immense extent to which ornamental plants are cultivated by its citizens, Ghent has long been spoken and written of as the "City of Flowers," but it would be almost equally appropriate to designate it as the "City of Azaleas," because of the important position occupied by these flowers in the nursery industry. Indian azaleas are grown to an extent and in a manner that no one who has not been to Ghent, and had an opportunity of seeing the plants in the numerous nurseries, can have an adequate idea of. It might, perhaps, have been more correct to say that those who have not seen the great central hall to form a series of beds and borders; and the enormous masses of scarlet, rose-coloured, pink, and white flowers form a series of displays that have certainly not been surpassed at Ghent or in any other part of the world, and well worth a long journey to see them under such favourable opportunities as those which the quinquennial shows afford.

One of the most important of the many classes provided for Indian azaleas was that for forty specimens, and in this the chief prize—a gold medal presented by the Queen of the Belgians—was awarded to M. A. de Haene, Ledenberg, Ghent, who had a very striking group that was rather unequal in the development of the specimens. Exceptionally fine were the huge examples of Dame Melanie, an exquisitely beautiful variety, the flowers soft pink with carmine blotch; Roi d'Hollande, one of the finest of the scarlet varieties; Temperance, a semi-double variety, with flowers of a lovely mauve shade; Géant, soft rose-red, semi-double; Hexe, the dwarf scarlet variety now so largely grown for Covent Garden Market—the specimen was nearly four feet in diadouble flowers; Baronne de Vrière, pure white, with an occasional splash of bright red; Magnifica, a beautiful rose-coloured form; Julius Roehrs, a highly effective variety, with large, finely-formed flowers of the richest rose-crimson hue; Mdme. J. B. Wolfs, a superb pure white variety, the flowers of the largest size, and remarkable for their substance; Hermann Seidel, a magnificent variety, with glowing rose-coloured flowers; Mdme. Louis Van Houtte, one of the finest of the salmon-coloured azaleas; Frans Zirovi, a beautiful semi-double, the flowers delicate pink, marked with a small, deep pink blotch; Jean Van Eyck, a glorious variety, the flowers of the brilliant hue which renders Roi d'Hollande so valuable for decoration, but much larger and of finer form; and Princess Clementine, a pure white flower of great excellence. Messrs. Sanders' collection was of great educational value, inasmuch as it afforded visitors an opportunity of seeing the finest of the varieties in their respective colour classes in specimen form. An admirable finish was given to the group by a marginal line of plants of Julius Roehrs, and a semi-double, pure

white variety, with heads of bloom about two feet across, and arranged alternately.

In the centre of the great hall was a huge geometrical arrangement of azaleas, which produced a rich display of colour, but its formality detracted somewhat from the general effect. The whole of this display was produced by Messrs. J. B. Haerens and H. Wille, Ghent, and the several collections formed their contributions to a considerable number of classes in which the plants had to be of a quite small size. Some were arranged in wedge-shaped blocks of distinct colours, while in the case of others the colours were mixed. With regard to varieties, it will suffice to say that the firm exhibited a beautiful deep pink semi-double flower, under the name of Mme. Haerens that appears to be well deserving the attention of cultivators. The variety was shown in both bush and standard form, and in each it was highly satisfactory. They had also Vervaeneana rosea, a deeper-coloured form of Vervaeneana of much merit, and Haerensville alba, a semi-double with pure red colour; Konigen Elisabeth, a beautiful semi-double pure white flower of large size and with frilled segments; Professor Emile de Nobeli, a semi-double flower of the largest size, flushed with carmine in the centre, and quite free from blotches; Louis Vervaene, a superb semi-double, the flowers of large size, and the colour a delicate salmon-pink; Lucien de Cock, a superb semi-double, the flowers of medium size, and with elegantly frilled margins, the colour glowing crimson. M. Auguste Haerens, Somerghen, who was awarded the second prize in the class, had a number of good novelties, the best being President Alexis Caillier, a semi-double, the flowers large and of a brilliant carmine tint; Lady Roosevelt, a very large semi-double flower of the softest salmon-pink, shading to white; Winifred Haerens, a large semi-double, the colour glowing rose-carmine, suffused orange in the centre; Etoile de Belgique, a remarkably distinct semi-double flower with long, pointed, and regularly arranged segments, the colour rich crimson, a quite new type.

but the colour of this old and popular variety is hardly equal to that of some other of the rose-pink varieties when under the influence of a strong light.

A large-flowered semi-double variety, shown by M. A. Haerens under the name of Brillianta Belgica, has the promise of being of much value for decorative purposes where strong colouring is desired; the colour is brilliant rose-crimson, and appears to great advantage under the influence of a bright light.

The class for a group of azaleas arranged on a space of about 80 square yards, the plants being on twenty-inch stems, was sufficient to test the resources of the largest exhibitors, but evidently it imposed no strain on the Belgian growers, for the specimens were some of the best of those of medium size in the exhibition. Messrs. E. Verrae de Vos and Co., Gwynaerde, Ghent, who won the work of art offered as the first prize, had a magnificent collection, the specimens about thirty inches in diameter, superbly flowered, and highly finished. The

THE FINE DISPLAY OF CALADIUMS AND AROIDS, GHENT.

white flowers that was made note of as a fine addition to the white azaleas.

A work of art was presented by the members of the Ghent Press as the premier award for a group of twenty specimen azaleas. Here M. Charles Verbawen was successful in obtaining premier honours, his group consisting of medium-sized, finely-flowered specimens. Messrs. Maenhout frères, Mont St. Amand, Ghent, were the winners of the gold medal offered as the second prize with medium-sized, well-bloomed bush plants. Very fine in the first-prize group were the rich scarlet Le Flambeau, the brilliant pink Professor Wolters, and Vervaeneana.

New azaleas were of much interest, and the collection with which Messrs. Haerens and Willes succeeded in winning the work of art offered as the premier award contained several surprising varieties that were a great advance on those in cultivation. Very fine are Haerwill's Pink Pearl, a beautiful semi-double variety, with large pink flowers, with a deeper tint on the upper segment; Juge de Huyek, a semi-double flower of the largest size, but free from coarseness, with a frilled margin, and of a glowing rose-

Very brilliant was the display produced by the azaleas arranged by M. Auguste Haerens on about 250 square yards. The large number of plants required for filling this immense space were splendidly flowered, and the heads of bloom ranged from eighteen to thirty inches in diameter, and the flowers were throughout in a high state of development. The work of art offered as the first prize was awarded to the exhibitor with felicitations, and deservedly so; he had certainly not overlooked the fact that tasteful arrangement was not less necessary than plants evincing cultural skill of a high order. Very pleasing was a large bed of Blushing Bride, a beautiful semi-double variety, with large flowers tinted salmon-pink, deeper in the centre, but quite free from blotches or other markings.

A very striking colour effect was produced by the fifty densely flowered bush specimens of Mme. Van der Cruyssen, for which M. A. d'Haene was awarded the first prize in the class for fifty plants of any one double variety The specimens were splendidly flowered, and the colouring under the soft light of the exhibition hall was very pleasing,

uniformity in size, form, and finish of each head of bloom suggested a huge bouquet, in which much taste had been evinced in the arrangement of the flowers. The varieties were much the same as those already enumerated, and therefore included the pick of the best in cultivation. Frau E. Richter, a glorious pink variety, has not been mentioned, and must therefore have attention drawn to it. Not less deserving of notice is Oberst von Kutchinksy, which may best be described as a semi-double Roi d'Hollande, and therefore of immense value.

The group of twenty-five pyramidal specimens for which Messrs. Sander and Son were awarded a work of art was highly attractive and of great educational value to those who give their attention to the cultivation of Indian azaleas in this form. Every one of the specimens was perfect in training and flower development, and served as an excellent model for pyramidal specimens. Not less noteworthy in its mass was the splendid group of plants, in thirty varieties, of the usual saleable size, exhibited by this firm, who, in the face of a very strong competition, were awarded the work of art offered as the

last prize. The gold medal collection in the same class from M. Paul de Schryver, Loochristy, and M. A. Vervaet-Vervaen, Meirlebeke, were all of great merit.

HARDY AZALEAS.

Very effective were the rich colour displays afforded by the great groups of the varieties of Azalea mollis. The rich shades of orange, yellow, and fawn were a pleasant change from the colours of the rhododendrons and Indian azaleas, but in a few cases they were not arranged with due regard to their environment. In the case of the groups arranged in the eastern annexe they were so placed as not to clash with the colours by which they were surrounded, and consequently they produced a rich and most pleasing effect. Here were the contributions to the class for big specimens, and Messrs. de Reuse frères, Saffelaere, Ghent, were awarded the gold medal for specimens that were simply enveloped in flowers. In a second class for collections the same firm were awarded a gold medal, with felicitations.

Ghent azaleas were shown in association with the Indian varieties by M. J. P. Hartman, Ghent, but, although the combination of colours produced a bright display, the effect was not particularly pleasing when seen at close quarters. Opinions may differ upon this point, but there can be no difference as to the award of a gold medal having been well deserved.

PALMS.

Though less startling in their colour effects, the palms were a grand feature of the Ghent show, and one wonders how so many growers had accommodation for such giant specimens as those which towered in the warm salle. It was not as though only a dozen or so of specimens were brought, but there were scores of big specimens ranging from ten feet to thirty feet in height, and the fine effect produced by those graceful plants can readily be imagined, an effect we lose in our British exhibitions because so few people cultivate, or have conveniences for, such fine examples.

M. Francois Spae, Melle, Ghent, had a grand lot of palms—indeed, such palms as one sees at Ghent Show are never seen at British exhibitions, though at Kew, Edinburgh, Cambridge, Dublin, and one or two private gardens as fine and finer specimens are to be found. Palms have such a special grace that it is a thousand pities more kinds are not grown at home. M. Spae had Ceroxylon niveum in fine condition, the white undersides of its leaves demanding attention; Pinanga Kuhli is another striking kind; but far above these towered Kentia Dumoniana and K. Forsteriana, while a gigantic bushy mass of Rhapis aspera filled the centre of a large group. Kentia McArthuri, the purple-tinted, broad-leaved Kentia Lindeni, the red-stemmed Cyrtostachys Renda Duvivieriana, the fine Caryota Schilleri, and a very big, 15ft.-high Areca Baueri were other fine palms shown by M. Spae, who won many prizes.

Right across the extreme end of the great annexe the Société Horticole Gantoise arranged one of the finest displays of palms ever exhibited. It consisted of a hundred specimens, and it would easily have filled one half of the Royal Horticultural Hall, lengthways. A fine work of art fell to this company. We pick out a few of the more striking kinds from this wonderful collection, and these few must include Ceroxylon andicola, the Wax Palm; Caryota elegantissima, Elais guineensis, the Oil Palm: Astrocaryum mexicanum, with glaucous leafage borne in a great crown at the top of a stout stem; a great Livistona rotundifolia with leaves about six feet across; Kentia Lindeni, twenty-five feet high; the curious Kentia pendula, and a Corypha australis of splendid size and development, and just the sort of plant to always occupy a central position at the Vincent Square exhibitions—about eighteen feet high and twenty-five feet across.

Phœnicophorum seychellarum, with its broad leaves and spiny stems, was well shown by M. T. Piers, and also by M. Leonard Gyseback fils, the latter receiving a silver-gilt medal for his specimen, about seven feet high.

The graceful and immensely useful Phœnix Roebelini was finely shown throughout the hall, and plants of varying size were displayed, but all showed excellent culture, being clean and healthy, and feathered to the pot rim. M. J. P. Hartman, Ghent; M. Theophile Piers, Melle; and The Flandria Company, Bruges, all showed this grand palm finely, but the latter had the larger number of large specimens, and secured therewith a special gold medal. M. Guillaume Gyselinck, Melle, also had these palms in fine condition. By far the finest specimen of Phœnix Roebelini was one about nine feet high, clothed to the tub in elegant leafage; it was shown by La Croix Co., Calcken, and secured a special award.

The finest set of eight Kentias came from the Flandria Company, Bruges, and were grand examples of K. Canterburyana, K. Kersteniana with slender stem; K. Sanderiana, also slender-stemmed, and K. Alberti. K. Belmoriana, K. pendula, and K. Dumoniana. The same firm, now renowned for its fine palms, put up a magnificent collection of fifteen specimens, staging grand examples of Phœnix Roebelini, about six feet high; a giant Kentia Belmoreana, Areca lutescens, Rhapis humilis, twelve feet high; Chamærops excelsa, the glaucous Locos Bonnetti, and a wide-spreading Livistona rotundifolia, with big fan-like leaves. Many high awards fell to this company.

A PICTURESQUE GARDEN SCENE, GHENT,
Arranged in the Western Annexe of the Great Hall.

STOVE PLANTS.

In the great central hall of the exhibition the brilliant colouring of the great masses of azaleas and rhododendrons made the eyes tired very soon, and so it was a great relief to turn aside into the big salle where the stove and foliage plants were arranged in massive groups and great beds and borders, a fine, graceful, and soft effect being produced by giant palms, huge ferns, big

aroids and bromeliads, with crotons, alocasias, caladiums, and anthuriums lending some colouring here and there. Here, as elsewhere, a garden effect had been created, and there was nothing at all formal about the "tout ensemble" produced under the direction of M. Charles Pynaert.

Messrs. L. Van Houtte père, Ghent, won the gold medal for a group of thirty specimen aroids, and disposed huge examples in tubs, many feet across, of Deiffenbachia Jenmani, Alocasia argyrea, Anthurium crystallinum, A. Scherzerianum, Phyllotænium Lindeni major, Philodendron Islemani with white and green variegation; Nephytis picturata, and giant caladiums. Plants of this character are now seldom seen at British exhibitions, though formerly some of them were quite popular. The Comte de Kerchove's prize, a work of art valued at 500 francs. offered for the best twenty-five striped foliage plants, was won by Messrs. L. Van Houtte père, with enormous specimens of Nephytis picturata, about 7ft. across; Maranta vittata, the yellow and green Pereskia Godseffiana, Dracæna Goldieana and D. Sanderiana, Vriesia Moensi, a handsome bromeliad, with yard-long green, cream, and white striped leaves; Anthurium crystallinum, Croton Leonie, C. Lord Roberts, the handsome Alocasia Kerchoveana, etc.

Messrs. L. Van Houtte continued their winning way through many classes, and secured the work of art offered by the Committee of the Universal Exhibition for forty miscellaneous plants, flowering or non-flowering. Here, again, they had enormous specimens, the smallest needing a dozen square feet at least to show itself off to advantage. Kinds already noted were repeated here; but other fine things were Phœnix Roebelini, Licuala grandis, a big Erythrea cristi-galli, Cocos Weddelliana, Zamia Lehmanni, and Bougainvillea spectabilis aureo-variegata. This was an enormous exhibit that filled a great semi-circular bed backing against the wall of the salle.

We did not notice anything strikingly new among dracænas, though these elegant stove plants were freely exhibited. Such kinds as D. imperialis. D. amabilis, and D. Baptista, long familiar, were much in evidence. D. Desmetiana, creamy-white, green, and pink, from M. J. E. Story, Allée Verte, Ghent, and several other growers, was very bright.

M. Le Smet Duvivier, Mont St. Amand, exhibited marantas finely, and these handsome foliage plants attracted considerable attention by reason of their striking markings. M. Closoni, M. Chantriere, M. vittata, M. Porteana, M. Makoyanum, M. rosea picta, with very large leaves, M. Bachemiana, which seems to have a pinnate leaf imposed upon its entire greyish leaves; the miniature M. Wioti, and the good old M. Zebrina were a few of the best in a large collection of big specimens. Another grand lot of marantas came from M. Alexis Dallière, Ledeberg, and secured a gold medal.

There were no finer crotons in the Exhibition than those shown by the Société Horticole Gantoise, who presented fifty specimens. Some of these had their branches tied down to make them low, broad plants; while others were enormous bushes 6ft. to 9ft. high, and of greater width than height. The smallest specimen was a yard wide, so the effect produced by fifty specimens, with foliage of varying brilliancy and markings, may well be imagined. Especially good were the varieties Jeanne de Smet, M. Florin, Mdme. Riffauty, Mdlle. B. Fournier, Lord Rendle, and Mdme. Lucien Linden among the broad-leaved sorts; the latter has leaves 4in. to 5in. broad, and 7in. to 18in. long, and the colouring is golden-yellow over brown. Of the narrower-leaved crotons the most imposing were Leonie, Countess Worteli, and Masangeana. We must not omit Paul Garnot, another broad-leaved sort, the new foliage being rich yellow, and the old leaves scarlet and dark purplish-brown. The special prize won by the company in this class was a work of art presented by M. Victor Heursel, the librarian to the Royal Horticultural Society of Ghent—a prize richly deserved. For a hundred crotons, M. J. E. Story, Ghent, annexed the premier award. but he showed plants in small 32-sized pots, and staged fairly well-known varieties.

In one of their large displays of a hundred plants, the Société Horticole Gantoise showed a beautiful pan of the exquisite Anœctochilus petola, its golden netting on velvety-green ground making this little bright-leaved orchid a great attraction to all lovers of foliar beauty and high culture. Here, too, was Acanthus montanus, a yard high, with mottled grey and dull green, deeply-cut leaves about 15in. long, an attractive foliage plant; Gloriosum Rothschildeanum, not yet in full bloom: Dracæna Deremensis-Bausei, with a broad white stripe down the middle of the white stripe, was very effective; the largest variegated pineapple we have ever seen; and the broad-leaved spiny, dull green Pandanus pacificus.

Mrs. John Laing, one of the noblest of caladiums, was grandly shown by Messrs. Louis can Houtte père; while Golden Ring, Alexandre III.. T. de Viger, Rose Laing, the lovely pink and cream Raymond Lemoine, and the exquisite pink Rio Janeiro were also included in this firm's collection of a hundred varieties.

M. Jules de Cock presented a collection of cycads, and staged large, spreading examples of Ceratozamia mexicana, Zamia Lehmanni glauca, Encephalartos Vroomi, Zamia Caffra, Zamia horrida glauca, and Cycas revoluta. For this set he received a special work of art.

Of course there were anthuriums of the Scherzerianum and Andreanum sections in plenty. Of the former, the Société Horticole Gantoise had a very fine lot of broad crimson-spathed plants. with a few creamy and white forms, the whole backed up by Andreanum varieties, of which Abel Chatenay, white; Senateur Bast, crimson-scarlet; Souvenir de M. Hardy, deep crimson; and Roi Leopold, blush-pink, were fine.

Mr. Arthur de Smet, Ledeberg, Ghent, filled a large oval bed with varieties of Anthurium Scherzerianum set amid Adiantum Farlevense. Some of the specimens carried over fifty spathes of the most brilliant scarlet hue; but there were others bearing cream. white, salmon, and crimson spathes; and there were numerous forms of the speckled variety Rothschildeanum.

Messrs. L. Van Houtte père sent a collection of economic plants that included bread fruit, caraway, ginger, cardamons, eucalyptus, coffee, sugar, Hevea rubber. tea, cinchona. guava, hemp, aniseed, coca, cinnamon, cocoa, tamarind, etc.

GARDEN, ART, AND FLORAL DESIGNS.

A very beautiful garden, a scenic effect that attracted general comment and admiration, was a combination of ruined temple, rocks, water, grass sward, balustrading, palms, cordylines, and early-flowering shrubs, grouped with great taste and effect by Mdme. Osterrieth-Mols, of Antwerp. This was no little affair of a few square feet, but a large design, covering probably nearly 200 square yards. The general idea was a path leading from an old gateway by flower-bordered lawns up to a ruined temple with Corinthian columns. The temple occupied the high ground, and immediately on its right were towering cordylines and palms, behind viburnums, glowing mollis azaleas, cystisuses, and rhododendrons. In front of the shrubs a sharp, rocky-faced fall led down to a pool of water. Among the rocks were ferns, lowly azaleas of the amœna type, and some blue hydrangeas where grass met rock. On the grassy banks above the pool were clusters of nemesias, and then a group of clematis, Japanese maples, and wistarias came where the rocks broke out again, and cut through the line of the boundary balustrading. Passing back towards the gate, azaleas, wistarias, rhododendrons, and spiræas were grouped in the border, while Primula obconica and dwarf Japanese azaleas studded the small lawn. About the only things that seemed out of place were the amaryllis and anthuriums near the gateway. The whole made up a very lovely exhibit, and if it lacked natural veracity, it did not lack admirers, and scarcely any exhibit in the show was so much admired. The talented lady artist received a special work of art as prize.

Several exhibits of floral art were distributed through the salons, but, on the whole, we thought the various items were somewhat overdone, flowers being used with prodigality and, in some cases with barbaric taste. A display from Amsterdam was one of the best.

CARNATIONS.

Never before have carnations been so largely shown or so finely displayed at Ghent as on this occasion, and it is with no small amount of pleasure we state that by far the greater portion of the carnation display consisted of British-grown flowers set up by British firms.

Mr. C. Englemann, Saffron Walden, covered himself with glory by filling a space of about 640 sq. ft. His was a tremendous effort, and contained about five hundred and forty dozen blooms. There was a sort of pergola arrangement along the back with bunches of bloom set in the hollow bamboos, accompanied by asparagus and smilax sprays. Two high tripods, one filled with White Wonder and the other with Baroness de Brienen, were prominent features, and towered above the vases and baskets of Mikado, Geisha, and Sunstar, White Enchantress, Rosette, Mrs. C. F. Raphael, the vivid Red Carola, Carola itself, and many another fine variety. Mr. Englemann won a gold medal for a dozen novelties introduced since 1910, and another gold medal for varieties not yet in commerce. In the former class, the varieties were Dorothy Gordon, Variegated Carola, White Wonder, Beacon, Lady Mever, My Rose, Emperor, Rosa, Lady Northcliffe, Sunstar, Salome, and Pioneer. Among his new seedlings Mr. Englemann had a very large dark heliotrope variety, a curious creamy-pink flower, and a rose and red-striped form of considerable beauty. Mr. Englemann won an Object of Art for two dozen varieties and three silver-gilt medals for other items. He grouped his competitive exhibits around his non-competitive one, and so produced a grand display; indeed, one of the finest ever set up. Mr. Englemann's effort was such a great one that he was about the last competitor to finish on the Friday morning but he secured an extra and special prize for his general display.

A pretty contribution from Messrs. Wm. Cutbush and Son, Highgate, consisted of fine flowers, set up lightly in elevated stands and baskets, with smaller vases below, and some palms and ferns among them. A special prize for a scarlet carnation was won by the rich scarlet Mrs. Lucy McKinnon. King Manuel, a pale salmon-pink; Lady Alington, deep salmon-pink; Edna, heliotrope; the flaked and bright Marmion, White Wonder, White City, and the bright buff and red variety named Mrs. W. Astor, Scarlet Glow, and Britannia were other conspicuously good varieties.

All the way from Cheltenham Messrs. Young and Co. brought over blooms that thoroughly enhanced the firm's reputation. The flowers were disposed in stands and vases of varying height, with an accompaniment of asparagus, ferns, and palms. The crimson Duchess of Devonshire was the central feature, but Mrs. Greswold Williams, Hon. Lady Neeld, A. S. Montgomery, lavender-rose; Hon. John Boscawen, blush pink; Mrs. C. W. Ward, deep rose-pink; the lovely pink Mayday, the ever good Britannia, and the chaste White Wonder, were all displayed in capital fashion, and the blooms seemed to appreciate their journey into "a far country."

Those who have seen Messrs. Stuart Low and Co., of Bush Hill Park, Enfield, put up a large circular group of carnations in the centre of the Royal Horticultural Hall, Westminster, will be readily able to imagine the kind of display this firm made at Ghent, for

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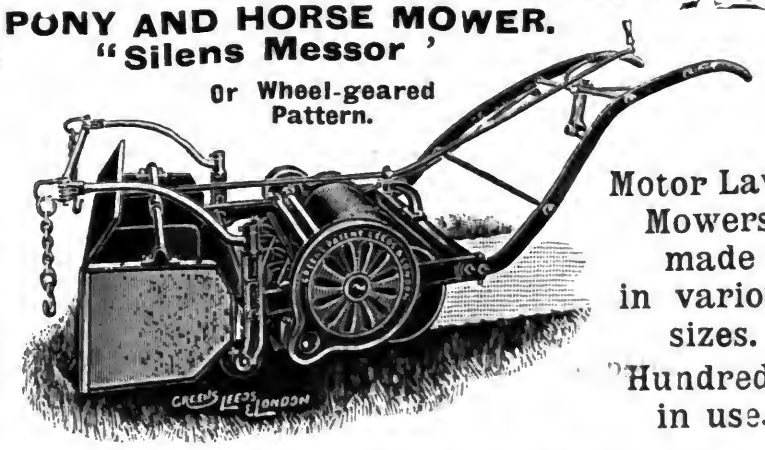

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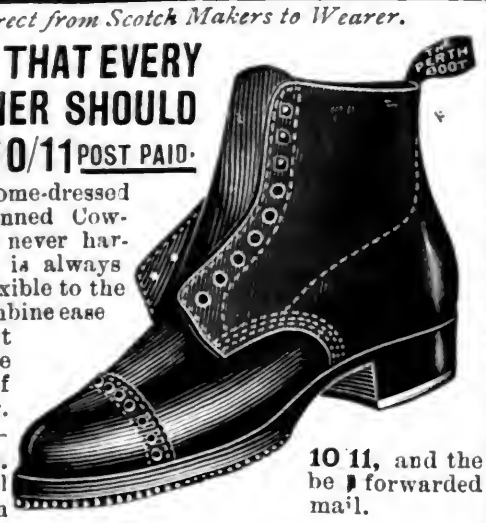

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was planned on similar lines, and was very effective. Towering stands of blooms, enclosed with tall palms and hanging baskets of flowers to make up a full and bold central feature, and round this were grouped vases and stands of bloom over a groundwork of green moss and small ferns and maiden. Varieties were numerous, but we may mention the excellent flowers of Cinnabar, small, but sweet and pretty; Satin Rose, suggestive of pink ice-cream; British Triumph, deep crimson; Baroness de Brienen, probably the most popular salmon-blush variety of the day; Mrs. C. F. Raphael, a bold rose-red bloom; the glowing Marmion, Carola, the mighty crimson maroon carnation; and Mikado, one of the best heliotrope varieties.

Another fine exhibit from a Britisher was the one set up pleasingly by Mr. A. F. Dutton, Iver, Bucks. Mr. Dutton filled a large corner, opposite Mr. Englemann, near the steps up to the Salon. He used glass vases and also some tin ones, and he had sufficient palms and ferns to hide the sandy flooring. He had beautiful blooms of Winsor, White Perfection, Mikado, and the Yellow Sunstar in the same vase, Mrs. A. F. Dutton, Beauty, very bright; Scarlet Glow, and the lovely Enchantress.

A capital group of cut perpetual-flowering carnations, every flower a good one, and the arrangement of the best, was set up by Mr. T. J. Dinn, Clingendaal, La Haye, Holland. It was a display that would have done credit to any firm. The variety Baroness de Brienen was made the most of, great bouquets of blooms, as well as growing plants, being arranged through the centre, flanked by Lady Alington, and with Mikado in front to break up the colouring. Enchantress was no less beautiful, and Mrs. C. W. Ward was grand, but Colossus did not appeal to us, though Carola, Triumph, Mary Allwood, and Mrs. C. F. Raphael were of high merit and beauty.

Mr. Draps staged an exhibit of cut carnations which gave evidence of skilful cultivation; he put up his flowers in tall glass vases, à la Dutton, and displayed first-rate examples of Benora, Triumph, Duchess of Devonshire, Mikado, Britannia, White Wonder and Empire Day. This group was well finished off with ferns, while ferns and palms among the stands and vases prevented any suggestion of thinness or barrenness, though the wooden stools carrying the vases were a trifle obtrusive in places.

The Société Horticole Yproise, Ypres, Belgium (Mr. Bouckenoghe), presented a large group of carnations, but his blooms fell far short of the Britishers' in quality, though Rose Pink Enchantress, Cinnabar, Empire Day, and Triumph were very well represented. It was in new seedlings, howhower, that this company excelled, for they had scores of new flowers that included some distinct colourings, especially among carmine and rose shades, and gorgeous buff or yellow ground fancies, while one fringed white seedling attracted a fair amount of attention from the English growers.

THE DUTCH EXHIBIT.

A quite good display set out on a large pear-shaped lawn indicated some of the special features of the Aalsmeer district in Holland. At the broader and higher end grandly-flowered lilacs were massed with Acer Negundo, and all around the growing plants vases of long-stemmed bunches of bloom were massed in prodigal fashion, and for beauty and fragrance this exhibit was superb.

Imagine about three hundred vases of superb spikes, chiefly of Marie Legray and Souv. de Leon Spaethe, lilacs, grouped in a bold crescent-shaped group, with a few plants of Pyrus malus among the low vases of the white lilac towards the lowest point of this crescent; a grass lawn in front; on one side a large group, also pear-shaped, about fifty feet long, composed entirely of glorious roses, cut, and set in green vases, with ferns and asparagus sprays between—the varieties Captain Hayward, Caroline Testout, and the lovely Kairserin Augusta Victoria, the latter massed at the widest end of the bed; further, imagine at the narrow end of this fine display, a bed of pink and white hydrangeas over blue pansies, this mass of colour backing up a very beautiful lot of over a hundred perfect specimens of Begonia Gloire de Lorraine, some raised a yard high and others set low among purple pansies.

The whole, as noted, together with borders of fragrant crimson wallflowers and bands of great-headed mignonette, formed a contribution that was a fine tribute to the Aalsmeer growers' enterprise, and formed at once the most fragrant, and not the least beautiful of the many fine exhibits in this great show.

RHODODENDRONS.

Although much less numerous than the Indian azaleas, the evergreen rhododendrons were exhibited in immense numbers, and as they were all superbly flowered they constituted a feature that was equally remarkable for its distinctness and beauty. In most cases the groups of these handsome shrubs had for a background scenic representations of wide-spreading lawns and handsome trees, and in one instance a neat rhododendron garden, as seen in the flowering season. With such combinations the colour effects were rich and striking, and suggestive of the aid these shrubs are so well able to render those who are engaged in the creation of garden scenes. Especially remarkable for their flower production, and rich colouring were the immense number of dwarf bush specimens shown by Mr. A. de Clercq, Chysegham, Ghent, who was awarded two gold medals, one for his mixed varieties and the other for a hundred or more specimens of the charming Prince Camille de Rohan, with its bold trusses of rose-tinted flowers marked with a deep blotch. These two huge groups formed the foreground to the scenic rhododendron garden, and were highly attractive to the visitors. Near by was a group of rhododendrons consisting of one hundred or more standards, carrying large heads, all of which were so splendidly flowered as to suggest huge bouquets of bloom. Mr. F. Späe was exhibitor, and was awarded the first prize, consisting of a gold medal. Mme. Calvalho, a beautiful variety with flowers of a light blush hue, which enjoys a high degree of popularity in British gardens, was finely represented by a huge, splendidly flowered specimen growing in a large tub. This was shown by M. Charles van Geert, and was of interest as evidence of the adaptability of rhododendrons for growing in large pots and tubs for terraces and promenades in both public and private gardens.

A glorious feature was formed in the eastern annexe by the two magnificent collections, each consisting of forty specimens, in competition far the handsome work of art presented by M. Albert Ceutrick. These were exhibited by Messrs. Louis Van Houtte père and Co., and M. Charles van Geert, and in the result the first named were awarded the work of art, and M. van Geert a large gold medal. Many of the specimens ranged from four to five in diameter, and splendidly

AN ATTRACTIVE COMBINATION OF HYDRANGEAS AND RHODODENDRONS, GHENT.

flowered. Among the varieties represented were Cynthia, a beautiful form with noble trusses of rich pink flowers; Helen Waterer, Fiala, Purity, a remarkably fine white variety, Felix Sauvage, Lady Annette de Trafford, Matchless, a superb crimson form with exceptionally large trusses, the popular Pink Pearl, and E. G. Holford. Rhododendrons were used with remarkably good effect in the eastern annexe, and chief among the collections was that shown by Messrs. Bracke frères in the class for forty specimens, for which they were awarded the gold medal offered as the third prize. The group of new rhododendrons shown by Messrs. A. Damme-Verras, Loochristy, was very attractive, but it lost much of its interest from the fact that all the varieties were shown under number. The firm was awarded the gold medal offered as the first prize.

A highly attractive feature was formed by the beautiful Pink Pearl, of which huge groups of splendidly-flowered plants were exhibited by M. C. Vuylsteke, Loochristy, and Messrs. Sander, to whom were awarded gold medals. The last-named firm had also the superb White Pearl in a high state of floral development.

MISCELLANEOUS.

A few words are necessary concerning the fine group of the newer hydrangeas submitted by several Belgian and French growers. M. Moulliere had a number of seedlings on view, but Mdme. Moulliere was still one of the finest forms, and it was grandly represented by great heads of fringed flowers; La Perle was another good form.

Messrs. Vilmorin, Andrieux, and Co., Paris, brought along some good herbaceous calceolarias, and staged these in blocks of distinct self colours; there were no spotted or striped flowers, but pure selfs, ranging from pale lemon to deep crimson.

Messrs. C. van Tubergen, Haarlem, gave further evidence of their work among freesias by filling a large circular bed with varieties of many colours and shades, from palest yellow through lilac and rose shades, to bronzy tints and pink forms. These were all very charming, and no doubt they will greatly extend the culture of freesias.

PRUNUS SARGENTI.

About twenty years have elapsed since seeds of this showy cherry were first received in this country, for in 1893 Professor Sargent, after whom the species is named, sent seed which he had collected in Japan the previous year to Kew. Three years earlier plants had been raised in the Arnold Arboretum from seeds communicated by Dr. Bigelow, but before that date the tree does not seem to have been known outside of Japan, although it may have been distributed with varieties of the well-known P. serrulata, and have remained unnoticed.

The history and botanical characteristics and affinities of the species are given in the "Botanical Magazine," t. 8,411, a figure having been prepared from one of the Kew plants in 1911. Most closely related to P. serrulata, it differs in several points regarding the shape, size, and serration of the leaves and the arrangement of the flowers. Here it has the appearance of forming a small, round-headed tree, but under favourable conditions in its native country it is said to attain a height of 80 feet, with a trunk diameter of three feet. The rose-coloured flowers are borne in clusters of three or four flowers each, and individual blooms are up to one and a-half inches across.

In addition to the beauty of the flowers, the bronzy colour of the young leaves is very pretty in spring, whilst previous to falling the foliage turns to a reddish hue. It requires similar culture to other members of the cherry group, and thrives most successfully in good loamy soil. W. D.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

GENERAL REMARKS.—With the lengthening days and growing power of the sun, more moisture may be given in all the orchid houses. The bulk of the orchids at the present season are in a more or less active state of growth, and the necessary encouragement must be afforded, including an increase of about 5 deg. in higher temperature in all divisions. We find it necessary, with favourable outside conditions, to damp the floors, stages, and among the pots as early in the morning as possible. In bright weather, and when the conditions are drying, the damping should again be done in the middle of the day, and also between three and four o'clock, when the ventilators are closed.

VENTILATION. — With the use of the blinds discretion is necessary in respect to ventilation. It will frequently be noticed, and more especially where lath roller blinds are used, that the lowering of the blinds causes a rapid fall of the temperature in the houses. This is no doubt caused by the cool air passing over the space between the blinds and the glass, and every care is necessary to see that the ventilators are used to counteract such sudden fluctuations of temperature. I am convinced that many young and tender growths are permanently disfigured as a consequence of chills of this description. Ventilation with discretion is one of the most important features in the successful cultivation of orchids, and cannot be too carefully considered. The avoiding of direct draughts, either from ventilators or otherwise, must be carefully guarded against.

WATER.—In the North and North-East of England we are subjected to snow and hail storms often until well into the month of May. The snow, quickly dissolving, finds its way into the rain water tanks, and it is surprising what small a quantity of snow it takes to lower the temperature of the water in the tanks. It is advisable always to test the temperature of the water before using it.

FOR ODONTOGLOSSUMS AND MASDEVALLIAS the temperature should be maintained as evenly as possible. Now that the plants are in full bloom it is desirable to have the atmosphere as free as possible from excess of moisture during the lower night conditions. Moisture, with a prolonged period of dull weather, has a similar effect on the flowers, causing brown-spotting on all segments and rendering them unsightly and useless often before they are fully expanded. We find it desirable to afford a little ventilation in the roof, on the leeward side, and use a little extra fire-heat during the night or in dull weather. The damping in the cool division should be done early in the afternoon.—H. J. CHAPMAN, Oakwood Gardens.

HARDY FRUITS.

THE RECENT SEVERE FROST has, I fear, damaged many of the early flowers of plums, cherries, pears, etc., but the later unexpanded blooms do not as yet show any sign of injury. Raspberry growths look very yellow, and the same may be said of gooseberries and currants; good, warm showers are greatly needed to help growth.

LATE-PLANTED TREES.—Examine these very carefully, especially any which may have been left to settle in the new soil. See that all the supports are strong at the base and not likely to snap during a strong wind when the trees are in full leaf. After staking and tying is complete, prick up the surface soil two inches deep to prevent it from cracking, and to allow the rain to penetrate in every part. Light mulching with manure will prove very beneficial in dry weather, and, in the absence of a mulch, keep the soil loose by the use of the hoe.

STRAWBERRIES. — Plants which have been forced and duly hardened, may be planted out at once on well-prepared land. First see that the roots are thoroughly soaked with water, then remove a few of the older leaves, turn the plants out of the pots, slightly disentangle the roots with a pointed stick, and plant firmly 2ft. apart, a little more or less, according to the nature and condition of the soil. Keep the land free from weeds, and the soil between the plants hoed at intervals. Our first crop outside is taken from healthy young plants, grown on a warm, sheltered border in front of a long range of glass houses, and raised expressly for the purpose. Later crops are on a well-prepared plot in the open, the earliest being Royal Sovereign, and the latest Laxton's Latest and Givon's Late Prolific. Keep a careful watch for frosty nights, and protect the blooms with a handful of strawy material.

NETS.—Examine the stock of nets required for protecting all kinds of fruits, and order the quantity required. It is a capital plan to run a row of wire-netting round the outside of beds of strawberries, raspberries, gooseberries, etc., 3ft. or more high, and of 1in. mesh. The framework on which to rest the nets should be sufficiently high to allow a man to gather the fruits without having to remove the nets.

INSECT PESTS.—Keep a careful lookout for insect pests troublesome to early growths of peaches and cherries, and dust the affected parts with a little tobacco powder if the fruits are not sufficiently advanced to be safely syringed with quassia extract or other approved insecticide. Remove any blistered leaves, and have them burnt, and, if the trees have been heavily protected, lessen the protection by degrees before finally dispensing with it.—H. MARKHAM, Wrotham Park Gardens.

THE FLOWER GARDEN.

PERPETUAL CARNATIONS. — The young plants must be given plenty of room, and abundance of air when the weather is favourable. Shift them into larger pots before the roots become pot-bound, and attend to stopping at the proper time. The method of growing tree carnations by planting them out is rapidly gaining favour. Where the houses are suitable for this purpose it is to be recommended, as flowers of much more substance can be produced by this method than from plants in pots. Neither are the plants likely to suffer so much from irregularities in watering. Old flowering plants must be given plenty of stimulants now, or the flowers will be weak and of poor colour. Towards the end of the month they may be placed outdoors in a sheltered position, plunging the pots in ashes. If they are kept well supplied with water they will flower during the greater part of the summer.

MALMAISON CARNATIONS are now developing their flower spikes, and, with increased light and sunshine, they must be watered more frequently than hitherto. Remove all side buds, and secure all the flower spikes to neat stakes. Lightly fumigate occasionally as a safeguard against aphis.

CINERARIAS.—A sowing may be made now for the earliest batch of plants. Sow the seeds thinly in shallow pans in a light compost. Place them in heat and keep shaded until the seedlings are through, then place them on a shelf near the glass in a moderate temperature. Prick them off singly in small pots when large enough, and when established place them in cold frames where they can remain till late autumn. Greenfly is a persistent enemy of the cineraria, but this can easily be kept in check by lightly

fumigating occasionally with a nicotine compound.

BALSAMS.—These are most useful plants for the conservatory, and deserve more extended cultivation for this purpose. Seeds may be sown now in pans in fine, light soil. When the seedlings are through keep them growing until they are in their flowering pots. Do not stop the leading growth, and when finally potting the plants keep them as low in the pots as possible.

LUCULIA GRATISSIMA.—This is one of the most desirable of all the greenhouse evergreen shrubs, but to grow it successfully it should be planted out in the coolest part of the greenhouse or conservatory. A compost of loam, peat, leaf-soil, charcoal, and sand suits it well. The plants will now be growing freely, and should be encouraged by spraying with rain water twice daily. Plenty of water must also be given to established plants during the growing season.—E. Harriss, Lockinge Park Gardens.

THE KITCHEN GARDEN.

FRENCH BEANS. — A sowing may be made on a warm, sheltered border. The land should be pointed over with a fork before sowing, and should work freely when drawing the drills. Allow the stronger-growing varieties 2ft. 6in. between the rows, and 6in. from plant to plant. Sow in double lines, cover the seed two to three inches deep, and, when the plants are well above the ground, thin out to the above distance. The spare plants may be used for filling up gaps. For the earlier sowing Ne Plus Ultra is an excellent variety; Magnum Bonum and a good type of Canadian Wonder are most suitable for the main crop. To keep up the supply it will be necessary to make a further sowing in cold pits or frames. Earlier-sown batches of plants should be treated generously in the way of feeding, syringing, watering, etc.

SCARLET RUNNER BEANS.—The first sowing outdoors can be made in trenches previously prepared. It is well to remember that the scarlet runner is a gross feeder, and requires a considerable amount of moisture when in full growth and bearing freely. Sow the seeds in double lines; allow seven inches from bean to bean, and the same distance between the lines. Cover with soil to a depth of three inches. Where slugs are troublesome, place a small ridge of finely-sifted cinder ashes on either side of the rows. Another sowing should be made about the middle of the month, and again a fortnight later, according to circumstances. In cold localities the first sowing should be in boxes. The variety I most favour is Prizewinner.

BEET.—The main crop should now be sown whenever the ground is in a suitable condition for the purpose. Ground previously occupied by celery and trenched over as soon as the celery is cleared off is most suitable for beet. Previous to sowing, apply a good dressing of soot, which should be well raked in. Draw the drills 18in. apart and 1½in. deep; sow three or four seeds together in patches 1ft. apart, and when the young plants are well above ground thin each patch to a single plant.

BROAD BEANS.—For late use the broad or Windsor bean is much to be preferred to the long-podded kinds, more particularly the improved green varieties. On light soils it is advisable to sow in well-prepared trenches. A good mulch of short grass from the mowing machine will prevent too rapid evaporation of moisture during a spell of drought.

CLEANING THE LAND.—Whenever the condition of the soil permits, let the hoe be kept in constant use, in order to aerate the soil, and kill the weeds amongst growing crops, this work being chiefly carried out with the Dutch hoe. The onion crop should be taken in hand at an early date, and if the plants are doing well, a preliminary thinning out should take place. The old brassica stumps should be removed as soon as the heads are cut, and the land be prepared for other crops.—W. Messenger, Woolverstone Park Gardens.

NOTES FROM SCOTLAND.

Replying to the Editor's request (page 272) for information respecting the effects of the recent cold weather upon vegetation, I may say that in Scotland, owing to the protracted character of the season and the consequent backwardness of vegetation in general, and fruit blossom in particular, very little harm has been done.

Snow fell heavily on April 11 over the greater part of the country, lying several inches in depth for several hours afterwards in some places, though a still greater amount disappeared as it fell, thus lessening very considerably what would have been a very uncommon depth for so late in the season. Slight frost was at the same time experienced in very bleak, exposed situations, but, taken over a wide area, including the lower-lying and more temperate parts, this was negligible in amount. Apart, however, from this the temperature for about the space of twenty-four hours was but slightly above the freezing point, which, together with the falling snow, and continuously overcast condition of the sky, made the general aspect cheerless in the extreme.

Continual low temperature, with occasional sharp frosts, lack of sun, and a rainfall above the average, have combined to retard activity. To the same causes must be ascribed the backward state of garden operations, especially seed sowing and the planting of various crops, the accomplishment of which has been postponed from time to time, thus hampering the endeavours of cultivators very considerably.

From where these notes are penned—a village set upon a low hill side—the view extends over a long and beautiful valley, having a large area of alluvial soil, through which a swiftly-flowing stream threads its way by rock-bound channels and amid copse and woodlands which add their quota of effectiveness to the verdant slopes. This stream often overflows its boundaries during the winter season, and the waters spread far over the adjacent level tracts that for the time being are turned into miniature lakes, which last but a short time.

Beyond this plain rises in solemn grandeur a lofty, rocky plateau crowned along its edge by numerous peaks, which, I am able to state from daily observance, have never been clear of snow since January 5, when the heaviest snowfall of the season occurred. Sometimes the whole range of hills is covered, at others the snow may dwindle away until its presence is alone discernible on the higher peaks or in the numerous depressions or defiles.

This barrier of rock forms the north-eastern edge of the romantic district known in the days of King Robert the Bruce as the Forest of Buchan, then a densely-wooded sporting area. Now the greater part of the site of the forest is devoid of trees, but provides excellent pasturage for sheep. Exception to this must, however, be taken of the higher portions, where just beyond the edge of the ridges already mentioned is situated the wild desolate region of the loch district of the southern highlands, a rocky sterile waste extending for about twenty miles from Loch Enoch in the north to Loch Dee at the southern end.

This district remains unvisited in the winter season, when mists of great density often prevail, and cold, strong currents of air rise with such suddenness that the wayfarer must grasp the nearest object for support, which perforce must be something in the nature of icy rock. In summer venturesome spirits, intent upon the study of Nature or archæology, frequently make pilgrimages thither, and doubtless feel amply rewarded. Nature here remains in much the same state as prevailed thousands of years ago, but the whole lowland portion of the country has, by the agency of man, been transformed from waste to productiveness, from almost desolation to scenes of wondrous beauty and prosperity.

Dalry, Galloway. James Day.

APRIL WEATHER AT LEONARDSLEE.

The frost of April 13 will be remembered for a long time by those who have a collection of half-hardy plants and shrubs. We registered 13 deg. of frost on the grass and 7 deg. in the screen, which is very terrible to plants in a flowering stage. The earlier rhododendrons of the Thomsoni and arboreum section were very badly crippled, and the flowers practically spoilt for the season, while the hybrids were badly cut up, though fortunately the Aucklandi section has been spared. The later batch of R. ciliatum was badly injured. The frost that we experienced about a month previously cut the early blooms of these species, but sufficient were left to provide a good display, and these were in perfection on April 13.

The main crop varieties of plums that had fully expanded flowers also suffered severely, and the earliest cherries and pears were touched, though these have plenty of bloom left for a heavy crop. The amazing part of it all is that spiræas and dielytras were practically unharmed.

Everything is now very late, and what at one time promised to be a very early season has now developed into a late one. The frost did considerable damage to the better kinds of narcissus. The best batch of White Queen we have ever had was ruined.

The temperature for the season has been exceptionally low, the sun appearing but seldom, and there was rain practically every day until April 20, when we had a glorious day—quite the best of the season.

We have the rare Ranunculus insignis in bloom; we also had R. Ingalli, but it has, unfortunately, succumbed. Many rare primulas are now in flower, and such saxifrages as S. glacialis, S. Clibrani, S. Bertoloneæ, S. Bathonensis, and S. Griesbachi, with the rare Androsace pyrenaica, and there are crowds of other pretty things in the Alpine Garden. W. A. Cook.

Leonardslee Gardens.

SPIRÆA OPULIFOLIA AUREA.

The different hardy shrubs remarkable for the golden colour of their foliage may be divided into two distinct classes—firstly, those that are at their best in the spring, and gradually become greener, and, secondly, those that are at their best under the full influence of the summer's sun.

Spiræa opulifolia aurea belongs to the first class, and just as the tender leaves are nearly unfolded it is particularly attractive, as at a little distance the branches appear to be thickly studded with soft yellow blossoms. It is less vigorous than S. opulifolia itself, and, from a flowering standpoint, not the equal of many other species, but as a foliage shrub it is very pretty.

Examples of golden-leaved shrubs that deepen in colour as the season advances are Cornus Späthi and Weigela Looymansi aurea. T.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

The Hall at Vincent Square, Westminster, was well filled on April 29, but the exhibition as a whole fell a trifle short of some recent ones in point of beauty and interest. Daffodils showed that the end of their season had arrived, orchids had an "off" time, but hardy flowers, especially alpines, were abundant, and carnations were good. The National Auricula Society held their annual exhibition on this occasion, and occupied considerable space with fascinating plants and flowers.

PLANTS.

Very beautiful were the climbing roses and the bunches of cut blooms of hybrid tea and tea varieties set up in some quantity and attractively by Messrs. B. Cant and Sons, Colchester. Mr. E. J. Hicks, Hurst, Berks, presented roses also, while Messrs. Wm. Cutbush and Son, Highgate, had splendid pot roses, a beautiful lot of carnations, and some hardy flowers. Wichuriana roses staged by Messrs. Hobbies, Lim., Dereham, filled a large space, and made a bold exhibit. The weeping standards were the leading feature, and in this form Hiawatha, Mrs. L. Dewhurst, Minnehaha, Dorothy Perkins, Lady Gay, and Excelsa were the leading varieties. Mr. W. Profittlich, Twickenham, submitted the neat double deep red polyantha rose named Erna Terchendorff, a sport from Mrs. Norbet Levavasseur; this gained an A.M., and should prove a good bedding variety, as we noted it keeps its colour finely out of doors, and flowers abundantly.

Messrs. R. Gill and Sons, Falmouth, again showed brilliant Himalayan rhododendrons, including the pendulous, tubular R. Keysi. Flowering trees and shrubs from Messrs. J. Cheal and Sons, Crawley, made up a nice bank, and comprised Spiræa arguta multiflora, a cloud of white blossoms, the blue Veronica Hulkeana, wistarias, Piptanthus nepalensis, Laburnum Vossi, the neat little Abies Hookeriana, good for a rock garden, the rare Pinus Balfouriana, and the weeping and novel Cupressus arizonica.

The Guildford Hardy Plant Company and Mr. A. Hemsley, Crawley, were exhibitors of alpines; Messrs. Whitelegge and Page, Chislehurst, staged Primula Veitchi, alpine phloxes, aubrietias, saxifrages, and Viola gracilis lutea in round baskets. Messrs. Thompson and Charman, Adam Street, Adelphi, were small exhibitors of alpines, but Mr. Jas. Box, Lindfield, Haywards Heath, had a fairly large exhibit of alpine auriculas, hardy primulas, phloxes, violas, and other lovely early spring flowers; while near by The Burton Hardy Plant Nurseries, Christchurch, put up a little rock garden display, and Messrs. Reamsbottom and Co., Geashill, King's Co., staged their brilliant St. Brigid anemones.

The boldest and prettiest rock garden in the Hall was the one arranged near the gallery steps by Messrs. J. Piper and Son, Barnes. Double white cherries and bamboos formed a background, white azaleas, cytisus, and Daphne cneorum were placed on top of the rock masses; while Gentiana acaulis, Androsace sarmentosa, A. villosa, saxifrages, Cheiranthus Allioni, and Houstania cærulea nestled in colonies among the rocks. In the centre boggy area Primula japonica, P. Veitchi, and P. sikkimensis were grouped boldly. Aubrietias in variety were submitted by the Wargrave Plant Farm, The Arcade, Liverpool Street, E.C.; and alpine plants of many kinds were presented by Messrs. R. Tucker and Sons, Gray Street, Oxford; while Messrs. Phillips and Taylor, Bracknell, showed hardy primulas and saxifrages.

A bright rock garden exhibit from Messrs. T. S. Ware, Lim., Feltham, contained a selection of aubrietias and a lovely lot of the neat double form of Anemone nemorosa. Among hardy shrubs of many kinds, Mr. L. R. Russell staged Clianthus paniceus with a cluster of its lobster-clawed flowers, and some flowering plants of the elegant Lonicera Maacki. A host of saxifrages was staged in mossy baskets and in boxes by Mrs. Lloyd Edwards, Bryn Oerog, Llangollen; Oculata rosea, Pearl, Sir F. Crisp (white), Coronation, Patty, and Mrs. Lloyd Edwards were a few of the finest varieties. The lovely Gentiana acaulis and the bright Saxifraga Bathonensis were shown in quantity in a rock garden arrangement from Mr. Clarence Elliott, Stevenage. Messrs. G. and A. Clarke, Dover, filled a little rock garden with gay spring flowers, and Messrs. W. Fells and Son, Hitchin, brought saxifrages and primulas in quantity, and massed these among rocks.

Primulas from Messrs. J. Veitch and Sons, Chelsea, were very beautiful, and included P. pulverulenta, P. p. Mrs. Berkeley, a pretty blush tint with orange eye; the free-flowering P. Veitchi, P. Unique, P. sibirica chinensis, and P. longutica with crimson-carmine flowers. Meconopsis integrifolia was present with its yellow blooms, and near by was a rare display of nemesias in brilliant colouring, and also in purest white. Messrs. Barr and Sons contributed a rock garden exhibit, and in this the beautiful Iris pavonia was very charming. Messrs. G. Bunyard and Co., Maidstone, had a nice selection of the varieties of Iris pumila, of saxifrages, aubrietias, and tulips. Scilla campanulata in various colours, a lovely batch of Daphne cneorum, Primula Forresti, Androsace Chumbyi, and a host of other lovely things were set up in a rock garden by Mr. Maurice Prichard, Christchurch. Messrs. G. Jackman and Son, Woking, had Iris pumila cyanea, deep blue, among other alpines, etc. Messrs. Bakers, Wolverhampton, made a feature of Ranuneulus amplexicaule and the gay, dwarf Saxifraga Codsall Gem.

Mr. P. Ladds, Swanley, had a miscellaneous contribution, wherein Hydrangea Mdme. Emile Moulliere was superbly shown, the superb heads carrying enormous white-fringed flowers. Lovely shades of rose, salmon, and of maroon were seen in the hippeastrums exhibited by Messrs. R. P. Ker and Sons, Liverpool, and varieties of great excellence representing these colours were Rose Gem, Hesperus, and Midnight. A mixed group from Messrs. Stuart Low and Co., Enfield, contained blue hydrangeas, beautiful acacias, and gerberas.

The chief new things were a dwarf daphne-like plant with clusters of pink flowers, named Ætheonema armenum Warley Hybrid (A.M.), from Miss Willmott, V.M.H., Great Warley; Primula La Lorraine (A.M.), with purplish flowers, from Mr. M. Prichard, a hybrid between P. Veitchi and P. cortusoides; and Wallflower Primrose Monarch, with large, soft yellow flowers in dense spikes, from Mr. Moss, Kelvedon.

Dobbies' Perfection strain of calceolarias made up a bold and brilliant group, and the plants revealed an unusually wide range of colours; these were from Messrs. Dobbie and Co., Edinburgh. This firm also showed long-spurred columbines, and three dozen pans of violas that were very pretty early in the day, but by the middle of the afternoon the great heat made many of the flowers hang their heads. Violas and pansies from Messrs. Carter Page and Co., London Wall, were very effective, set up in pans, and their fragrance was delightful. Mary Allwood, White Wonder, and Mrs. C. W. Ward were the carnations Messrs. Allwood Brothers set up finely. Mr. H. Burnett, Guernsey, had carnations in grand form, and set up glorious bunches of grand flowers.

We may refer to Messrs. Wills and Segar, of Kensington, who had golden arum lilies and blue hydrangeas among other strong plants; to Mr. G. Reuthe, Keston, whose rhododendrons were vastly interesting and beautiful; to Messrs. H. B. May and Sons, Edmonton, who brought up fragrant gardenias, sweet violas, and ferns; to Messrs. H. Cannell and Sons, Swanley, and Mr. H. J. Jones, Lewisham, both of whom displayed zonal pelargoniums in fine style, and provided rare masses of vivid colouring; and to Messrs. W. Wells and Co., Merstham, who contributed a small set of carnations.

NARCISSI AND TULIPS.

The Narcissus and Tulip Committee has had a fairly strenuous season, and on this occasion there were a number of good groups, as well as many varieties up for awards.

A garden of tulips and daffodils was charmingly arranged by Messrs. J. Carter and Co., the former placed in a long bed bordered by grass; higher up, on a rock-supported terrace, such daffodils as Dairymaid, Gloria Mundi, Vanilla, Aspasia, King Alfred, Argent, and the lovely White Lady were massed in groups in front of conifers, Japanese maples, and magnolias. A fine lot of daffodils from Messrs. R. H. Bath, Lim., Wisbech, contained really fine flowers of Epic, Laureate, Maggie May, Refulgence, Cygnet, Princess Ena—a fine triandrus hybrid, Larissa, and the glowing Will Scarlet.

Mr. W. B. Cranfield, Enfield Chase, showed a lovely strong-growing triandrus hybrid named Venetia (A.M.), and Mr. H. Phillips secured an A.M. for Evangeline, a Leedsi variety already fairly well known.

Some splendid Darwin and May-flowering tulips were set up in big bunches in bowls and vases by Messrs. R. and G. Cuthbert, Southgate. The blooms were finely grown, and only needed something for a groundwork to display them to full advantage. Bartigon, Feu Ardente, Louis XVI., MacMahon, Loveliness, Bacchus, Duke of Westminster, La Tulip Noir, Union Jack, and Pride of Haarlem, were all grand varieties. Messrs. Sutton and Sons, Reading, set up daffodils in quantity, and showed large masses of Persian Orange, Sidney, Mdme. de Graaff, Evangeline, Stonechat, Incognita, Ptarmigan, and Weardale Perfection.

Messrs. Barr and Sons, Covent Garden, had a bold exhibit of daffodils and tulips, the former very good for this late date; Glitter, Will Scarlet, and Royal Star were strikingly good, and there were a number of new seedlings, one, something like Seville, attracting most attention. Messrs. Cartwright and Goodwin, Kidderminster, presented very fresh flowers of daffodils, and set up goodly bunches of Epic, a good poet: the lovely Rigoletto, Heroine, Cavalier, with rich orange centre; the bold Will Scarlet, and equally startling Seville, the chaste Evangeline, etc. Messrs. Jas. Veitch and Sons, Chelsea, also exhibited daffodils, and presented poetaz varieties well.

The Rev. G. H. Engleheart, Dinton, staged very beautiful new unnamed daffodils, largely poeticus varieties or Barri forms with solid white perianth segments. Some of the flowers had a delightfully cool appearance, and there were two seedlings with cream-tinted crowns, and with a wonderful green shade in the centre, and which seemed to have a great deal of blue in it as one looked steadily at the flower for several seconds. This was a fine display of lovely late flowers.

ORCHIDS.

Orchids were a small part of the exhibition, but of great merit and importance was Odontoglossum amabile Zeus (A.M.), pure white ground with rosy-crimson blotches and spots over the central part of the sepals and petals. This, together with fine specimens of Cattleya Prince Olaf, Westonbirt var., six grand flowers; Cattleya Enid, Westonbirt var., with six brilliant purple-lipped blooms; and Cattleya Schröderæ Luna, with three lovely blush-tinted flowers, came from Sir G. Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury.

H. S. Goodson, Esq. (gardener, Mr. G. Day), Putney, sent fine examples of Odontoglossum illustre var. Radium, and O. Helen Lemeux, Goodson's var., a glorified Wilckeanum. Sir Trevor Lawrence (grower, Mr. W. White), Burford Lodge, Dorking, presented

white-lipped, green-petalled Epidendrum [illegible], carrying six large, semi-drooping [illegible]—a cultural commendation was [illegible].

Messrs. J. Cypher and Sons, Cheltenham, had a bright display of golden dendrobiums and [illegible], with Miltonias, masdevallias, and odontoglossums. Mr. A. W. Jensen, Lindfield, presented a very pretty group of well-grown light forms of Odontoglossum [illegible], with Cattleya Mendeli. Messrs. [illegible] and Co., Southgate, had excellent [illegible] of Cattleya Schröderæ and C. Mendeli, with a central group of the bright [illegible] yellow Lælio-cattleya G. S. Ball. Mr. [illegible] Waters, Balcombe, Sussex, exhibited [illegible] in variety, with Cattleya [illegible], C. Mendeli, and Lycaste Skinneri.

FRUIT AND VEGETABLES.

Vegetables were capitally shown by Messrs. Jas. Carter and Co., Raynes Park, the exhibit being greatly admired, both for the arrangement and the high culture evidenced in every specimen; Ideal cucumbers, Florence Fennel, Chicory, Moore's Cream vegetable marrows, radishes, long turnips, Mammoth spring white broccoli, and sea-kale were made special note of.

AWARDS OF MERIT.

No First-class Certificate was awarded on this date.

Award of Merit.—To Primula La Lorraine, from Mr. Maurice Prichard, Christchurch; to Rhodocoma armenum Warley Hybrid, from Miss E. Willmott, V.M.H., Warley Place, Great Warley; to Wallflower Primrose Monarch, from Mr. Moss, Kelvedon; to Rose Frau Teschendorff, from Mr. W. Profittlich, Cockenham; to Narcissus Evangeline, from Mr. H. Phillips, Olton; to Narcissus Venetia, from Mr W. B. Cranfield, Enfield Chase; and to Odontoglossum amabile, var. Zeus, from Mr. George Holford, Westonbirt, Tetbury, Gloucester.

MEDALS.

Silver-gilt Flora.—To Messrs. Hobbies, Ltd., Dereham, for roses.

Silver-gilt Banksian.—To Messrs. Barr and Sons, Covent Garden, for daffodils; to Messrs. R. and G. Cuthbert, Southgate, for Darwin tulips.

Silver Flora.—To Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. H. Bath, Lim., Wisbech, for daffodils; to Mr. H. Burnett, Guernsey, for carnations; to Messrs. B. R. Cant and Sons, Colchester, for roses; to Messrs. J. Carter and Co., Raynes Park, for a spring garden of daffodils and tulips; to Messrs. W. Cutbush and Son, Highgate, for carnations, roses, etc.; and to Messrs. J. Piper and Son, Barnes, for rock garden.

Silver Banksian. — To Messrs. Allwood Brothers, Haywards Heath, for carnations; to Messrs. J. Cheal and Sons, Crawley, for flowering shrubs, etc.; to Messrs. Dobbie and Co., Edinburgh, for calceolarias and violas; to Mr. H. J. Jones, Lewisham, for pelargoniums; to Messrs. R. P. Ker and Sons, Aigburth, Liverpool, for hippeastrums; to Messrs. H. B. May and Sons, Edmonton, for gardenias, etc.; to Messrs. Carter Page and Co., London Wall, for violas; to Messrs. Phillips and Taylor, Bracknell, for auriculas; to Mr. M. Prichard, Christchurch, for hardy flowers; to Mr. L. R. Russell, Richmond, for shrubs, etc.; to Messrs. Jas. Veitch and Sons, Chelsea, for flowering plants; to Messrs. T. S. Ware, Lim., Feltham, for rock garden; to Messrs. Wills and Segar, Kensington, for greenhouse plants; to Messrs. Sutton and Sons, Reading, for daffodils; to Messrs. Cartwright and Goodwin, Kidderminster, for daffodils; to Mr. C. F. Waters, Balcombe, for orchids; to Mr. A. W. Jensen, Lindfield, for orchids; and to Messrs. Hassall and Co., Southgate, for orchids.

Bronze Flora.—To Mr. J. Box, Lindfield, for hardy flowers; to Messrs. Stuart Low and Co., Enfield, for greenhouse plants; and to Messrs. W. Wells and Co., Merstham, for carnations.

Bronze Banksian.—To Mrs. Lloyd Edwards, Llangollen, for saxifragas; to Mr. Clarence Elliott, Stevenage, for alpines; and to Mr. Phillip Ladds, Swanley, for hydrangeas, etc.

NOTICE.

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National Auricula and Primula Society.

Despite an untoward season, the auricula growers and fanciers were able to bring forward a capital display of both show and alpine auriculas. There was a very fair competition, and the quality of self flowers and alpines seemed to be of a high order, while polyanthuses were very gay.

For twelve auriculas, dissimilar, there were four entries, Mr. Jas. Douglas, Great Bookham, leading with a beautiful twelve. The best varieties were Rifleman, Mikado, Shirley Hibberd, Harrison Weir, Guy Cranfield, Marmion, Sunray, and Flame, a splendid ruby-crimson flower with broad-banded petals, and delightful paste. Messrs. Phillips and Taylor, Bracknell, Berks, came second with fine examples of Mrs. Potts, Mrs. Barnett, Abraham Barker, Harrison Weir, and George Rudd. Mr. W. M. Shipman, Altrincham, was third with nice plants of Favourite, Shirley Hibberd, Olympus, and Molly Shipman; Mr. J. Gibson, Belmont, Surrey, was fourth.

There was a similar number of entries for six varieties, distinct, Mr. Jas. Douglas winning the first prize with some superb specimens, which were William Smith, a fine green edge, Queen of Spain, Harrison Weir, Shirley Hibberd, Marmion—grand, and Acme. Messrs. Phillips and Taylor came second, having fine plants of Mrs. Henwood, Richard Headley, and Rachel; Mr. W. M. Shipman was third; and Mr. J. L. Gibson fourth. For four varieties, distinct, there were six entries, Mr. W. B. Cranfield winning first prize with a good level lot. The best were Mrs. Henwood, Harrison Weir, and Miss Prim; Mr. F. W. Price, Beckenham, was a capital second with Mrs. Henwood and Olympus; while Messrs. A. S. Hampton, Reading, and Mr. H. W. Miller, Birmingham, brought up the rear in the order stated.

The competition for two varieties appeared to be popular, judging by the number of entries. Mr. F. W. Price was the first prize-winner, staging fine plants of Mrs. Henwood and Olympus. Mr. W. B. Cranfield, Enfield Chase, came second with a nice plant of Sunshine; Mr. H. W. Miller was third; and Mr. A. S. Hampton fourth.

There were quite an array of plants for a single specimen of a green-edged variety. Here Messrs. Phillips and Taylor, Bracknell, proved the victor with a well-developed specimen of Mrs. Henwood. The same exhibitors captured the second prize; while Mr. Shipman was third with a beautiful plant of Miss Ethel. For a single grey-edged variety Mr. Jas. Douglas was first with Marmion, and second with the same variety; while Mr. R. Cranfield was third with Geo. Lightbody; there were eleven entries. The white-edged varieties were represented by six entries, Mr. Jas. Douglas leading with Acme. The second-prize plant was Conservative, but the owner's name was not on the card; while Mr. Douglas was third with Rachel.

The self varieties did not make the show one would have thought. Mr. Douglas won first prize with Harrison Weir, and second with Mrs. Phillips. The third position was awarded Mr. J. G. Bennett with a fine plant of Mikado. Class 9 was for new seedlings, Mr. Shipman winning first prize with a green-edged variety. He was also first in the grey-edged seedlings; while Mr. G. Langlands was the victor in the selfs, but, as all were unnamed, they were of little interest to the public.

The novices' classes for four varieties only brought out two competitors, Mr. W. Nash, Epsom, securing the first prize with a nice level exhibit; while Mr. H. W. Miller, Birmingham, was second. The class for those amateurs who do not employ a gardener secured four entries. Mr. A. S. Hampton won first prize; Mr. H. W. Miller was second, and Mr. J. L. Gibson third.

In the class for twenty-four alpine varieties, not less than twelve, dissimilar, Mr. Jas. Douglas won the first prize with a superb display. The colours were intensely rich. The chief varieties were Mrs. Jas. Douglas, Argus, Phyllis Douglas, Prime Minister, Robert Bruce, Golden Dustman, Vincent, Blue Jay, and King George. Messrs. Phillips and Taylor, Bracknell, followed, having Myrtle, Triumph, Argus, Antarctic, and Sunbeam in fine form; Mr. W. M. Shipman was third.

There were four contestants for twelve varieties, Mr. Jas. Douglas still leading with splendid examples of Majestic, Golden Dustman, Phyllis Douglas, and Dazzle. Messrs. Phillips and Taylor were a capital second with Mars, Antonio, and The Queen as the leading varieties; Mr. J. L. Gibson was third. The class for six alpines evidently suited the amateurs, for there were seven entrants. The first prize was awarded Mr. F. M. Price, who had excellent examples of Majestic, Mrs. Jas. Douglas, Claud Halero, and Argus. Mr. Robert Morton, Woodside Park, was second, and Mr. H. W. Miller third.

In the remaining classes, Messrs. F. W. Price, W. B. Cranfield, W. F. Chappell, H. W. Miller, J. Dupuy, and J. L. Gibson were the chief prizewinners, and the chief varieties staged were Phyllis Douglas, Mrs. Jas. Douglas, Argus, Mrs. Berkeley, and Bluebell.

For twelve fancy varieties there were but two competitors, Mr. Jas. Douglas having a long lead for first place with an admirable variety of colours. The most conspicuous varieties being Mrs. Gardiner, Kate Nickleby, Dorothy Cutts, Sunrise, Lady H. Veitch, and Old Gold. Mr. J. L. Gibson was second. Messrs. Phillips and Taylor were the only exhibitors of a group of primulas and auriculas, and they were deservedly awarded the first prize, for the group contained some fine examples of P. japonica, P. Sieboldi, P. Farinosa, P. rosea, and P. nivalis; while the auriculas included some choice fancy and alpine varieties.

Mr. S. Mortimer, Farnham, was the only competitor for twelve polyanthus in pots, and he had a splendid strain that gained the first prize. There were two groups of primroses or polyanthus. Mrs. Milner, Totley Hall, Sheffield, being awarded first prize for a very bright collection, the crimsons and yellows being especially good. Mr. S. Mortimer was second with a fine strain though the crimsons were somewhat sunburnt; the yellows were wonderfully rich.

Mr. Chas. Turner, Royal Nurseries, Slough, staged a fine table of auriculas, which embraced the show and alpine varieties, a number of the latter being arranged in separate colours; also two baskets of gold-laced polyanthus which were much admired. From Mr. J. Crook, Camberley, Surrey, came a fine collection of polyanthus in a fine range of colours, some of the lighter shades being unique.

Messrs. Jas. Veitch and Sons, Lim., Chelsea, had an extensive exhibit of show and alpine auriculas in great variety, the alpines

being especially good, and the groundwork of adiantum added to the beauty of the flowers, the yellow varieties being especially fine; while Messrs. Phillips and Taylor, Bracknell, staged a good collection of auriculas, the green-edged variety, Mrs. Henwood, being very fine, as were also the alpine varieties. Messrs. B. Ladhams, Lim., The Shirley Nurseries, Southampton, also had a fine exhibit of crimson polyanthus arranged in a basket.

Scottish Horticultural Association.

On April 26, on the invitation of Mr. C. W. Cowan, over 100 of the members of this association visited Dalhousie Castle, in order to see the magnificent collection of daffodils which has been brought together there. The collection is the most extensive in Scotland, if not in Britain, and it contains all the finest of the most recent varieties. There were also noticed some very fine seedling varieties raised by Mr. Pirie, Mr. Cowan's gardener. A great deal has been done in the way of naturalising some of the kinds, and the great masses of trumpet varieties like Emperor, Empress, Glory of Leiden, etc., on the grass slopes beneath the Castle, where they have thoroughly established themselves, were much admired. Primroses and many other plants are also being extensively naturalised, and in the garden proper there is a large and varied collection of herbaceous plants. The party were entertained to tea in the Castle by Mr. and Miss Cowan, and on the call of the President, Mr. King, they were accorded a very hearty vote of thanks, in acknowledging which Mr. Cowan expressed the pleasure it gave him to see the members at Dalhousie. The weather was not very favourable, rain falling most of the time, but nevertheless the excursion was a most enjoyable one.

Croydon Gardeners' Society.

The recent meeting of this society was held in the lecture room of the Town Hall, Croydon. It is the good fortune of Croydon to have a splendid up-to-date collection of books in the public library, and with the idea of bringing them more to the notice of the members of the society this meeting was arranged. A very able and instructive address was given by Mr. J. Harrison Dick, who dealt with gardening works from the early periods down to the present time. As long ago as 1440 writings on garden subjects were known, and the first book written by the Abbot of Cirencester is still in existence, and the directions contained therein can be followed at the present time. Mr. Dick alluded to many useful writers in the 17th and 18th centuries, and in the several periods referred to the methods of culture they recommended. Fashions changed considerably in gardening, and the possessors of big gardens lavished small fortunes upon their ideals. Since 1820 writers have been more abundant, and now, with a cheaper literature in vogue, one can find many authors on a single subject, and there appears to be no phase of culture left untouched. With such a big collection of horticultural books as the Croydon libraries contains, it is difficult to mention each work, but where occasion required Mr. Dick brought to the notice of his audience these special works.

The Chief Librarian (Mr. Stanley Jast) and his staff of capable assistants arranged a number of the books for the members to view, and keen interest was displayed in looking through the volumes. Time would only allow just a peep at the books, but it was sufficient to enable the members to appreciate the value of the collection at their disposal for reference when occasion requires.

After tributes of appreciation to Mr. Harrison Dick for his address, and to the Libraries Committee and Mr. Jast for their kind privilege extended to the society, the meeting was brought to a conclusion.

THE DESTRUCTION OF ALBIZZIA LEBBEK IN CAIRO.

Mr. G. St. C. Feilden, Chief Gardener to the City of Cairo, has, at the request of the Kew authorities, contributed to the current issue of the "Kew Bulletin" the following notes on the mealy bug which has caused such havoc among the Lebbek trees in the streets of Cairo.

Until the summer of the year 1909 Cairo contained some thousands of fine specimens of Albizzia Lebbek, which formed shady avenues throughout the town. In the space of four years three-quarters of these trees have disappeared, their destruction having been brought about by the ravages of a species of mealy bug, Dactylopius perniciosus. Such are the depredations of this pest that in four months it will entirely destroy the largest tree. Although it is only in recent years that this mealy bug has made its presence felt it has doubtless existed in Egypt unnoticed for a number of years.

The insects can be found on almost every Lebbek in the neighbourhood of Cairo, but it is only in the town itself that it has caused serious damage. Here the trees planted in paved and tarred streets, deprived of air at the roots except that provided by a small grating, and shut in by high houses on each side, were growing under unnatural conditions and were in consequence in indifferent health. On the Gesireh side of the Nile, where the paths are not paved or the roads tarred, and where the trees are exposed to very wind, the mealy bug, though everywhere present, makes no headway. It would seem therefore that the increase of the insect is influenced by the state of the health of the host. The attack begins in May, is at its height in June and July, and commences to slacken in August. The species appears to be very prolific. Mr. F. C. Willcocks, entomologist to the Khedivial Society of Agriculture, found 1,100 eggs in the ovisac of a female.

The young larvæ settle on the twigs and in the axils of the leaves, and the trees then appear to be covered with lumps of dirty white wool. Presently the whole crown of the tree shrivels, presenting a scorched and blackened appearance. The leaves then fall but many are caught and retained by the sticky secretion of honeydew given off by the insects by their slightly adhesive ovisacs. Little bundles of fallen leaves and stamens thus accumulate all over the tree, giving it a bunched appearance. These collections of leaves form a very efficient protection to the insect and render the application of sprays or emulsions almost useless. In August the tree is completely defoliated and in a few months it dies. As above mentioned, spraying, unless carried out at an early stage, is of little avail, and furthermore the height of the trees renders the operations very difficult of thorough performance. A drastic remedy tried was that of cutting back the trees attacked almost to the main trunk and cleansing with a strong petroleum emulsion applied with a stiff brush.

The trees so treated, however, nearly always died, or if they survived were permanently spoilt in appearance. There can be no doubt that the Lebbek is doomed as an avenue tree in Cairo, except under the most favourable conditions. The problem that remains is to find the most suitable trees to take its place. The danger of relying on one species only has been sufficiently demonstrated.

Leeks.—If desirable that good specimens should be obtainable by early autumn, trenches should now be prepared much in the same way as for celery. The leek is a gross feeder, therefore a heavy dressing of well-rotted manure should be incorporated with the soil in the trench; the top six inches should consist of good soil, to which add a good dressing of wood ashes and soot. After the plants have been well hardened, lift them with a good ball of roots, and place fifteen inches apart in single lines; plant moderately firm, and water in if the soil is at all dry. The blanching process may be proceeded with in the course of a week or ten days. Brown paper collars should be used, drawing them up gradually as the leeks grow until the desired length of stem is obtained. At no time should the plants suffer from lack of moisture.—W. Messenger.

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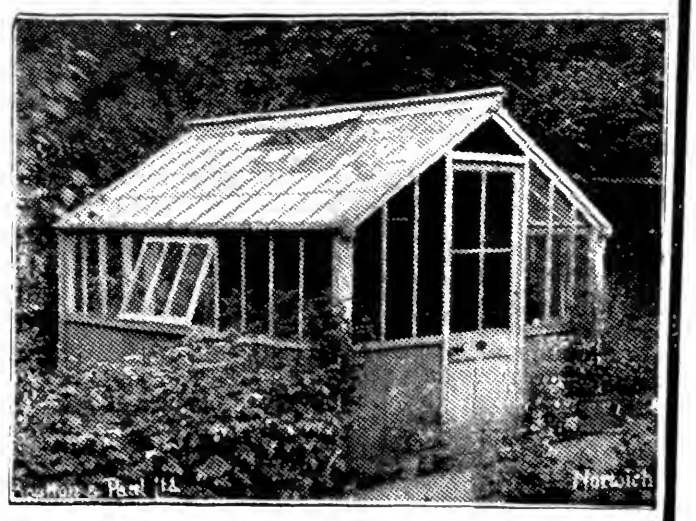

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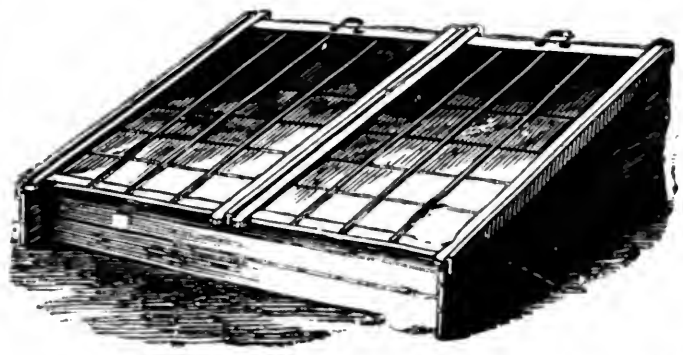

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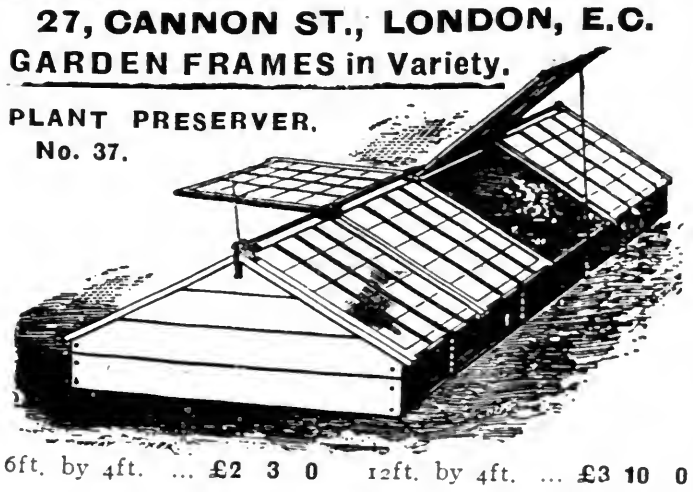

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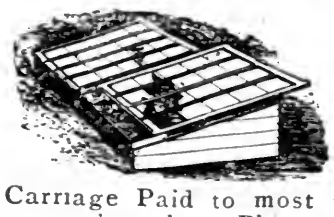

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

STREPTOSOLEN (BROWALLIA) JAMESONI.—C. W. G., Manningham: I have always understood that Streptosolen Jamesoni, now so much used as a "dot plant" for summer bedding, was a comparatively new introduction; but am told now that it is a very old plant. Can you put me right in this matter?—Streptosolen Jamesoni was introduced from Columbia in 1847, and after a few years it seemed to disappear from cultivation. About thirty years ago it reappeared, and for a good while was used as a greenhouse climber or pillar plant, but it did not become really popular until some genius discovered its value for summer displays out of doors.

MANURES TO PROVIDE HUMUS.—P. L., Cheltenham: What kinds of manures are the best to use in a fairly good and well-worked soil, when it is almost impossible to secure animal manure to supply humus?—In many gardening establishments, and especially in these days of motor cars, animal manures cannot be obtained in sufficient amount for the total requirements of plant food. In such cases it is necessary to obtain as a basis for the manuring some slowly-acting nitrogenous body of an organic origin which will provide a certain amount of humus matter, such as meat-meal, fish guano, dried blood, rape dust, or shoddy. This should be dug into the ground in winter or early in spring, at the rate of 8lb. to 12lb. per square rod. With this should be applied 4lb. to 6lb. per square rod of a phosphatic manure, like steamed bone flour or phosphatic guano, also kainit at the rate of 6oz. to 8oz. per square yard, every other year or so. Finally, when the plants begin to grow a little active nitrogen, in the shape of sulphate of ammonia, nitrate of soda, or nitrate of lime, at the rate of 1½lb. to the square rod, or ½oz. in a gallon of water.

PROPAGATION OF LITHOSPERMUMS.—F. N., Salisbury: Please tell me the best time to propagate lithospermums, and the best method of securing a good stock.—The beautiful lithospermums are readily propagated from cuttings taken during July and August and inserted in sandy soil in a cold frame, and kept close until roots are formed, afterwards potting up the plants to establish, and subsequently planting in their permanent positions in spring. L. Gastoni and L. graminifolium will at times give a few good seeds, which are best sown as soon as ripe, standing the pots in a cold frame until germination takes place.

CARPETING FOR JAPANESE MAPLES.—S. M. B., Whitstable: My employer has under the ruddy and purple-leaved maples, and we have separated the varieties with red or purple leafage from those having yellow, or yellowish-green, foliage, and propose to plant each set in a separate large bed. The plants are not exactly standards, but each has a distinct stem at the base. We want to cover the ground under and between the maples with some low-growing plant that will be effective, and at the same time show up the pretty foliage of the maples. Can you suggest good subjects for this purpose?—We have seen violas used with great success under Japanese maples planted in beds or large groups. You cannot do better than plant a yellow viola under the ruddy and purple-leaved maples, and a soft blue viola under the golden and green sorts.

FAILING TOMATOES.—G. P. T., Oxon: Could you help me in respect to the enclosed tomato plants? We procured them in January, and I did not like the look of the plants then, as they were drawn. They grew fairly well in 48's, and were duly planted out in single rows on stages in a temperature of from 60 to 70 degrees by day. Along one side of the house many plants developed a blue appearance, and now some of these have withered up. The soil is in good condition, and was dressed with a soil disinfectant previous to use. The plants that remained in pots have practically all failed. I have grown tomatoes for years, but have never seen any go like these. Your help will be much appreciated.—The trouble is at the roots, these being insufficient to carry the plants now that fruiting has commenced. Possibly the seedlings were raised in great heat and abundant moisture, and have never recovered from the check received in infancy. We find no trace of disease on the foliage. Shade the plants a little during bright sunshine, allow plenty of ventilation, and water with the utmost care. Spray occasionally with a weak solution of sulphide of potassium.

NATIONAL ROSE SOCIETY.—H. T., Burton: The secretary of the National Rose Society is Mr. Edward Mawley, V.M.H., Rosebank, Berkhamstead, and the minimum annual subscription to the society is 10s. 6d. Mr. Mawley will send you all particulars upon application.

RECORD OF THE INTERNATIONAL EXHIBITION.—J. T. T., Stowmarket: While visiting the Royal International Horticultural Exhibition at Chelsea last spring, I saw some bills displayed in the grounds stating that a certain firm would publish a coloured record of the great exhibition. Please let me know whether such a record has been published, and if so, by whom and at what price?—This record has not yet been published, but we understand that the material is now in the printers' hands, and that early publication may be expected. Due notice of the appearance of this work will be given.

NAMES OF PLANTS.

AVEYARD.—Appears to be a small flower of Mdme. Abel Chatenay rose.

C. M., Colne.—1, Rehmannia angulata; 2, Boronia heterophylla; 3, Corydalis lutea; 4, a Corydalis, species not recognised; 5, Begonia semperflorens gigantea.

J. T. T., Stowmarket.—We do not undertake to name florists' flowers; however, 1 is the Campernelle Jonquil; 2, Narcissus biflorus; 3, probably Katherine Spurrell; 4, a small Barri conspicuus; 5, very like Leonie; 6, N. Nelsoni.

CATALOGUES RECEIVED.

AMOS PERRY, HARDY PLANT FARM, ENFIELD.—A happy reminder of the hardy plants suitable for spring planting, with lists of aquatics and florists' flowers.

MANSELL AND HATCHER, LIM., RAWDON, LEEDS.—A useful list of liliums, special prominence being given to the Burmese L. sulphureum and L. nepalense.

E. A. WHITE, LIM., BELTRING, PADDOCK WOOD.—A description of garden enemies and the Abol specialities and sprayers for their prevention and destruction.

LISSADEL BULB FARM, SLIGO.—An illustrated, descriptive, handy-sized, and altogether useful and interesting list of alpine and herbaceous plants, and ornamental shrubs.

NATIVE GUANO CO., 29, NEW BRIDGE STREET, BLACKFRIARS.—In this company's publication directions for the use of Native Guano are given, and there are many pages of testimonials to the value of this fertiliser.

ANT. ROOZEN AND SON, OVERVEEN, HAARLEM, HOLLAND.—A spring list of bulbs and roots for spring planting, together with lists of vegetable and flower seeds. The firm's London agents are Messrs. Mertens and Co., 3, Cross Lane, St. Mary-at-Hill, London, E.C.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY. Height above Sea-level, 150 feet.

DATE. 1913. APRIL 20 TO APRIL 26.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 20—Sunday	10 30	47	42	58	37
,, 21—Monday	1 0	52	51	59	43
,, 22—Tuesday.....	2 12	52	52	62	47
,, 23—Wednesday..	10 18	55	49	63	39
,, 24—Thursday....	9 54	52	48	66	32
,, 25—Friday.....	4 6	48	46	56	47
,, 26—Saturday.....	2 18	50	47	58	39
	(total)				
Means ..	40 18	51	48	60	40

DATE. 1913. APRIL 20 TO APRIL 26.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE EXPOSED.
	ins.	deg.	deg.	deg.	deg.
April 20—Sunday	0·05	46	46	46	36
,, 21—Monday	0·04	49	47	46	40
,, 22—Tuesday.....	—	50	47	46	38
,, 23—Wednesday..	—	50	48	46	34
,, 24—Thursday....	0·04	49	48	47	32
,, 25—Friday.....	0·25	52	49	47	42
,, 26—Saturday....	0·10	49	49	47	32
	(total)				
Means ...	0·48	49	47	46	34

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, May 5.—United Horticultural Benefit and Provident Society, adjourned annual meeting at the Royal Horticultural Hall, at 8 p.m.

TUESDAY, May 6.—Forest Gate Chrysanthemum Society's meeting.
Scottish Horticultural Association.
National Amateur Gardeners' Association, monthly meeting.

THURSDAY, May 8.—North of England Horticultural Society, monthly meeting, at Leeds; lecture on "The Food of Plants."

The following dates of exhibitions have been recently announced:

Epsom Horticultural Society, Rose Show, June 26, at Woodcote Grove; Summer Show, August 4, at Epsom College.
Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.
Ealing Horticultural Society, July 9.
Weybridge Horticultural Society, July 10, at Barham Lodge, Oatlands Drive.
Ulverston Rose and Sweet Pea Show, July 18.
Birmingham Horticultural Society, July 18 and 19, in Handsworth Park.
Haywards Heath Flower Show, July 23, in Victoria Park; the twenty-fifth exhibition.
Tunbridge Wells Flower Show, July 23 and 24.
St. Quintin Horticultural Society, July 24, in the Gun Club grounds, Wood Lane, W.

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VOL. LVI.—No. 3,106. SATURDAY, MAY 10, 1913.

THE GARDENERS' MAGAZINE

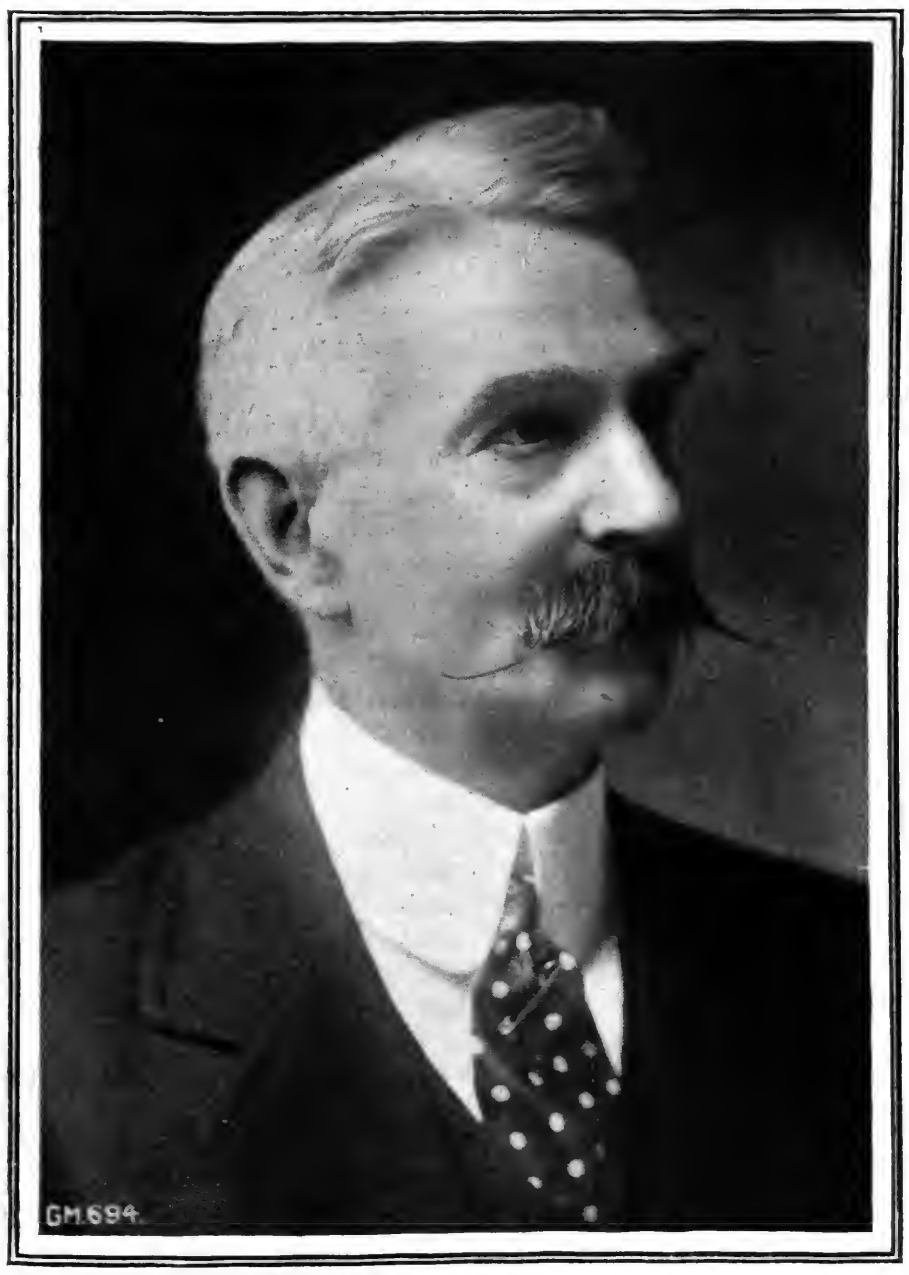
NOTE OF THE WEEK.

Tulips.

When enjoying the delightful effects produced by the play of sunlight on the glistening flowers of the various sections of tulips in their diversity of colouring, as they are gently swayed by the passing breeze, the question sometimes arises as to whether these beautiful bulbous plants are planted so freely in gardens as might with advantage be done. Instead of giving a direct answer thereto it may perhaps serve a more useful purpose to acknowledge that in many gardens, and these not always of the largest, they are taken full advantage of for the production of rich colour effects at a time when, owing to the general dulness of vegetation, high colouring is highly appreciated. Where they are liberally and judiciously planted there are continuous displays extending over a considerable period, that are not only immensely attractive in themselves, but are quite distinct from those produced by other classes of hardy plants that yield of their floral wealth during the spring season. The first of the tulips to give brightness to the flower garden are the Dutch varieties, which are a trifle formal, due chiefly to their dwarf growth, but they afford a wide range of colour, and vary sufficiently in their time of flowering to enable the planter to select varieties that will give a successional display of flowers extending over a considerable period. Then follow the Cottage, Darwin, and Rembrandt varieties for beautifying the garden, and the English show tulips which are capable of giving unbounded pleasure to those who understand and appreciate their distinctive characteristics. It should be remembered, when an endeavour is being made to properly estimate their value in the flower garden, that not only are tulips highly attractive when in bloom, but that they so readily lend themselves to artistic treatment as to admit of their being planted alone, or in association with other plants, with the most satisfactory results. They have also the advantage of being inexpensive, a point of some importance to a considerable proportion of flower lovers, the bulbs of many beautiful varieties being so cheap that there is really no occasion to trouble overmuch about keeping them for a second year. In some gardens tulips are but sparingly planted, possibly owing to the colour or form of the flowers not appealing to the taste of the owners. Not all who appreciate the charms of the flower garden are in agreement with regard to the relative merits of the various classes of plants grown therein, a fact with which the majority of our readers will be quite familiar. There is not, however, so much difference in the opinion held by cultivators as to the value of tulips for garden decoration, as that which has evidently been held by the poets on the beauty of these flowers. Churchill describes the flower as "The tulip idly glaring to the view," and states also that "The fairest tulip's not the sweetest flower." Gay writes of "The gaudy tulip's streaky red," and with reference to the effect produced in the garden, Shenstone, who was a landscape gardener of considerable eminence as well as a poet, has written,

"Distant they strike inelegantly gay,
To the near view no pleasing charms display."

In contrast to this whole-hearted condemnation of these flowers, we have Hood's statement, tnat "The tulip is a courtly queen." Miss Landon's description of the blooms as "The wine cups of the sun," and Tennyson's charming line "Deep tulips dashed with fiery dew." The tulips now at the command of cultivators vary so considerably in character and colour, that owners of gardens possessing the most divergent tastes should not have much difficulty in finding some that will afford them much gratification. If it were desirable to discuss the relative merits of the several sections in which tulips are arranged, it might be said that, from an æsthetic point of view, the Dutch varieties, of which the brilliantly coloured Keizerskroon is a well known representative, are the least desirable. It is true they lack the elegance characteristic of the May-flowering varieties, but to balance this they bloom during April, when flowers are but few, and their stiff stems prevent the flowers being buffeted about by the wind, and it may be seriously injured. If they are rather formal they are highly effective, and possess much beauty, and the section cannot be dispensed with in gardens where it is desired to have a bright display of flowers during April. As so well known to those who have given any considerable share of their attention to the May-flowering tulips, there is a considerable difference in the several sections, and of these the Cottage, Darwin, and Rembrandt varieties are the most generally useful. These should be selected according to taste, but when there is no strong predilection for either, the three sections should be grown in about equal numbers, because of the greater variety both in form and colour of the flowers that is obtained. Within recent years the flowers of the Darwins have obtained considerable popularity for decorative purposes in a cut state, and in many private gardens a considerable



MR. W. L. WALLIS,
Secretary of the East Anglian Horticultural Club.

planting of the Darwin varieties, having flowers decisive in colouring, is made in the kitchen garden for the supply of flowers for the house. The Darwins are also grown under glass in immense quantities for the flower markets, where they find a ready sale, their stiff, erect stems rendering them of much value to those who have to carry out floral decorations. The usefulness of the tulips that bloom during the present month is so great that those who are engaged in garden management should take advantage of the opportunities they may have for becoming acquainted with the numerous varieties, and the purposes for which they are best adapted.

Mr. W. L. Wallis, the secretary of the East Anglian Horticultural Club, has charge of the correspondence department of Messrs. Daniels Brothers, Norwich, a firm he has served for over thirty years. Mr. Wallis was appointed secretary of the famous East Anglian Horticultural Club at the end of 1897, when the membership was 99, and the turnover £55 10s. 11½d.; whereas now there are 365 members, and the annual turnover is about £133. Needless to say, much of the enthusiasm at Norwich is due to the energy and enterprise of Mr. Wallis, who not only inspires confidence, but creates enthusiasm, and persuades everyone to do the best for the club. He possesses an excellent capacity for organisation, and the society's outings are his special care. The club is in every sense a going concern, and its schedule of monthly exhibitions, lectures, etc., is a model publication. A reference and lending library is attached to the club, and there is also a benevolent fund for the assistance of distressed members. The club has four times competed for the Affiliated Societies' Cup, for fruit, at the Royal Horticultural Society's Fruit Show, and has won two first and two second prizes. Mr. Wallis is justly proud of the splendid work the club is doing, and, we may add, the club is very proud of its secretary.

Royal Horticultural Society's Fortnightly Meeting.—The next meeting and exhibition of the Royal Horticultural Society will be held on Wednesday, the 14th inst. The change that has been made in the day of meeting is due to the desire of the Council to avoid the inconvenience caused to exhibitors when the exhibition is held on the day following a Bank holiday.

Additions to the Kew Library.—In the form of an appendix to the Kew Bulletin a list of the books added to the Kew Library during 1912 has been published. It is so arranged that it can be cut up and added to the original catalogue. Forty-eight octavo pages contain the titles, authors, date, etc., of the books purchased or presented, and there are probably close upon a thousand such additions.

American Gooseberry Mildew.—According to the official report that has recently come to hand, the Board of Agriculture have received information that the summer stage of American gooseberry mildew (Sphaerotheca Mors uvae) has been discovered in a Kent garden, and also in a Cambridgeshire garden. All gooseberry growers are advised to examine their bushes carefully, and should any sign of disease be found to spray their bushes with a solution of liver of sulphur (1lb. to 32 gallons of water). Growers of gooseberries are reminded that by Article 3 of the American Gooseberry Mildew Order of 1911 they are required to report the presence of this disease on their premises to the Board or the clerk of the local authority for the district either directly or through an inspector, and that the failure to report is punishable by a fine.

Insect Pests and Spraying Apparatus.—In view of the activity at the present season of the numerous enemies of plant life that are more or less destructive to useful garden crops and ornamental plants, we shall, in our next issue (May 17) devote special attention to the insect pests that commit their ravages during the spring and summer months, and the best means of combating them. The articles relating to this important aspect of garden practice will be comprehensive in scope, and the information they will contain will be especially adapted to the work that has to be commenced at once, and persevered with during the summer months. In addition to the articles dealing with the enemies of fruit trees and vegetable crops, and the pests of ornamental plants grown under glass, the issue will contain a full report, with illustrations, of the comprehensive trials of spraying machines and syringes recently carried out by the Royal Horticultural Society at Wisley.

Another Great Show at Ghent.—Not satisfied with the grand exhibition so fully reported and illustrated in our issue of May 3, the Ghent Horticulturists have already made preliminary arrangements for a grand display from August 9 to August 18 in the same splendid buildings. The Cercle Horticole Van Houtte is organising this exhibition, and, besides providing for ferns, palms, cycads, etc., the schedule will have classes for roses, begonias, gloxinias, pelargoniums, dahlias, liliums, and most kinds of seasonable hardy flowers and greenhouse plants. An international jury will be nominated shortly.

Messrs. William Bull and Sons are holding their annual special flower show at King's Road, Chelsea, this week, but, though the exhibition proper finishes Saturday, May 10, there will be plenty to see if visitors should attend during the holiday week. The large winter garden has been made very gay with orchids, rambling roses, liliums, and a splendid lot of fine amaryllis. Crowds of visitors have admired the rarity and beauty of the flowers, and the elegance and excellence of their arrangement with palms, tree ferns, and other suitable foliage plants. On Monday, May 5, the opening day, there was a record attendance. The great feature of the exhibition is a very handsome seedling odontoglossum bred from some of the finest blotched varieties. This is O. crispum Princess Mary; the plant carries two spikes, and one spike has ten shapely blooms finely blotched with rich red-brown on a blush-white ground. There is a little purple shading around some of the red blotches, and a handsome golden crest adds to the general beauty of the flower. An illustration of a single flower is given on page 345. Needless to say, this odontoglossum raised by the Messrs. Bull has been greatly admired.

The Crystal Palace.—At a meeting of the London County Council held on Tuesday last, the following recommendation of the General Purposes Committee was agreed to: "Without expressing any opinion at this moment as to the commercial value of the Crystal Palace and grounds, the Council do seek from Parliament authority to subscribe £30,000 towards the acquisition of the land as an open space, subject to being satisfied as to the arrangements for its maintenance and control." Lord Plymouth, who purchased the Crystal Palace and grounds, is willing to convey them to trustees, national or municipal, for the price at which he bought them. The Lord Mayor of London is making an effort to secure the sum needed to make the purchase, and this grant from the London County Council will have a distinctly good influence in the right direction. The L.C.C. estimates for the year for the business conducted under the Parks and Open Spaces Committee were £162,140.

The Kew Guild Dinner.—This interesting and pleasant function will be held on Wednesday, the 21st inst., the second day of the Royal Horticultural Society's Chelsea exhibition, at the Holborn Restaurant, at 7.30 p.m. The dinner will be preceded by the annual general meeting, which will commence at 6.45 p.m. Mr. William Goldring will preside at the annual dinner, which will be held in the Caledonian Room. Many old Kewites now home from abroad will be present, and a good gathering is anticipated. Members wishing to attend should communicate with the secretary of the Guild, Mr. H. Cowley, South Side, Kew Green.

Oxford Botanic Gardens.—The annual report for 1912 on these gardens has been issued, and the curators state that the total receipts for the year (including the sum of £70 paid by the Sherardian Professor of Botany out of fees received by him from students) have been £790, to which is added 6s. 3d. balance brought forward from the previous year, making a total of £790 6s. 3d. The expenditure amounted to £792 19s. 8½d., thus leaving a debit balance of £2 13s. 5½d. on the account. The expenditure in 1910 was £788 7s. 9½d., and in 1911 £797 17s. 8d. The expenditure on repairs has again been heavy, amounting to £176 10s. 3d., as compared with £158 5s. 11d. in 1911. This increase of expenditure, which accounts for the debit balance on the account, is solely due to necessary repairs which had to be undertaken at a moment's notice to one of the large boilers.

Destruction of Wild Plants.—In the course of his presidential address at the annual meeting of the Newbury Field Club, the Hon. A. E. Gathorne-Hardy referred to the destruction of many wild plants, owing to the rapacity and greed of some persons and the ignorance of others. He was glad to say that some change was coming over the English people, who now appeared to derive more pleasure from watching birds and wild animals than from destroying them. He trusted that at no distant date they would experience more enjoyment from watching the development of native plants than from rooting them up.

The Late Mr. Edward Webb's Estate.—The late Mr. Edward Webb, who was the senior partner of the firm of Messrs. E. Webb and Sons, the well-known seedsmen of Wordsley, Stourbridge, left estate of the value of £947,633.

School Gardening in Leicestershire.—In the course of an address recently given before the Leicestershire Chamber of Agriculture, Mr. W. A. Brockington stated that the teaching of gardening should not be to show boys how to grow a few vegetables, but to lay the foundation of a scientific habit of mind, and to teach something of the principles that underlie all cultivation of the soil. Between 1902 and 1908 the number of school gardens in England increased from 349 to 1,505, and the number of scholars under instruction from 5,501 to 24,316. In Leicestershire they had established school gardens wherever the schoolmaster was willing and able to undertake the work, and the managers of the school were acquiescent. In 1903 there were two school

gardens in the county; last year there were 52, with 652 pupils; and the number was increasing, and would further increase if the movement were not retarded in many places by local prejudice. The time would come when a thorough training in practical arts would form part of the education of all rural teachers, and meanwhile there was ground for satisfaction in the amount of teaching ability already placed at the disposal of rural elementary schools. In Leicestershire gardening was invariably taught by the regular school staff.

Pruning Town Trees.—Referring to the pruning of trees in towns which was mentioned in the "Note of the Week" which appeared in our issue of April 26, Mr. Basil Holmes, secretary of the Metropolitan Public Gardens' Association, writes: "The association has found that when pruning is necessary it is quite possible, in any but narrow thoroughfares, to do the needful, even in the case of plane trees, without reducing them to the condition of clothes props, and entirely destroying their natural beauty. Straight, clean stems are requisite up to a height sufficient to clear all traffic, and a system of internal thinning-out is adopted, so that ample light and air pass through the trees. Also, where such trees are too closely planted, the alternate ones should be entirely removed instead of mutilating the whole row."

Lady Downe's Seedling Grape.—It is a point of some importance, and certainly not without interest, that those who have to obtain their supplies of grapes through the several trade channels, and appreciate the high quality of Lady Downe's Seedling, have to be largely dependent on the grape growers at the Cape for fruit of this excellent grape. This fine late grape was raised in the gardens of Beningborough Hall, York, about 1835, and was distributed some eight years later. It was slow in making its way into general cultivation, and at no time has it attained to a high degree of popularity in this country, notwithstanding the fact that there are no special difficulties connected with its cultivation, and that the fruit is richly flavoured. While this excellent grape has failed to obtain a position proportionate to its merits in British gardens, it has become highly popular with growers at the Cape, and large quantities are now being sent to the British markets, where the fruit meets with a ready sale, owing to its good appearance and rich flavour.

ROSE MDME. EDOUARD HERIOT.

Flowers orange-vermilion when opening, deep pink shaded with orange when fully expanded. A Pernetiana rose, raised by M. J. Pernet-Ducher. Gold Medal, N.R.S., May 1. Messrs. G. Beckwith and Son, Ware Road Nurseries, Hoddesdon.

ASPARAGUS:

ITS LITERARY AND CULINARY ASSOCIATIONS.

This well-known and delicious vegetable has been called the chameleon of the kitchen, and the season of 1912 was exceptionally good; it was cheap and abundant, and of excellent flavour, provided you were able to secure a good type.

There are many varieties of this succulent and favourite vegetable, both English and foreign. France grows it in large quantities, not only for its own, but for the English market; but, nice as the French may be, I think all will allow that the English "grass" carries the palm for its delicious flavour. Holland, says the grand old horticulturist Loudon (of whom we shall speak later on in this paper) claimed that asparagus was brought to the greatest perfection in our own country, unless Holland perhaps; but we, I think, have succeeded in surpassing that country in these later years, and Loudon adds that without exception England could claim that the asparagus beds in his day at Deptford and Mortlake were the largest in the world. John Evelyn, the diarist tells us that Battersea was a noted place for asparagus growing, and in the beginning of the last century it was cultivated largely in the Chelsea fields for the Covent Garden Market.

Evelyn's Eulogy.—John Evelyn, just mentioned, says, in his "Acetaria": "Next to flesh nothing is so nourishing as asparagus." This is as may be, and modern physicians might not, perhaps, endorse his verdict. Nevertheless, it is vastly appetising, and can be served in so many forms that it is a veritable chameleon of the kitchen. It is supposed, in old Herbals and such-like books, to soothe and still the action of the heart, in the same manner as foxgloves, and also to possess lithic and other medicinal properties.

Although there are many methods of cooking asparagus, the old-fashioned, and simplest, always remains the best, i.e., immerse the bundle in salted water, standing it upright, so that about a couple of inches are above the water. The last five minutes of boiling or steaming the bundle should be laid down in the water, and the asparagus will be evenly cooked. Serve with melted or oiled butter, and hard-boiled, new-laid eggs divided into pieces and placed around the dish are a pretty and useful adjunct, and makes a very nice entrée. There is a decided difference of opinion as to whether asparagus should be eaten hot or cold, but experts are inclined to agree that it is the one thing in the regions of gastronomy which should be lukewarm, neither hot nor cold. Such a state of things seems to bring out the flavour best. It is debatable, but certainly worth trying.

Asparagus makes a delicious salad eaten cold with olive oil and vinegar. The cerebrated French author, Fontenelle, who was a nephew of Corneille, and lived to the age of one hundred (1657-1757), was particularly fond of asparagus served with oil, but he was intimately acquainted with an Abbé who preferred to eat his asparagus with butter. One day the Abbé dropped in unexpectedly to dine, and Fontenelle, who had ordered his favourite dish, with great forethought directed that half should be dressed with oil, and the rest with butter. Suddenly the Abbé, a man of plethoric habit, fell down in a fit, and died within five minutes. Fontenelle, without a moment's delay, called to the cook, "Dress them all with oil, all with oil, as I told you at first."

"The Grass Club" is a curious old-fashioned London dining club, that meets only once a year, its only object being the cult of asparagus, and its members are almost entirely prosperous middle-aged City men, who, for once in a way, abjure kickshaws and stick to plain English food. The dinner is annually the same. First, real turtle soup, thick and clear, after which mutton cutlets, and in front of every member is placed a dish of ten pounds of asparagus. Ten pounds of asparagus means about five hundred stalks, and the whole idea of the feast is that, at any rate, once a year no man present shall be able to say that he cannot get enough asparagus. He is not, of course, bound to eat it all, but it is amusing how much is consumed before the company breaks up. A greedy custom, maybe, but with something quaint and attractive about it nevertheless.

Charles Lamb was of opinion that asparagus "inspired gentle thoughts." Charles Dickens refers to it in "Dombey and Son" when describing Dr. Blimber's educational establishment at Brighton: "It was a great hothouse, in which there was a forcing apparatus incessantly at work. All the boys blew before their time. Mental green peas were produced at Christmas, and intellectual asparagus all the year round."

The anecdotal end of the asparagus is as substantial as the actual. Dean Swift and George Faulkener, the Dublin Alderman and bookseller, who printed and published for Swift, were dining at the Deanery. Asparagus was served, and the guest asked for a second helping. Swift pointed to his plate, and said, "Sir, first finish what is before you!" "What, sir," answered Faulkener, "eat my stalks?" "Ay, sir," replied the Dean in his most imperious manner, "eat your stalks, or you will have no more. King William the Third always ate his stalks." When relating this story Faulkener was often asked, "Did you really eat your stalks?" And he always replied, "Yes, certainly; and if you had been dining with Dean Swift, you would have eaten your stalks too."

It is quite a poetic idea that the asparagus is really a lily, or, rather, of the lily family, and it is written: "When we hear that it is ranked with the asphodelos, we are ready to believe that the fields of asphodel in which the blessed roam in Elysium must be beds of asparagus." It is pleasant to think that this Elysian lily, though it does not look in the least like a lily when it comes to table, is a real old English delicacy. One of its old countryside names is paddock cheese. Kindred plants are Solomon's seal and butcher's broom. But these are merely the bye-ways of botany.

A dictionary of 1791 says, "Sparrow grass is now so general that 'asparagus' has an air of stiffness and pedantry." Samuel Pepys used "sparrow-grass" and also "sparagus." A grave Latin author refers to the cookery of lobster with asparagus, a course which has been adopted by modern chefs, and in Juvenal's Eleventh Satire he promises his friend Perseus a plate of mountain asparagus which had been gathered by his farmer's wife. Throughout classical gastronomic literature there are innumerable references to the virtues and excellences of asparagus, and its alkaloid asparagin, so that one may gratefully welcome its vernal appearance with every mark of gentle appreciation.

And now I should like to give you a charade which an uncle of mine quoted when I was a child. It might have been his own. It runs thus:

> "My first's a little thing that hops;
> My second yields us good hay crops;
> My whole we eat with mutton chops."

The answer is obvious after the dictionary of 1791.

H. C. Philbrick.

(To be continued.)

JANKÆA HELDREICHI.

It is probably fortunate that the wonderfully beautiful Jankæa Heldreichi is so scarce and expensive that it is beyond the means of the average lover of alpine flowers. I may be met with the argument that it would be more widely grown were it cheaper to begin with, but I would meet this with the counter-argument that if it were cheaper there would be far more who would be doomed to lament their temerity in purchasing it with weeping and wailing and gnashing of teeth. The truth is that the Jankæa cannot endure our climate in any but a few favoured spots on the rock-work, and that it is not suited for the many who cannot always give it what it wants.

Have we not seen many plants, carefully purchased, planted according to the most approved teaching, and tended with watchful care, succumb despite of all the coaxing and attention that could be given to them? How few could be seen, a year or two after, happily established far from their Balkan home in this land of ours! These could be counted on the fingers of one hand, and it would be wrong to endeavour to persuade the reader to indulge in a plant of Jankæa Heldreichi. Not that it cannot be cultivated, for, so far as that goes, the lovely Eritirichium nanum is a still more difficult plant, but there are few—few indeed—who can succeed permanently with this silvery-foliaged, lovely pale violet flower.

One calls it silvery-leaved, and this is because the foliage is covered with a white, almost felt-like, down which gives it that appearance. This is the cause of its dislike to our climate. That protection against the dry cold of winter in a dry climate is its weakness in ours. Wet above means death to the Jankæa, yet it must not be dry at the roots. Its ideal home is a little, very tiny, cavern in the rock-work, where not a drop of rain can reach its leaves, and where it is shielded from the sun, yet where its roots can be kept constantly moist. It is a treat to see it in such a place, thriving and increasing from year to year, and giving its little flowers on the silvery, downy leaves. Ah! how sad it is to fail with such a charming plant, and how glowing the delight one experiences when one sees it doing well!

Such a plant is worth trying, even at the cost of a pound or two, to the enthusiast with means, who is not content with being defeated, but who is resolved to succeed. To the man who wishes to soar to the highest summits of alpine culture, the conquering of the Jankæa is put forward as an achievement worth making a bold bid for.

S. Arnott.

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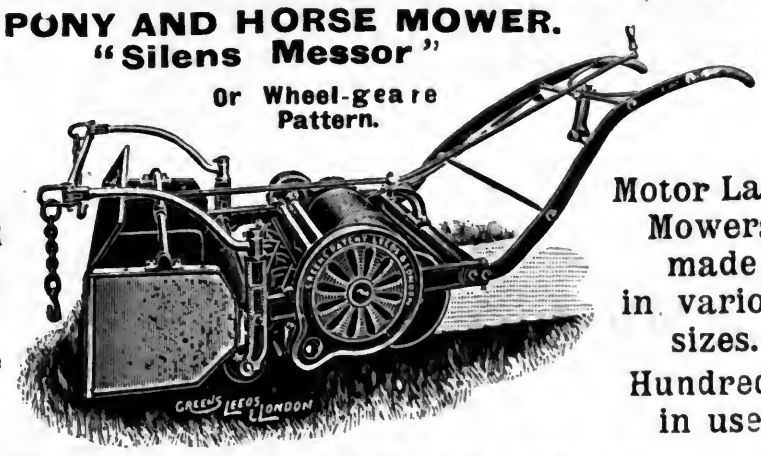

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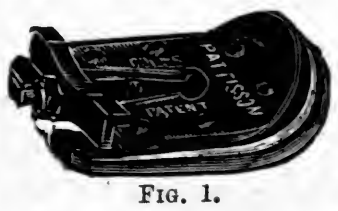

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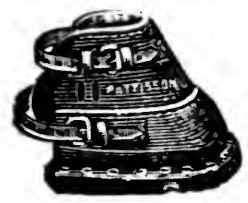

FIG. 2.

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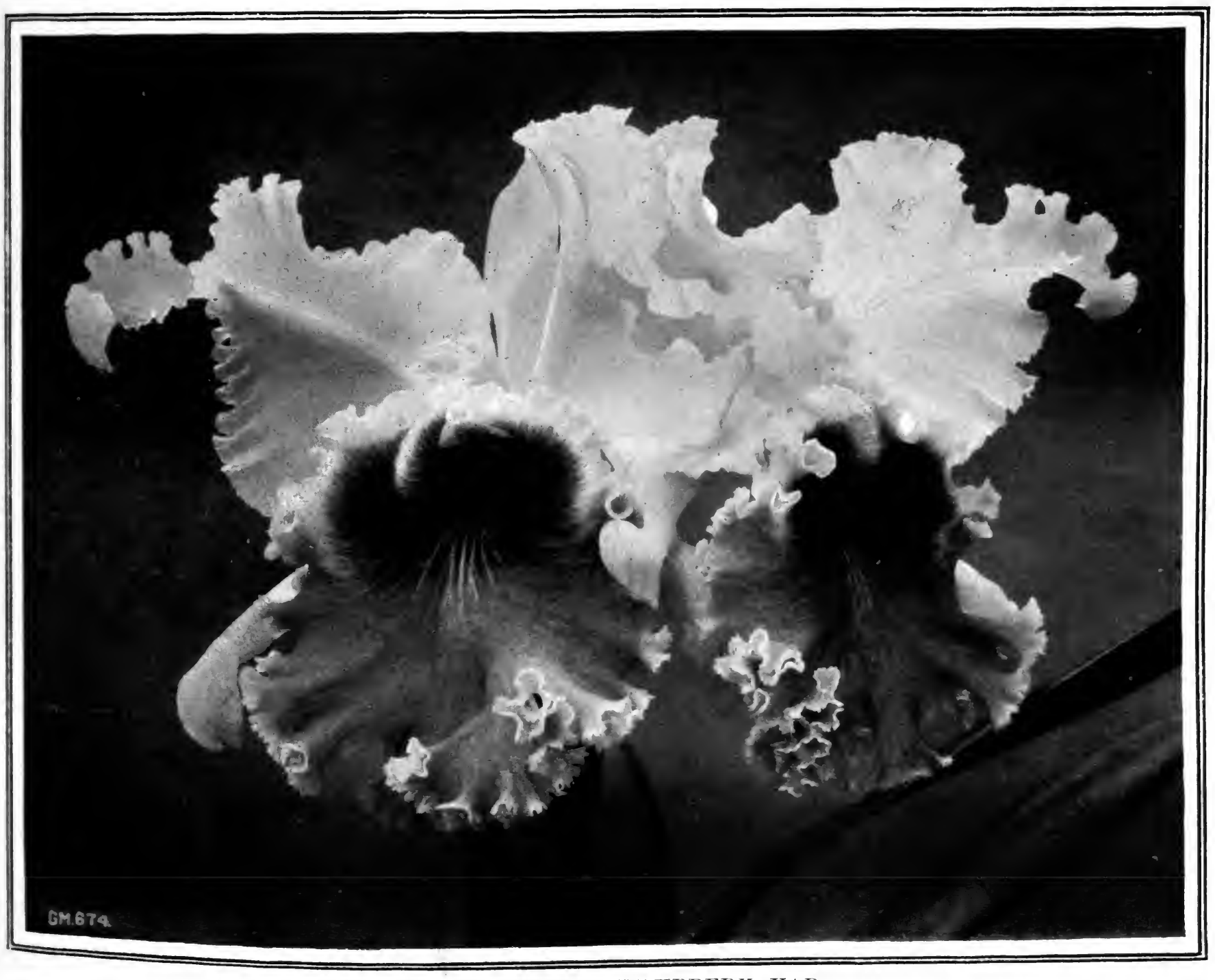
HISTORY OF ORCHID CULTURE IN GREAT BRITAIN.

Fashion, which from time well-nigh immemorial has exercised a powerful influence upon the garden, as on other matters that enter into the affairs of everyday life, has been far more kindly disposed to orchids than to any other of the more important classes of ornamental plants to which British cultivators give so freely of their loving care and skill. The "fickle jade" would indeed appear to have been so fascinated by the wondrous form and exquisite colouring of their flowers as to have strenuously opposed the endeavours of other members of the vegetable kingdom to usurp their place in her affections. She has on more than one occasion in the history of gardening in the British Isles become tired of hardy plants, notwithstanding their manifold charms and the intense interest associated with them. In like manner she has shown us that she no longer delights in the great colour schemes that for a considerable period formed a predominant feature of the attractions of the flower gardens of this country. In remarkable contrast to the influence of Fashion on other occupants of the garden there has been evinced a constancy to these delightful denizens of the forest and mountain side of tropical and semi-tropical countries that is hardly short of the marvellous. Hence it is that as we call to mind some of the more interesting facts relating to the history of orchids under cultivation, or engage in research for the purpose of refreshing the mind on points that are not quite clear, there is no danger of being confronted by reminders of the days when these plants were ousted from their high position in the estimation of the flower-loving community to make way for some other class that had caught the public fancy.



CATTLEYA TITYUS SHRUBBERY VAR.

A beautiful variety, obtained from a cross between C. Enid and C. Octave Doin; the flowers large, the sepals and petals blush-white, and the lip crimson-purple with golden blotches. A.M., R.H.S., March 22, 1913.

From the earliest period of the history of the cult of the orchid in this country until the present time there has been continuous progress, both in the culture of the plants, and in the development of the taste for their flowers. There may have been, as, indeed, was the case, some variation in the rate of progress, owing to difficulties that had from time to time to be surmounted. At one period it may have been the difficulty experienced in maintaining the plants in health, more especially in the early days when the conditions essential to successful culture were but imperfectly understood. At another, progress would be comparatively slow in consequence of the importations of plants not being sufficient to balance the losses that were unquestionably heavy in the case of some of the kinds, more especially those which have their home in cool regions, and consequently languish when subjected to a temperature largely in excess of their requirements. There has been no great set-back due to a change in the public taste.

Some of the many kinds that have their home in the lowlands of the tropics, and require a high temperature and a humid atmosphere, have lost the high degree of popularity they once enjoyed, but this has been chiefly due to the heat that has to be endured in the enjoyment of the beauty of the flowers. If a proof is required of the continuance of a deep interest in orchids, it may be readily found. Probably that to be found in the records of the exhibitions which have been held within the Metropolis will be as conclusive as any. Turning to these it is seen that orchids formed an important feature of the great summer shows held by the Royal Horticultural Society at Chiswick during the first half of the last century. It is seen also that they were so

attractive to the visitors as to render it difficult to fully enjoy the charms of the finely-developed specimens. Some readers may remember the collections of orchids that were contributed to the summer shows held at South Kensington, Regent's Park, and the Crystal Palace during a part of the second half of the last century, and the crowded state of these parts of the exhibitions in which they were arranged. Coming to more recent periods, many thousands of readers will have a lively recollection of the glorious displays of orchids at the Temple shows during the past quarter of a century, and the interest evinced in them by the visitors that crowded the tents in which they were arranged.

CYMBIDIUM SCHLEGELI.

A fine hybrid between C. insigne and C. Wiganiana; flowers cream colour with purplish markings on petals and sepals, and red spots on lip. A.M., R.H.S., January 23, 1912.

Early History.

To find unquestionable evidence of the period at which orchids were first cultivated in Great Britain, we have to extend our researches further back into the distant past than is commonly supposed to be necessary. While orchids were not grown to any considerable extent until the dawn of the last century, a beginning had been made long anterior thereto. The fact has been placed on record by Dr. W. B. Hemsley that in 1731 Peter Collinson received from a correspondent in the Bahamas a dried specimen of Bletia verecunda, as a contribution to his herbarium. Collinson, recognising some degree of vitality in the bulb, sent it to one of his friends—a Mr. Wager—who, having put it in a pot, placed it on a hot-bed, where it soon started into growth, and in due course produced flowers. This, so far as is known, is the first orchid from tropical regions that was cultivated in British gardens; but this does not appear to have been a great triumph of the cultural art, for nothing is known of the plant subsequent to flower development. Reference was made by Miller in the second edition of his "Dictionary of Gardening," published in 1768, to several species of Epidendrum, but with these he failed, as he states that "The plants cannot by any art yet known be cultivated."

Ten years after the publication of Miller's "Dictionary," Dr. J. Fothergill brought from China Phaius grandifolius and Cymbidium ensifolium. There is no record of the flowering of the cymbidium, but the phaius produced its bold spikes of purplish flowers within a comparatively short period of its introduction in the gardens of Mrs. Hird, at Appleby Bridge, Yorkshire. Epidendrum cochleatum is recorded as having flowered for the first time in England in 1787, the specimen being in the plant stove in the Royal Botanic Gardens, Kew, where E. fragrans bloomed in the following year. By the year 1794 fifteen species had found a home at Kew, and at the end of the eighteenth century, the Kew collection contained twenty-five species. The most noteworthy of the kinds that were received at Kew between the introduction of the two epidendrums and the close of the century were Epidendrum ciliare, Lycaste Barringtoniæ, and Oncidium altissimum, and of the trio the first-named is still in cultivation.

Introduction of Species.

Until about one hundred years ago, when the influence of the Royal Horticultural Society, which had obtained its charter in 1809, was being felt, orchids were looked upon in the light of curiosities, rather than as plants worthy of being cultivated for the adornment of the plant house. This is not altogether surprising, considering how large was the proportion of kinds that were "more curious than beautiful," and that they were assumed to be parasitic in their manner of growth, and were so described in the periodic literature of the time.

In the second decade of the last century views began to change with regard to orchids, for by that time some species possessing a greater degree of beauty than the earliest kinds were introduced, and recognised by owners of gardens in which provision had been made for the growth of tropical plants as worthy of cultivation for the beauty of their flowers. A brisk demand arose for the finer kinds, and in 1812 Messrs. Loddiges and Sons commenced their cultivation for sale in their nurseries at Hackney, which soon became famous as the headquarters of the commercial side of the orchid cult, and this fame extended over forty years, in fact until the establishment was broken up in 1852. During the forty years this firm introduced a considerable number of species, and became the leading authorities on all that related to orchids and their cultivation, and did much to stimulate an interest in them and to extend their culture.

With the stimulus that a well-organised trade establishment, such as that of the Messrs. Loddiges, would be able to give the introduction of new species increased with considerable rapidity. Britishers who occupied official positions in tropical and sub-tropical regions, and were interested in plants, gave attention to the collection of orchids, as far as their opportunities would permit, and were successful in the introduction of many species of merit. As evidence of this, it may be mentioned that within a short time of the Messrs. Loddiges commencing the culture of orchids, Dr. Roxburgh introduced from India the first aërides, dendrobium, and vanda that reached this country. As the cultivation of orchids extended collectors were despatched to countries in which they form part of the native flora, and between 1830 and 1850 many new species were introduced, and large numbers of plants of known kinds collected.

Chief among the collectors of this period were Lobb, who discovered many of the finest aërides, saccolabiums, and vandas; Griffith, who introduced numerous cymbidiums and dendrobiums; Gibson, who added several species of dendrobiums to those already known; and Barker, Hartweg, and Skinner, who, in their expeditions to Guatemala, Mexico, and the flanks of the Andes, enriched collections with many cattleyas, lælias, and odontoglossums of great beauty.

The species that were introduced by the earlier collectors included Cattleya labiata, 1818, which, for a time, was lost to cultivation; C. Mossiæ, 1836; C. Skinneri,

536, Cypripedium barbatum, 1838; C. nodatum, C. insigne, 1819; Dendrobium chrysotoxum, 1845; D. Dalhousianum, 1837; D. Devonianum, 1837; D. densiflorum, 1829; D. Farmeri, 1847; and D. nobile, 1836; Odontoglossum crispum, 1844; O. grande, 1849; O. Rossi, 1839; Zygopetalum crinitum, 1829; and Z. Mackayi, 1825.

Since the middle of the last century large numbers of species have been introduced, and the best known of the collectors are W. Boxall, who introduced many cypripediums and dendrobiums; C. Curtis, who was successful in the discovery of angræcums and cypripediums; Carder, whose greatest successes were with masdevallias and odontoglossums; and Micholitz, who included some fine dendrobiums among his introductions. The new species that have been introduced during this period would make a somewhat formidable list, and, for the present purpose, it will suffice to mention a few that are of special purpose in their respective genera, namely, Cattleya Mendeli, 1884; C. Forbesi, 1823; C. Trianæ, 1860; Cypripedium Dayanum, 1860; C. Spicerianum, 1879; C. Lawrenceanum, 1878; C. Chamberlainianum, 1891; C. Charlesworthi, C. Rothschildianum, 1888; Cochlioda Noetzliana, 1891, which has been used so largely and successfully in the production of brilliantly-coloured bigenic and other hybrids; Dendrobium Phalænopsis, 1880; D. Wardianum, 1863; Lælia elegans, 1845; and L. purpurata, 1852.

Early Cultivation.

Not until the first half of the last century was well advanced did the general body of cultivators achieve success with any considerable number of species that the activities of the collectors and the enterprise of the nurserymen had placed at their disposal. In those days physical geography was practically absent from educational schemes, and, as the cultivators had no means of obtaining exact information on the conditions that obtain in the various districts in which the orchids then abounded, it is not surprising they should have attempted to grow the whole of the kinds under the same conditions, and thousands of plants should, as a consequence, have been annually lost.

Even the Loddiges, who, in the course of their business, were in constant communication with correspondents in the orchid-inhabited countries, and with collectors, made the mistake of attempting to grow all the orchids under the same conditions, and these best suited to the requirements of the kinds that have their haunts in an Indian jungle, or in the forests of the lowlands of the equatorial regions of South America. Their orchid house was heated by brick flues, and the temperature maintained at as high a level as this system would permit, and in the centre was a tan bed, which was kept moist by frequent waterings for the purpose of maintaining a high degree of humidity in the atmosphere. No air was admitted from without, and, as will be readily imagined, those kinds which came from considerable altitudes, such as the cattleyas, lælias, and odontoglossums, quickly succumbed to the high temperature and stifling atmosphere to which they were subjected. The house provided by Messrs. Loddiges for their orchids was accepted by the general body of cultivators as the model for such structures, with, as already intimated, disastrous results. In the early part of the past century it was regarded as a remarkable achievement to successfully grow an aërides, and, as Mr. Fairbairn, who was then gardener to Prince Leopold, at Claremont, succeeded in growing and flowering Aërides odoratum, the feat attracted much attention among orchidists. Turning to the "Transactions" of the Royal Horticultural Society, Vol. VII., p. 499, for particulars of his method of procedure, it is found that he put the plant, when first received, into a basket of wood with old tan and moss, and hung it up in the pine house, where it was exposed to the summer sun, and to the fireheat in winter. A tub of water was placed near it, and in this the basket was plunged six or seven times a day, or as often as he passed near it. Mr. Fairbairn was, it may be mentioned, the first to flower the richly-coloured Renanthera coccinea.

LÆLIO-CATTLEYA NELLA.

A handsome hybrid; flowers deep rose-purple with old gold markings in the throat. F.C.C., R.H.S., December 19, 1911.

An attempt was made at Kew about the year 1824 to improve the cultivation of orchids. A bed was formed in the propagating house with fibrous soil and portions of branches of trees, to which plants were attached. These grew more freely for a short period than under the conditions which previously obtained, but they ultimately succumbed to the heat and moisture, and the only effect of the change was to prolong their life for a short time. Some years later Mr. Lockhart, who was then curator of the Trinidad Botanic Garden, sent to Kew plants of Oncidium Papilio, Stanhopea insignis, and several

other kinds, which were growing on cut branches of trees, and with them instructions for their cultivation. These latter were acted upon, the results were satisfactory, and, in course of time, assisted in bringing about an improvement in cultural methods.

Orchids at Chiswick.

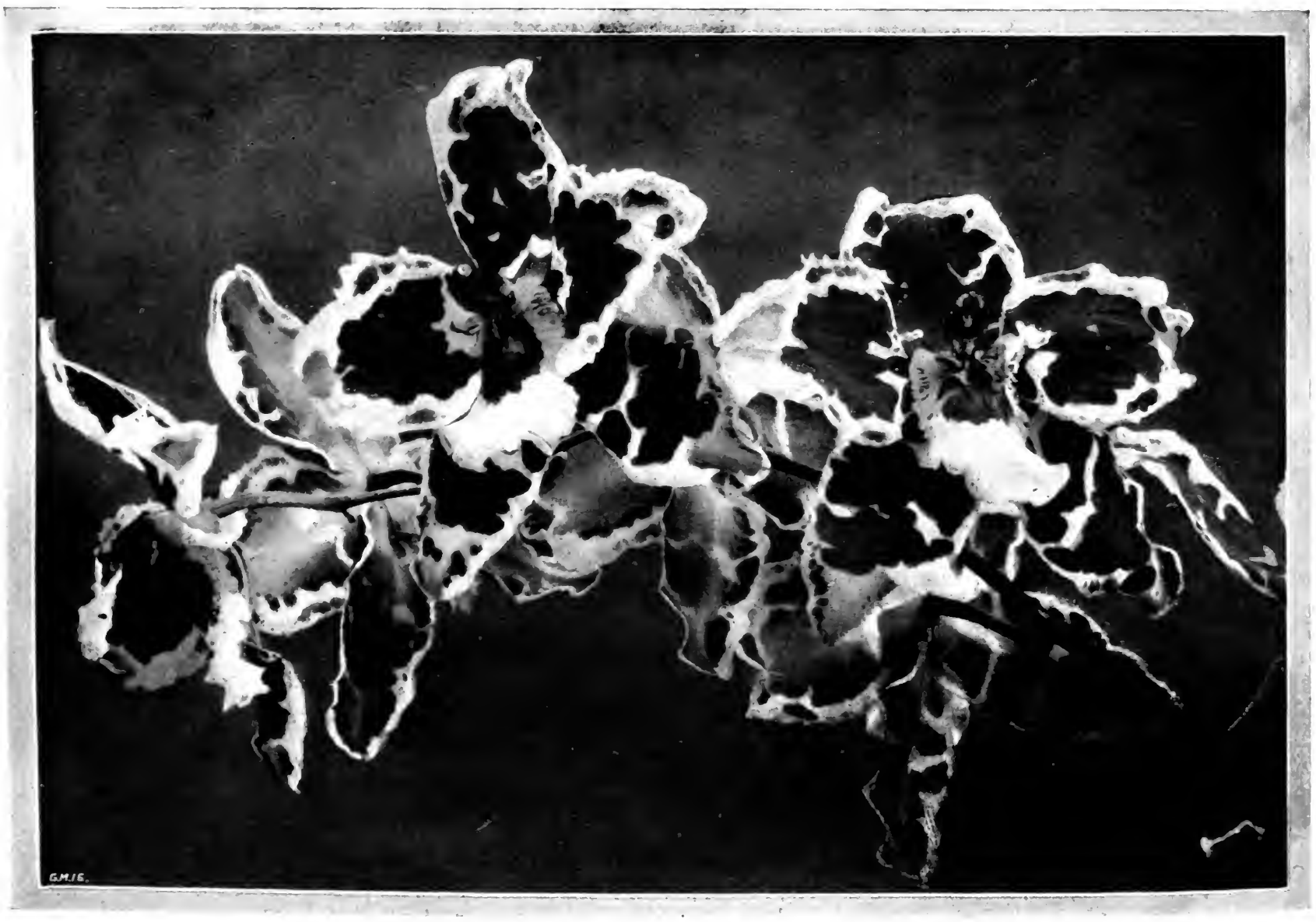
An endeavour was made in the Royal Horticultural Society's gardens at Chiswick to discover the cause of the failure to grow these plants successfully, but, unfortunately, it did not succeed. A plant stove was wholly devoted to orchids, and Mr. (later Dr.) Lindley, who was about this time appointed assistant secretary, had the supervision of the structure. "All the earliest experiments were," we are told, "unsuccessful, the plants were lost as quickly as they were received, and, when a single specimen was preserved out of an entire collection, some success was thought to have been achieved." The failure induced Lindley to institute inquiries regarding the conditions that obtain in the countries in which orchids are found growing naturally. His investigations were, unfortunately, also unsuccessful, owing to his having taken too narrow a view of the subject, or to those to whom he applied for information having given him particulars relating to areas in which the conditions were very similar. In the paper read at a meeting of the Royal Horticultural Society he stated that the collectors which the society had sent to Brazil had informed him that orchids "exclusively occupy damp woods and rich valleys among vegetation of a most luxuriant description, by which they are embowered." By Dr. Wallich, who had introduced several of the most beautiful of the Indian dendrobiums, he was told that, "In Nepal the thicker the forest, the more shady the trees, the richer and blacker the soil, the more profuse the orchids."

No account was taken of the conditions that obtain in the regions in which the cattleyas, lælias, odontoglossums, masdevallias, and other of the intermediate and cool orchids flourish. With such data Lindley formed a code of culture in which a high temperature and excessive humidity were recommended as essential to success, and this was acted upon by growers for a long series of years. Gibson, Gardner, Lobb, Motley, and Skinner, all of whom had much experience in collecting at the higher altitudes, did their best to warn cultivators against the practice of attempting to grow orchids from temperate regions under conditions similar to those which obtain in the lowlands at the Equator. The importance of these warnings was not readily appreciated, and for a considerable period England was, in the words of the late Sir Joseph Hooker, "the grave of tropical orchids."

Change in Early Cultural Methods.

A change in cultural methods was eventually brought about, not as the result of the protest of the collectors, but by the intelligent work of some practical gardeners who had collections of orchids under their charge. One of the first of these to demonstrate the importance of a moderate temperature and fresh air was Joseph Cooper, gardener at Wentworth, Rotherham, the residence of Earl Fitzwilliam, where, in 1835, the collection of orchids was extensive, and in splendid condition. Not far distant were the Chatsworth gardens, in which Joseph Paxton, who was then in charge, had formed a collection containing upwards of three hundred species, these including the finest that had been introduced. Paxton, like his neighbour Cooper, adopted a rational course of procedure, and succeeded in growing even the most difficult kinds to a high state of development. Chatsworth was then, as now, visited by all the leading cultivators in the country, and the robust health of the plants so impressed them that, in course of time, the example that had been set by Paxton was generally followed. Donald Beaton, who was, perhaps, best known for his work when gardener at Shrubland Park, was well versed in orchid culture, and with the aid of a ready pen did good service in bringing about the much-needed reform in cultural methods.

Towards the end of the first half of the last century collections were becoming numerous, some of the most important being those of Mrs. Lawrence, at Ealing Park; Mr. J. J. Blandy; Mr. R. S. Holford, at Westonbirt; Mr. Sigismund Rücker, at West Hill, Wandsworth; Mr. J. H. Schröder, at Stamford Green; Mr. R. Hanbury, at Poles, Ware; and of the Duke of Devonshire, at Chatsworth. From these collections, with the exception, perhaps, of that at Chatsworth, remarkably fine specimens were contributed to the Royal Horticultural Society's exhibitions at Chiswick, the kinds that properly belong to the East India house being represented by splendidly-developed specimens.



ODONTOGLOSSUM THAIS.

A distinct and beautiful hybrid; flowers blush, blotched with rose-purple. F.C.C., R.H.S., November 21, 1911.

Modern Cultivation.

By the end of the first decade of the second half of the past century an immense improvement had been made in methods of culture, and it was generally acknowledged that the various kinds should be classified according to their cultural requirements, and be grown in separate houses, where they could be placed under the conditions most favourable to their full development. One important change was the erection of houses much lighter in construction than

had previously been considered desirable; and the reduction in the woodwork, and the increase in the glass area enabled the plants to enjoy the light so essential to healthy growth. The houses were also provided with the means of ample ventilation, and the best of these were fitted with ventilators that opened direct on to the hot-water pipes for the purpose of warming the air, as it made its way into the house. By this time the value of fibrous peat of high quality and good sphagnum moss for the epiphytal kinds was well known, and the knowledge acted upon. The practice of the most successful growers did not differ greatly from that which now obtains at the present time, except that the using up of the finest peat for orchids has rendered the use of osmunda and polypodium fibre necessary. The employment of broken leaves in the preparation of orchid composts is a quite recent innovation, but the fallacy with regard to the use of manurial matter in the cultivation of orchids has long been with us, and will probably endure to the end.

Cultivators at the present day have, in the all-important work of combating insect pests, an immense advantage, as compared with past generations of orchid growers. Little was known of the value of quarantine in bygone days, and plants were introduced to collections without regard to their being infested or not, and again and again were orchids subjected to insect attacks that might easily have been avoided. To rid the plants of insects to which they had become a prey was no light matter, for sponging is very tedious, and fumigating with the materials that were then available far from effective. Now, with the aid that vapourising with nicotine compounds is so well able to render, the keeping of insect pests in subjection is not attended with any special difficulty.

From the middle of the last century orchid culture extended with considerable rapidity, and, in a comparatively short time, the collections became fairly numerous. Especially noteworthy among the earliest of these were Mr. C. B. Warner's, Mr. C. Webb's, and the Rev. W. Ellis's, at Hoddesdon, which, for a time, was a great centre of orchid culture. Not less important were the collections of Mr. William Marshall, V.M.H., at Enfield; Mr. J. Day, at Tottenham; Mr. Sam Mendel, at Manchester; and Mr. W. Lee, at Leatherhead.

Collections belonging to a still later period are very numerous, and conspicuous among them are: the collection of Lieut.-Colonel Sir George Holford, at Westonbirt (grower, Mr. H. G. Alexander), where the achievements in orchid growing and raising are a constant source of surprise; of Baron Bruno Schröder (gardener, Mr. E. Shill), at Egham, remarkable for its fine hybrids and varieties; of Sir Trevor Lawrence, V.M.H. (grower, Mr. H. White), at Burford Lodge, remarkable for the large number of botanical species it contains, as well as for the fine forms of other kinds; of the Duke of Marlborough, at Blenheim, in which Vanda cærulea is especially well grown; of Mrs. Cookson (gardener, Mr. J. H. Chapman), which is especially remarkable for its choice cypripediums and odontoglossums; of Mr. F. W. Moore (gardener, Mr. W. H. Page), at Chardwar, in which cypripediums form a strong feature; of Mr. De Barri Crawshay (gardener, Mr. W. J. Stables), Sevenoaks, of special interest for its splendid odontoglossum hybrids; of Mr. F. M. Ogilvie (gardener, Mr. W. Balmforth), in which are many fine hybrids; of Lord Rothschild (gardener, Mr. Dye), Tring Park; of Sir J. Colman, Bart. (gardener, Mr. J. Collier), Gatton Park, and Mr. H. T. Pitt, Stamford Hill; Mr. W. Birkenshaw (gardener, Mr. T. J. Barker), Hessle; Mr. C. J. Lucas (gardener, Mr. G. Duncan), Warnham Court; Mr. W. Thompson (gardener, Mr. Stevens), Stone Hall; and Mr. W. Lee, Plumpton Hall.

Hybridisation.

One of the most interesting of the several aspects of the orchid cult is the creation of new forms, whether by hybridisation or cross-fertilisation. It may, at first sight, appear rather tedious watching the growth of the seedlings from the time of making their appearance until they reach the flowering stage, especially when, as in the case of Lælia caloglossa, this extends over nineteen years. This long period was, however, quite exceptional even in the early days of raising seedling orchids, and the rate at which seedlings attain the strength essential to flower production has been considerably accelerated by modern methods of procedure. It is, however, the common experience of raisers that the slightest impatience soon disappears, and the growth of the plants is watched with both pleasure and interest. That this is the case is proved to demonstration by the large number of growers who have engaged in the pleasant, and, it may be hoped, profitable work of raising seedlings.

The first hybrid orchids raised in this country were the result of the intelligence and manipulative skill of John Dominy, who long occupied an important position in the nurseries of Messrs. J. Veitch and Sons, and according to the available records, commenced his work of hybridisation exactly sixty years ago. He began by hybridising Cattleya guttata and C. Loddigesi, and obtained C. hybrida, of which five plants were shown at a meeting of the Royal Horticultural Society held in August, 1859. C. Dominiana, also from the same raiser, was shown at a meeting three months later. Still more noteworthy, from the decorative point of view, was Calanthe Veitchi, a hybrid between C. rosea and C. vestita, which flowered in 1859, and was exhibited at the meeting of the Royal Horticultural Society in December of that year, and received a First Class Certificate. In 1867 Phaius irroratus, a bigeneric hybrid, of which the parents were Calanthe vestita and Phaius grandifolius, and another of Dominy's successes, flowered. This was followed during the next few years by Cypripedium Harrisianum, C. vexillarium, and Lælio-cattleya Dominiana, a bigeneric hybrid between Cattleya Dowiana and Lælia purpurata, and of great beauty.

ODONTIODA BRADSHAWIÆ.

A finely-flowered example of the orange hybrid between Cochlioda Noetzliana and Odontoglossum crispum. This specimen was in a six-inch pot.

Before the last of the hybrids obtained from Dominy's earliest crosses had flowered new hybrids from other raisers bloomed, a point of interest as evidence that the work of raising seedling orchids was being taken up. There were, for instance, Cypripedium Ashburtoniæ and C. Crossianum, which were raised at Melchet Court, and had C. insigne as one of their parents; Chysis Sedeni and Zygopetalum Sedeni, raised by Mr. Seden in the Chelsea Nurseries; Dendrobium Ainsworthi, a hybrid between D. nobile and D. aureum, raised in Dr. Ainsworth's collection at Manchester; and Zygopetalum Clayi, a hybrid between Z. crinitum and Z. maxillare in Colonel Clay's collection at Birkenhead. In 1878 the first hybrid lycaste flowered in Mr. William Marshall's collection at

Enfield, and was subsequently named L. hybrida.

After this period hybrid orchids made their appearance in such large numbers that it is not possible to do more than refer briefly to a few of special interest. The first hybrid phalænopsis raised in this country was P. intermedia. The cross was made between P. Aphrodite and P. rosea to determine the origin of P. intermedia, and the results proved that the conjecture that it was a hybrid between these two species was correct.

The flowering of Brasso-cattleya Digbyano-Mossiæ, a hybrid between Brassia Digbyana and Cattleya Mossiæ, in 1889 was an event of considerable importance, and the lesson it afforded has been taken full advantage of, and we now have as the result a new race of orchids of wondrous beauty. In the next few years there appeared Cymbidium Veitchi, the first hybrid in the genus, Epiphronites Veitchi, a hybrid between Sophronites grandiflora and Epidendrum radicans, and the first of a new genus. Then followed Sophro-cattleyas, Epilælias, and Sophro-lælias, and a hybrid Phaius, Stanhopea, Sobralia, and Vanda, each of which is of interest, and possesses much beauty.

The year 1890 is of special interest in this connection, for therein flowered the first of the odontoglossums obtained by artificial hybridisation. This was raised at Armainvilliers, near Paris, from a cross between O. crispum and O. luteo-purpureum, and referred to as O. Wilckeanum, which, as had been assumed, is a natural hybrid between these two species. The first really distinct odontoglossum raised in this country was O. Cooksoni, a hybrid between O. Halli and O. crispum, which flowered in 1896. Two years later O. Loochristiense, O. spectabile, and O. Rolfæ made their appearance, but the first-named was found to be similar to O. Harvengtense, a natural hybrid. Subsequently many beautiful odontoglossums were introduced.

Of quite exceptional interest and beauty is Odontioda Vuylestekæ, a hybrid between Cochlioda Noetzliana and Odontoglossum Pescatorei, which was first exhibited at the Temple Show in 1904, and awarded a First Class Certificate and the Lindley Medal. Since, numerous additons have been made to this new genus, as the result of the activities of the hybridists. In 1911 Odonticidium Fowlerianum, a hybrid between Odontoglossum cirrhosum and Oncidium Forbesi, flowered and created much interest. Another bigeneric hybrid, in which an oncidium was one of the parents, bloomed in this year, namely Oncidioda Cybele, a hybrid between Cochlioda Noetzliana and Oncidium scarcodes. This also is of some importance as the first member of a new genus.

It would be pleasant, and of much interest to refer in some detail to the glorious Brasso-cattleyas and Lælio-cattleyas, the beautiful Cattleyas and Lælias, the handsome Cypripediums and Phaius, the brilliantly-coloured Odontiodas, and the exquisitely-coloured and elegant Odontoglossums that have been raised since the introduction of the earliest hybrids of which mention has been made. Their numbers are, however, so great as to render this impossible. It must, therefore, suffice to say that the work accomplished by the hybridists is such as to do honour to them, and to afford immense gratification to the great body of flower-lovers. The firms and private individuals who have specially distinguished themselves include Mr. H. G. Alexander, Messrs. Armstrong and Brown, Messrs. J. and A. McBean, Messrs. Bull and Sons, Messrs. Charlesworth and Co., Mr. J. H. Chapman, Sir J. Colman, Bart., Messrs. J. Cypher and Sons, Mr. De Barri Crawshay, the late Mr. D. O. Drewett, M. Firmin Lambeau, M. Linden, Messrs. S. Low and Co., Messrs. Mansell and Hatcher, M. Maron, Mr. W. H. Page, Messrs. Sander and Sons, Mr. W. Stevens, Messrs. J. Veitch and Sons, and Mr. C. Vuylsteke.

CYPRIPEDIUM ROUNDHEAD.

A handsome hybrid between C. nitens and C. Earl of Tankerville; the flowers large, the dorsal sepal white with greenish yellow base, and marked with purple spots, and the petals and lip greenish yellow shaded red-brown. F.C.C., R.H.S., April 1, 1913.

Extension of Orchid Culture.

During the past thirty or more years it has been highly pleasurable to watch the progress made by the many raisers of hybrid orchids and to have the opportunity of enjoying the charms of the new forms as they made their appearance in an endless procession. Not less has been the pleasure derived from the evidence obtainable on all sides of an extension of orchid culture throughout the kingdom, not only in gardens where special provisions are made for orchids, but in those in which they have had to take their places in general collections of plants.

The Orchid Conference at South Kensington in 1885 gave a great impetus to the hybridisation of orchids, and the influence of the exhibitions held by the Royal Horticultural Society in the gardens of the Inner Temple during the past quarter of a century has not been less marked in extending their culture. The attractions of the newer hybrids have contributed materially to the popularity of orchids by stimulating an interest in the family as a whole. Orchids thriving under comparatively cool conditions have been an important factor in the extension of the cult. They are not only cheap to grow in consequence of the small amount of fire-heat they require, but they are relatively low in price. There may be among them varieties that will command from £500 to £1,000 per plant, but there are large numbers that can be bought at the same prices as those at which pelargoniums may be obtained, and offer no more difficulties in cultivation. A point of no small importance in this connection is the fact that hybrids of great beauty can be bought for quite moderate sums, and that, as a rule, hybrids have a more robust constitution than the specific and varietal forms, and are therefore more amenable to cultural conditions.

In taking a glance into the future of orchid cult nothing is seen that is otherwise than full of promise. It may be seen that hybrids and varietal forms bearing flowers of quite exceptional beauty will continue to receive the attention of wealthy amateurs. Not less clearly can it be seen that there will be a much greater extension of orchid culture among amateurs who have gardens of moderate dimensions with one, two, or three glass-houses, and want to have an entertaining hobby. It is indeed on the latter that the future of the cult will largely depend.

George Gordon.

NEW PLANTS AND FLOWERS.

ÆTHIONEMA ARMENUM WARLEY HYBRID.

A beautiful little alpine sub-shrub, suggestive of a small daisy and Daphne cneorum when seen from a little distance. Although the main branches droop and possibly become quite prostrate as they extend, the branches soon erect therefrom, and so make dense little bushes about six inches high, clothed with linear grey-green leaves, each growth carrying a head of lilac-coloured flowers. It is a stronger-growing and earlier-flowering plant than the typical A. armenum. A.M., R.H.S., April 29. Miss Willmott, V.M.H. (gardener, Mr. C. Fielder, V.M.H.), Warley Place, Great Warley, Essex.

ODONTOGLOSSUM AMABILE ZEUS.

A delightfully beautiful form of the hybrid between O. crispum and O. crispo-Harryanum. It has large, finely-formed flowers of the purest white ground colour, being blotched and spotted on the central area with soft rosy-crimson or red-purple. The white lip has a yellow crest and crimson-purple blotch. A.M., R.H.S., April 29. Lieut.-Colonel Sir George L. Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

PRIMULA LA LORRAINE.

M. Lemoine, of Nancy, has raised this primula by crossing P. cortusoides with P. Veitchi. The plant bears a strong likeness to P. Veitchi, but seems to flower more freely than that species, and to have lighter green leaves. The erect spikes carry rich rose-purple flowers, and their pose is suggestive of P. cortusoides. Each flower is 1¼ to 1½in. across, and has a very narrow yellow rim round the eye. If this proves hardy, it will be a most desirable plant for the rock garden, but at any rate it should be a most useful subject for the cool greenhouse. A.M., R.H.S., April 29. Mr. Maurice Prichard, Christchurch, Hants.

ROSE ERNA TESCHENDORFF.

A dwarf, double-flowered polyantha rose that promises well as a bedding variety. We were assured that the glowing crimson of the neat flowers does not burn under summer sunshine, and if this is so the rose has a fine future, because varieties that fade to a bluish-magenta under bright sunshine are not pleasing for massing. It makes a capital pot plant, and is rather taller and stronger-growing than Jessie, which is already a popular red polyantha variety. A.M., R.H.S., April 29. Mr. W. Profittlich, Twickenham.

WALLFLOWER PRIMROSE MONARCH.

Opinions were divided as to the merit of this wallflower. Some who saw it considered it a great advance, but others, and chiefly those who like the looser, lighter-habited varieties, could find nothing to admire in it. The variety is very sturdy, and has somewhat stiff, stock-like growths and spikes. The latter are large and dense, and the light yellow flowers are about two inches wide. A good bed of it would doubtless look very effective. A.M., R.H.S., April 29. Messrs. J. Ross and Son, Kelvedon.

DAFFODILS.

Venetia.—One of the most chaste and beautiful of daffodils, and one that was very greatly admired. It is a strong-growing, triandrus hybrid, the stout stems carrying, in most instances, a pair of semi-drooping, large-sized flowers of the purest whiteness. A lovely daffodil, and a fine free grower. A.M., R.H.S., April 29. Mr. W. B. Cranfield, Enfield Chase.

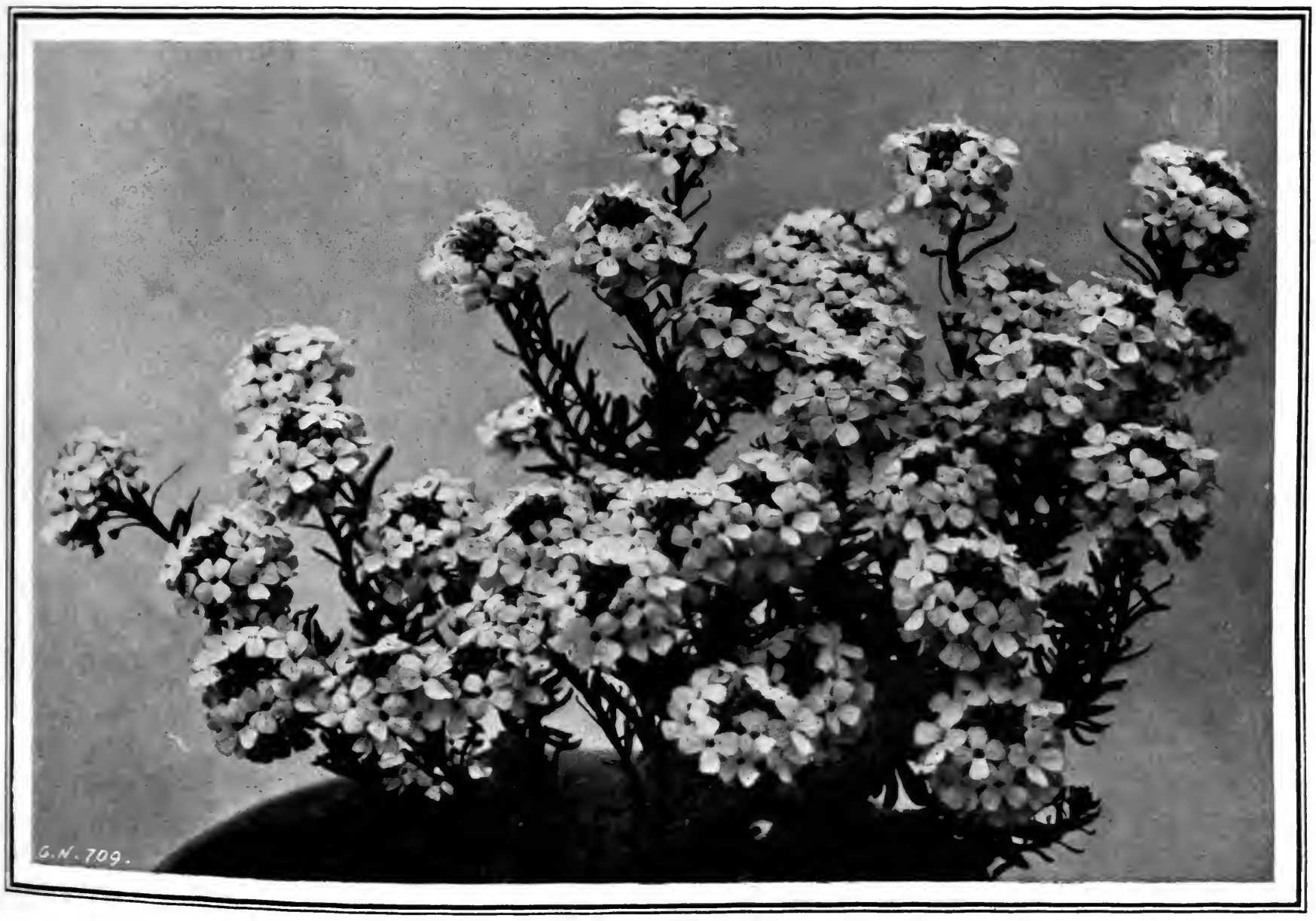
Evangeline.—A large Leedsi variety of great merit and beauty. A strong grower, it carries its flowers well on long stems. The stout perianth segments overlap and are pure white. The neat cup or crown is very dainty and of the palest primrose tint. A.M., R.H.S., April 29. Mr. H. Phillips, Olton.

ROSES.

Madame Edouard Heriot.—This is the beautiful Pernetiana rose that excited so much comment at the International Exhibition at Chelsea in 1913, when it was exhibited by the raiser, M. Pernet-Ducher, and won the "Daily Mail" gold cup as the best new rose shown on that occasion. The buds when just expanding are like those of Lady Battersea in shape and pose, but their colour is rich orange-vermilion or orange-terra cotta; the fully-expanded blooms are deep pink, heavily flushed with salmon-orange. A brilliant rose, and apparently a strong grower and free bloomer. It is sweetly scented as well as very handsome and elegant. It should prove a grand rose for floral decorations. Gold Medal, N.R.S., May 1. Messrs. G. Beckwith and Son, Ware Road, Hoddesdon.

Lady Plymouth.—A showy H.T. rose, delicately scented, and with large, shapely flowers of considerable substance. The colour is soft light yellow with sulphur tinting in the half-opened blooms, and a creamy pink shading in the fully-opened flowers. Gold Medal, N.R.S., May 1. Messrs. Alex. Dickson and Sons, Newtownards.

Mrs. Forde.—A large and beautiful H.T. rose of strong growth, and apparently grand constitution. It is broad petalled, and yet makes up a neat and pointed centre. The colour is palest flesh, almost white, with a creamy shade at the base of each petal; sweetly scented. Gold Medal, N.R.S., May 1. Messrs. Alex. Dickson and Sons, Newtownards.



ÆTHIONEMA ARMENUM WARLEY HYBRID.

A pretty sub-shrubby alpine plant, with wing stems, clothed with narrow grey-green leaves, and carrying heads of lilac flowers. A.M., R.H.S., April 29. Miss Willmott, V.M.H., Warley Place, Great Warley.

Mrs. George Beckwith.—A glorious rich yellow, broad petalled, globular H.T. rose of good size and substance, and carried on fine stems erect over ample green, glossy, handsome leafage. At its best this probably has more orange in the yellow than on this occasion as it is a Pernetiana variety, raised by M. Pernet-Ducher. Silver-gilt Medal, N.R.S., May 1. Messrs. G. Beckwith and Son, Ware Road Nursery, Hoddesdon.

Willowmere.—A lovely Pernetiana rose, raised by M. J. Pernet-Ducher, Venissieux-les-Lyon, France. It is somewhat like the Lyon Rose, and is also suggestive of Madame Abel Chatenay. Just as it opens it has the rich salmon-orange shading seen in the former, but when it has been open it loses this bright hue, and become rich pink. Silver Medal, N.R.S., May 1. Messrs. G. Beckwith and Son, Ware Road, Hoddesdon.

CLERODENDRON BAKERI.

A promising stove flowering shrub, bearing large axillary cymes of white flowers. It is a strong growing species, with bold green leaves, and is a native of Tropical Africa. Bot. Mag., t. 8474.

RHODODENDRON SUB-LANCEOLATUM.

A fine and variable species, cultivated in Japan as the Chinese Azalea. It will probably prove hardy in the warmer districts of the United Kingdom, but greenhouse treatment, as in the case of Azalea indica, will prove successful. The flowers are very showy, three inches across, and reddish-salmon, with red-brown spots in the case of a selected and richly-hued form. R. sub-lanceolatum is from the Loo Choo Islands, and in this country it will, for garden purposes, rank as an azalea. Bot. Mag., t. 8478.

CYTISUS NIGRICANS.

A fairly well-known, free-flowering European shrub, that produces very erect racemes of small, light yellow flowers during July and August. It is a shrub that will stand hard pruning in the spring, as it flowers on the current season's growth. A useful hardy shrub. Bot. Mag., t. 8479.

HELIOTROPIUM ANCHUSÆFOLIUM.

This is an odourless heliotrope with funnel-shaped, violet flowers, borne in looser heads than occur in the garden forms of H. peruvianum. H. anchusæfolium has four-angled and hispid stems, and is hardier than H. peruvianum, as it flourishes out of doors at Kew if given protection during the winter. It is also a success at Warley Place. Bot. Mag., t. 8480.

AGAVE HAYNALDI.

A stemless Mexican species, with a rosette of about 80 leaves, a spread of 6ft., and a height of 4ft. The cylindrical spike rises over 20ft. high, and is carried on a stout peduncle 4½ft. high. The flowers are very numerous and yellowish-green. An interesting species for lovers of succulents. Bot. Mag., t. 8481.

CYTISUS DALLIMOREI.

Raised at Kew in 1900 by crossing C. scoparius Andreanus with the pollen of C. albus, C. Dallimorei is the first hybrid broom intentionally produced. So far it has been propagated by grafting upon the laburnum, and it is a good garden shrub, flowering in May. Of rather slender, erect growth, it attains a height of 6ft. when fully grown, and the long growths of the previous year are clothed with beautiful papilionaceous flowers. These have a pale purple standard, crimson wings, and a white, purple-tinted keel, C. Dallimorei has seeded, and the flowering of its seedlings is looked forward to with interest. Bot. Mag., t. 8482.

RUELLIA HARVEYANA.

A Mexican acantha, discovered at Tehuantepec in 1904. It is a trailing shrub of straggling habit, and grows well under cultivation with begonias and gloxinias. The flowers are about two inches across, pale lilac, sometimes white. Bot. Mag., t. 8485.

HARDY AQUATICS FOR PRESENT PLANTING.

Apart from its everyday use in garden routine, water plays an additional part in garden decoration, being an essential condition toward success with all moisture-loving plants, and the element that enables us to cultivate aquatics, with the presence of sunlight. So infinitely varied is the play of light and shadow upon its mirrored surface that it is not a matter for surprise that water has the power to attract and fascinate with a charm that is perennial.

It is not every estate that is fortunate enough to have natural means for satisfying this inward desire, for more often than otherwise some artificial arrangement must be devised to give expression to this distinctive feature. Only two substances are recognised in practice as giving an impervious lining for a water-containing area of any extent, and these are: well-puddled clay and cement concrete; the former is generally to be recommended where there is a good water supply, but the latter husbands a small supply to the best advantage.

Given natural means, such as a flooded area and a supply of water, there is scarcely any limit to ambition in water gardening. A really judicious arrangement of the margin, giving bold promontories, with corresponding recesses, that slope gently to the water edge, enables effective use to be made of quaint exotics like bamboos, gunneras, senecios, spiræas like gigantea, aruncus, palmata, and venusta, and astilbes like rivularis, Davidi, grandis, and the hybrids Ceres, Arendsi, Pink Pearl, and Salmon Queen; Artemisia lactiflora, Rodgersia podophylla, pinnata, and tabularis, rheums, lythrums, Arundo Donax macrophylla, and Saxifraga peltata; while the recesses lend themselves to broad groups of Primula rosea, P. Sieboldi, P. Sikkimensis, P. japonica, and P. pulverulenta, double marsh marigolds, funkias, dwarf astilbes like Silver Sheaf, chinensis, Queen Alexandra, Lemoinei, and New Rose, Myosotis palustris, semperflorens, Mimulus cupreus Brilliant, lemon, yellow, and orange trollius, Iris pseudo-acorus variegata, I. lævigata, and the giants I. aurea and I. gigantea.

Water lilies (nymphæas) are essentially the most harmonious complement for the water area, and should have lavish representation; Marliac's varieties for deep water and distant effect, as the growth is rampant, and the flowers of immense size. The varieties include albida, white; carnea, flesh; rosea, pink; chromatella, yellow; ignea, carmine-red; flammea, red-purple to crimson; and rubra punctata, a striking combination of mauve, purple, carmine, and orange. Nymphæa Gladstoni, white; Gloriosa, bright rose; Ellisiana, carmine-purple; Froebelli, rich crimson; W. Doogue, flesh-pink; Sanguinea, blood-red; W. Falconer, crimson and gold; and James Brydon, light pink, includes some of the best of new and old varieties that succeed in water two feet or more in depth. In shallow water the forms of Leydekeri and odorata give excellent results, and where there is only a depth of twelve inches of water Nymphæa pygmæa and its variety Helvola, with N. odorata minor, will succeed, as these are quite miniatures of the larger forms.

Around the margin, yet still in the water area, numerous fine sedges, grasses, and plants of a flowering character would be grouped. Sagittarias are conspicuous ornaments in this position; the arrow-headed leaves project boldly above the water, and the flowers are on erect spikes; the best is S. japonica fl. pl., with large double white flowers, that are less fugitive than the single forms; of the latter gracilis and variabilis are worthy of a place. Pontaderia cordata gives a somewhat similar foliage effect to the last, but the flowers, also on erect spikes, are a pretty shade of blue. Of this there is a form known as angustifolia that is less desirable than the type.

Ranunculus langua grandiflora, the giant yellow Water Buttercup, is an aggressive plant, but nevertheless one of great beauty. Where it can have space to develop free from restraint, the leafy stems and flowers stand boldly out of the water, and the golden blossoms are produced in myriads. Villarsia nymphoides is a floating plant, half water lily, half ranunculus, but it must be used with caution, as it spreads by underground stems in a most insidious way, and is difficult to eradicate when once established. The giant Water Dock is an effective plant, by way of contrast, the gigantic leaves stand clear of the water, and at certain seasons these are coloured a warm shade of purple. Orontium aquaticum also discloses great beauty in the leaves, which are of a luscious blue-green colour, while the flowers are golden-yellow, resembling an arum, but without the showy spathe.

Aponogeton distachya is a captivating subject, with flowers that are white, with jet black anthers and scented like hawthorn; it is essentially a plant for a position close at hand, where the eye can readily appreciate its beauty. Menyianthes trifoliata is a charming native for any shallow water, where it develops into broad masses, the mimic horse-chestnut-like spikes of blossom being rendered effective by the dark green three-lobed leaves. Butomus umbellatus, another choice native, delights to root in shallow water, although the green foliage and slender spikes, carrying the rich rose flowers in umbellate heads, stand three to four feet above the water. The Reed Mace Typha latifolia, and its variety angustifolia, are water plants that usually abound in the back-waters of rivers and in fen districts; they are coarse, rampant growers, and require using with restraint; the variety minima is quite dwarf, and is admirable among choicer plants, in any water garden scheme.

Good grasses available for the margin of water gardens include Carex japonica variegata, pendula, and Riparia variegata, Cyperus longus, Eulalia zebrina, Glyceria spectabilis variegata, Phalaris elegantissima, Arundo Donax macrophylla glauca, and for ordinary soil upon the banks, Arundo conspicua, Elymus glauca, Pampas grass, and Stipa pinnata are meritorious grasses, either on account of the foliage or the inflorescence.

The planting of stream and water gardens is carried out to best advantage during the months of April and May, and in the case of nymphæas May is probably the best month of the year to move them with the minimum of loss. Wherever possible the plants should be introduced directly into mounds of soil or mud, taking care to eradicate all native growth of an undesirable character before planting choice subjects. When it is impracticable to introduce plants in this way nymphæas and other subjects may be planted in baskets made of wicker or reed, and filled with soil, and if floated out to the desired position and allowed to sink, the plants will eventually establish themselves in the mud; and, after this, little attention is necessary. In the case of nymphæas, the crowns occasionally require reduction in numbers, while the more vigorous aquatics will require restraint when they overrun their prescribed area.

Thomas Smith.

Coombe Court Gardens.

CARNATION NOTES.

Just at the present time, when the perpetual carnations are thoroughly making up for any failings they may have shown during the dull months, there is much to interest the grower who is of an observant turn of mind. Spring-time seems to be the one period of the year when the private grower of carnations is especially hard pressed, and, with the insistent calls for attention from a thousand and one differing subjects, and the extremely rapid growth made at this season by the perpetual carnations, many will find it a very difficult matter to keep in touch with this special subject.

To those who hold that perfection has been practically reached in carnations, may I say "the end is not yet"? The perfect carnation is not yet existent, grand as some of the varieties are, and I, for one, am convinced that the next few years will again chronicle progress. The greatest improvements of the last few seasons have undoubtedly been in the flower of the carnation. We have gained in size and colour, and perhaps also in form. But have we gained in the habit, stability, and continuity of the plant? Or in fragrance? This matter of habit is very important. Herein lies the great drawback to so many varieties. They lack what Mr. F. Dorner so aptly characterised as "the ever-blooming habit." For a carnation to be perpetual is not enough; we have to ensure that free, light habit which does not waste itself upon the production of innumerable side growths, but, breaking quickly from each stopped growth, goes straight away to blossom.

If I may explain a little, may I say that Harlowarden and Andrew Carnegie are of this type of growth, but they are not perfect. My ideal in habit is Pink Elegance, but this variety is not large enough to satisfy the novelty seekers, and for continuity, clean quick stem growth, and erect light habit, it is a model plant. Could we secure the attributes of the best blossoms of the Enchantress group, and retain for them the stems and quickness of Pink Elegance, I believe a great advance would be made.

A notable carnation has recently been on view in Chicago; this variety, a new seedling red, raised by Mr. H. Roth, of Lafayette, has a diameter of five inches. The stem and calyx appear to be satisfactory in every way, and the blossoms are moderately fragrant. As yet unnamed, this variety will be closely noted in the near future. From Pennsylvania comes the new Scarlet Wonder; this is likely to meet with a good reception, for, in addition to fair size, rich colouring, and good stems, it promises to be decidedly free.

Another new seedling, Laura Weber, is of the Enchantress type. It is very similar in hue, and possesses good stems, and is reported as an advance upon the old favourite. Soon we shall have the claims of Princess Dagmar brought before us. This variety is awakening considerable interest, and, after a round of showing, it will be put upon the market in a few months' time. Commodore, noted in THE GARDENERS' MAGAZINE of March 22, is still receiving much attention, and doubtless this useful seedling from Beacon crossed with Victory will be given a trial by many English growers.

I have been greatly interested in an account of some of the newer carnations from an expert American's point of view. Delhi, a new scarlet, is regarded as an advance upon Beacon in every way, except in the petals, which are somewhat rough, and inclined to curl; otherwise the report has it that the colour is better, and it is a freer variety to blossom. The same grower speaks enthusiastically of Comfort, and, to back up his opinion, is growing ten thousand of it this season. It is stated to be the most productive red for the cut flower grower, but the blossoms are hardly up to the high quality of the new Scarlet Wonder.

Rosette has a good name in the States, being of good quality, with stiff stems, and of free and strong growth. Cuttings of this variety root easily, and the colour is very lasting. Gloriosa, highly regarded by some of our English growers, is getting rather a mixed reception. Some growers are giving it up entirely, while others seem to manage it splendidly, and are increasing their stocks.

Florists in San Francisco are remarking upon the good qualities of an unnamed seedling, which was raised and sent in to market by a Japanese grower. The flowers are large, substantial in build, with good stems, and a bright rosy-cerise colouring.

Young stock is growing apace, both seedlings and cuttings. The former are allowed to get away to flower as quickly as possible, in order that the first survey of the blossoms may be made, and inferior forms weeded out before the other plants from cuttings commence their season of flowering. Cleanliness is very essential, and watering must be closely attended to now, as growth is so rapid, and pot plants quickly dry during sunny days.

Light shading is necessary for plants flowering under glass during fierce sunlight, but for young stuff the maximum of light and air is essential.

P. S. HAYWARD.

ANEMONE NEMOROSA GRANDIFLORA.

In the large-flowered Wood Anemone, Anemone nemorosa grandiflora, we find a capital garden plant for shady or half-shady places, although it can also be cultivated successfully in the sun. It is best described as a form of the common wood anemone, glorified in all its parts. It is taller, has bolder and more handsome, though equally graceful flowers, and considerably larger and broader segmented blooms. A free bloomer, and giving a number of its handsome white flowers, it is a splendid thing for the border or the base of the rockery in April and May. It can be grown well in almost any soil, but prefers one which is not too stiff and heavy. Tubers may be bought in autumn, and planted, whenever procured, about two inches deep, although a little less depth is preferable in stiff soils. Plants can sometimes be purchased in pots, and planted out at any time without disturbing the roots.

S. ARNOTT.

BROWALLIA VISCOSA.

Since the introduction of Browallia speciosa major, which so quickly became popular, increased attention has been devoted to some of the other species. Among these is B. elata, which has been referred to as the forget-me-not of the Andes; and that at the head of this note, which is now flowering freely. It possesses the great merit of flowering continuously nearly throughout the year. Last summer it was very effective when bedded out; then, during the autumn and winter, numerous examples were shown at the meetings of the Royal Horticultural Society, and now a group of it makes a bright feature in the warm greenhouse. From the better-known Browallia speciosa major it differs in the flowers being smaller and of a deeper and richer blue, with a conspicuous white eye. It is of a perennial nature, and can be readily increased by cuttings, though the Century Supplement of the "Dictionary of Gardening" states it is a half-hardy annual. According to the same authority, B. Czerwiakowski and B. pulchella are synonyms of B. viscosa. T.

ERICA CARNEA.

The Alpine Forest Heath is one of the most delightful spring flowering subjects, and is seen to advantage when planted in large masses on sloping ground. It is a native of Central Europe, where it luxuriates on the mountain ranges, and creates bright patches of colour amongst the snow early in the year. In this country it commences to blossom in January, and its rich rosy-pink flowers continue bright and attractive until the end of April. The variety alba is also worthy of inclusion.

E. carnea is particularly hardy and of easy culture, as it grows and flowers freely in heavy loamy soil. In these gardens there are two acres of this lovely heath naturalised on the hillside, and it is perfectly at home in our heavy retentive soil. It is sometimes recommended to clip it back after flowering, but this has been tried, and the plants were found to blossom less freely as a result. It is naturally bushy and compact in growth, so that no good object can well be attained by clipping.

When preparing heavy ground for its reception, it is an advantage to incorporate some leaf-soil, and any other suitable material that may be available. The best time to plant is from October to January, after the flower-buds are formed, and as the work proceeds press the soil very firmly around the roots. The subsequent treatment consists in keeping the plants free from weeds until, in time, they themselves cover the whole surface, and prevent weeds from growing. This species is easily propagated by division, large roots being pulled apart, and the separate pieces planted with a portion of root attached.

We have found that bulbs naturalised in large breadths of this heath help to enhance the effect and lend diversity to the arrangement. Narcissus Mrs. Langtry is a lovely variety for this purpose, the creamy tinge of the flowers toning beautifully with the blossoms of the heath during April. Another good narcissus for the purpose is Waterwitch, a delightful variety for naturalising, but, owing to its drooping flower-heads, it is seen to the best advantage on rising ground. Anemone apennina (the blue Wood Anemone) makes a charming contrast when intermixed in irregular drifts, and the effect is so delightful that it must be seen to be fully realised.

J. GARDNER.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEEDLINGS.—Seeds sown during the late summer and autumn of last year, and some of the early sowings of the present year, will have developed into seedlings of a size that will require pricking off into store pots, or singly, as the case may merit. We generally find that young plants left in the seed beds after they have developed their first leaf and the first root makes its appearance, become more or less retarded in growth, and, as it is not desirable to run any risk of delay, it is advisable to deal with the young plants as soon as the new root makes its appearance. The amount of pot room afforded to young seedlings generally depends on the amount of storage space available for their accommodation. Where it becomes a question of room it is desirable, perhaps, to prick off several together in 3in. or 4in. pots or shallow pans. Where plenty of room is available the sooner a plant can be potted singly the better. All young plants do not possess the same vigour, hence the desirability of separate pots. This applies to cattleyas and the epiphytal kinds generally. We find a suitable compost in finely-chopped peat and sphagnum moss, with sufficient sand and finely-broken charcoal to render the compost porous. The pots used should be clean and drained to about two-thirds their depth with clean broken crocks. Advanced seedlings, say, of one year and upwards, of the epiphytal kinds may now have attention; use a coarser compost as the plants become stronger and require larger pots.

TERRESTRIAL KINDS, such as cypripediums, cymbidiums, calanthes, phaius, etc., make rapid progress directly after germination. If we take cypripediums alone some kinds germinate almost immediately after sowing, and others remain in a dormant state for months. These are all best treated singly as soon as they can be safely transferred from the seed bed to the small pots, but it is always best to have the first root developing before removal. This enables the roots to push into the new compost with the least possible check. For the whole of this section we find that a small proportion of good fibrous loam is an advantage, intermixed with the before-mentioned potting compost.

SEEDLING CALANTHES AND PHAIUS, raised from seeds sown last year, will now show signs of restarting into growth. In the case of calanthes the young plants make considerable advance if given suitable encouragement the second year. It is desirable that they should be potted singly, using small pots, and, after a certain stage of growth and rooting activity, they may be transferred to larger pots. The result of this encouragement often induces the plants to produce flowers at the end of the second year's growth. — H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

THYRSACANTHUS RUTILANS. — If pruned as recommended after flowering, these plants will now be producing numerous side growths, which may be taken with a slight heel of the old wood, and inserted as cuttings in a fairly sandy compost. They will soon root if kept close, moist, and shaded. When ready put them singly in small pots, eventually transferring the largest into 32's, and the smaller plants into 48's, growing on fairly fast. A suitable compost is one consisting of good light loam, with the addition of a little leaf-mould, well-decomposed manure, and sand. Good drainage is essential, for as the plants become pot-bound liberal supplies of water will be necessary. At this stage an occasional application of an approved fertiliser will materially assist them. In the early months of the year a batch of this graceful plant, with its long, pendulous racemes of scarlet, tubular flowers, is very pleasing. Its worst enemy is perhaps brown scale, and for this the plants should be examined occasionally, and kept clean with the aid of a small soft brush, and an approved insecticide.

ISOLOMA HIRSUTUM is a very pretty gesnerad not frequently met with, but worthy of cultivation in small quantity. Old plants may have their tops reduced, be shaken out of the pots and repotted, or cuttings of the new growths may be taken; they are easily rooted, and in a season make good-sized plants in five or six-inch pots. Soil and treatment as usually afforded gesneras will be found suitable.

CALADIUMS.—The small-growing forms, as C. argyrites and C. minus erubescens, though making very pretty plants in small pots, are perhaps seen at their best when grown in 54's and 48's. A few of the best plants may now be selected for this purpose. The larger varieties now becoming established in their final pots should be given plenty of room to allow them to attain full development. Ventilate on all possible occasions, and lightly shade only when necessary to induce coloration and induce firmness in the foliage, always maintaining a moist atmosphere by frequently damping down.

STOVE CLIMBERS. — Rapidly-growing stove climbers will now require frequent attention, if they are not to be allowed to become a mass of tangled growths. As far as possible keep each growth to its own string or wire. Should mealy bug or other insect pest be present endeavour to keep it down by means of sponging. This advice applies especially to such plants as stephanotis, Hoya carnosa, passifloras, and Hexacentris mysorensis, the latter now commencing to bloom will continue for some weeks a pleasing object if a good rooting space and plenty of trellis or roof room can be allowed for its development. Allamandas and dipladenias will also need attention, and should be tied down as becomes necessary.—H. Prime, Hatfield House Gardens.

FRUITS UNDER GLASS.

EARLY PEACHES.—The fruits in the earliest house will now be gathered, or nearly so. Where this is the case syringe the trees well night and morning to keep the foliage clean and healthy, and give the borders a thorough soaking of water, and avoid an arid atmosphere, as the latter is not conducive to thorough ripening of the wood. Keep the ventilators wide open day and night, and at the end of the month, where the lights are removable, these may be taken off and any necessary repairs be made. Trees in houses where the fruits are approaching ripeness should receive a thorough soaking with clear water, giving no more until the fruits are gathered. Put aside any leaves which shade the fruits, to fully expose them to light and ensure their being high-coloured and well-finished. Discontinue the use of the syringe on ripening fruits, also lessen the atmospheric moisture, gradually increasing the quantity of air by leaving the top and bottom ventilators partially open at night, at the same time using a little artificial heat, especially should cold winds prevail. By these means good-flavoured fruits are obtained.

SUCCESSIONAL PEACH HOUSES.—These trees must receive regular attention in disbudding, tying of the shoots and thinning of the fruits. Remove every shoot which is not required for fruit-bearing or furnishing the trees, and so give the wood that is left a chance to become well ripened. Apply liquid manure and quick-acting artificials to trees swelling their fruits, especially in the case of old trees, as where the drainage is good there is little or no danger of watering being overdone. Thoroughly syringe the trees night and morning with soft water, and fumigate at once if greenfly should appear.

STRAWBERRIES.—To secure fruit of the finest flavour the plants must receive abundance of air and a cool atmosphere for a few days after they are coloured. Continue to bring forward successional plants as the earlier ones are cleared out, and give copious syringings, and daily applications of weak liquid manure until the fruits change colour, also pay attention to early thinning of the fruits. Where it is intended to plant out forced plants some rough protection is necessary for a few days, or they will receive a severe check from which they take a considerable time to recover.—F. Jordan, Warter Priory, York.

THE FLOWER GARDEN.

GENERAL WORK. — Every opportunity should be taken to forward as much as possible all work of the general routine character, in view of summer bedding operations. At this season lawn mowing and the grass edgings to paths and borders require more attention than at any other, and unless the work is kept well in hand it proves very troublesome during bedding-out time, especially where labour is none too plentiful. The occupants of herbaceous borders are greatly benefited by frequently hoeing between them; this procedure not only kills weeds, but it prevents the soil becoming baked and hard during hot weather. Such subjects as pæonies and delphiniums should be given occasional waterings with liquid manure whenever practicable, as this has a marked effect on the development of the flowers.

THE ROCK GARDEN, which is very attractive at the present time, with a great variety of plants in flower, must be kept free from weeds, which now develop very quickly if left only for a short time, and soon impoverish the soil, for, when they are allowed to establish themselves, they cannot be rooted out without disturbing the roots of the rock plants. As the different subjects pass out of flower, and time permits, the dead flowers should be removed; this imparts a tidy appearance to the rockery, and is helpful to the plants, especially the most delicate ones.

ATTACKS OF GREENFLY are already becoming troublesome among roses, especially so with the members of the rambling class. The pest must be eradicated by spraying with quassia extract, or some other reliable wash. A sharp lookout should be kept for the leaf-curling grub, which usually puts in its appearance a little later on, and so soon disfigures the foliage and flowers, if allowed to remain. Hand-picking seems to be the most effective means of getting rid of this pest, it being difficult to reach by spraying.

BEDDING PLANTS.—No trouble should be spared in the process of hardening-off of these subjects, and this requires to be done in a gradual and thorough manner, otherwise severe checks to the plants will result. Those which have been brought along quickly in a moist, close atmosphere will require the most care in this respect, their foliage naturally being very tender, and if exposed too suddenly to the air and the sun's rays they will become severely checked. Large specimen plants of fuchsias, heliotropes, etc., after being subjected to full ventilation before removal to the open, sometimes suffer when exposed, but I find, by standing them in a sheltered position for a few days with a double thickness of netting drawn over a light framework, there is no fear of harm, and their hardening-off is completed. —T. B. Field, Wych Cross Place Gardens.

ROYAL SHOW

BRISTOL,
July 1st to 5th, 1913.

THE ANNUAL EXHIBITION of HORSES, CATTLE, SHEEP, PIGS, POULTRY and FARM PRODUCE; JUMPING, HORSE-SHOEING and BUTTER-MAKING COMPETITIONS, AGRICULTURAL EDUCATION, FORESTRY and HORTICULTURE.

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EXHIBITIONS AND MEETINGS.

National Rose Society.

The first spring show ever held by this progressive society was a very great success, so much so that steps have already been taken to repeat the effort in 1914. Roses did not fill the Royal Horticultural Hall to overflowing on the First of May, but there were plenty of the most lovely flowers and finely-grown plants, and, though there seemed to be abundant room for visitors, the great hall was inconveniently packed all through the day, and the poor pressmen had no easy task to record the competition. Could not judging commence as easily at 10.30 as at 11? This would give officials and pressmen an extra half-hour, which the latter would greatly appreciate, and the former would be able to place the medal cards as well as the prize cups upon the successful exhibits.

About twelve o'clock, when the show was opened, there was a solid queue of people along the side of Vincent Square, waiting for admission. New roses were a fine feature, and three gold, one silver-gilt, and one silver medals were awarded.

NEW ROSES.

First prize for a dozen blooms of new roses, distinct, was won by Messrs. Alex. Dickson and Sons, Newtownards, with Mrs. Wilfred Lloyd, Mrs. Forde, Mrs. Foley Hobbs, Mabel Drew, George Dickson, Lady Ashtown, Duchess of Sutherland, Melody, C. F. Cowan, Alex. Hill Gray (rich yellow), Lady Derryham, and Mrs. Cornwallis West, white. The Floral Committee of the N.R.S. made the following awards to new roses (for full description, see "New Plants and Flowers," p. 339).

Gold Medal.—To Mdme. Edouard Heriot, raised by M. J. Pernet-Ducher, and shown by Messrs. G. Beckwith and Son, Hoddesdon. To Mrs. Forde and to Lady Plymouth, both from Messrs. Alex. Dickson and Sons, Newtownards.

Silver-gilt Medal.—To Mrs. George Beckwith, raised by M. J. Pernet-Ducher, and shown by Messrs. G. Beckwith and Son, Hoddesdon.

Silver Medal.—To Willowmere, raised by M. J. Pernet-Ducher, and shown by Messrs. G. Beckwith and Son, Hoddesdon.

NURSERYMEN.

In the large class for a group of pot roses to occupy a space not exceeding 250 sq. ft., there were two competitors, and each put up a large corner exhibit of considerable beauty. Premier award was made in favour of Messrs. Paul and Son, Cheshunt, this firm staging tall weeping standards of Lady Gay, Minnehaha, the new white Cuckoo's Mate, a single musk rose, Dorothy Perkins, Sodonia, Excelsa, and Milky Way, these being placed over bush plants of Frau Karl Druschki, the lovely pink Mdme. E. Metz, the white Magnolia, the deep velvety red Othello, Edward Mawley, and J. B. Clark. The arrangement was good, and the whole was edged with maidenhair fern. Messrs. Hobbies, Lim., Dereham, won the second prize with a capital lot of Wichuraiana varieties, but a trifle crowded; Mr. Chas. Turner third.

For a combination of pot and cut roses arranged on a space of 100 sq. ft., Messrs. A. J. and C. Allen, Bowthorpe Nurseries, Earlham, Norwich, secured the first prize. This firm had the Orleans rose for a ground work, with a small group of Sunburst, and over these were beautiful standards of Dorothy Perkins, White Dorothy, Coquina, Excelsa, Lady Godiva, and Minnehaha. Messrs. B. R. Cant and Sons, Colchester, came second, and they had delightful freely-flowered examples of Goldfinch and a fine stand of the brilliant Austrian Yellow. Messrs. W. Cutbush and Son, Highgate, third, with a pretty group of dwarf polyantha roses.

Messrs. G. Mount and Sons, Lim., Canterbury, gained a first for a group of cut roses, 20ft. by 3ft., and everyone was loud in praise of the splendid groupings of glorious flowers of Mrs. John Laing, Richmond, Mdme. Abel Chatenay, Frau Karl Druschki, Captain Hayward, Sunburst, and Ulrich Brunner. Mr. G. Prince, Longworth, was placed equal first with the contesting firm, and his special feature was an arched background of the various rambler roses and a stand of Mrs. Longworth; Messrs. B. R. Cant and Son, Colchester, third.

Messrs. Paul and Son, Cheshunt, were placed first for eighteen standard roses in pots, in not fewer than a dozen varieties; these were worked on the Rosite stock, and carried fine blooms and splendid foliage. The leading varieties were Eugène Boullet, Mrs. J. Laing, Richmond, Viscount Enfield, Laurent Carle, Gloire Lyonnaise, Dean Hole, Mrs. S. G. Crawford, A. R. Goodwin, Lyon Rose, Hugh Dickson, and Frau Karl Druschki. Mr. Chas. Turner, Slough, came second. There was only one competitor in the class for nine weeping standard roses, and this was Messrs. Paul and Son, Cheshunt, who had quite good examples of Eisenach, Sodonia, Hiawatha, Lady Gay, White Dorothy, Excelsa, Mdme. Casimer Moulle, Minnehaha, Lady Godiva.

Fifty dwarf polyantha roses in pots made an interesting class, in which Messrs. Paul and Son, Cheshunt, were to the front with such varieties as Mrs. Cutbush, Mdme. N. Levavaseur, Maman Levavasseur, Aschenbrodel and Jeanne d'Arc. Mr. Chas. Turner, Slough, came second. In neither of the groups were the plants at their best, as there were heaps of unopened buds and comparatively fewer expanded flowers.

A first prize fell to Messrs. Alex. Dickson and Sons, and this was in the class for nine pots of new roses. Strong plants, carrying grand flowers, were submitted, and the varieties were Mrs. J. Campbell Hall, Melody (yellow), Mrs. Foley Hobbs, the lovely white Mrs. Cornwallis West, and Mrs. Forde, a grand H.T. rose, white, faintly tinted flesh.

Cut flowers were in excellent condition, and first prize for three dozen flowers in not less than twenty-four varieties was won by Messrs. B. R. Cant and Sons, Colchester; this firm had lovely blooms of Ulrich Brunner, Mrs. E. Mawley, Mdme Melanie Soupert, Frau Karl Druschki, Elizabeth, Maman Cochet, Wm. Shean, Florence Pemberton, Dean Hole, and The Bride.

Messrs. Alex. Dickson and Sons, Newtownards, co. Down, gained a first prize for eighteen blooms in not less than a dozen varieties, with a box of light-hued blooms, some of the best being Sunburst, Mrs. Foley Hobbs, Mary Greer, and Mrs. Cornwallis West. Messrs. G. Mount and Sons came second with a fine set, in which Sunburst, F. K. Druschki, and Liberty were very fine.

Messrs. G. Mount and Sons, Canterbury, put up a lovely dozen vases of roses, seven stems of each, and won first prize with their display; the varieties disposed were S. M. Rodocanachi, Caroline Testout, Mrs. H. Stevens, Captain Hayward, Mdme. Abel Chatenay, Frau Karl Druschki, Sunburst, Ulrich Brunner, Richmond, Mrs. J. Laing, Molly S. Crawford, and Liberty. Mr. Will Tayler, Hampton, scored for six vases of roses, and his varieties were Mrs. R. G. Sharman Crawford, Mrs. J. Laing, Capt. Hayward, Frau Karl Druschki, La France, and Caroline Testout.

Messrs. G. Mount and Son staged a fine five baskets of blooms, and won a first prize with long-stemmed specimens of Mrs. J. Laing, Capt. Hayward, Mdme. Abel Chatenay, Richmond, and Sunburst.

AMATEURS.

Mr. Jas. Brown, Longfield, Heaton Mersey, won many prizes, but none so splendidly as that for a group of pot roses occupying a space not exceeding 40 sq. ft. To the first prize a gold medal was awarded. The group was a fine one, the plants all well grown and set up in good style. To bring such fine roses from so great a distance was a considerable feat, and we congratulate Mr. J. Brown upon his pluck, his fine culture, and his gold medal. His Frau Karl Druschki, Ulrich Brunner, Capt. Hayward, Dorothy Perkins, and Mrs. J. Laing were lovely.

Mr. C. S. Gordon Clark, Fetcham Lodge, Leatherhead, was easily first for a group of cut roses set out on a space 4ft. by 3ft., and his was a charming little collection of Blush Rambler, Joseph Lowe, Antoine Rivoire, W. A. Richardson, Richmond, Sunburst, Lady Hillingdon, etc.; a silver-gilt medal was worthily awarded in this case in addition to the first prize. Mr. R. H. Darlington, Park House, Potters Bar, came second, and set up capital flowers of Pharisaer, Innocence, Richmond, Ulrich Brunner, and Caroline Testout; Mr. J. Brown, Heaton Mersey, third. For a dozen exhibition blooms, Mr. J. Brown, Heaton Mersey, secured a first prize, and had no competitors; he had F. K. Druschki, Lyon Rose, Mdme. de Watteville, Mrs. J. Laing, Dean Hole, and Mdme. Abel Chatenay.

Mr. H. R. Darlington had the best six cut blooms, winning with good flowers of Souv. de Pres. Carnot, F. K. Druschki, Dean Hole, Molly Sharman Crawford, Bridesmaid, and The Bride. Dr. E. P. Smith, Witham Place, Boston, second, with Mdme. Melanie Soupert and Antoine Rivoire in fine form; Mr. P. T. Davis, North Warners, Burgess Hill, third. Frau Karl Druschki was the rose that won for Mr. C. S. Gordon Clark the premier award for six blooms of one rose.

Mr. James Brown led for six vases of roses, and showed Frau Karl Druschki, Liberty, Richmond, etc.; Mr. C. S. Gordon Clark second, his Sunburst and Richmond being very good. A first prize and silver medal was awarded Mr. Conway Jones, Hucclecote, Gloucester, for a basket of Anna Olivier, and Mr. James Brown, Longfield, Heaton Mersey, was a capital second with beautiful blooms of Frau Karl Druschki.

LADIES.

The best table decoration of roses was the effort of Mrs. A. Robinson, Norhyrst, Carshalton, who displayed medium-sized blooms of Mdme. Abel Chatenay lightly, with a few sprays of asparagus. Mrs. A. W. Ruff, Sharnbrook, Beds, came second with a good design in Mdme. Abel Chatenay roses, and Mrs. A. E. Brown, Brookes Lodge, Reigate, came third with a pretty design of Sunburst. There were seven entries.

The premier vase of roses set up by a lady was of Richmond, and Miss M. E. West, Firth Dene, Reigate, was the winner; Mrs. Courtney Page, Ridgeway, Enfield, came second with Sunburst; and Mrs. J. Bide, Cowley, Uxbridge, third with Richmond. There were eight entries.

United Horticultural Benefit and Provident Society.

The adjourned annual meeting of this society was held at the Royal Horticultural Hall, Westminster, on Monday, May 5, at 8 p.m. There was an excellent attendance, over which Mr. Chas. H. Curtis presided.

After the usual formalities had been disposed of, the report of the committee for 1912 and the accounts for the year were presented, and these are given in abridged form:

REPORT OF THE COMMITTEE FOR 1912.

The net number of members is 1,874; and the following table shows the additions made during each month: February (1912), 5; March, 0; April, 0; May, 1; June, 13; July, 205; August, 93; September, 36; October, 136; November, 57; December, 7; January (1913), 5; making a total additional membership of 558. Of this number, 62 have joined on the State side only; while 398 are ordinary or voluntary members only.

The number of lapsed members is 43, nineteen being from the higher scale and twenty-four from the lower. It is interesting to record that the following sums, standing in the name of members who have been lapsed for many years, and who have now reached the age of sixty, have been paid—viz., £9 16s. 7d.; £14 3s. 4d.; £21 2s. 5d.; and £26 14s. 2d.

Five members have died during the year, one who joined the society on September 9, 1907, and whose young widow received assistance at a very critical time from the society's Benevolent Fund; and others who left sums as follows: £39 17s. 6d.; £29 18s. 5d.; £62 4s. 4d.; £10 13s. 11d.; £5 15s. 10d. The total amount paid out to the nominees of deceased members was £148 10s.

The total amount of sick pay to benefit members during the year was £588 18s. 10d., as against £507 12s., an increase of £81 6s. 10d., but only £27 8s. 4d. more than two years ago. The chronic sick pay amounted to £95 9s. 6d. The total payments to the Benefit Fund were £2,194 0s. 2d., and the disbursements £1.400 7s. 2d. Several members who reached the age of seventy years withdrew from their deposit, under par. 4 of rule xviii., leaving £10 in the funds to be paid to their nominees. One member, who joined in 1869, withdrew £130 5s. 2d.; another withdrew £61 7s. 7d., leaving £100 still to his credit; a third, £39 9s. 11d.; and a fourth, £23 2s.

Subscriptions to the Benevolent Fund amounted to £232 3s. 4d., and the payments therefrom to £108 5s. 3d. (against £90 11s. 6d. in 1911); these including the sums regularly paid to several members over seventy years of age, as well as a few grants made to members or members' widows in great distress.

The strictest economy, consistent with the proper working of the society, has been observed in the management. The total management charges amounted to £418 0s. 7d., as against £222 7s. 6d. in 1911, and £222 9s. 7d. in 1910. But a sum of £128 16s. is recoverable from the Insurance Act Commissioners for administration expenses incurred on the State side of the society's business. The expenses for the ordinary business were therefore £289 4s. 7d. In April the new ledgers referred to in last year's report were opened, and every balance from the old ledgers was transferred and checked by the auditors, it having been seven years since the work was necessary.

The repeated suggestions to the members that those who are recovering from an illness should take advantage of the provisions of the Convalescent Fund have been better acted upon in 1912 than in some previous years. The amount of assistance from this fund was £6 10s. and payments thereto £7 12s. 3d. N. N. Sherwood, Esq., founder of this fund, contributed five guineas as usual.

The report for last year alluded to the work of the committee in regard to the National Insurance Bill then before Parliament. Since this Bill became a law of the land, your committee had then to consider the advisability of making the society an Approved Society under the Act. The whole question was very cautiously and carefully proceeded with, six special committee meetings having been held, in addition to the ordinary monthly ones. A scheme had to be submitted for the sanction of the Insurance Commissioners, and fresh rules, in conformity with the model rules issued by the said Commissioners, had to be prepared, also new scales of sick pay for the ordinary side of the society's work. Actuarial advice was taken, and a delegate from the Insurance Commissioners attended at one of the committee meetings. Eventually, on June 17, 1912, a special general meeting of the members was called, and a resolution was then passed agreeing that approval should be sought and appointing a sub-committee to effect in the rules submitted such further amendments as might be found necessary by the Commissioners. The committee have fully carried out the terms of this resolution, and, as soon as this certificate was obtained, the committee proceeded to advertise the advantages of the society, and chose the media of the Horticultural Press. This resulted in a considerable accretion to the membership.

In future it will be necessary to hold two separate annual general business meetings, one for the ordinary membership business, the other for the State section.

The committee, collectively, particularly desire to record their appreciation of the services of Mr. C. F. Harding and Mr. A. C. Hill in connection with the drafting of the new rules and tables of benefits. Mr. Harding's consistent assiduity deserves the warmest commendation.

The investments made by the trustees during the year are as follows: £800 (New) Queensland 3¾ per cent.; £500 Queensland 4 per cent., and £1,200 London and South Western Railway 3½ per cent., a total of £2,500, the purchase price for same being £2,333 15s.

Owing to advancing years, and the heavy increase of clerical work that the business of the society now entails, the committee had reluctantly to accept the resignation from the secretaryship of Mr. William Collins, who celebrated his semi-jubilee in that office on February 12, 1912. Mr. Collins' services as secretary terminated upon September 9, 1912, but during the interim he has assisted Mr. A. C. Hill, whose appointment as secretary, pro. tem., was agreed to at the August meeting. The committee desire to record their expression of the high respect in which Mr. Collins is held, of his unvarying courtesy, ever-willing service, and close application to his duties.

Mr. Curtis reviewed the work of the society at some length, and moved the adoption of report and accounts. Mr. J. Harrison Dick seconded the motion. Mr. J. Weathers paid tribute to the excellent management of the society, and expressed wonder that such an excellent institution should have so comparatively few members, remembering what great advantages it offers. He pointed out that as the society's invested funds were all put in the balance-sheet at par value, it was likely to give a rather false idea of their value. There was about £3 surplus assets over liabilities, as shown; but if the investments were quoted at market price instead of par value, the balance-sheet would show about £3,000 on the wrong side. The Chairman pointed out that all the investments had been purchased well below par, and all were redeemable at par, and only in the extraordinary contingency of having to hurriedly realise any of its investments would any loss accrue. He promised, however, that another year the purchase price, and also the market value of the investments, should be set out in the report. In answer to questions, the Chairman said that, in connection with the business under the Insurance Act, an annual meeting would be held in the autumn; accounts for the year would close at the end of July, and the meeting would be held as soon after as the Government audit was completed.

The motion was then put, and carried.

Mr. W. P. Thomson resigned the treasurership, owing to pressure of business, after six years' hard work. He was heartily thanked and was unanimously granted £25 for special services rendered to the society from the management fund. Mr. Thos. Winter was elected treasurer in place of Mr. Thomson, and Mr. A. C. Hill was elected secretary in place of Mr. W. Collins, who has resigned after 25 years' service.

A delightful part of the proceedings was the presentation of a gold watch and chain and an illuminated address, to Mr. W. Collins, subscribed for by members and friends as an expression of regard and appreciation of 25 years' service as secretary. Mr. Curtis made the presentation on behalf of the members, and his kindly remarks evidently voiced the sentiments of the members, as they were heartily endorsed. Mr. Jas. Hudson and Mr. J. Wheeler added a few words, and Mr. Collins responded feelingly.

Votes of thanks were accorded the trustees, the committee, the Press, and the auditors, the latter being re-elected. The retiring members of the committee, Messrs. J. H. Dick, E. M. Wilson, D. Campbell, and C. Harding, were re-elected, and Mr. Thomson was elected to the seat vacant by the elevation of Mr. T. Winter. Mr. Oxtoby made several suggestions for further popularising the society, and a vote of thanks to the Chairman, moved by Mr. Frogbrook, brought the interesting and busy proceedings to a close after a sitting of nearly 2½ hours.

Midland Auricula and Primula Society.

APRIL 30.

The Midland section of the National Auricula and Primula Society held their fourteenth annual exhibition at the Edgbaston Botanical Gardens on the last day of April under favourable climatic conditions. The weather was genial and bright; everything possible was in favour of a good show. More plants were staged on this occasion than in any year since the society was founded. The attendance also was very satisfactory, and throughout the afternoon a goodly number of visitors were seen admiring the flowers.

Honorary exhibits were very fine, the groups being most artistically arranged. A charming group of perpetual carnations was exhibited by Messrs. A. R. Brown, Ltd., King's Norton. This firm also exhibited pot roses in fine condition, and were awarded the gold medal for the two groups. The Lapworth Nurseries Company, Hockley Heath, had a very fine exhibit of primulas and alpine plants, the primulas being the finest seen at the society's exhibitions. A silver-gilt medal was awarded the exhibitors. Mrs. Richard Peyton, Edgbaston, staged a very fine group of schizanthus, and was awarded a silver medal. Mr. H. N. Ellison, West Bromwich, was awarded a silver medal for a very fine group of ferns, which was tastefully arranged, and afforded much pleasure to fern lovers. The award of a silver medal was made to Mr. A. Edwards, Arnold, Notts, for rustic flower holders.

The Birmingham Botanical and Horticultural Society offered two medals to the exhibitors taking the largest number of points, and the large silver medal was won by Mr. Charles Winn with 131½ points, and Mr. W. M. Shipman won the bronze medal.

Mr. W. C. G. Ludford presented the two large silver medals to be awarded to the exhibitors taking the largest number of points with show and alpine auriculas, and both were won by Mr. Charles Winn.

Two large silver medals were presented by Mr. W. H. Parton, and that for the most points for show auriculas in the open classes was won by Mr. C. Winn, and that for most points in the open classes for alpine auriculas by Mr. W. M. Shipman.

SHOW AURICULAS.

The premier award in the class for eight show auriculas was won by Mr. W. M.

Shipman, of Altrincham, with Orpheus, Prince Charming, Geo. Lightbody, Shirley Hibberd, Molly Shipman, Peggy Gibson, and two seedlings. Mr. Charles Winn, of Selly Hill, Birmingham, was second with Henry Irving, Harrison Weir, Marmion, Mikado, Queen of Spain, Mrs. Henwood, Eucharis, and Geo. Lightbody; Mr. W. H. Parton, of Keighley, third. For six show auriculas Mr. Charles Winn was first, with Harrison Weir, Mrs. Henwood, Eucharis, Favourite, Henry Irving, and Olympus; Mr. W. M. Shipman second, and Mr. W. H. Parton third.

There was a brisk competition in the class for four show auriculas, and the premier award was made in favour of Mr. G. Savory, Birmingham, who had Acme, Marmion, Shirley Hibberd, and Abraham Barker. Mr. C. Turner, Handsworth, was second, and Mr. H. Saunders, Sparkhill, third. For two show auriculas Mr. J. F. Freeman, Sparkhill, was first; Mr. A. Wadley, Aston, second; and Mr. Geo. Barker, Sheffield, third.

There was a good competition in the class for single specimens, and the awards were made as follows: Green-edge—Mr. W. M. Shipman, first, with Shirley Hibberd; Mr. Charles Winn, second, with Mrs. Henwood; and Mr. W. H. Parton, third. Grey-edge—Mr. Charles Winn, first, with Marmion, and second with Olympus; and Mr. W. H. Parton, third. White-edge—Mr. Charles Winn, first, with Eucharis; Mr. H. J. Spencer, of Four Oaks, with Acme; and Mr. Geo. Barker, Sheffield, third. Self—Mr. C. S. Toogans, Hollywood, first, with Mrs. Phillips; Mr. A. Griffin, Saltley, second, with Mikado; and Mr. Charles Winn, with Queen of Spain. Yellow or buff self—Mr. Charles Winn, first and second, with Daffodil; and Mr. J. Freeman, Sparkhill, third, with the same variety.

The premier show auricula was George Lightbody, shown by Mr. C. Winn; and the premier seedling show auricula was Modesty, exhibited by Mr. W. M. Shipman.

ALPINE AURICULAS.

In competition for the prizes for eight alpine auriculas, Mr. W. M. Shipman won the premier award with a very fine set of plants, comprising Majestic, Roxborough, Charmer, Phyllis Douglas, R. C. Cartwright, Commander, and Sunrise. Mr. Charles Winn was a very close second with a very fine set of plants, his varieties being Roxborough, Majestic, Mrs. Danks, Phyllis Douglas, Prime Minister, Mrs. Douglas, Muriel, Mrs. Neville Chamberlain; and Mr. W. H. Parton third. For six, Mr. R. Holding, Bournville, was first with Argus, J. F. Kew, Unexpected, Majestic, Violet Vanbrugh, and Miss Baker; Mr. W. M. Shipman second, staging Unexpected, Phyllis Douglas, Majestic, and Commander, and Mrs. R. C. Cartwright; Mr. Charles Winn third. For four alpines, Mr. H. W. Miller, of Handsworth, was first; Mr. W. C. G. Ludford, Four Oaks, second; and Mr. J. D. Williams, Smethwick, third. For two alpines, the prize-takers were Mr. H. W. Miller, Handsworth; Mr. E. Saunders, Sparkhill; and Mr. H. J. Spencer, in the order of their names.

In competition for the prizes for single specimens with gold centre, Mr. C. Winn was first with Muriel; Mr. W. H. Parton second with Violet Vanbrugh; and Mr. H. W. Miller third, with Unexpected. In the corresponding class for varieties with light centre, Mr. J. Freeman, Mr. E. Saunders, and Mr. C. Winn were the prize-takers with Phyllis Douglas.

The premier alpine auricula was Majestic, shown by Mr. Charles Winn; and the premier seedling alpine auricula was Fred Freeman, from Mr. J. F. Freeman.

AWARDS.

First-class Certificate.—To alpine auricula Dorris Hill, from Mr. J. M. Eglington; to alpine auriculas Esther, Fred Freeman, and show self auricula Will Freeman, from Mr. J. Freeman; to Primula Lapworth Flesh, from the Lapworth Nurseries; to white edge show auricula Modesty, from Mr. W. M. Shipman.

Award of Merit.—Primula Lapworth Carmine, from the Lapworth Nurseries; Primula Lapworth Crimson, from the Lapworth Nurseries; Primula Lapworth Pink, from the Lapworth Nurseries; Primula Lapworth Salmon, from the Lapworth Nurseries; Primula Lapworth Scarlet, from the Lapworth Nurseries; Primula Lapworth Violet, from the Lapworth Nurseries; Primula Lapworth White, from the Lapworth Nurseries; Primula Lapworth Yellow, from the Lapworth Nurseries; Primula Lapworth Cardinal and Lissadell Hybrid, from the Lapworth Nurseries.

Highly Commended.—Alpine auricula Mrs. Saunders, from Mr. J. Freeman; and alpine auricula from Alpine Auricula Annie Crisp, from Mr. H. W. Miller.

Manchester Spring Show.

APRIL 29 and 30.

The Royal Botanical and Horticultural Society have revived their Spring Show, and held it in the Town Hall in conjunction with the National Auricula Society. The exhibits, which were non-competitive, were of a miscellaneous character, but orchids predominated. Mr. J. Howes, gardener to W. Thompson, Esq., Stone, had a grand bank of orchids, backed up with well-grown palms, ferns, etc. This exhibit occupied one end of the hall, and embraced odontoglossums, miltonias, cattleyas, cypripediums, etc. First-class certificates were awarded to Odontoglossum eximum Mrs. S. G. Guest, O. J. Howes, O. Charlesworthi, O. Teddie Thompson, and O. Walton Gem. A special gold medal was awarded to this fine exhibit. Mr. W. G. Garner, Altrincham, contributed a mixed display of roses, carnations, azaleas, with groups of primroses and polyanthus (Gold Medal). A. Warburton, Esq., Haslingden, set up a group of orchids, including good forms of cattleyas, odontoglossums, cypripediums, etc. (Gold Medal). Mr. A. J. Keeling, Bradford, sent a small collection of orchids, including good dendrobiums (Silver-gilt Medal). Mr. Q. J. A. Bruce, Chorlton-cum-Hardy contributed a miscellaneous group comprising good lily of the valley, liliums, palms, and foliage plants (Silver-gilt Medal). Mr. D. MacLeod, Chorlton-cum-Hardy, sent odontoglossums, cattleyas, miltonias, etc. (small Silver-gilt Medal).

Messrs. Muirhead and Willcock, Ashton-on-Mersey, put up two groups in which palms, bamboos, ferns were utilised as a background for rhododendrons, azaleas, liliums, roses, etc. (Silver-gilt Medal).

Mr. P. Weathers carried out the arrangements in his usual able manner.

ODONTOGLOSSUM PRINCESS MARY.

An attractive variety raised by Messrs. W. Bull and Sons. Flowers blush-white with red-brown blotches. See page 330.

THE ST. BRIGID ANEMONE.

No other anemone gives such brilliant shades as this, and as a showy spring-flowering plant it stands unequalled, for under ordinary circumstances it gives a wealth of blossom from early in the New Year until quite into the summer. Its usefulness for providing flowers for cutting over so long a period greatly enhances its value. The cultivation in a well-drained soil is very simple, but where a cold and wet soil has to be dealt with there is some little difficulty at times. In the former case tubers procured and planted early in the autumn in well-worked soil invariably thrive, while under the latter conditions they usually give unsatisfactory results; in fact, in my experience, it is waste of time to adopt it unless ample protection can be afforded to keep off excessive moisture and frosts. In such cases I strongly advise raising plants from seeds annually, and allowing the seedlings to grow undisturbed in the seed beds. So far I have not known this method to fail. Now is the most suitable time to take the matter in hand; choose a sunny position sheltered from north-east winds, in which to locate the beds; dig up the soil deeply, and mix with it leaf-mould and sand. Then form raised beds 5 feet wide by throwing out an alley 18 inches wide between each bed, and when these preparations are complete and the surface soil has been worked into a fine condition, draw out shallow drills 12 inches apart in which to sow the seed. It is difficult to sow evenly and thinly unless the seeds are mixed with some sharp grit or sand. During germination keep the seed bed moist, but after this has taken place little attention is required beyond keeping the beds free from weeds and moving the soil occasionally between the rows with a hoe. If a slight protection is given by fixing up a temporary framework on which a mat can be laid during cold weather, the early flowers will be saved from injury.

T. B. Field.

Wych Cross Place Gardens.

VEGETABLES FOR EXHIBITION AND HOME USE.

In dealing with a subject of this kind, there will no doubt be much difference of opinion as there are many points to be taken into consideration, such as the time of year crops are in use, and the relative value of each kind.

Potatoes.

Were I asked to name the most useful vegetable, I should, without the least hesitation, say the potato. This has for a long time taken the first place on a gentleman's table, and in many places is the chief food of the poor. Not only is it in use the whole year round, but it is served up in such a variety of ways that there would be much difficulty in finding a substitute. As a rule, however, tubers staged at shows would find but little favour with the chef. Take the early forced tubers as an example. As soon as these have attained the size of walnuts they are ready for use, and are much preferred to larger ones, as they are then served up whole. Were such tubers placed on the exhibition stand they would be passed over by the judges as being too small. When potatoes have attained their full growth those of medium size find most favour in the kitchen, whereas tubers for exhibition must be of large size, otherwise they would not be looked at, the awards going to some monstrosities that are of but little value except for cattle food.

Why is this? Exhibitions should be to encourage the production of such tubers that are the most useful, not the largest that can be grown. One is sometimes astonished at the enormous size cauliflowers and broccolis are exhibited. No ordinary cooking utensil would be capable of holding such overgrown specimens. Those that find most favour with the epicure are such that would go inside a small tea saucer—nice white compact heads, fringed with green leaves, that should please the most fastidious palate. Then again, are we not sacrificing the constitution of the plants to produce these monstrosities?

Brussels Sprouts.

Well might we ask where is that fine old variety of Brussels sprouts known by the name of "Imported"? This kind used to give us a supply of close, hard, compact sprouts right through the winter, no amount of frost seemed to take any effect either on the plants themselves or the sprouts they produced; while with many of the "improved" forms, as they are termed, the first frost in winter turns them black in the centre, rendering them quite useless for cooking. When walking round the vegetable stands at our shows one frequently hears the remark, What fine sprouts! More like small cabbages, and so forth. But those who see these fine sprouts after the first frost quickly alter their opinion. Brussels sprouts are exceedingly useful, and those of small, compact growth are by far the most serviceable, being better flavoured than the overgrown, coarse ones so frequently seen on the exhibition table. Yet judges will make their awards to these ill-conditioned exhibits, knowing full well that by doing so they are encouraging what is opposite to their convictions. Exhibitors grow these large specimens because they know that they will have no chance of obtaining awards unless they do so.

Carrots.

If you ask those who have had any experience in cooking, which they prefer, the nice, sweet, young, tender carrots that have been fresh drawn from the ground, or those fine roots that may have taken a silver cup or gold medal at a leading show, they would tell you the small, clean, fresh-drawn roots. Last autumn I saw staged, without doubt, one of the finest dishes of Doyenne du Comice pear that was ever exhibited. Yet these stood no chance with the judges against a dish of coarse Pitmaston Duchess, showing that judges as a rule go in for something big, regardless of quality. In dealing with vegetables, preference should be given to such productions that would give the greatest satisfaction when placed on the dining-table, not that which pleases the eye most in the exhibition tent. Were we judging plants, quality would certainly be taken into consideration, then why should not the same hold good with fruit and vegetables?

Asparagus.

Look at those giant heads of asparagus, about the thickness of a man's thumb, and as white as a piece of chalk, as tough as cow-hide, and no more fit for human food than so many blanched cabbage stalks. Yet such unnatural specimens are looked upon by some as being fine examples of their kind. Asparagus to be appetising ought to be nice and green for at least two-thirds of its length, not simply have green heads about the size of peas. There is no difficulty in growing these blanched walking-sticks, but they are not appreciated by the connoisseur. Why, then, is it that such productions are awarded the highest honours at our shows?

Onions.

Take, again, the onion. How many of those large specimens that grace the show tables during the early autumn are to be found in March? It is all very well to grow such, as showing what science and skill can do, but when it comes to a continuous supply something more is needed than exhibition specimens. One bulb to every eighteen inches or two feet of land is not the thing to be recommended for general use.

French and Runner Beans.

If you ask a chef which he prefers, those large pods of French beans and scarlet runners that are the pride of the exhibitor, or the small, tender samples, he would, without the least hesitation, say the latter. Large pods are nice to look at, but there is no more skill in growing them than in keeping up a constant supply of nice, useful sized ones.

Cucumbers.

I can well remember the time when cucumbers for exhibition were grown in glasses made specially for that purpose. When specimens from two or three feet long were no uncommon productions, glasses in like proportions were made for them to grow in; some were simply cylinders open at both ends, while others had only one end open. The pride with which the cultivator staged these monstrosities may be imagined, especially when he found they were an inch or two longer than his opponent's. It was then, So-and-so's black spine, or white spine, as the case might be. But such cucumbers are by no means the most serviceable, as they soon become bitter if not used. Small fruits, of from ten inches to a foot in length, are the best for general use, as a fresh one can be cut whenever required.

Leeks and Celery.

There has at times been much controversy about leeks. Some prefer the long, slender varieties, while others have a liking for the stout ones. As regards their cooking qualities, there is but little difference in them. Therefore, given weight for weight, the blanched portion of one is as good as that of the other. Leeks are by no means difficult to grow, provided one pays attention to their requirements; but to produce stems of first-class quality, liberal treatment must be accorded them. Celery is one of those vegetables that there can be no two opinions about, for the finest, best grown, crisp, blanched stems are the best, whether for exhibition, cooking, or for salads. They should not have a hard, knotty root, and the heart ought to be well extended up the plant. To produce the finest sticks the growth should be made evenly; for this reason it is not well to sow the seed too early in the season, and have the plants hanging about for a considerable time before they are planted.

H. C. P.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us of changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Road, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He would also be greatly obliged by correspondents sending early intimation of interesting local events related to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

DIMORPHOTHECA AURANTIACA.—E. O., Barham: Will you kindly tell me whether Dimorphotheca aurantiaca is a greenhouse plant or an outdoor annual? I had some seeds sent me, and I do not want to make a mistake with the plants.—Dimorphotheca aurantiaca is a half-hardy annual, it should be raised under glass, and at an early stage the seedlings should be planted singly in small pots. After due hardening off planting should take place at the end of May or early in June in a sunny border, or better still, on a sunny spot in the rock garden. This Namaqualand Daisy loves the sun. Of course, it could be grown in pots in a greenhouse, just as many other annuals are, we have seen it grown as a basket flower in a greenhouse with considerable success.

JABOROSA INTEGRIFOLIA.—F. E., Minehead: I shall be very glad if you will give me some information concerning a South American plant named Jaborosa integrifolia. Is it perennial, half-hardy, or hardy, and how can it be increased? I have one plant in a pot in a cold frame, and am at a loss to know the proper thing to do with it.—Jaborosa integrifolia is a native of Buenos Ayres, and is a perennial, hardy species belonging to the Order Solanaceæ. Rich sandy soil, and a sunny position on the rock garden or in a well-drained border, suits it, and if a rock or a shrub nearly shelters it from cold winds, so much the better. Increase is by division of the tufted growths during early spring; by cuttings of the unflowered growths during summer; or by seeds sown as soon as ripe or in early spring. Cuttings should be placed in a cold frame, and seedlings should have similar shelter. Jaborosa integrifolia has thick roots, leaves very like those of a dandelion, and white or yellowish bell-shaped flowers.

CARBON BISULPHIDE AND WOOLLY APHIS. — Messrs. Chivers and Sons, Ltd., Histon, Cambridge, write: "You were good enough in a recent issue to refer to our use of carbon bisulphide in fighting woolly aphis, popularly known as American Blight. As we have received a number of enquiries respecting this method, we think it should be mentioned that this substance is poisonous and inflammable, and must be used with great care. It should not be brought near a light, and anyone handling it should be careful not to smoke at the time." We have previously pointed out the danger that attends the careless handling of carbon bisulphide, and we are obliged to Messrs. Chivers for again referring to the matter. There is no danger at all in the use of the material if reasonable care is used by those who handle it.

DAHLIA IMPERIALIS.—M. R. B., Llangollen: I have been greatly interested in the excellent articles on dahlias and dahlia culture, which have appeared of late in THE GARDENERS' MAGAZINE, and I am wondering whether a collection of dahlia species would prove of interest in the garden. Can you tell me how many species there are, and where one could see them growing, and whether D. imperialis will flower in this country?—There are about half a dozen species of dahlia. Most of the species, or all of them, can be seen at the more important botanical gardens such as Kew, Cambridge, Dublin, etc.

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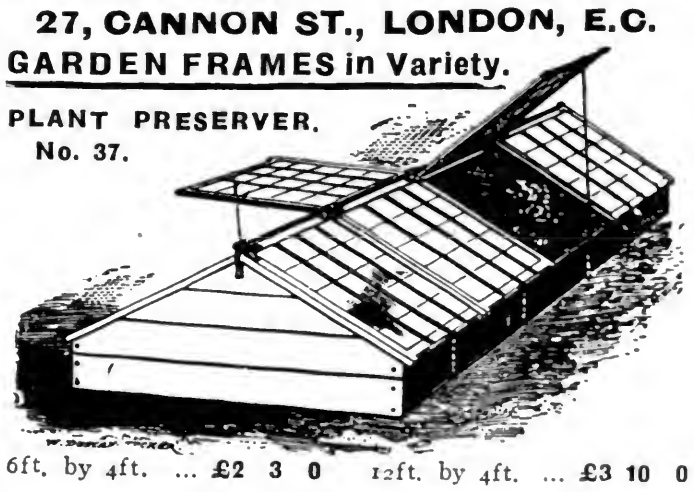

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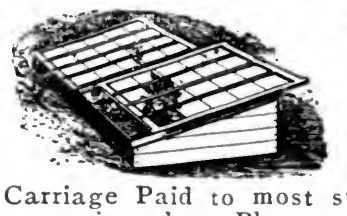

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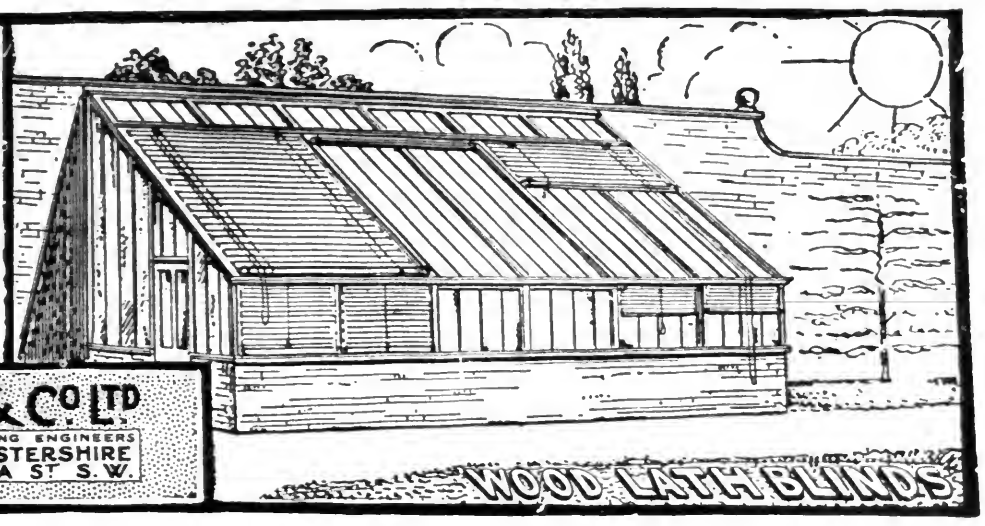

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Such a collection would prove of great interest, and, so far as we are aware, there is no such collection in a private garden. D. imperialis is less hardy than the rest; it is a tall grower—8ft. to 12ft.—and produces its white, lilac-tinted flowers late in the season, hence it is necessary to place it in a warm, sunny greenhouse at the end of September to secure the blooms.

PALE YELLOW CALCEOLARIA.—S. E., Hornsea: Last year I saw a rather tall-growing calceolaria with pale-yellow flowers and soft green leaves used effectively in the public gardens at one of our Yorkshire seaside resorts. I intended to write you about it at the time, as I was much struck by its grace and beauty; unfortunately, it was not labelled. Possibly you could tell me what it was, and, if so, I shall be very grateful, because I propose to buy a few plants. It was not Calceolaria Burbidgei, which I grow and know quite well.—No doubt the plant you saw was Calceolaria amplexicaulis, which is a Peruvian species, 2ft. or so high, that carries clusters of soft lemon-yellow flowers. It is not hardy, but is easily propagated from cuttings placed in gentle heat in spring, or in a close frame in summer and early autumn. It is also easily raised from spring-sown seeds.

LARGE ANNUAL ASTERS.—H. G., Wittersham: Your article and illustrations dealing with large-flowered Annual Asters have interested me greatly. Can you inform me where I can obtain seeds of these American varieties to produce large blooms for marketing?—No doubt some of our leading English seedsmen would obtain the seeds for you, or you might write direct to Messrs. W. Atlee Burpee and Co., Philadelphia, U.S.A., an American firm of repute that advertises in our columns.

FOLIAGE PLANT FOR CUTTING.—M. M., Lichfield: I find some difficulty in obtaining very light and fern-like foliage during the summer-time for associating with cut flowers. My garden is of considerable size, and we have an abundance of flowers. As there is an invalid in the family, who can seldom get into the garden, we use flowers somewhat lavishly indoors. Will you add to the many kindnesses received through your columns by telling me the name of a hardy plant that will furnish elegant foliage for the purpose suggested?—Several of the thalictrums would prove very suitable for cutting, and if a batch of plants could be grown in a reserve spot, so much the better. T. minus is one of the very best for the purpose, as it has the grace of a maidenhair fern; T. rhynchocarpum and T. glaucum are also useful.

NAMES OF PLANTS.

G. S., Ryde.—Sparmannia africana.

W. R., Horsham.—Rubus spectabilis.

A. F. E., Chesham.—1, Camassia Cusicki; 2, Euphorbia palustris; 3, Choisya ternata.

M. L., Beckenham.—1, Pyrus acida; 2, Iberis sempervirens Garrexiana; 3, Uvularia grandiflora.

C. L. C., Matlock.—1, Daphne Cneorum; 2, Hippuris vulgaris; 3, Fritillaria persica; 4, F. meleagris; 5, Scilla hispanica.

CARNATION DUCHESS OF DEVONSHIRE.

I have been greatly interested in the discussion in THE GARDENERS' MAGAZINE with reference to the perpetual carnation Duchess of Devonshire. My experience, after cultivating this particular carnation for three years, prompts me to add a few words in its favour. From the time the cuttings are struck this variety invariably outgrows all others struck at the same time, and always produces a good strong healthy plant equal to the strongest-growing carnations I have ever seen, and gives us a splendid supply of blooms all the year round. My employer, R. Logan Kidston, Esq., will bear out my statement, that we are never without blooms of this carnation, beautiful in form and colour, and so useful, we are quite confident one of the freest bloomers in cultivation.

Bredenbury Court Gardens. H. TRIBE.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

DATE. 1913. APRIL 27 TO MAY 3.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 27—Sunday	1 54	57	53	59	49
,, 28—Monday	1 42	56	54	62	51
,, 29—Tuesday	6 18	52	50	69	43
,, 30—Wednesday	1 48	52	48	56	49
May 1—Thursday	6 48	53	48	57	43
,, 2—Friday	6 48	49	47	59	40
,, 3—Saturday	3 0	50	47	56	38
	(total)				
Means	28 18	52	49	59	45

DATE. 1913. APRIL 27 TO MAY 3.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
April 27—Sunday	0·07	50	49	48	45
,, 28—Monday	0·09	52	49	48	42
,, 29—Tuesday	0·41	51	50	48	34
,, 30—Wednesday	trace	54	51	48	41
May 1—Thursday	—	52	50	49	35
,, 2—Friday	—	52	51	49	31
,, 3—Saturday	0·34	53	51	49	28
	(total)				
Means	0·91	52	50	48	36

Thunderstorm on April 29, 8 to 9 p.m.

CATALOGUES RECEIVED.

PAUL AND SON, CHESHUNT.—A spring list of new and recently introduced roses; a capital and timely list for those who wish to plant roses from pots.

CHAS. P. KINNELL AND CO., LIM., 65, Southwark Street, S.E.—This firm's list is certainly one to keep on hand, as it includes pumps and hose, spraying machines, taps and syringes, all sorts of cutting and surface cultivation tools, ladders and barrows, ventilating gear, and lots of other things a gardener needs to know about.

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, May 12.—Whit-Monday—Bank Holiday.

WEDNESDAY, May 14.—Royal Horticultural Society: Floral, Orchid, Fruit and Vegetable, and Narcissus and Tulip Committees meet at 12 noon. Lecture at 3 p.m on "The Coco-nut Palm," by Sir Everard Im Thurn, K.C.M.G.; Scientific Committee at 4 o'clock.

Tulip Show at the Royal Horticultural Hall.

THURSDAY, May 15.—Royal Gardeners' Orphan Fund Annual Festival Dinner at the Hotel Cecil, at 6.30 for 7 p.m.; chairman, the Right Hon. Col. Mark Lockwood, M.P.

The following dates of exhibitions have been recently announced:

Epsom Horticultural Society, Rose Show, June 30, at Woodcote Grove; Summer Show, August 4, at Epsom College.

Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.

Ealing Horticultural Society, July 9.

Weybridge Horticultural Society, July 10, at Barham Lodge, Oatlands Drive.

Ulverston Rose and Sweet Pea Show, July 18.

Birmingham Horticultural Society, July 18 and 19, in Handsworth Park.

Haywards Heath Flower Show, July 23, in Victoria Park; the twenty-fifth exhibition.

Tunbridge Wells Flower Show, July 23 and 24.

St. Quintin Horticultural Society, July 24, in the Gun Club grounds Wood Lane, W.

City of London Rose Show, July 26, at Cannon Street Hotel.

Worth Horticultural Society, July 30.

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We HOPE all those who have not yet had a copy of our treatise, "Steps to a Perfect Garden," will write us without delay. The book — sent to any address gratis and post free—gives valuable information on Garden and Greenhouse Pests, and explains fully the

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VOL. LVI.—No. 3,107. SATURDAY, MAY 17, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Summer Effects in the Flower Garden.

In a consideration of the course of procedure whereby the most beautiful effects can be obtained in the flower garden during the summer season, there is not, at the present time, any occasion for touching otherwise than lightly on matters of a controversial character. No longer is it regarded as essential when approaching a question of this kind, that the time-honoured battle of Tender Bedders versus Hardy Flowers should be fought. At the present day all who are immediately concerned with the decorative aspects of outdoor gardening readily acknowledge that both tender and hardy plants possess much interest and beauty; and also that to maintain the attractions of the flower garden at a high level over the longest possible period a selection from the two classes must be made. The extent to which each section is drawn upon, and the manner in which the several kinds are utilised, will, as a matter of course, be determined by the taste of the owner of the garden and the conveniences for the preparation of the stocks of the several kinds. The characteristic features of the garden should also be taken into consideration; and, as a general proposition, it may be stated that in the preparation of colour schemes the suitability of the plants to the position they are to occupy should be carefully studied. It may also be suggested that in no garden will it be wise to fill the beds and borders with plants whose attractions fail in obtaining a full measure of appreciation. With the planting and care of hardy plant borders we are not now specially concerned, but to avoid misapprehension it may be pointed out that while they do not come within the scope of our reference to the production of summer effects in the flower garden, we regard a comprehensive selection of hardy flowers as essential to the full enjoyment of the flower garden, whatever may be its dimensions. Borders filled with the finest of the hardy perennials there should be, and, fortunately, there are comparatively few gardens in which such delightful features are not to be found. In addition to these there are usually geometric schemes or other groups of flower beds that occupy positions where they are constantly within view, and consequently should present a distinctly attractive appearance over the longest possible period. To ensure this continuity the utilisation of a considerable proportion of tender plants is a necessity, because of the relatively small number of hardy plants that bloom freely without a break from the opening days of summer until the season has well-nigh reached its

MR. FRANK CORDELL.

close. Beds occupying such positions as those here referred to may be maintained in a highly attractive state with but a short break from early in April until September is well advanced, by taking advantage of the aid the various bulbous and fibrous-rooted plants that bloom in spring are so well able to render. The use of two seasonal sets of plants will involve additional time and thought, but this will have ample compensation, inasmuch as by no other course of procedure can such attractive displays of flowers be produced for a similar period. Reverting to the preparation of the summer displays, in which plants that are not sufficiently hardy to withstand the conditions characteristic of the British winter will have a prominent place, it cannot be too clearly stated that the colour schemes for beds arranged in geometric or other groups may be readily adapted to the requirements of the most divergent tastes. As a general rule, schemes of colouring that are somewhat quiet in tone are most in accord with present-day ideas, and usually give the greatest degree of pleasure. They ought not to lack effective colouring, for the garden is no place for dulness, and bright effects without any semblance to the garish displays of colour that found so much favour during the greater part of the second half of the last century can be readily obtained. We suggest that, in carrying out schemes for beautifying the flower garden during the summer season, attractive flowers and handsome foliage should be utilised according to their relative values, and the taste of the owners of gardens. We appreciate to the full the improvement that has been made in summer bedding, to use a conventional term, within recent years, as the result of the endeavour to rid the flower garden of the appearance of flatness which was so characteristic a feature of the old style. There are several methods of planting by which the monotonous uniformity in the heights of the plants can be completely avoided. One is by the variation in the heights of the occupants of the different beds: another is by planting pyramidal or standard specimens some distance apart, and filling in the intervening spaces with dwarf plants of the same, or some other kind; and still another by furnishing the beds with the same kind, but using plants differing in height. The last method of planting can well claim to be the most recent, and, if not absolutely the best, it has so much merit that its steady increase in public favour may be regarded as highly satisfactory. Beds of zonal pelargoniums, heliotropiums, Calceolaria Burbidgei, and certain of the lantanas, of which the highly attractive variety grown so extensively in the London parks under the name of Delicatissima, is one of the best. For a very long period it has been the practice in the use of zonal pelargoniums to fill the beds exclusively with small plants raised from cuttings in the autumn previous, which bloom freely enough, but are so uniform in height as to become very monotonous long before the season has come to an end. A far more pleasing effect is produced by plants lifted from the beds in the previous autumn, and grown in five or

six-inch pots during the winter. Still better is the effect produced when a few bush-grown plants of larger size, and two or three low standards are associated with them. The older plants will bloom with greater freedom than will those some eight months old when bedded out; but what is of still greater importance, the effect is more pleasing. Very beautiful also are beds of heliotropiums formed with plants varying from about eight to thirty inches in height, and when arranged within a short distance of the house the fragrance of the flowers will be a constant source of gratification. In the case of the pelargoniums and heliotropiums, and also fuchsias, the beds can be filled with one variety, or with several varieties, provided the various shades of colour harmonise. The effect produced by setting specimen plants of heliotropiums, ivy-leaf pelargoniums, lantanas, fuchsias, Calceolaria Burbidgei, Swainsonia galegifolia alba, Streptosolen Jamesonia, in a low growth of other plants, is now so well known and generally appreciated that it need not be referred to except to suggest that the crowding of the specimens should be avoided. Boldness may also be given to the arrangements of summer flowers by the inclusion of a few beds of the free-flowering cannas of moderate height, which, in but few gardens, are grown so extensively as their merits would warrant. In addition to these, a bed here and there of such strong-growing ornamental-leaved plants as the ricinus, wigandia, and variegated maize will be useful for the diversity of form and colour they afford, but such beds must not be numerous or placed where their occupants will be liable to injury from strong winds. The mixed groups of tropical plants that are met with in some of the public parks are not well suited for private gardens, but any well-grown agaves, cordylines, dracænas, palms, and yuccas that may be available should be taken advantage of, and arranged singly in suitable positions. Indiscriminate mixtures of flowering plants are equally undesirable, but, happily, they are now so seldom seen in gardens that there is no occasion to do more than make this passing reference to them.

Mr. Frank Cordell has two claims upon our attention. He is head gardener to Alfred Blades, Esq., Rockfields, Reigate, and in that connection has proved himself a particularly successful cultivator of chrysanthemums, roses, and sweet peas. He is also secretary of the Reigate and District Chrysanthemum Society, an office he has held since 1910, but for four years previously he was joint secretary with Mr. W. C. Knight. Mr. Cordell worked for some time under his father, who has been head gardener at Hubbards Hall, Harlow, for forty years. On leaving home he went to Messrs. H. Cannell and Sons, Swanley, working there in the various departments, and visiting the surrounding market gardens and fruit farms during his spare time. From Swanley he moved to Elmhurst, Bickley, where Mr. C. Payne was then a most notable and successful exhibitor of chrysanthemums and pot plants. Here Mr. Cordell stayed six years, and he speaks very highly of the advice and assistance received from Mr. C. Payne during that period. At Rockfields Mr. Cordell has keenly interested and appreciative employers, both Mr. and Mrs. Alfred Blades finding a vast amount of pleasure in their pretty garden. They both render great help in connection with local horticultural functions, and their love for flowers and plants leads them to extend that encouragement which so greatly helps a gardener to success at home and in the exhibition tent.

Chelsea Flower Show. — The great spring exhibition, which will be held by the Royal Horticultural Society in the grounds of the Royal Hospital, Chelsea, on Tuesday next and the two following days, has the promise of proving a great success. The change from the somewhat limited area of the gardens of the Inner Temple to the spacious grounds of the Royal Hospital has rendered it possible to effect immense improvements in the arrangements, and to greatly increase the facilities given to exhibitors for the display of the products of their skill. This year's exhibition is planned on the lines of the Royal International Horticultural Exhibition that was held at Chelsea last year; it will of necessity differ from that gathering in some of its features, but it will evince an immense advance on previous spring shows held by the Society. The exhibits will be arranged in a huge tent of a similar character to that which formed so striking a feature at Chelsea last year, and they will occupy at least three times the area devoted to them at the Temple shows, and yet leave ample space for visitors to move about in comfort. The great features of the exhibition will be the orchids, roses, rock and water gardens, tulips, hardy herbaceous and alpine flowers, fruits, and vegetables, ornamental evergreen and flowering trees and shrubs, pergolas, and horticultural sundries. The rock and water gardens and the pergolas will be in the open. In our next issue we shall give a full and illustrated report of this great demonstration of British horticulture.

Tulips in the Preston Parks.—The displays of early-flowering tulips in the Preston parks have been especially fine this season, and the brilliant colour effects have afforded immense pleasure to the visitors. The most noteworthy of the displays were those in Miller Park, and particularly attractive were the beds of White Falcon and Crimson King, Princess Marian and Prince of Austria, Proserpine, Keizerskroon, Joost van Vondel, and Yellow Prince, alongside the Derby Walk. These, with other varieties, were employed with good effect in the beds surrounding the sundial, one of the more noteworthy objects in the park, and in those contiguous to the West Cliff entrance. The Parks Superintendent, Mr. F. Tye, may be heartily congratulated on the success he achieved.

A Sunless Whitsuntide.—The Whitsuntide holidays have not been a success from the point of view of those who love to spend the brief respite from duty largely in the open air. The Saturday afternoon was only moderately fine in the Metropolitan area, and Sunday consisted of very heavy showers of rain and hail, punctuated by brief bursts of sunshine. The Bank Holiday was still worse, and, with only six minutes of sunshine recorded, it may be regarded as sunless for all practical purposes. But though the day was unpleasant only one-twenty-fifth of an inch of rain fell during the twenty-four hours, and most of this came late in the afternoon. Kew Gardens did not receive its full share of visitors, and those who came "down to Kew in lilac time," and to see the bluebells and the tulips, numbered about 86,000, or about half as many as on the fine Whit Monday of 1912. The Natural History Museum, British Museum, and Victoria and Albert Museum were well patronised, the visitors being 8,057, 6,832, and 8,633 respectively. Nearly 50,000 people were conveyed by rail to the Epping Forest stations, and probably almost as many more went by omnibus, cycle, motor, or on foot. Hampstead Heath was comparatively deserted, but the Cart Horse Parade at Regent's Park was well attended, and some 30,000 people went to Hendon to watch the flying machines and airmen. Hampton Court attracted about 120,000 people, but there was great disappointment that, while the gardens were open, the Palace itself was shut. The Zoological Gardens had a busy time, as 49,410 people passed through the turnstiles, or ten thousand more than on the corresponding holiday of 1912. In spite of the drizzle many thousands went for country rambles in the home counties, while crowds started early for the seaside, and the Continental traffic was unusually heavy.

Flowering of Catalpa and Tulip Trees.—A correspondent of "The Globe" contributes the following note to the issue of that journal for the 3rd inst. "The catalpa tree, which is rarely to be seen in this country, except in ornamental grounds and gardens, is in fine blossom just now. Occasionally it graces a suburban lawn, and never fails to excite wonder and admiration, with its profusion of handsome blooms of white and pink, and streaks of lake. Its branch tracery is very fine, and its boughs numerous, although the tree does not grow very high. It takes its name probably from the Catawba River, but there are other varieties than the American, the Japanese being very beautiful. The almond tree blossomed so early this year that the catalpa bloom has come very opportunely to fill the interval between the flowering lilacs, laburnums, hawthorns, etc." It need hardly be said that the tree to which the writer refers is not a catalpa, as all the species belonging to the genus are summer-flowering. The well-known American species, C. bignonioides and C. speciosa, bloom in July and June respectively, and the Chinese and Japanese species, C. Bungei and C. Kæmpferi, also bloom in these months. We have during the past six or seven weeks also seen letters in the general press referring to the flowering of the tulip tree, with its rose-pink flowers. The specimens to which the writers refer are not catalpa or tulip trees, but are examples of the well-known Magnolia Soulangeana.

Azalea Day in Vienna.—According to the correspondent of the "Daily Telegraph," azaleas, red and rose, were the charity flowers of Vienna this season, and with the last day of the fête came the first awakening of spring weather. People were readier to buy than ever, for they realised better what the selling of individual blossoms meant. From seven o'clock in the morning every workman or workgirl went to business wearing an azalea, and by midday no one might appear on the street without the token of charity. Officials, policemen, taxi-drivers, motor omnibus men, each wore the decoration of the day. Prices were not quite so high as those of last year, half a guinea a bloom having been reckoned as the biggest sum paid. Over sixty sacks of azalea flowers were distributed, and the reckoning of the money obtained for charity is put at 200,000 crowns, as against 250,000 last year.

Combating Enemies of the Oak.—For some years past the younger oak trees in the plantations within the boundaries of Richmond Park have been seriously injured by the ravages of the caterpillars of several moths that have a liking for the oak. More especially have the four hundred trees suffered in the Ham Cross Plantation, which was formed nearly one hundred years since. The principal damage has been done by the larvæ of Tortrix viridana, T. quercana, and Dasychira pudibunda, many of the trees having of late made but little progress

owing to their defoliation, and, in numerous instances, the trees have lost their tops. With a view to stay the plague of caterpillars, and prevent, as far as possible, further damage, Professor Lefroy, of the Royal College of Science, South Kensington, advised the treatment of the trees with a spray solution. The advice was acted upon, and as this involved spraying operations on a more extended scale than had previously been attempted in this country, he arranged to carry them out himself, with the aid of the students of entomology at the Royal College of Science. The spray used was lead chromate in solution, and it was applied with the aid of a powerful petrol-driven machine, which has been designed by Messrs. Merryweather for use in the Tropics, more especially for spraying extensive rubber plantations. The spraying of the trees in the plantation mentioned occupied two days.

"Botanical Magazine."—The new plants illustrated in the current issue of this publication comprise Rhododendron Wrighti, a handsome Himalayan species, bearing large trusses of straw-coloured campanulate flowers; Deutzia longifolia, a beautiful Chinese species, with rose-coloured flowers, which has become generally known as D. Veitchi, the identity of the plant with the form described by Franchet as D. longiflorum not being known when its now familiar name was given it; Strongylodon pseudo lucidus, an attractive stove climber, with clusters of orange-red flowers; Dendrobium Schuetzei, a handsome species, introduced from the Philippines, and bearing large pure white flowers, that somewhat resemble those of D. Dearei; and Saxifraga Stribznyi, an interesting and attractive species, found on Mount Rhodope, with clustered rosettes and bright red flowers, which, in favourable weather, make their appearance as early as February. Cut specimens of the flowers of Rhododendron Wrighti were submitted to the R.H.S. Floral Committee, when an Award of Merit was made in its favour.

Perpetual-flowering Carnation Society.—We are pleased to learn from Mr. T. A. Weston, the hon. secretary, that the progressive policy of this society continues eminently successful. The new departure of holding a provincial show has been amply justified by the results, the exhibition at Leamington having strengthened the membership without cost to the society. Since November 1 last 102 new members have been elected, the total now being 469. The committee have arranged a dinner and entertainment for members and their friends on Wednesday, the 21st inst., at the Holborn Restaurant. We have no information as to the time fixed for the dinner, but we believe it will be about 7 p.m.

Possible Purchase of Box Hill.—It is reported that the question of the possibility of formulating a scheme for the purchase of Box Hill, Dorking, is receiving the consideration of the National Trust, and that if satisfactory terms can be arranged an appeal may be made to the public for funds. With reference to this report, "The Times" observes that negotiations between the National Trust and the owners of the estate would hardly fail to result in placing before the public a feasible scheme by which this most beautiful hill and its superb outlook might, at a moderate cost, be secured as the inalienable heritage of the nation.

ACANTHACEOUS PLANTS FOR AUTUMN AND WINTER FLOWERING.

The order Acanthaceæ is an extensive one, and of the various plants composing it a great many are justly valued for their ornamental qualities as flowering subjects. They are, for the most part, of easy culture, and, with reasonable care and attention, will bloom profusely. In many of them, too, the flowering period is not limited to any particular season of the year, so that a good display of blossoms may be had at any time, while others bloom naturally during the autumn and winter months. Such a one is Jacobinia chrysostephana, which has crowns of orange-coloured flowers that form such an attractive feature during the dull weather we often experience in the declining days of the year.

Most of the acanthads are of a half-shrubby character, and many of them are of an upright habit of growth, so that it is useless to pinch them in order to obtain bushy plants, as a bold flower head is more effective than several small ones from minor shoots.

As a rule, the temperature of an intermediate house suits them best, because, except in summer, they need a structure warmer than an ordinary greenhouse, and in the heat of the stove they are apt to run up weakly. Of those that may be had in flower in autumn and winter there are aphelandras of sorts, among the best being A. aurantiaca, orange-scarlet; A. chamissoniana, yellow; A. Fascinator, scarlet; A. nitens, scarlet; and A. tetragona, bright scarlet. Barleria strigosa has flower heads disposed much as the aphelandras, but the blossoms themselves are

A BOLD ARRANGEMENT OF CALCEOLARIA BURBIDGEI,
With a groundwork of violas, nemesias, etc., at Kew.

comparatively large, and of a pleasing shade of light blue.

Crossandra undulifolia, which not long since was given an Award of Merit by the Royal Horticultural Society, has very pretty orange-salmon flowers. Though it usually flowers in the spring, blossoms may be had in the autumn. Dædalacanthus nervosus is our old friend Eranthemum nervosum, which is a general favourite, as it produces its beautiful metallic blue flowers in the depth of winter. An allied kind, Dædalacanthus Watti, also known as D. parvus, flowers in the autumn. It is a plant of shorter growth, with deep bluish-purple flowers.

The genus Eranthemum is an extensive one, and while the flowers are borne in terminal spikes or heads, as in most acanthads, in a few they are scattered along the shoots. Among the best are E. Andersoni, white, spotted red; E. albiflorum, pure white, like single lilac; E. gracilliflorum, lavender; E. seticalyx, reddish-yellow; and E. tuberculatum, pure white.

As a class the jacobinias are among the most popular of the acanthads, and several of them are extensively grown in gardens. All of them may be had in bloom in winter. A selection of the best would include J. chrysostephana, above alluded to; J. coccinea, scarlet; J. Ghiesbreghtiana (syn. Sericographis Ghiesbreghtiana), scarlet; J. magnifica, whose varieties vary from rose to deep reddish-rose; J. pauciflora (syn. Libonia floribunda), red and yellow, a well-known plant; and J. penrhosiensis, crimson and gold. Peristrophe speciosa is a well-known weed in the Tropics, and much grown here for winter blooming, the magenta-coloured flowers being borne in great profusion.

The ruellias are a numerous class, and some of them are very showy, especially R. acutangula, scarlet; R. amœna, crimson; R. macrantha, much grown in many gardens, and, I believe, one of the largest-flowered of acanthads, flowers purplish-rose, with dark veins; and R. rosea, with blossoms of a pleasing shade of bright rose. Schaueria calycotricha (Justicia calycotricha) has curious fluffy heads of yellow flowers, and is well worth growing for the sake of variety as well as for its free-flowering qualities. Generally at its best early in the new year.

Owing to the fact that many of them are of a climbing nature, the different thunbergias stand out distinct from most acanthaceous plants. The large-growing T. grandiflora, with light blue flowers, and the pure white T. fragrans will often bloom well on into the autumn, but, as a rule, most of the others flower at different seasons of the year. The last acanthad to mention is one of the most popular, namely, Thyrsacanthus rutilans, usually in better condition before Christmas than after. It is a plant of tall growth, with long pendulous racemes of bright crimson-coloured tubular-shaped flowers. W. T.

Ceanothuses under Glass.—The numbers of hardy trees and shrubs that are forced prematurely into bloom for decorative purposes in the spring are greatly on the increase. The ceanothuses are, however, but little considered in this way, though they form a very pleasing variety to the whites and yellows which, as a rule, predominate in the early groups of forced shrubs. For flowering under glass only, those kinds that bloom early in the year should be chosen, as the members of the summer-flowering race are quite unfitted for the purpose. Among the most desirable species are C. dentatus, C. rigidus, and C. Veitchianus. In all of these the leaves are small, dark green, and the flowers of some shade of blue. —W.

SOME BEAUTIFUL TENDER BULBOUS PLANTS.

Over the greater portion of the British Isles the subjects of this note can only be grown under glass protection, but are well worthy of being employed for conservatory decoration, owing to their beauty when in flower. In warm, wall-backed borders in the south-west, however, all can be successfully cultivated in the open air and all have flowered here.

Bessera elegans.

This is a native of Mexico, bearing on slender stems, 18in. to 2ft. in height, from six to twelve drooping, scarlet flowers, about 1½in. across. The leaves are very narrow, and about the same length as the flower-stalks. The stamens are violet-purple with green tips. There is a variety having the inner surface of the petals white with a margin and central band of scarlet. Both forms have appeared here.

Cypella Herberti.

A native of Buenos Ayres, bearing tigridia-like flowers of apricot-yellow colour, 3in. in diameter, on stems about 18in. in height. The blossoms are very pretty, and have a black line down the centre of each of the three petals. Several flowers following one another are often produced on the same stem.

Cypella plumbea.

This is a native of Mexico, and is a far stronger grower, reaching a height of from 3ft. to 4ft. Its flowers are 4in. across, and are generally of a dull lilac-blue, though there is a form in which the blossoms are of a brighter colour.

Milla biflora.

This is a native of Mexico, bearing generally two, but sometimes three, sweetly-perfumed flowers of dazzling whiteness about 3in. across. The reverse of the petals is lined with green. The foliage is rush-like, and the flower stems average 1ft. in height. A group of plants in full bloom is an exquisite sight.

Nerine Fothergilli major.

The Guernsey lilies are from the Cape of Good Hope, and this is the handsomest variety. The large flower-heads, composed of twenty or more individual blossoms, about 3in. in diameter, are of bright scarlet, the petals in the sunshine having the appearance of being powdered with gold dust. The flower-stems are over 20in. in height, and the strap-shaped leaves attain a length of about 9in. by the time the flower-truss is at its best.

Nerine Bowdeni.

This is of recent introduction, and its flowers are considerably larger than those of any other species. The blossoms are pale rose in colour, with a central line of deeper hue. It flowers freely in the open air here.

Zephyranthes candida.

This is a native of Peru, and bears pure white flowers about the size of a crocus on stems about 9in. in height. It flowers in the autumn, and is a good companion to the belladonna lilies.

Zephyranthes atamasco.

This is said to be a native of Carolina and Florida, but, in spite of its more northern habitat, it has proved harder to establish in the open than Z. candida. However, here both are doing excellently and flower profusely. It is a white-flowered species, bearing blossoms from 3in. to 4in. in diameter, and is generally stronger in growth than Z. candida. Both have evergreen foliage. Two other zephyranthes grown here are Z. Andersoni and Z. grandiflora, but neither have as yet flowered.

Wyndham Fitzherbert.

Kingswear, S. Devon.

ANCHUSA ITALICA, DROPMORE VARIETY.

This is one of the best, if not the best, of the hardy plants of recent introduction. It has attained a wide vogue in a short time, and bids fair to become almost universal in gardens of any size before long, though its uncertain perennial character in many soils tell against it with *laissez faire* gardeners. In wet soils it will rarely flower a second year, while in light soils it is a true perennial, though not a long-lived one, and in some, especially if they are rich in lime (the Borage family generally are partial to chalk) it sows itself freely, and comes to be regarded almost as a weed.

Where there is a difficulty in keeping it, and this seems to be the more general experience, we are recommended to propagate it in late summer by cutting up the roots after the manner of sea-kale; that is, cutting up the thick fleshy root—about the size of a large office ruler—into pieces two or three inches long, and planting them in a reserve piece of ground. The amateur does not always succeed with this, and if the soil is a wet one, more generally fails. The latter has been my experience, and I adopt the plan of raising seedlings every spring, as with some other doubtful perennials. The seedlings vary a good deal, but they are nearly all good, the differences being mainly in the colour and size of the flowers.

The important thing is to raise the seedlings as early in the year as possible, so that large plants may be obtained. The best way of all, perhaps, is to sow the seeds in groups of half a dozen where the plants are wanted to flower, and then pull out all the resulting seedlings but one, and that the strongest. Positions are not always ready for them in February or March, or the ground is not in good order for sowing. In such circumstances seeds may be sown in pots in February, say, half a dozen in a five or six-inch pot, and the latter set in a frame; if warm, all the better. The seedlings will remain in the seed-leaf, or incipient third-leaf, stage for weeks, and appear to be doing no good, but, on turning out the pot, it will be seen that they have not been idle. I have measured the roots of seedlings scarcely more than just showing the third leaf, and found the longest roots seventeen or eighteen inches in length.

In planting out, the holes should be made deep enough for the roots to go straight down their full length, a crowbar being used for the purpose, or a small hole dug and a dibber used at the bottom of it. If the ground is in fairly good heart, the plants should be making leaves a foot and a-half in length by August, and the following spring or early summer each plant should make a bush three feet in height and as much through. Alger Petts.

Strobilanthes Dyerianus.—This warm-house acanthaceous plant is generally grown for the sake of its handsome leaves, which, especially when young, are delightfully shaded with pink, while there is in addition, a violet metallic lustre. The flowers, however, are well worth consideration, being, as in most of its relatives, borne in a terminal spike. They are lilac, marked with purple.—K.

MALMAISON CARNATIONS.

Malmaison carnations are not grown so extensively as they were previous to the introduction of the many fine forms of the perpetual carnation now in cultivation, owing undoubtedly to their flowering season being limited to a few months during the spring and early summer. Nevertheless, their rich, clove-scented flowers, whenever obtainable, are as highly esteemed as ever, and well grown plants, carrying from 50 to 70 blooms, cannot be surpassed for a gorgeous display by any other type of carnation.

When the layers have been down from four to six weeks they will be sufficiently rooted to support themselves, and should be severed entirely from the old plant. In a few days they will be ready for potting, and a 3in. pot will be found the most suitable and convenient one to use at this stage, and, except in the case of early layers, I prefer to winter them in this size, potting them into their flowering pots the first week in February. To my mind, this practice commends itself in two ways: first, the room required by the plants through a season when all space under glass is valuable, is much less than if they had been potted into 6in. pots in the autumn, and the possibility of over-watering is greatly reduced just at a period when that operation is most critical.

Some growers chiefly rely on their layers for producing the bulk of the flowers they require, only potting on a small percentage for flowering the second year. The condition of the plants at the end of their first flowering season usually determines this practice, for unless one has well-grown plants free from rust, etc., it would not be economical or wise to pot them into larger pots, but when one has plants in their second year carrying from 20 to 24 blooms in a 9in. pot, it is then that one has the best return for space. Such plants potted into 14in. pots and grown yet another season will, with care, make huge specimens, carrying from 50 to 80 blooms. The dwarfer-growing varieties lend themselves best to this treatment, as they do not require so much head-room or attention to staking.

If it is possible to arrange it so, Malmaisons should have a house devoted entirely to them, and the most suitable structure is one which has a span roof, and is provided with running ventilators top and bottom on both sides, with sufficient hot-water pipes to exclude frost. Such conditions greatly facilitate management, as the plants revel in a buoyant, dry, cool atmosphere, and this can only be maintained by giving plenty of ventilation whenever the outside conditions will permit, without allowing the temperature to fall much below 40 degrees. In bright weather shading becomes necessary, and a thin canvas blind is much to be preferred to a coating of permanent shading. Artificial heat must be only used to exclude frost or to dry the atmosphere of the house. On very dull, damp days, through the winter, when heat is being used for the latter purpose, as much ventilation as practicable should be kept on the house.

HOUSE OF MALMAISON CARNATIONS (PRINCESS OF WALES) AT MULLABODEN, KILDARE, IRELAND.

To grow Malmaisons successfully close attention to cultural details must be exercised at all times, as any neglect in ventilating, watering, and in using artificial heat, will soon have a marked effect and end disastrously.

Propagation is usually effected by layering; this operation is performed as soon as the plants have passed out of flower by removing them to a cold frame containing a sufficient depth of light, sandy soil in which to plunge the pots to the rims. The young growths are then brought down and layered, the soil being kept moist and the frame well ventilated and shaded through the hottest part of the day. In a fortnight's time the lights can be entirely removed, allowing the layers to have full advantage of the light and sun; this lays a foundation of sturdy short-jointed growth, a most important condition if good specimen plants are desired at a future date.

Watering the plants calls for minute attention, especially so through the winter months; at this period withhold water from a plant entirely until its pot clearly rings when tapped. Once growth becomes active and the pots are getting filled with roots, they will require a considerable amount of water, and at such a stage stimulants in the form of blood manure, or a prepared carnation manure will be found beneficial if applied frequently and with care; soot-water can be used at any period; in fact, I advocate a canvas bag containing soot being constantly immersed in the tank of water within the Malmaison house.

T. B. Field.

Wych Cross Place Gardens.

EVERGREEN RHODODENDRONS.

The genus rhododendron is one of the grandest in all the range of horticulture, and is of more than ordinary interest to gardeners of every degree, as its members figure prominently in all good gardening, both under glass and in the open air. The genus is an extensive one, and, although gardeners differentiate between rhododendron and azalea, the latter is incorporated by botanists under the former; hence the genus comprises both evergreen and deciduous shrubs. Of the former, Europe, North America, China, and Japan, the Sikkim Himalaya, and mountainous districts of Malay furnish by far the great majority of species known to gardens. The species common to the Malay are not hardy out of doors, but require the temperature of a warm greenhouse to unfold their richly coloured flowers. The Himalayan kinds occupy the border line; that is to say, in the south and south-west generally, and along the west coast of these islands, their cultivation may be attempted with greater or less success. Some gardens, indeed, contain examples of Himalayan species that outclass every other form of arborescent growth capable of enduring open-air conditions in this country, and that in some notable instances even rival those in their native forests. It is this group whose influence is indelibly written upon the hardy hybrid rhododendrons, as we know them today, of which the popular Pink Pearl is a familiar instance It is notorious, however, that these hybrids are the progeny of comparatively few species, and then not direct, but second and even third crosses have been effected in their production.

The species most directly interested are R. ponticum, R. caucasicum, R. catawbiense and R. maximum, with R. arboreum and R. Griffithianum from the Himalaya; to the latter we ascribe the rich colours and the large expanded bells of the hybrids, together with their early-flowering propensities. The influence of the North American and European species is towards hardiness and late flowering, the latter attribute being most clearly traced to R. maximum. In their native haunts, rhododendrons experience pure air and a humid atmosphere, with abundant sunlight. The soil is generally a rich vegetable earth that is always cool and moist, and in which water never stagnates. Like all the ericacæa, they strongly object to lime in the soil. When first grown in the open in this country peat was insisted upon as the staple constituent of the soil, but this position has been abandoned, as experience dictates that equally good, and in some cases better, results are obtained without it; a light to medium loam is probably the best medium in which to plant, as if this is enriched with old, decayed manure and leaves, it forms a compost into which the plants root eagerly. Clay soils are most difficult to bring into condition, but, provided these are well drained to start with, and shallow planting practised, forcing up the ground level with decayed leaves, loam, and manure, good results generally follow, as splendid examples occur in many Surrey gardens grown under these conditions.

RHODODENDRON LODER'S WHITE,
At South Lodge, Horsham, the residence of F. Du Cane Godman, Esq.

Rhododendrons are particularly sensitive to the virtues of rotted farmyard manure, and if ever the foliage becomes thin or pale-coloured, as occasionally happens, nothing brings them quicker into condition again than thoroughly saturating the soil with liquid manure made of this material, and applied as the young growths are developing. Where the conditions as to soil and moisture can be provided, rhododendrons succeed in full sun; they are better, however, with some light shade, which applies most particularly to the evergreen kinds, while the Himalayan group require in addition abundant shelter.

Himalayan rhododendrons have merit apart from the flowers, for the foliage is interesting at all seasons, and exhibit great variety in form and colour. The flowers are generally of a large size; in some the colours are exceedingly delicate, in others richness and brilliancy combine, and result in flowers of great splendour. In R. grande and R. Griffithianum the buds are pearly-pink, opening to snowy-white; in R. Falconeri the flowers are creamy-white; pure yellow is found in R. campylocarpum; dull crimson in R. cinnabarinum; rich red in R. arboreum, and glowing blood crimson in the flowers of R. Thomsoni. The hybrids of Himalayan rhododendrons are exceedingly numerous, R. Griffithianum having been extensively employed as a parent; R. ponticum × R. Griffithianum gave Alice Mangles, with pale lilac flowers; the latter crossed with R. album elegans gave R. Manglesi, ivory-white, with crimson spots; White Pearl, Loder's White, and Gauntletti are forms of the latter. R. Griffithianum × R. Hookeri gave R. Kewense, flowers rosy-pink, much paler with age, the first-named species crossed with R. Thomsoni resulted in Beauty of Tremough, Glory of Neujerrick, and Gill's Triumph, raised by Mr. R. Gill at Tremough, near Falmouth. R. Griffithianum × R. Fortunei gave R. Loderi in the gardens at Leonardslee, where these magnificent subjects are extensively grown, and where numerous hybrids of great promise are on trial. R. Fortunei × R. Thomsoni gave R. Luscombei; R. Fortunei crossed with garden hybrids by Messrs. Paul and Son gave a number of beautiful sorts, of which Duke of York, Duchess of York, Mrs. Thiselton Dyer, and Profusion have received the award of the R.H.S.

The hardy hybrid rhododendrons that have the greatest utility in garden decoration, and that combine beauty of the highest order, are not the direct offspring of tender species, but usually hybrids of the second or third generation crossed with a hardy species. They are characterised by having compact, yet full, flower-heads; individual flowers of good substance and large size; colours showy and clearly defined, and flowering under ordinary conditions in June. So numerous are the varieties in this section that only a small proportion can be mentioned.

White.—Baroness H. Schroder, white, spotted maroon; George Hardy, white, of immense size; Mdme. Miolan Carvalho, blush to white, green spots; Mrs. John Clutton, clear white, yellow spots; Mrs. Tom Agnew, pure white, lemon-yellow blotch; The Queen, pink to white.

Rose and Pink—Concessum, rose, with lighter centre; Gomer Waterer, white, shaded blush, enormous trusses; Mrs. William Agnew, pale rose, yellow centre; William Davies, deep pink, small dark spots; Strategist, clear pink, large trusses; Charles Kingsley, bright rose; Pink Pearl, flesh-pink, trusses of the largest size; Lady Eleanor Cathcart, bright rose, chocolate spots; Mrs. R. S. Holford, salmon-rose; and W. E. Gladstone, deep rose.

Red.—Doncaster, intense scarlet; Frederick Waterer, fiery crimson; Ascot Brilliant, deep blood-red; Caractacus, purplish-crimson; John Waterer, glowing carmine; John Walter, crimson; and Michael Waterer, bright scarlet crimson.

Lilac and Purple.—Everestianum, rosy-lilac; Baron Schröder, plum colour, yellow centre; and Joseph Whitworth, dark purple-lake, dark spots.

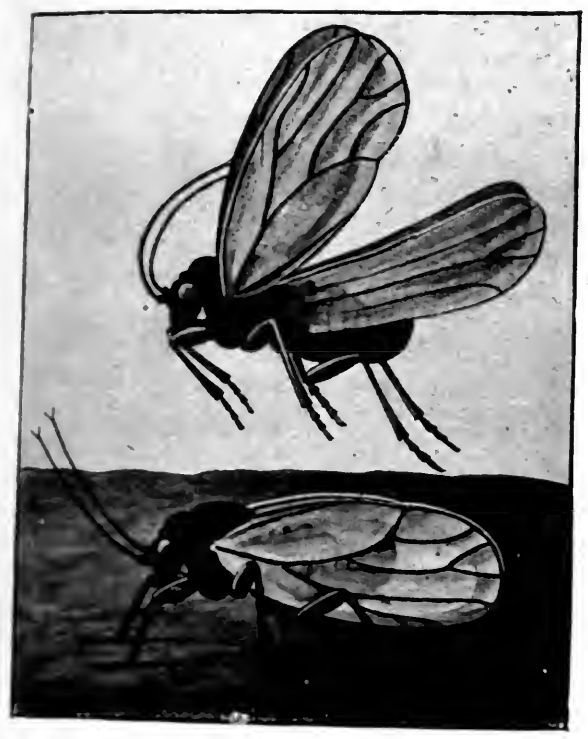
Heavy Blotched or Bi-coloured.—James Mason, light centre, scarlet margin; Helen Waterer, white, bright crimson edge; Lady Clementina Walsh, light blush, edged pink; Duchess of Sutherland, blush white, margin rosy-crimson; Mrs. John Penn, salmon-pink, bright lake edge; Mrs. Tritton, rosy-crimson, white centre, brown blotch; and Mrs. Isaac Davies, delicate blush, heavily blotched maroon.

Thomas Smith.
Coombe Court Gardens.

SUMMER PESTS IN THE GARDEN.

INSECT ENEMIES OF FRUIT TREES.

It is in Maytime, when country folk begin to talk freely of "blight," and the old opinions, which have not yet been argued



APPLE SUCKER (PSYLLA MALI).
Insects at rest and in flight, much enlarged.

away entirely, are expressed by local wiseacres that the insect pests, which are all included under the heading of "blight," come this month on dull, gloomy days, and are borne on the wings of the wind after the manner of the plague of locusts in ancient Egypt. Science in recent years has thrown a good deal of light on the habits and histories of the insect pests which worry fruit growers and gardeners, but there is a good deal yet to be learnt about methods of eradication where some of them are concerned. There are two ways, however, of dealing with insect foes: one is to prevent and the other is to destroy. The former has for its object the prevention of eggs hatching into life, but the season for that has now gone past, for simultaneously with the growth of young vegetation comes the feeding time of insect foes, and while this period lasts it is the business of the grower to fight for his crops and deal death to the hordes of living insects that seek to damage them in one way or another. Legion is the name of the insects which seek to satisfy their ravenous appetites at this time of the year; some are not particular, but feed in a general way, others have their own special food plant, and attack no other, and, while some are capable of doing widespread damage, we should not know much of others if they were not set out in the formidable lists arranged by entomologists. For the purpose of this article we can afford to overlook the uncommon pests, and deal only with those that are to be found in practically every orchard and garden at this time of the year, beginning with the enemies of fruit crops.

Apple Pests.

We may divide the foes that wage war on the apple crop into two sections mainly, i.e., the sucking insects of the aphis type, and the caterpillars, which actually feed on the fruit and eat the foliage, thus spoiling crops, and crippling the trees.

Apple Sucker (Psylla Mali).—This is undoubtedly one of the worst pests of the apple crop, and the presence of the small aphis-like creatures is always indicated by the crystal globules of honeydew matter in the flower truss. When the apple suckers have done their evil work of extracting the juices from the flower stems the trusses of blossom turn brown, and they remain in this state for some time on the trees. It was for the purpose of preventing the hatching of eggs that the idea of lime spraying was conceived, but at this season of the year the only thing is to spray as soon as the trusses open, either with a nicotine solution at the rate of 1 1-5oz. to ten gallons of water, or else the old-fashioned mixture of quassia and soft soap, which is formed by boiling 1lb. of quassia chips for fifteen minutes, dissolving ½lb. of soft soap, straining and making up with water to ten gallons. It may also be added that there are several good proprietary in-

CODLIN MOTH (CARPOCAPSA POMONELLA) WITH CATERPILLARS.
Much enlarged.

secticides on the market, which are valuable for destroying sucking insects.

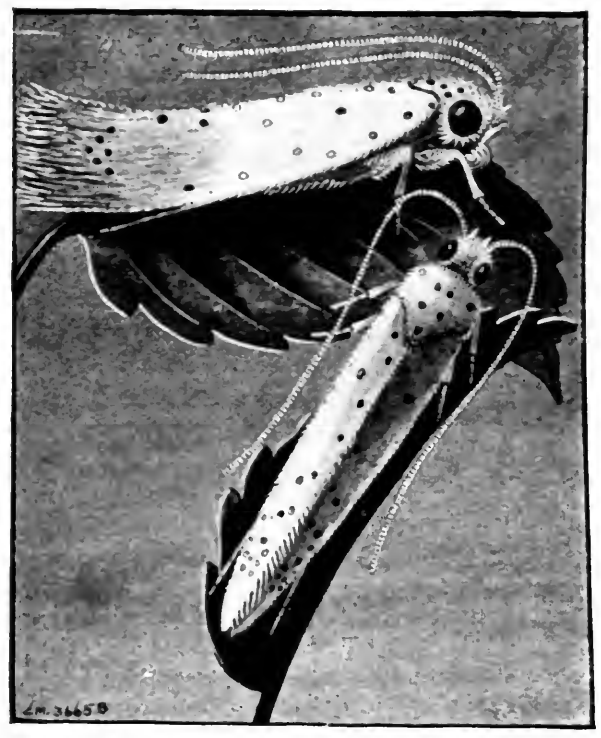
American Blight.—There is no need to describe the woolly aphis, because most people are only too familiar with its unwelcome appearance. With the approach of warm weather it becomes more active, and the white patches on the twigs more numerous. American blight is injurious to all apple trees that it attacks, but to young specimens it is fatal, and there is no remedy so good as direct application of an insecticide with a brush. I have found petrol, applied with a small brush, to be as good as anything for promptly putting an end to colonies of American blight.

Apple Aphides.—The worst of these is the leaf-curling aphis (Aphis poma), and last season it did an enormous amount of damage in orchards and plantations, causing leaves to curl up and fall off, and indirectly preventing the development of the fruit. Spray early is sound advice in reference to aphis before the pests have multiplied in numbers, and are safe inside the curled-up leaves. The remedies suggested for apple sucker may also be employed for aphis, but insecticides must be applied while the insects are exposed.

Winter Moth Caterpillars.—The eggs of the winter moth mostly hatch in March and early April, so that when the buds begin to open the little dark caterpillars are ready to feed upon them. As the caterpillars feed they grow bigger until by June, when they are mature, they are over an inch in length, and finally they descend to the ground. In some districts the winter moth pest has been reduced considerably by grease-banding, but when the caterpillars are feeding spraying must be resorted to. When the caterpillars are small they may be destroyed by a contact wash, and I have found a proprietary insecticide called Katakilla to be very effective, and it is non-poisonous. Another way of dealing with caterpillars is to poison their food by spraying before the flowers open, and again, if necessary, after the fruit is set, with arsenate of lead, which should be bought in the form of paste, and mixed according to the directions supplied with it.

Codlin Moth.—Most people are familiar with grubby apples, the tell-tale holes in the side of which denote that the grub of the Codlin Moth has been feeding therein. The egg is laid on the fruit as it sets, and the maggot, on hatching, enters the apple at the eye, bores its way to the core, and there feeds until its appetite is appeased. The remedy at this time of the year is to spray with arsenate of lead after the blossom has fallen, to poison the larvæ when they taste the arsenic that is deposited in the eye of the young fruit.

Tent Caterpillars.—Living in web nests or tents at the ends of shoots, the caterpillars of the Lackey and small Ermine Moths can quickly consume a good deal of young foliage. As they feed in colonies



SMALL ERMINE MOTH.
(Hyponomenta padellus.)
Much enlarged.

these pests are easily detected, and the best remedy is to cut off the shoot containing the web nest and burn it.

Apple Blossom Weevil.—In the apple orchards in the West of England this pest

appears to be on the increase, and the presence of the grub feeding on the organs of the flower is detected by the petals, which turn brown and curl inwards. No effective remedy has yet been discovered, but to cleanse the trees by means of lime-spraying in the winter is a good preventive.

Enemies of Pears.

Some of the pests mentioned above, notably the Winter Moth caterpillar, are injurious to pears, and the same remedies should be applied. Amongst other enemies are the following:

Pear Midge Grub.—This is undoubtedly the worst pest of the pear, and its unwelcome presence is detected by the fruits, which swell ahead of the others and grow much faster than sound specimens. When cut open, these swollen fruits are found to contain a number of small white maggots, which do the damage. An effective remedy has yet to be found for the pear midge, and the best thing is to pick off the infested fruitlets while the maggots are inside and burn them.

Slugworms. — These repulsive-looking pests occasionally skeletonise the foliage of pear trees, and when they are seen doing damage the best thing is to spray with arsenate of lead

Pear Leaf Blister Mite.—This pest is a relation of the dreaded "big bud" on the black currant, and blister-like galls on pear leaves indicate its presence. Not much can be done with it in the summer, but a good preventive is lime-sulphur wash, applied before the trees break in the early spring.

Plum Pests.

Here, again, we have a victim of the Winter Moth and several other members of the leaf-eating fraternity, but sucking insects are the bane of plum trees.

The Leaf Curling Aphis (A. pruni).—There is little need to describe this insect, because "blighted" plum trees are familiar to everybody. The aphis hatches out when the buds burst, and the pests multiply at a rate that is beyond conception. The remedy consists of spraying with an insecticide suitable for destroying sucking insects before the pests are safely curled up in the leaves.

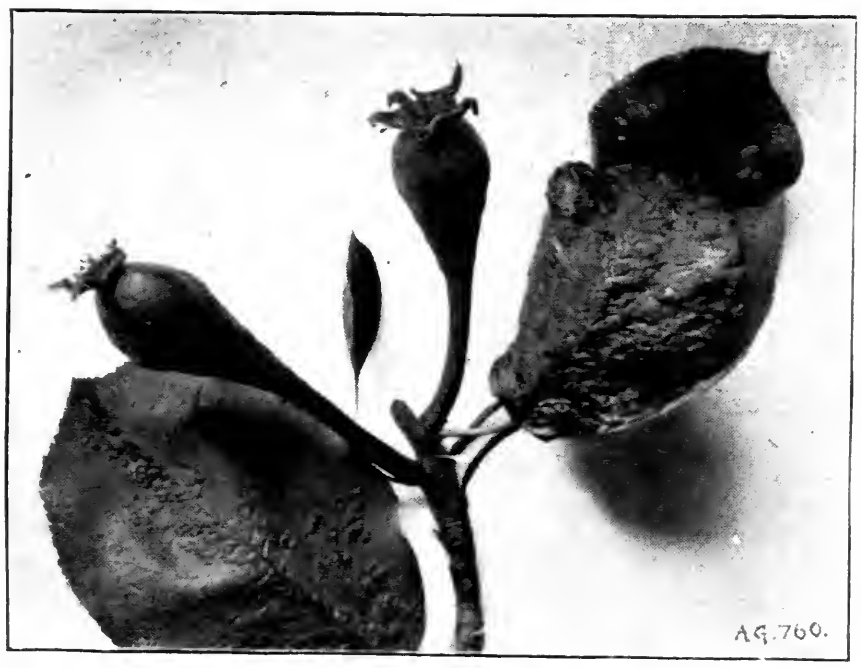
The Mealy Plum Aphis.—A mealy mass under the plum leaves denotes the presence of this pest, but it does not curl the foliage. It is generally in June and July that the mealy plum aphis appears, and it may be destroyed by mixing 4oz. of liver of sulphur with 25 gallons of quassia and soft soap solution. The latter alone is not effective.

Plum Shot-hole Borer.—Dozens of fruitful plum trees die every year through the above pest, which tunnels underneath the bark and into the wood, mostly on the stems. Badly affected trees should be burnt in the winter, and the only preventive remedy is lime-spraying the stems or smearing with some greasy substance like soft soap.

Enemies of the Cherry.

Various caterpillars, including that of the Winter Moth, make a prey of cherries, the pear and cherry slugworm does some damage, and occasionally trees are killed by borers, but the worst pest of this delicious fruit is the

Cherry Aphis or Blackfly (Myzus ribis).—As most people must have noticed, when the tips of cherry shoots have been badly affected by the above pest, they turn brown and die, while the honeydew from the aphis covers the fruit and spoils it. The insecticides recommended for sucking insects should be applied, but spraying should be done forcibly, and before the pests are curled up in the leaves.



PEAR-LEAF BLISTER MITE (ERIOPHYES PYRI).
Leaves of pear tree injured by mite.

Pests of Gooseberries and Currants.

Gooseberry Sawfly (Nematus ribesi).—The larvæ of the sawfly frequently attacks gooseberries, and sometimes currants, and there is none of the leaf-eating pests that can defoliate bushes more quickly. Dusting with hellebore powder is generally recommended as the remedy for this pest, but this is poisonous, and if the bushes are sprayed while the larvæ is small they can be easily destroyed with insecticides that will kill aphis.

Gooseberry Spider (Bryobia nobilis).—These diminutive pests not infrequently change the colour of gooseberry leaves from a bright green to a dull grey, and the effect of a bad attack is that the foliage falls off. A proprietary insecticide suitable for red spider may be applied for this pest or a home-made paraffin emulsion used.

Magpie or Currant Moth (Abraxus grossulariata).—The larvæ of this moth feeds on the young leaves of gooseberries, and sometimes on those of red currants, and should be dealt with in the manner described for the sawfly.

Aphis.—Not infrequently is the fruit on currants made sticky and dirty through the presence of aphis on the leaves, and it is not unusual for black currants to become leafless after an attack of the same pest. As in other cases of sucking insects, the thing is to prevent development by prompt and early sprayings with suitable insecticides of the type recommended.

Currant Shoot Moth (Incurvaria capitella).—These pests hibernate in crevices near to buds, and in the spring they emerge and enter the buds, afterwards making tunnels up the shoots, which flag and die. The best remedy is to watch and pick off the flagged shoots before the enemy makes its escape.

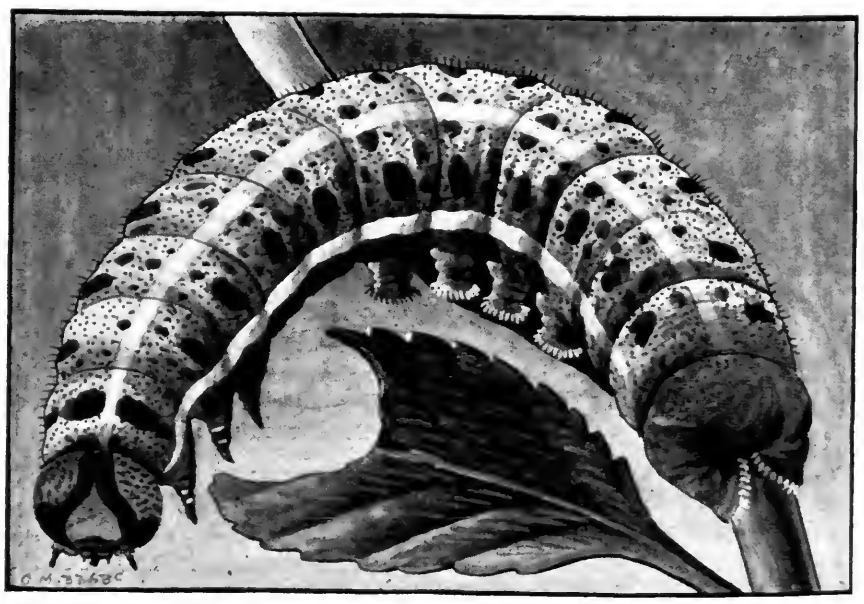
Big Bud.—It is too late now to commence the soft soap and quassia spraying that are recommended for big bud, but it is hoped that some readers of The Gardeners' Magazine are following the advice given in respect of spraying that was given in a special article a few months ago.

Raspberry Foes.

Raspberry Weevil (Otiorhynchus picipes).—Unfortunately there is no effective remedy for this pest, which appears in May, other than trapping with old bags placed about on the ground, under which the weevils collect.

Raspberry Beetle (Byturus tomentosus).—The larvæ of this pest lives in the core of raspberries, loganberries, and blackberries, and they can be frequently seen through the glass after these fruits are bottled. The beetles also eat the buds and various parts of the blossoms before laying their ova in the latter. This beetle is a great pest, and perhaps the best remedy is that of shaking off the beetles to prevent the damage done by the larvæ.

Raspberry Moth (Lampronia rubella).—The red caterpillars of this pest do damage by destroying buds and boring their way



CATERPILLAR OF LARGE WHITE CABBAGE BUTTERFLY.
Much enlarged.

Passing on the small fruits that need attention in the summer season, we have the

up the shoots, which afterwards die. Very little can be done with it at this season, and in the case of a bad attack, the old canes should be cut out early in the autumn and burnt.

Strawberry Ground Beetles.—Sometimes these night-feeding beetles do damage on strawberry beds by eating the skin and seeds of ripening fruit. The best way to eradicate them is to sink pudding basins in the ground baited with pieces of meat. The beetles fall into the basins, and are then captured.

Insect Foes in the Kitchen Garden.

Though the insect pests in the vegetable garden are neither so numerous, nor, perhaps so destructive as amongst the fruit, they are nevertheless a source of anxiety at this time of the year, and gardeners must always be on the alert to check their depredations. Some of the most troublesome of vegetable pests are described below.

Aphides.—The sucking insects find food to their liking in the kitchen garden, and what grower of broad beans is not familiar with the black aphis which appears every year at the tips of the stems? Early sowing is the best precaution against the bean aphis, for it is late-sown plants that suffer the most, and the next thing is to promptly pinch out the points of the shoots and burn them as soon as the aphis makes its appearance. In bad cases syringing with quassia and soft soap solution may be resorted to, but this is rarely necessary if the pinching is not neglected. It is not unusual for members of the cabbage family to be infested with an aphis, particularly on light and poor soils, and if this happens, an insecticide should be promptly applied. Attack early is, in fact, the rule with all aphides in the kitchen garden.

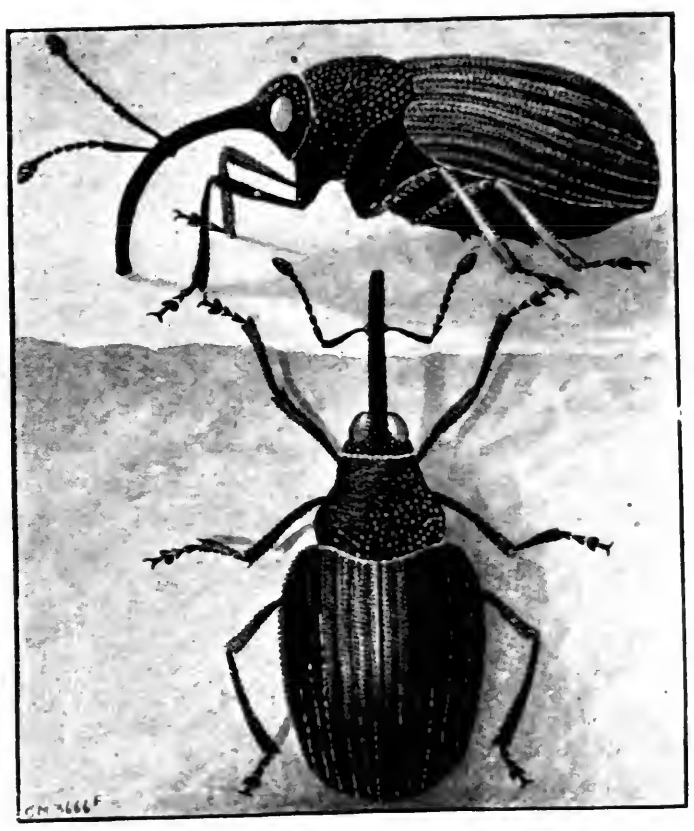
Weevils and Beetles.—A great nuisance in some gardens is the little asparagus beetle, which feeds on the tender parts of asparagus plants, doing a lot of damage. The pests are not easy to eradicate, and dusting the plants with freshly slaked lime is one of the best remedies. The cabbage gall beetle is another common pest, and most people are acquainted with the galls which protect the grubs of the beetle, and are found on the stems of all kinds of greens just below the ground. Where this pest is very prevalent, ground intended for brassicas should be dressed with Apterite, Vaporite, or Grubicide, and their root stems before planting should be dipped into a thick puddle of lime, soil, and water, which helps to make them distasteful to the beetle.

No pest in the garden is more persistent than the little turnip flea beetle, which devours in a wholesale manner all members of the brassica tribe when in a seed leaf stage. The turnip flea laughs at insecticides, and it is best thwarted by quick growth of the plants out of the seed leaf stage. Sow turnips and greens, therefore, in showery weather, if possible, and if it is dry, fill the drills with water previous to sowing. Dusting young seedlings with very fine, dry, road dust in the early morning helps to keep off the flea, and some people pin faith in damping the seeds with turpentine prior to sowing. A common pest that is not very easily detected, owing to its colour being similar to that of the soil, is the little pea weevil, which eats round the edges of the young leaves of peas and checks their growth. Dustings with soot and lime to make the plants distasteful to the pest are good, but as the peas get up above the ground they grow out of harm's way.

Leaf-mining Insects.—The worst of this family is the celery fly, which deposits its eggs under the cuticle of the celery leaf, and the presence of the maggot feeding therein is indicated by blisters and brown patches on the leaves. Making the leaves distasteful to the fly by syringing with soap and quassia solution, and dusting with soot are the best preventives, and if the attack is not severe it may be checked by crushing the maggots in the leaf between the thumb and finger. Sometimes parsnips suffer through a leaf-mining grub, particularly in dry seasons, but it is only in extreme cases that severe damage is done.

THE ASPARAGUS BEETLE.
(Criocaris asparagi.)
Much enlarged.

Grubs.—The grub of the carrot fly is troublesome in some gardens, and it is in the early summer that the fly deposits her eggs on the roots of the carrots when young. The grubs do damage by burrowing their way into the roots. The only practical remedy is to make the plants distasteful to the fly, and a good means of doing this is to scatter a little sawdust or wood ashes that have been saturated with paraffin on the ground between the rows, first when the carrots are coming up, and later when they are nearly big enough to thin. On light and sandy soils the grub of the onion fly is the bane of this crop, but on retentive mediums it gives much less trouble. Firm soil and early sowing are preventives, but now that the fly is on the wing the only course is to prevent egg-laying by making the plants distasteful to the insect. The remedy suggested for carrots is one means of effecting the above purpose, another is syringing with soapy water, a third liberal dustings with soot, and a fourth is to keep the soil well trodden to the onion plants. Stimulating fertilisers should be given to help the plants to grow away from the pest, and every affected plant should be drawn out and burnt. It is during May and June, and during the early stages of the growth of onions that precautions against maggot are most essential.



CABBAGE GALL WEEVIL.
(Ceutorhynchus sulcicollis.)
Much enlarged.

General Pests.—The wireworm, particularly on newly-formed gardens, the leather-jacket grub, sometimes the cockchafer grub, and slugs galore are amongst the pests that have cosmopolitan tastes, and feed on a variety of crops. The catch-and-kill remedy is, perhaps, the best in all the above cases, and the kitchen gardener must be ever on the alert for the common enemies that seek to satisfy their appetites on cultivated crops during that critical period which connects infancy with the stage of maturity. G. H. H.

PROPOSED FORESTRY AREA IN SCOTLAND.

The announcement that the choice of the Advisory Committee on Forestry for a demonstration area in Scotland is likely to be on the estate of Ballogie in the valley of the Dee, Aberdeenshire, has given great pleasure in the north. The feeling predominates, however, that the choice must not be looked upon as favouring in any special manner the Aberdeen School of Forestry, but rather as a striking instance of the very best available area being chosen. Ballogie has over 4,000 acres of woodland, and is thoroughly characteristic of Scottish sylviculture. It is well sheltered, the climatic conditions are excellent, the soil good, and the crop of timber is at all stages of growth. The woods have been admirably managed for generations, and the present head forester—Mr. George Wyllie—has been at his post for nearly half a century. Mr. Wyllie introduced a system of rotation by which woods may now be found on the estate in various stages of growth, and always some ready for cutting and made commercially valuable. Indeed, the area proposed is recognised by the most competent authorities as being one of the finest in Scotland, its configuration, soil, and, above all, the capital crops of Scots fir and other trees, making the choice an ideal one.

When the members of the Royal Scottish Arboricultural Society chose Aberdeenshire as the venue for their annual excursion in June last year, they were greatly impressed with the sights they saw on Ballogie. Sir John Stirling-Maxwell, Bart., of Pollok, the president of the society, was simply charmed with what he saw here, and spoke very highly of Ballogie woods. The following measurements and ages of some of the trees the Scottish arboriculturists saw during their visit last June will give some idea of what is to be found on the estate of Ballogie. Be it noted that all circumferences are measured at five feet from the ground:

	Height Ft.	Circum. Ft. In.	Age Yrs.
Abies lasiocarpa	74	5 10	50
A. nobilis	77	6 11	58
A. Nordmanniana ...	74	9 0	58
Picea sitchensis	74	5 10	50
P. Douglasi	97	10 0	58
P. Douglasi	108	9 5	58
Sequoia gigantea ...	74	11 3	50

Numerous other areas in Scotland were examined, but were found to be either unsuitable or not available. W. K.

TRIAL OF SPRAYING MACHINES
AT WISLEY.

That the importance and necessity of spraying fruit trees, roses, and potatoes has become more generally and fully realised than was hitherto the case requires no stronger proof than is afforded by the rapid increase in the number and variety of patterns of spraying machines placed on the market.

FOUR OAKS "BATTLE" SPRAYING MACHINE IN USE WITH WATER.

Improvement in construction, greater adaptability to various purposes, and higher efficiency have been obtained in the case of the older makes of machines, and there are also so many new patterns that it is certainly not a simple matter to decide definitely that this machine or that is the best of all. Indeed it is very much open to question whether any one machine merits such a distinction, for spraying is an operation that has to be performed under so widely differing circumstances and conditions that one machine may be ideal for one purpose, whilst another is equally satisfactory under other circumstances. It is therefore fully in accordance with our views that at the trial of spraying machines and appliances conducted by the Royal Horticultural Society at Wisley on Wednesday, April 24, each individual machine was considered entirely on its own merits rather than in competition, and the awards made simply testified to the excellence of the appliance without suggesting that it was in every way superior to all other machines. There is real practical value in such a demonstration as that which was held by the R.H.S., and it seems a pity there was not a larger attendance of growers to witness the trials. The Rev. W. Wilks, Mr. S. T. Wright, and Mr. Gaskell attended to control the arrangements, and the seven gentlemen who acted as judges were Messrs. F. J. Chittenden, S. T. Wright, Hy. Hooper, Cecil H. Hooper, E. S. Salmon, H. M. Lefroy, and C. R. Fielder, whilst Dr. Williams and Mr. E. Mawley represented the National Rose Society.

Judging.

A word of praise is due to the judges for the patient and painstaking manner in which they investigated every detail of the machines brought before them, but it occurred to us that the demonstrators would have been rather more at their ease if they had appeared before the judges separately, unaccompanied by the rest of the exhibitors. Naturally enough, if a manufacturer has introduced some improvement or new device into his machines, he hesitates to explain in full detail its construction and capabilities whilst in the company of competitors. However, there was evident a most friendly feeling among the exhibitors as well as the rest of the company, who had a delightfully fine, warm day for their visit to the Wisley Gardens. Roughly, the exhibits might be classified under three headings: 1, Syringes and small hand sprayers for greenhouse use; 2, knapsack sprayers; and 3, large machines on carriages or wheels. The necessary qualifications of an efficient spraying machine may be briefly stated to be sound, but simple construction, accessibility of working parts for purposes of cleansing or repair, ease of working, immunity from damage by such acids as are contained in caustic washes, nozzles that will produce fine, even spray, whilst allowing such mixtures as lime-wash or soap and oil to pass through without clogging, durability, and portability. The trials afforded conclusive proof that even the finest nozzle capable of allowing anything in the way of a mixture to be used will not give a spray that will really cover the whole surface of a plant. True, several of the machines produced a beautifully even and mist-like spray, but when lime-wash was discharged on to sheets of brown paper, it was plainly seen that the paper was thickly spotted with the fluid, but not really covered. This is a matter of importance, as showing the absolute necessity for spraying more than once. It is useless, indeed detrimental, to tarry sufficiently long upon a tree to ensure the surface being absolutely covered, for that will lead to running of the liquid and probable scorching of the parts where the heaviest coating is received.

Another point that impressed itself upon one was that for all but the biggest work a knapsack sprayer is really the handiest and most useful machine, because any sprayer on wheels not only occupies enough room to make it awkward to get about between rows of trees, but is, when filled, so heavy that it requires at least a couple of men to drag it over rough ground, and even with two men the task is a laborious one.

Of course, very large machines for use in large orchards, potato fields, or hop plantations are built on carriages to be drawn by a pony or donkey, and there are even a few motor-driven machines on the market, but none were brought forward at Wisley.

Knapsack Sprayers.

Of the knapsack sprayers we were very much struck with an upright cylinder machine shown by Messrs. Hartjen and Co.,

"ALPHA" CONTINUOUS SPRAY MACHINE DISTRIBUTING ARSENATE OF LEAD WASH.

35-37, Noble Street, London, E.C. It is a strong, well-devised machine, made of a brass alloy that will resist corrosion from acids, and is therefore suitable for spraying caustic soda, arsenical washes, or lime-sulphur spray. Its parts are simple, the principle of working being by means of compressed air, a pump being fixed in the machine for purpose of charging. The valve is a solid rubber core, held by a strong spring, either of which is easy of replacement. The machine is strongly riveted, and is not excessively heavy, the total weight when holding three gallons of fluid, and charged for use, being about 45 lbs. Each machine is fitted with a pressure gauge, which certainly makes for safety, although, considering the machines are tested to withstand 300 lbs. pressure per square inch, there is little risk of accident. Fitted with good nozzles this machine did excellent work.

Messrs. Hartjen showed an apparatus for charging several sprayers simultaneously with both fluid and air by what they term their battery system, which should be useful where several machines are in use.

Another machine working on the pneumatic principle was the Alpha, exhibited by Messrs. Robinson Bros., Lim., Ryders Green, West Bromwich. This machine has no interior working parts, it being simply a cylinder of lead-coated steel, which, after being two-thirds filled with liquid, is charged by an ordinary bicycle tyre pump, eighty to a hundred strokes sufficing to fully charge the machine. The Alpha is fitted with capital nozzles that produce an extremely fine, mist-like spray. The great advantage of a pneumatic machine is that the operator has both hands free for directing the spray, since there is no continuous pumping to do.

A new and improved pattern of the well-known Four Oaks machine was shown by the Four Oaks Spraying Machine Company, Sutton Coldfield. The usual copper tank is fitted with a detachable inner lining of tin, making the machine acid proof. Air chamber and pump are outside the tank, and therefore easily accessible, and the pump is fitted with an angled arm, which passes over the operator's shoulder to be worked from the front instead of at the side. It is at the best a fatiguing task to pump continuously with a side pump, and the over-shoulder pump is calculated to simplify the task. One of the R.H.S. students, who operated the machine, expressed preference for this over the older side-pump pattern, which he had recently been using. Messrs. Cooper, Pegler, and Co., Christopher Street, Finsbury Square, showed the Vermorel knapsack sprayer, which, of course, was the first of the sprayers introduced to this country, and has for nearly a quarter of a century proved a highly satisfactory machine. They showed a copper machine, lined and covered with tin, and an agitator has been fixed to the pump, and an additional strainer put into the lance. A machine of similar type in copper was shown by Messrs. E. A. White, Lim., Paddock Wood, Kent, under the name of the Abol sprayer. Nozzles such as are used on the Abol syringe are attachable to the lance on this machine.

MESSRS. G. AND W. PURSER'S PUMP SYRINGE IN USE WITH LIME-WASH.

MESSRS. HARTJEN AND CO.'S "HOLDER" PNEUMATIC KNAPSACK SPRAYING MACHINE IN USE WITH LIME-WASH.

Heavy Machines.

The first of the heavy machines to be set in motion was a new pattern of the Alpha. A cylinder similar to their knapsack is filled and charged, and, by a clever arrangement, this can be kept filled with fluid from an open tank on the carriage, so that, once charged with air, the pressure can be retained as long as desired. The tank is, of course, kept well filled by buckets, and a semi-rotary pump forces the liquid into the cylinder, an agitator attached to the pump keeping the mixture in proper suspension. The carriage stands on four broad-faced iron wheels, and is fitted with pony shafts. It is a machine capable of getting through a great amount of work, two 6ft. corrugated brass lances and two 20ft. lengths of stout rubber hose giving reach enough for hops or tall trees. Another big tank machine that aroused considerable interest was the Enots Utility, shown by Messrs. Benton and Stone, Bracebridge Street, Birmingham. A strong pump is fixed in the centre of the tank, with a strainer at its base. With each descent of the pump handle a circular brush passes over the strainer, so that sediment or powder is removed, keeping the gauze clean and in free working order.

Both jets of the long lances are under control of a handle on the tank, so that the man at the pump can turn either or both sprays off or on at will. An ingenious attachment to the nozzle automatically removes any obstruction from the jet by simply turning off the spray. The pump works very easily, and the only criticism of this machine we have to offer is that a more effective agitator is required to keep such mixtures as lime-sulphur or Paris green in suspension. The Four Oaks Battle machine is very useful, suitable for either garden, nursery, or fruit plantation. It consists of a strong oaken tub of narrow oval shape, slung on wheels after the style of a water barrow. The widest measurement, from the hub of the wheels, is 23 inches, so that it is of handy size for narrow rows or pathways. A double action pump forces the fluid up a central column branching at the top into two outlets. Armoured hose and long lances carry

the spray a good distance, and an effective agitator and good strainer are provided.

Hand Sprayers and Syringes.

There is a wide field of usefulness for small spraying machines that may be held in the hand. In greenhouses, for instance, and in gardens where a few roses are grown, sprayers holding about half a gallon are just the thing.

A good many of these small hand machines are on the market, and several were shown at Wisley.

The Hartjen hand spray de luxe is an excellent little machine, with an in-built pump and an automatic stop-cock or valve release, by pressing which the jet is opened for spraying without necessity for tap turning. The Vermorel hand sprayer in brass is similarly fitted with an automatic release. The Alpha hand sprayer is well known, and is a very serviceable sprayer, and another good machine shown was the Enots, made by Messrs. Benton and Stone.

A capital bucket syringe from Messrs. G. and W. Purser, Lim., 92, Hatton Garden, E.C., impressed us as being a very useful appliance. A syringe with a fine spray nozzle is attached by a length of hose to a hand-pump, which is placed in a bucket. At the base of the pump standard is a fine copper gauze strainer. It is a double-action pump, and very easily worked, and for such work as disinfecting or white-washing is equal to the more expensive knapsacks, whilst, of course, the continuous spray obtained by means of the pump places the appliance far in advance of the ordinary syringe except for work among pot plants or in small conservatories.

For all such small work the Arnol syringe, shown by Messrs. Purser, is excellent. By means of a double-nozzled cap, a spray is obtained, either discharging straight ahead or at an angle in an upward direction as may be desired, there being no elbows to attach for the purpose. A brass ball in the cap automatically closes one jet whilst opening the other, and by turning the syringe in the hand the jets may be opened alternately giving straight-ahead spray for surface and upward spray for under-parts of the plants. An assortment of nozzles giving sprays of varying scope and density are obtainable, and these are so made that cleaning entails a minimum of trouble.

It is unnecessary to go into details of the merits of the familiar Four Oaks undentable syringe, which are made for strength and durability, having a corrugated brass casing that effectively prevents damage to the inner tube of the barrel, and the nozzles supplied for these syringes are capable of producing either forcible or fine, mist-like spray.

The Abol syringe, brought by Messrs. E. A. White, Lim., Paddock Wood, are also so widely known and generally popular that comment on their excellence and utility would be superfluous. The Boundary Chemical Company, Cranmer Street, Liverpool, showed a hand-worked syringe, with a hose inserted in the middle of the barrel. By simply placing the hose in a bucket and working the plunger to and fro in the ordinary way, the liquid in the bucket is syphoned through the syringe, discharging through a very fine nozzle with a neat, swan-necked bend, by which the spray can be directed in any direction desired.

Altogether the whole of the appliances brought forward were of practical and useful character, and whether for small or extensive operations it was made abundantly evident that growers need experience no difficulty in obtaining machines suited to their needs.

Official Report of the Trials.

Under the arrangements made by the Council of the Royal Horticultural Society for the trial of horticultural sundries this year, a special trial of spraying machinery apparatus was organised. It took place at the society's gardens at Wisley on Wednesday, April 23. The following are their recommendations, which have been approved by the Council:

Syringes. — Commended: Purser's Arnol Sprayer, No. 2; and Corry's Syringe. Award of Merit: Four Oaks' Undentable (Angle Bend excluded); and Abol Syringe, E. A. White, Lim.

Bucket Sprayers.—Award of Merit: Boundary Company, Demon Continuous Spray Bucket Syringe.

Continuous Pumping Knapsacks.—Highly commended: Four Oaks' Centre Knapsack Pump. Award of Merit: Abol, E. A. White, Lim.; and two Continuous Knapsacks, Eclair No. 1 and Etame, Cooper, Pegler, and Co. Commended: Benton and Stone's Continuous Pumping Knapsack.

Large Pneumatic Sprayers.—Highly commended: Hartjen Battery Filler and Holders.

Large Continuous Pumping Sprayers.—Highly commended: Four Oaks' Large Continuous Pumping Battle Sprayer. Commended: Utility, Benton and Stone.

Hand Diffusers. — Highly commended: Alpha Hand Diffuser, Alpha Extinguisher Company; and Hand Diffuser No. 1,807, Benton and Stone. Commended: Vermorel Hand Diffuser, Cooper, Pegler, and Co.; and Holder Hand Diffuser, Hartjen.

Note.—Four Oaks' Nozzles, highly commended.

The Judges considered the provision of means of carrying accessory nozzles on the hand syringes would be a great improvement. None had such a provision. In using some spraying materials the provision of a strainer on the intake nozzle would be an advantage.

W. WILKS, Secretary.

INSECT ENEMIES UNDER GLASS.

The "indoor gardener" usually looks upon only five kinds of insects as enemies to be seriously considered and combated with. These are mealy-bug, red spider, aphis, thrips, and scale insects. Such other insect enemies as the "leaf-miners," bulb mites, cockroaches, crickets, weevils, etc., are, more or less, "casuals," and it is only rarely that preventive measures are taken. Injurious insects are of two types, sucking and biting, and it will be noticed that the five "habituals" are all sucking insects, and of these the red spider and thrips may usually be said to be the penalty of bad cultivation, although in palliation or excuse it may justly be said that attacks of red spider are often encouraged by the structural faults of the glass-house. Many of us have had, at various times, to deal with houses which are "terrors for spider." It is interesting to notice that whereas nearly all fungoid diseases are primarily due to errors of cultivation—including over-feeding and intensive propagation—most of the insect enemies are present, and increase and multiply, ravaging the plants through neglect, not necessarily on the part of the "present cultivator."

There are gardeners who, wisely perhaps, refuse to acquire, by purchase or otherwise, any desired new or favourite plant for fear of also obtaining undesirable entomological specimens. In this connection some nurserymen are offenders; the plants which such dealers distribute are generally superficially clean, but a close examination will often discover potential pests.

Many old glass-houses are veritable incubators of plant pests, and no matter how clean the gardener may endeavour to keep his plants they are quickly infested with a fresh stock. Failing entire destruction of such glass-houses the only remedy is to thoroughly cleanse them. If all the growing plants can be transferred to another structure, the old-time method of fumigating the house with burning sulphur is very effective. Stop all the crevices of the woodwork with putty and repaint. The supporting walls of greenhouses are often fertile sources of insects, and this portion of the house does not always receive proper attention. If the pointing of the brickwork is ineffective, this should be remedied, and all interior walls thoroughly treated with hot lime-wash at least once a year. When preparing the lime-wash some gardeners add a handful of sulphur in the hope of checking red spider, but the inwardness of this practice is not readily apparent, for when so placed it is only the sulphur fumes which could possibly have any effect, and, as we know, for this heat is necessary. Even if the sulphur did become sufficiently heated to dissipate fumes, the quantity would be totally inadequate.

As already suggested, insects injure plants, either by sucking their juices from the leaves and stems, or by eating various portions. As most of the sucking insects obtain their food by boring into the tissues of the host, we cannot kill them by spraying their food with poisons, as is practicable with the biting insects, although they may be killed by caustic or poisonous sprays, but as there are few indoor plants which will stand these corrosive liquids, their use is reserved for the hardier fruit trees.

Cleanliness and good cultivation are the best preventives of attacks of many insects, but there are others which persist in spite of the most approved methods, and for these remedies must be used. Formerly, the most common method of destruction was that of suffocating the insects by tobacco smoke. The smoke being obtained from smouldering, nicotine-saturated paper or rag, and as it is essential that it should not burst into flame, the operator was forced to remain in the house alongside the fumigating vessel. Nowadays, the young gardener is more fortunate, the introduction of fumigating compounds having rendered his task much more pleasant, and tobacco paper has been banished in most gardens in favour of nicotine compounds. But this method has its limitations, and when the apparatuses become improved cyaniding, as fumigation by means of hydrocyanic acid gas is termed, will be more generally practised, and our glass-houses will be easily rid of insect pests.

Sucking Insects.

Of this class the most insidious are red spider and thrips, which, on account of their small size and habit of feeding on the undersides of the leaves, frequently obtain a disastrous footing before their presence is suspected. Certain plants, e.g. Indian azaleas, begonias, gloxinias, palms, vines, and the like, are especially susceptible to attacks of red spider and thrips, which are generally found in company. Their presence is soon indicated by the unhealthy, thin, drvish yellow colour of the leaves, and, as these tiny insects increase rapidly, the affected leaves are quickly rendered useless to the plants; indeed, as in the case of the azaleas, the plants are often entirely defoliated, so that preventive measures are especially required. Fortunately, these are quite simple, and consist of keeping the atmosphere of the house and the surroundings of the plants uniformly moist, and of frequently syringing them, particularly directing the spray of water to the under-surfaces of the leaves. Of the various remedies, fumigation with tobacco compound, cyaniding with hydrocyanic acid gas, and spraying or sponging the foliage with tobacco water may all be recommended for general use. With such plants as orchids it is usual to sponge the leaves with soapy water.

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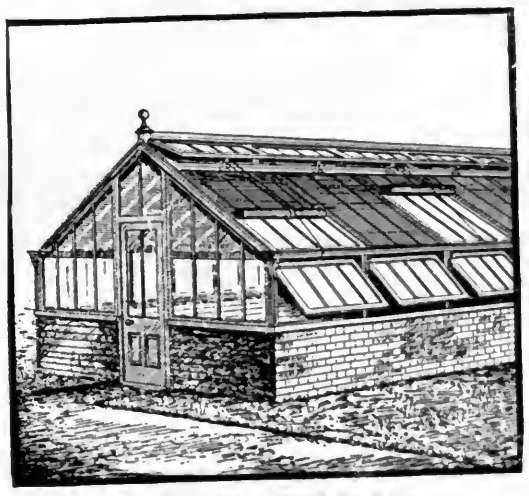

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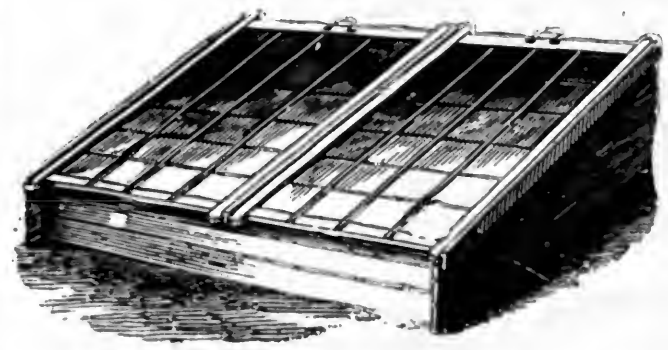

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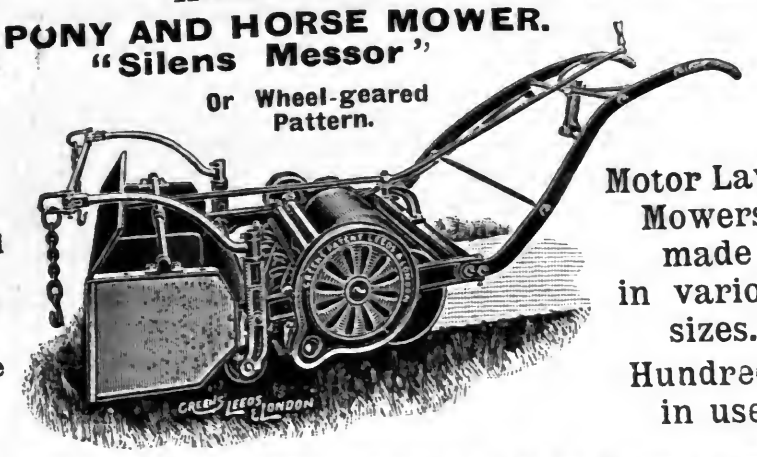

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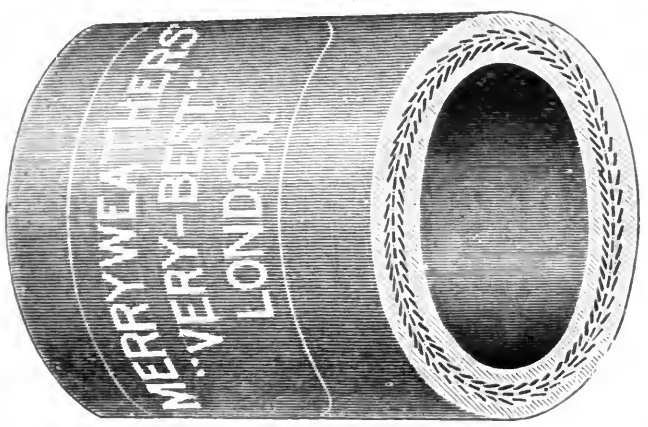

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Fig. 2.

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too often seen on indoor plants. This insect is a coccid, and is closely related to the scale insects, but luckily it lacks the hard scale covering and limpet-like power of attachment. Like the red spider and thrips it affects a large number of plants, but it chiefly confines its attention to those growing in warmth; the genera it seems to prefer are such as acalypha, eucharis, gardenia, stephanotis, and vitis. On the eucharis it settles down on the undersides of the leaves near to the edges, which curl inwards as though to form harbourage, whilst on most other plants the mealy-bug usually preys on the bases of the leaves near to the stalk, probably so as to more easily obtain plenty of food. The plants with woolly or with hairy leaves are the most difficult to cleanse, and these also most quickly show signs of distress. Badly affected pot plants should be laid on their sides and forcibly syringed with petroleum emulsion. Sponging the leaves with soapy water may be resorted to when treating moderately smooth-leaved plants, but in no case should the sponging mixture contain petroleum. The application of methylated spirit with a soft brush is a very effective method of killing mealy-bug, especially when it is lodged in cracks of bark.

There are very many kinds of scale insects which are injurious to plants grown under glass, which are only distinguished by minute structural characters. But, however, a knowledge of the different genera and species is not necessary for the gardener, as they are all much alike in their depredations, and the same remedial measures are applicable. It is only the wingless female insect which is generally known, the winged males, as a rule are few in numbers, very minute, and exceedingly short-lived. The females are developed from larvæ which have three pairs of small legs to enable them to reach suitable feeding places. They at once bore their beaks into the leaf or stem, and settle down there for the rest of their lives: the legs and antennæ disappear, and the larvæ metamorphose into the familiar rounded insect.

The persistent habits of the female scale insects render their eradication a troublesome matter. Ferns, palms, cycads, and orchids are the names of a few kinds of plants more generally affected by the scale insects, but they are common, though fortunately in a lesser degree, to many others. The soft and easily bruised fronds of most ferns prohibit the successful employment of many remedial methods, and when ferns are badly affected it is best to entirely remove and burn the fronds, then to thoroughly cleanse the pots, and top-dress with fresh soil. With other plants the scale insects may be destroyed by repeated syringing with kerosene solution at twenty-four hour intervals, or with strong tobacco water. Sponging with soapy water is useless unless the insects are first loosened.

Aphides are the most rapidly increasing plant pests of all. The gardener does not concern himself with the vexed question as to whether there really are, as some authorities contend, different species of aphis for each different genus of plants. He is satisfied to know that "fly" may be conveniently divided into three classes: green-fly, black fly, and white fly, and that the same remedial measures are applicable to the members of a class. Perhaps more than any other insect the "green-fly" confines its attentions to the young and succulent shoots, and consequently the harm done is great. As a summer enemy of the plantsman, the greatest ravages are on the plants of the greenhouse and frames, and the only really effective prevention is regular fumigation. Water forcibly applied with a syringe will do much to keep green-fly in check, but with pot plants the use of so much water is objectionable. Quassia extract renders the foliage distasteful to the insects, and this bitter property remains for a fair time. The best method of preparing the quassia solution is by well boiling one pound of chips in a quart of water, adding, whilst hot, one pound of soft soap; diluting for use with four gallons of water. Tobacco water is also effective, but it should not be used on plants with hairy or woolly leaves, nor should it be allowed to remain on the plant long enough to stain the leaves. With such plants as chrysanthemums, in which the fly congregate in the growing point, it is always well to periodically dust them with dry tobacco powder.

The female cattleya fly lays her eggs in the bases of young growths in the spring and during the early summer the broods of larvæ live on the juices of the plants. Fumigation at frequent intervals, so as to kill all the fly as they emerge from the pupal stage, and so prevent their increase, is the best remedy.

The bulb-mite, which was recently discussed in an article on Eucharis grandiflora, is common to that plant, hippeastrums, and allied genera. The present writer is decidedly of the opinion that their presence is due to errors of cultivation, and in bad cases would counsel cremation. In milder instances, it would be worth while to try vapourising with carbon bisulphide, and, as lime is said to be very distasteful to the white mites, the bulbs should be washed in lime water.

Biting Insects.

Luckily, the summer insects which eat portions of plants are not so troublesome to the gardener under glass. To combat these it is in many cases possible to poison their food, but as a general rule the grower prefers hand-picking when dealing with the day-feeding insect larvæ.

Cockroaches and crickets often do much damage to glass-house plants; the former insect prefers tropical heat and rarely invades the cooler houses. The roots, as well as the growths, of many orchids are freely eaten, and the young flower scapes of the eucharis are another favourite food. The out-of-the-way parts of the houses, especially around the hot-water pipes, should be kept scrupulously clear so as not to leave harbourages for the obnoxious insects; and, as they prefer absolute dryness, all likely places should be flooded with water daily. Poison, spread on small squares of stout brown paper or on bread, should be laid in their haunts every evening—they being nocturnal feeders—and gathered up in the morning. Phosphorus paste is very useful for this purpose, as also are several of the advertised preparations.

Weevils are also night-feeding insects, and, being comparatively small, their depredations frequently pass unsuspected. While the perfect beetle feeds on the fronds of ferns, and on the leaves of various plants, the greatest damage is done by their larvæ, which prey on the roots of such plants as ferns and palms. These yellow legless creatures have enormous appetites and eat large quantities of roots. It is always difficult to rid pot-plants of root-feeding pests without injuring the host. The mature insect may be caught on a sticky cloth at night; when disturbed they at once fall to the ground, so it only remains to place the plants on the cloth or on sheets of greased brown paper during the day time. The larvæ must be either picked out from amongst the roots with a sharp instrument or be destroyed by a vapourant.

CECIL AUBREY.

MACKAYA BELLA.

This, one of the larger-growing members of the order Acanthaceæ, forms a good-sized shrub, and was introduced from Natal in 1869. It is a very pretty flowering plant for the greenhouse, but in order to have it at its best it needs special treatment.

While it is benefited by a warm temperature in the spring and early part of the summer, it should, in August, be well exposed to sun and air in order that the wood may be thoroughly ripened. In winter only sufficient water must be given to keep the soil slightly moist, when, in spring, under the influence of additional heat and moisture, it will start into growth, and bloom usually about May. The flowers, which are borne in racemes, are bell-shaped, about two inches long, and of a pleasing shade of pale lilac. T.

THE BEST PERPETUAL-FLOWERING CARNATIONS.

The following selections have been compiled by the Perpetual-flowering Carnation Society from lists sent in by its members, and published in the official "Year Book":

Twelve Best Varieties for Profit.

May Day, 26 votes; Enchantress, 25; White Enchantress, 25; British Triumph, 25; Winsor, 21; Rose Pink Enchantress, 20; White Wonder, 20; Scarlet Glow, 19; Beacon, 18; Mrs. C. W. Ward, 17; White Perfection, 16; Lady Northcliffe, 14. Varieties which received over six votes: Gloriosa, 10; Britannia, 7; Carola, 7; R. F. Felton, 7. Twenty-seven commercial growers took part in the voting.

Twelve Best Varieties for Exhibition.

Carola, 23 votes; Scarlet Glow, 18; White Perfection, 17; Baroness de Brienen, 17; Mikado, 15; Enchantress, 14; Mrs. C. W. Ward, 13; R. F. Felton, 13; Lady Meyer, 12; White Wonder, 12; Gloriosa, 11; Marmion, 11. Varieties which received six or more votes: Benora, 10; Rose Pink Enchantress, 8; May Day, 7; Mrs. C. F. Raphael, 7; British Triumph, 6; Lady Northcliffe, 6; Sunstar, 6; Rosette, 6. Twenty-five commercial growers took part in the voting.

Twelve Best Varieties for the Greenhouse.

Enchantress, 19 votes; May Day, 19, Britannia, 17; British Triumph, 15; Carola, 15; Lady Alington, 15; Mikado, 14; Scarlet Glow, 13; White Wonder, 13; Mrs. C. W. Ward, 12; R. F. Felton, 11; White Perfection, 10. Varieties which received six or more votes: White Enchantress, 9; Baroness de Brienen, 8; Rose Dore, 8; Lady Northcliffe, 7; Winsor, 7; Rose Pink Enchantress, 7; Beacon, 6. Twenty-four gardeners and amateurs took part in the voting.

Twelve Best Varieties for Bedding Out.

Britannia, 16 votes; Mrs. Burnett, 13; Enchantress, 13; May Day, 12; Rose Pink Enchantress, 12; White Perfection, 12; Winsor, 10; Mrs. T. W. Lawson, 7; Mikado, 7; Beacon, 7; Mrs. C. W. Ward, 7; Rose Dore, 6. Sixteen gardeners and amateurs took part in the voting.

Epacris onosmiæflora flore plena.—This, which is also known as Epacris purpurascens, is remarkable among the members of this genus for its markedly double blossoms, which in the best forms are like little rosettes. In some individuals they are pure white, and in others of a bluish tint.—S. W.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CATTLEYA HOUSE.—Many of the autumn and late-flowering cattleyas, læliocattleyas, lælias, and brasso-cattleyas will now be in active growth, and must receive every encouragement. All plants in growth should be placed at the warmest end of the house, and where they will obtain the benefit of good light. Upon the proper ripening of the growths depends the quality of the flowers they are to produce. It is surprising the amount of light that is necessary to properly mature the growths of these late-flowering kinds. It is often more difficult than is the case with the spring-flowering kinds, and this is not surprising when we consider the amount of light obstructed, even with the most discreet use of the roof blinds and other shading which is necessary during the summer months. In addition to the question of flowering satisfactorily, there is still a more serious matter following on immature and sappy growth. Take as an example C. Warscewiczi, and the old type of C. Dowiana. If these have not matured their growths sufficiently to produce flowers, it is found a difficult matter to prevent a second growth commencing, and if this occurs towards the end of September it is found most unsatisfactory, and frequently diminished growths are the result.

WATERING.—Care must be observed in affording root moisture. Only sufficient is necessary to keep the plant plump and vigorous; any excess will destroy the roots. It is desirable to syringe, or rather spray, the plants overhead on fine days, and when the conditions are favourable.

REPOTTING.—Many of the plants that have passed out of flower may now be repotted if necessary. We use the usual compost of about two parts best fibrous peat and sphagnum moss, with some chopped oak leaves intermixed. We find that the Osmunda and Polypodium fibres are not suitable for our district, hence their use should proceed with strict caution. There is a considerable difficulty in obtaining good peat, but it is still procurable. The plants are potted firmly in this compost. All newly-potted plants must be shielded from strong light until the new roots have got hold of the fresh compost.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CAMELLIAS.—Plants growing in pots or tubs must be kept in a moist atmosphere until they have perfected their growth. Syringe them twice daily, and during hot, sunny weather damp down the walls and other bare surfaces in the house several times a day. Use fire heat sparingly, and when growth is completed give plenty of air, eventually placing the plants out of doors. Any repotting required may be done towards the end of June or early in July, using a compost of peat and loam in equal parts with a little coarse sand. It is very important that the pots or tubs be amply drained. Camellias are seldom free from white scale, and when badly infested with this pest, the only sure method of destruction is by sponging the leaves with soapy water. As a preventive, the plants should be turned on their sides occasionally, and syringed with a mixture of soft soap, and a little petroleum. Before placing camellias outside fumigate with a nicotine compound to destroy aphis. Camellia reticulata is admirable for growing on the back wall of a greenhouse or conservatory.

LILIUM SPECIOSUM.—This is one of the most useful of the autumn-flowering liliums. The bulbs which have been growing slowly in cold frames must be supported with stakes now that they have made sufficient growth. When they have made plenty of roots, they must be given a mild stimulant, increasing it in strength as growth advances. A top-dressing of some rich material will also be of benefit to the plants during the later stages of growth. Batches of retarded liliums, which are approaching their flowering stage, must be given liberal treatment in regard to watering and feeding. If it is desirable to hasten these plants into flower, they may be subjected to plenty of artificial heat, provided the atmosphere is kept moist. If Lilium speciosum is required for flowering at Christmas, the bulbs must be procured and potted towards the end of June.

PILEA MUSCOSA.—This is a most useful little plant for decorative use during the winter months. A good batch of it should be raised from cuttings now for this purpose; in fact, cuttings should be rooted at intervals all through the year, as the plants become shabby if kept too long. The tips of the shoots should be used for cuttings. These should be dibbled rather thickly into 2½in. pots, and placed in the propagating case, where they will quickly root. This plant makes a very effective edging plant for the greenhouse stages. Selaginella Kraussiana is also useful for this purpose, and requires similar cultural treatment to the foregoing.

ASPARAGUS SPRENGERI.—This is most useful for hanging baskets in the conservatory. When established in suitable soil, its growths will reach to a considerable length. It is easily propagated from seeds, which should be sown in pans and placed in heat. Keep the young plants potted on as required until they are large enough to be planted in the baskets. They are also useful when grown in pots.—E. HARRISS, Lockinge Gardens.

HARDY FRUITS.

PEACHES AND NECTARINES.—The disbudding, stopping, and training the young shoots of these will need unremitting attention now that the growth is more rapid, and, if carefully carried out, the winter pruning should be very little indeed. Examine the trees at intervals, and gradually reduce them until only just sufficient shoots are left to take the place of those fruiting this season, which can well be spared in early autumn, always allowing for extension and filling up bare spaces. Retain the best young growths as near the base as possible, and on the upper side of the bearing shoots, and, as soon as they have grown three or four inches in length, tie them in carefully and closely. Use very soft damp raffia for tying, and be careful not to injure the tender bark. Allow all the leaders to extend, and fill up wall space, but those having reached their limit must be stopped. When the fruits are swelling keep the foliage free from green aphis, and encourage an early healthy growth. Remove protecting material as soon as all danger from frost is past, and, if the set of fruit is a plentiful one, remove some of the undersized fruits and those ill-placed, leaving the largest at about four to six inches apart, and thin again later to the required number it is intended to allow the trees to carry.

SWEET CHERRIES. — These should be examined at intervals, and all the young growths required for filling wall space and building-up good fruitful trees should be secured to the walls before they are damaged by wind. Do not train the main branches too thickly. Keep the foliage clean and free from insects. If black-fly puts in an appearance, syringe at once with quassia extract, or some other approved insecticide, so that leaf and branch are thoroughly free and clean before the stoning period. A good watering with lime and soot water, also a few soakings of liquid manure, will greatly assist trees that bear heavy crops of fruits annually.

GOOSEBERRIES.—To obtain large fruits for dessert, the roots of these bushes should be well mulched, and a few applications of liquid manure given on porous land will be very beneficial. If the bushes are very heavily cropped, thin when large enough, using the smaller berries for tarts. Keep the foliage free from red-spider and caterpillars. A slight dusting with hellebore powder will settle caterpillars, but it must be thoroughly syringed off before consuming the berries. Ply the Dutch hoe among the bushes to keep down weeds.

STRAWBERRIES.—These plants are looking very well, and throwing up plenty of strong, healthy flower spikes, which, in some cases, if very large fruits are required, will be better thinned. If not yet done, have the beds strawed down, so that the berries may be kept clean and free from grit, and see that all weeds, etc., are removed before protecting the beds with nets. Plants grown expressly for stock must have all their flower spikes removed, and the beds must be kept clean. These plants usually throw out plenty of strong, healthy runners, which make fine fruiting plants next year.—H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

MUSHROOMS. — With the advent of warmer weather, some beds may be made in a cool shed, or in a sheltered spot in the open. The most satisfactory results are obtained where a good supply of manure from corn-fed horses is available. It need not consist entirely of droppings, as a little of the short straw may be used. When sufficient material to form a bed has been accumulated, it should be formed into a heap to ferment and sweeten, and a daily turn over will be necessary to avoid excessive fermentation. Let the beds be made piecemeal, and as each layer of material is added, make it firm by treading or beating. Spawning should not take place until the warmth of the bed has declined to about 85 deg.; when spawned, the bed may be covered with soil some two inches deep. Make the surface smooth and firm with the back of a bright spade. If the cakes of spawn have become very dry, it is a good practice to break them up into pieces the size of a chicken's egg, and dip them in warm water before insertion. All beds, whether in the open or in the mushroom house, should be frequently examined, and, if found dry, thoroughly moistened with warm water. To maintain the heat cover the beds with a good thickness of stable litter.

TURNIPS. — Larger plots may now be sown on open quarters, and successional sowings according to the demand. Snowball is an excellent variety; Red Globe is also most reliable, and withstands the effects of drought better than Snowball; those who prefer the yellow-fleshed varieties will find a well-selected form of Golden Ball satisfactory in every way. As a preventive of the ravages of the turnip-flea, dress the rows frequently with soot and wood ashes. Water should be freely applied during dry weather. The proper time to apply the dressings is early morning, when the leaves are damp with dew, failing this, apply after watering, which is best done in the cool of the evening. The chief aim should be the encouragement of growth in the plants, as it is only in the early stages of growth that the flea is so injurious.

CELERY.—The plants which were pricked off some time ago, and have been gradually hardened off, will be ready for transplanting. Well water before removing them, and, if possible, choose a dull day for planting. The soil in the trenches should be made firm, as, if left at all loose, the plants are apt to bolt. After planting, afford a good soaking of water. At no time should the plants lack a sufficiency of moisture. If aphides infest the plants spray with quassia extract.—W. MESSENGER, Woolverstone Park Gardens.

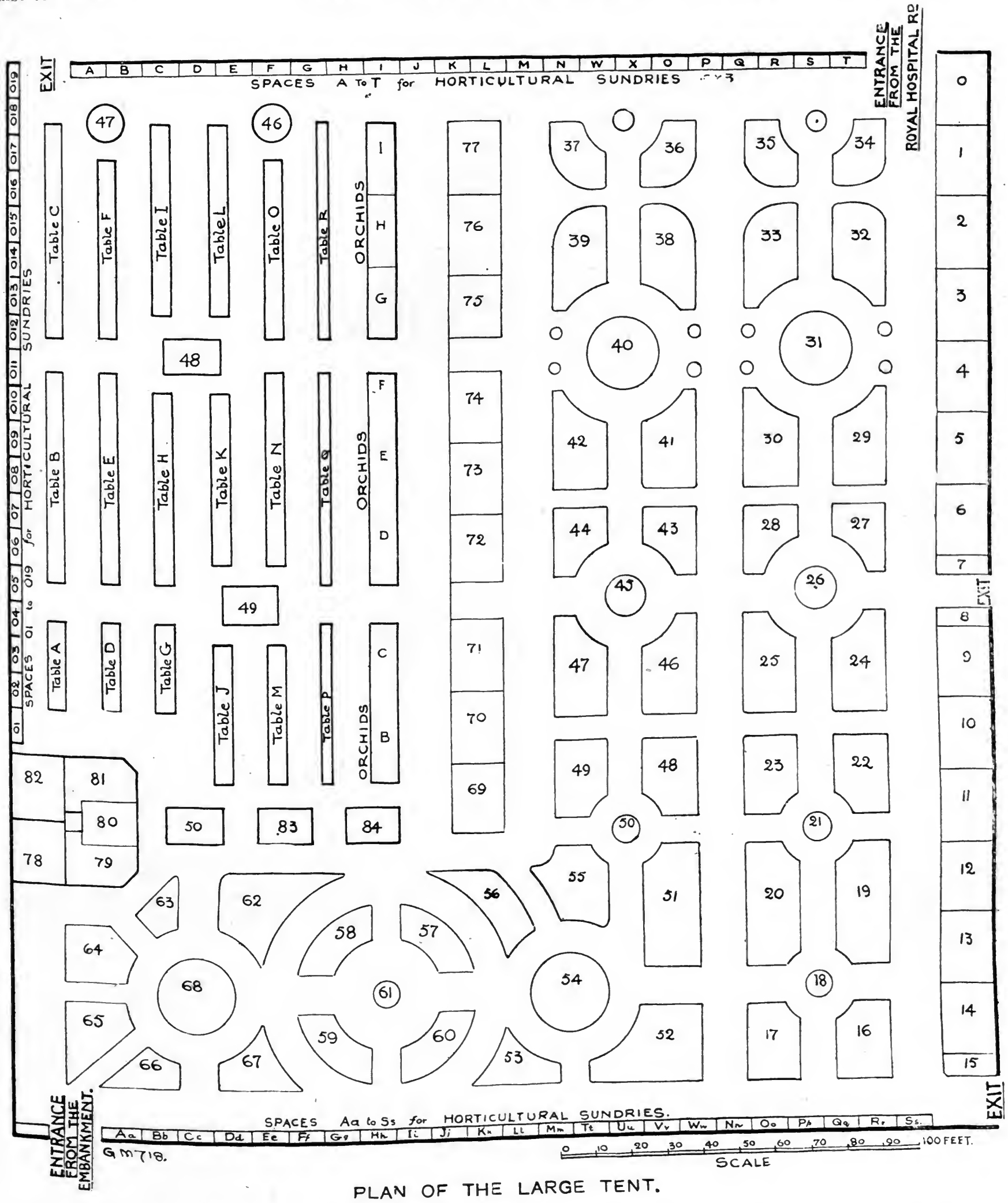
THE GREAT CHELSEA FLOWER SHOW.

The Royal Horticultural Society is fortunate in having for its great spring exhibition a large portion of the site upon which the Royal International Exhibition of 1912 was held, namely, in the grounds of the Royal Hospital, Chelsea. The exhibition has long outgrown the space available at the Inner Temple Gardens, but on the new site, with about three times as much room as previously there will be ample space for the exhibits, and also for visitors.

The great tent, of which we give a plan, is 500ft. long by 275ft. wide, built in six spans, and covers about two acres. In this tent there will be 84 large groups aggregating 21,500 sq. ft., and a further 95 exhibits on tables representing 7,500 sq. ft., will be staged.

In the open air there will be 17 large rock gardens, with paved and formal gardens, large groups of shrubs and garden ornaments. In all there will be 244 exhibitors and 303 exhibits, occupying an aggregate of 73,000 sq. ft., as against 126 exhibitors at the Temple Show of 1911, who filled 25,000 sq. ft.

With the following list of exhibitors and the plan our readers will be able to locate the various exhibits, as the numbers in the list correspond to those on the plan. The outdoor exhibits will be arranged at the Embankment end of the big tent, and by the Avenue.



PLAN OF THE LARGE TENT.

ORCHID TABLES.

Charlesworth and Co.; Colman, Sir Jeremiah, Bart.; Cypher and Sons, James; Davidson, E. H.; Dixon, H.; Hassall and Co.; Holford, Sir George; Low, Stuart, and Co.; McBean, James and A.; Mansell and Hatcher; Sander and Sons; Waters, C. F.

TABLE GROUPS IN LARGE TENT.

Allwood Bros. (R); Allen, A. J. C. (F); Bakers, Lim. (E); Barrie and Brown (M); Barr and Sons (C); Barnes, R. J. (F); Bees, Lim. (F); Bell, B. E. (M); Bide, S., and Sons (M); Blackmore and Langdon (B); Blick, Charles (F); Bourne, C. (by Orchids); Bowell, E. C. (J); Brandt, A. P. (P); Breadmore, C. W. (O); Bunyard and Co., G. (R); Buckston, Rev. H. (L); Burnett, H. (J),

Cannell and Sons, H. (M); Cant and Sons, B. R. (C); Cant and Co., Frank (B); Carter and Co., James (by Obelisk); Carter Page and Co. (R); Cartwright and Goodwin (N); Crane,

Howard H. (R); Dawes, Theo E. (F); Day, R. d'E. (J); Dickson and Sons, Alex. (Q); Dobbie and Co. (K); Douglas, James (O); Edwards, Mrs. L. (R); Ellison, H. N. (R); Forbes, John, Lim. (F); Gibbs, Hon. Vicary (C); Godfrey and Son (A); Gunn and Sons (J).

Hemsley, H. (I and P); Hemus, Miss H. (J); Herbert, C. H. (N); Hill and Son, J. (A); Hogg and Robertson, Lim. (E); Hopkins, Miss (L); Jarman and Co. (N); Kent and Brydon (L); Ker and Sons, R. P. (G); King and Co. E. W. (N); Lawrenson, W. (H); Lilley, Frank (H); MacDonald, James (Q); McIntosh, Mrs. (O); Macwatt, Dr. J. (Q); Maples, Stuart (H); Miller, G. W. (L); Mortimer, S. (H); Medham, C. W. (E).

Paul and Son (Q); Peed and Son, J. (B); Piper and Son, J. (H); Prichard Maurice (B); Prichard, Reg. (E); Reamsbottom and Co. (E); Robichon and fils (N); Rogers and Son, W. H. (H); Rolls-Hoare, Mrs. (P); Slade, Vincent (E); Stark and Son, G. (L); Stevenson, J. (N); Storrie and Storrie (N).

Sutton and Sons (O); Sydenham, Robert, Limited (P); Thatcham Fruit Farm (R); Thomson and Charman (L); Tranmer, W. R. (I); Troyte-Bullock, Miss (C); Turner, Charles (I); Veitch and Sons, James (D and G); Veitch and Son, Robert (I); Ware, Thomas S. (by Orchids); Wargrave Plant Farm (F); Wells and Co., W. (by Orchids); Webster, J. D. (I), Whitelegg and Page (I).

FLORAL GROUPS ON THE GROUND IN LARGE TENT.

Artindale and Son, W. (71); Aubert, H. (78); Barr and Sons (77); Barrett, Mrs. (18); Bath, R. H., Lim. (36, 37); Beckwith and Son, G. (78); Blackmore and Langdon (35); Box, Jas. (4); Brown, W. and J. (53); Bruce, A. J. A. (34); Bunyard and Co., G. (73).

Carter and Co., Jas. (57 to 61); Clark, G. and A. (55); Cutbush and Son, Wm. (40, 41, 42); Cuthbert, R. and G. (24, 27); Dutton, A. F. (63); Engelmann, C. (72); Fletcher Bros. (5); Fromow and Son, W. (82); Gibbs, Hon. Vicary (13); Gibson and Co., G. (83); Gunn and Sons (21, 50); Hobbies, Lim. (30).

Jackman and Son, G. (31, 32, 33); James, W., Exors. of (84); Jeffries and Son, J. (26); Jones, H. J. (22); King's Acre Nursery Company (23); Ladhams, B., Lim. (62); Laxton Bros. (17); Manda, W. A. (14); May and Sons, H. B. (0, 1, 2); Mount and Sons, G. (25); Notcutt, R. C. (19).

Paul and Son (14, 29); Paul, Wm. (12, 62); Peed and Son, J. (54); Perry, Amos (48, 51); Phillips and Taylor (81); Piper and Son, J. (20); Prince, G. (67); Reuthe, G. (79); Rivers and Son, Thos. (49, 80); Rothschild, Leopold de, Esq. (3); Russell, L. R. (74, 75); Stuart Low and Co. (16, 56).

Sutton and Sons (43, 44, 45, 46, 47); Turner, Chas. (28, 38, 39); Veitch and Son, Jas. (64, 65, 66, 68); Wallace and Co., R. W. (69, 70); Ware, Lim., Thos. S. (6); Waterer and Sons, John (52); Watkins and Simpson (7, 8); Webb and Sons, E. (9, 10, 11); Young and Co. (76).

HORTICULTURAL SUNDRIES IN LARGE TENT.

Acme Chemical Company (09); Abbott Bros. (T); Adie, E. (01); Barr and Sons (D); Bentley, Jos., Lim. (Nu.-Pp.); Blake and Mackenzie (013); Boundary Chemical Company (Ee.); Bradley, E. (B.); Carter and Co., Jas. (Gg.-Kk.).

The Gardeners' Magazine and "Amateur Gardening," together with the various Horticultural Books issued from the offices of those journals, will be represented at Stand Ll-Mm. The publishers will be happy to welcome all readers there, and to give information or show any books desired.

Cooper and Nephew (M.); Corry and Co. (014, 015); Dunford, G. (E.); Elsenham Company (F.-H.); Fisher, E. (Vv.); Four Oaks (016, 017); French Cloche Company (Ff.); Fruit, etc., Journal (J.); Green and Nephew (K. and L.); Green and Son, T. (49); Harris, A. C. (03); Headley Bros. (N.); Hickson, F. (010); Hill, V. T. (Qq); Hughes, R. (A).

Jeyes Sanitary Company (Ww); Key, A. (06); Meath Home (Uu); Miller, Mrs. (I); Newton Chambers and Co. (C); Osmond and Mathews (02); Pattison and Co., H. (011); Pinches, J. (012); Pither, J., Lim. (P); Potters' Arts Guild (46); Ransomes, Sons, and Jefferies (48); Roberts and Son, D. (018, 019); Robinson Bros. (07, 08); S. Africa (X); Sanitas Company, Lim. (S).

Sydenham, Robert, Limited (47); Thames (50); Three C's Company (R); Voss and Co., W. (Aa, Bb); Wakeley Bros. (O); Wallace and Co., R. (Tt); Walters and Co., F. (04, 05); Westmacott and Co., E. (W); White, E. A., Lim. (Cc and Dd); Wilks (Q).

HORTICULTURAL SUNDRIES IN THE OPEN.

Acme Patent Ladder Company (35); Barford and Perkins (46); Benton and Stone (30); Boundary Chemical Company (59); Castles' (tent entrances, etc.); Cooper, Pegler (36); Cheal, J., and Sons (58 and 59); Crowther, T., and Sons (by Formal Gardens); Drew, Clark, and Co. (41); Dryad Works (37 and 38); En-Tout-Cas., Lim. (16); Economic Fencing Company (52); Folding Span Light Company (12); Four Oaks Spraying Machine Company (44 and 45); Fenlon and Son (51); Gamage, Lim., A. W. (25).

Hartjen and Co. (57); Hardy Patent Pick Company (35); Headley and Edwards (15); Heathman and Co., J. H. (8); Hughes, Bolckow, and Co. (10 and 11); Höntsch and Co. (34); Kinnell, C. P. (27); Leyton Timber Co. (43); Liberty and Co. (60 and 61); London Provincial and Export Company (by Formal Gardens); Maggs and Co. (7); Major and Co. (by Formal Gardens); Patent Safety Ladder Company (49); Pearce and Co. (6); Purser, Lim. (50); Pulham and Son (9); Roberts and Son (29).

Skinner, Board, and Co. (28); Sutton and Sons (32 and 33); Syer and Co., Thos. (31); Tucker, Duncan, and Sons (by 25); United Brassfounders Company (42); Vectis Stone-Slate Works (14); Vipan and Headley (56); Watkins and McCombie (24); Webb, Mrs. M. (17); White, J. P., and Sons (62); Wood and Sons (lawn and 39).

ROCK GARDENS, ETC., OUT OF DOORS.

Backhouse and Son, Jas. (A); Craven Nursery Company (B); Cutbush and Sons, Wm. (C); Ware, Lim., Thos. S. (D); J. Wood (E); Jas. Veitch and Son (F); Pulham and Son (G); Barr and Sons (H); Pritchard, M. (I); Whitelegg and Page (J); Guildford Hardy Plant Company (K); Reuthe, G. (L); Clarence Elliott (N); Cunningham Fraser (N).

Wallace and Co., R. (P); Burton Hardy Plant (Q); Tucker and Sons (R); Piper and Son, J. (S); Carter and Sons, Jas. (T); Notcutt, R. C. (U); Wallace and Co., R. (V); Waterer and Sons, J. (101); Carlton White (102); Russell, L. R. (103 and 105); Cutbush and Sons, Wm. (104); Cheal and Sons, J. (106); Fromow and Sons, W. (107); Laxton Bros. (108); Piper and Son, J. (Band Enclosure).

Tomatoes.—Gradually harden off the plants preparatory to planting out towards the latter part of the month. Keep the plants steadily progressing, affording sufficient ventilation to induce sturdy growth. The ground at the foot of the walls against which tomato plants will be planted, should be dug deeply, after dressing it with a fair amount of well-decayed stable manure, lime rubble, and wood ashes. Thoroughly mix the staple with these additions, and make the whole very firm. If wall space is limited the plants may be grown in the open in a sunny position. A few strong stakes should be driven firmly into the ground, and wires stretched thereon; if the wires are not too far apart, upright stakes to each plant will not be required. Put out the plants 18in. apart, and train to a single stem.—W. Messenger, Woolverstone Park Gardens.

MESSRS. WILLIAM BULL AND SON'S SPRING SHOW.

In former years the leading London nurserymen were wont to arrange special exhibitions at their nurseries, and invite their own customers, as well as the general public, to these displays. Such exhibitions were invariably a source of great interest, and no small profit, but since the renaissance of the Royal Horticultural Society's meetings these trade exhibitions have almost ceased. Messrs. William Bull and Sons, however, continue to hold a special annual show in their spacious winter garden at King's Road, Chelsea.

From the entrance door a broad tiled pathway led to the far end of the house, right through the centre. To left and right extended semi-circular pathways in each of which were a pair of circular recesses that accommodated beautiful plants and gave visitors an opportunity of passing each other during an inspection. Fine palms, tree ferns, and tall araucarias, with apidistras, asparagus, and ferns, provided abundant and elegant green setting for the fine rambler roses, such as Tausendschon, Blush Rambler, Hiawatha, Dorothy Perkins, Crimson Rambler, and Mrs. Flight. Banks and corner groups of liliums were an important feature, L. longiflorum, L. auratum, L. speciosum, and L. davuricum being specially prominent and handsome, the first-named being represented by 500 specimens. Here and there groups of blue hydrangeas, of Ceanothus dentatus, and of the yellow and cream-coloured acacias added their quota of beauty. Banks of perpetual carnations and bays of pink and white spiræas and astilbes attracted attention, but the former were evidently the most popular.

But, although all these things were charming in themselves, and disposed in a most delightful manner, they were more or less in the character of stage scenery to provide a suitable background for the orchids and the hippeastrums. Among the former were large numbers of seedling odontoglossums raised by the firm; indeed, the bulk of the orchids on view were home-raised. Lælio-cattleya Aphrodite and L.-c. General Baden Powell were both represented by many dozen plants, and, of course, showed considerable variation in colouring, but all were beautiful. Of these the firm has large batches, and there are plenty yet to bloom. Several plants of a bright orange-yellow hybrid, obtained by crossing Cattleya Schroedreæ with L.-c. Warnhamensis, made a fine contrast with the white, purple, and rose colouring of the two former hybrids. Brasso-cattleya Helen was conspicuous, together with B.-c. Veitchi.

The finest of the odontoglossums was O. crispum Princess Mary, figured in our previous issue, its bold red markings making it very handsome. O. c. Florence, O. c. Marmoria, O. c. Premier, O. ardentissimum, O. armainvilliersense, O. sceptrum, and O. Hallio-crispum, with the purple O. Thompsonianum, were all good, and of even brighter colouring were the odontiodas, O. Chelseaensis, O. Bradshawiæ, O. Charlesworthi, O. Dora, grouped in various parts of the exhibition, the first-named being remarkable for its vigour and freedom of flowering.

Coming to the hippeastrums we may at once say that we have never seen these so fine at the Messrs. Bull's as on this occasion. In form and variety of colouring the strain is a capital one. A few varieties of outstanding merit were Gwendoline, pink; Prima Donna, white and scarlet; Comet, velvety crimson-scarlet, very fine; Mildred, white and pale salmon-scarlet; Queen Alexandra, white, beautifully flushed with pale salmon; Winifred, rose shaded; Queen Mary, white, flushed with rose-red; Conquest, of long shape, old rose, flushed with salmon; Beryl, white, curiously flushed with scarlet; Goliath, flame-red; and Sunbeam, lively vermilion-scarlet, with a white beam down the centre of each segment. For the hippeastrums alone the nursery was, and is still worth a visit.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

It was difficult to imagine May 14 was a Wednesday, because for so many years the R.H.S. meetings have been held on Tuesdays. On this occasion the day was altered to make things easier for exhibitors in connection with the Whitsuntide holidays. There was a fair show, but many people, especially the orchid growers, were holding over for the Chelsea Show. Tulips were the great feature of the meeting, and these were splendidly exhibited, no fewer than fourteen groups being staged. Hardy flowers and alpines were shown freely, and carnations made a good showing. Novelties were good. Messrs. J. Piper and Son, Barnes, exhibited the new yellow Pæony, La Lorraine, referred to at length in our Ghent report, and gained a F.C.C. for it. Other new things are referred to below.

The tulip competition arranged for this day fell through, as the recent storms had damaged the flowers so badly that all the amateurs withdrew their entries.

FLORAL COMMITTEE.

There was a large attendance of the members of this committee, and the number of novelties were rather more numerous than usual.

Sweet peas were most delightfully staged by Messrs. Dobbie and Co., Edinburgh. The flowers were in superb condition, flowers and spikes being alike fine, and the colours beautiful. It was the firm's intention to exhibit sweet peas at Ghent, but lack of sunshine made this impossible. Here they presented some bunches of Brunette, Blue Picotee, with wire edge of blue; Decorator, Thomas Stevenson, Melba, May Campbell, Charles Foster (lovely), Inspector, Marks Tey, and Mrs. Cuthbertson. Some tulips grown at Marks Tey were wonderfully clean, bright, and of grand size and substance, while collarette dahlias, pansies, and violas in pans completed a very fine display.

Capital blooms of Ulrich Brunner, Sunburst, Capt. Hayward, Frau Karl Druschki, Richmond, and Mrs. John Laing roses were sent by Messrs. G. Mount and Sons, Canterbury, and staged by them in some quantity. Mr. Elisha J. Hicks, Twyford, was also an exhibitor of good roses. Roses from Messrs. B. R. Cant and Sons were charming and fragrant, the cut blooms being backed by a selection of rambling varieties; Klondyke, the big white single Silver Moon, and the lovely pink Lady Pirrie commanded attention.

The collection of scented-leaved pelargoniums from Messrs. James Veitch and Sons, Chelsea, proved very interesting, and a source of much pleasure to the ladies; about thirty sorts were staged, each represented by about five neat plants of each kind. Fœocarpus reticulatus, with drooping, fringed white flowers, was beautifully shown by the Chelsea firm. Schizanthus Rosy Gem, with deep rose and maroon-blotched flowers, was shown in fine form by Mr. G. Craddock, gardener to Colonel the Right Hon. Mark Lockwood, Bishop's Hall, Romford. Lilacs, pyruses, rubus, cherries, kerrias, and other flowering shrubs from Messrs. Paul and Son, Cheshunt, proved very interesting.

Some lovely rhododendrons from Miss Mangles, Littleworth, Seale, Surrey, were greatly admired. R. Rose Queen (A.M.) has somewhat drooping flowers of a lovely rose-pink shade, the bloom about three inches long, and scented; R. Wrighti, with pale creamy-yellow bell-shaped flowers, carried on long pedicils in loose clusters (A.M.); R. Rose Mangles, and the red R. cinnabarina. Mr. Phillip Ladds, Swanley, showed Heliotrope The Speaker, a fine grower, with fragrant rich heliotrope flowers; stocks, pelargoniums, petunias, etc., came from the same exhibitor. Embothrium coccineum, rhododendrons, Fritillaria persica, Daphne cneorum, and primulas in variety, were shown among other things by Mr. G. Reuthe, Keston.

Mr. C. Engelmann, Saffron Walden, showed Sunstar, Lady Northcliffe, Carola, and Lady Meyer carnations in fine style. Messrs. Stuart Low and Co., Enfield, had a bold and distinct grouping of carnations, and their flowers of Cinnabar and Baroness de Brienen were very fine. Messrs. W. Wells and Co., Merstham, were other exhibitors of carnations, and they made a speciality of Benora and Northport. A selection of caladiums from new seedlings, such as Bayardo, crimson; Debutante, pink; Commander Peary, pink and red; Lieut. Shackleton, deep red and green; and Argus, of fine shape, pink and rose, with red veins.

Very pretty was Thunbergia Gibsoni, a warm-house climber, with brilliant clear orange flowers and large green and purple bracts, which gained an A.M. for Mr. W. van de Weyer, Smedmore House, Corfe Castle. Mr. J. Elliott, Hassocks, gained an A.M. for Rose Flora Mitten, a large-flowered single, deep blush variety, carrying its flowers in large trusses. Messrs. William Cutbush and Son, Highgate, presented a fine bank of polyantha roses in great variety, as well as hardy flowers, and a selection of carnations, in which the buff Mrs. W. Astor was very conspicuous, and Lady Shrewsbury, a lovely soft pink, with sweet and large flowers, gained the coveted A.M. Messrs. H. B. May and Sons, Edmonton, were represented by heliotropes, salvias, verbenas, and ferns.

Some good varieties of Iris germanica were brought over by Messrs. Goos and Koenemann, Nieder-Wallaf, Germany; Loheugrin, pale blue, and Walhalla, of darker shade, were some of the best. Messrs. Whitelegge and Page, Chislehurst, confined their attention to violas, and put up twenty-one baskets of plants, each basket containing one variety only; this set was much admired.

Among those who set up rock garden displays were Messrs. Bakers, Wolverhampton, whose Incarvillea Delavayi and the large-flowered golden Geum bulgaricum were notable plants.

Messrs. G. and A. Clark, Dover, had some bright hardy flowers; and Mrs. Lloyd Edwards, Llangollen, showed a fine lot of saxifrages in boxes and baskets, together with Anemone alpina grandiflora with flowers three inches across. Mr. H. Hemsley's rock garden contribution was a very interesting one, and contained a mass of the new Myosotis Marie Raphael, with a white stripe down each blue petal.

Mr. W. Miller, Wisbech, displayed violas, etc. Messrs. T. S. Ware, Lim., Feltham, presented a rock garden gay with aubrietias, saxifrages, and hardy orchids. The Wargrave Hardy Plant Farm, The Arcade, Liverpool Street, had a fine lot of hardy primulas, notably P. pulverulenta and the dainty P. involucrata. Messrs. J. Cheal and Sons, Crawley, arranged a rock garden with small shrubs, etc., and they had a beautiful set of Primula japonica carminata. Messrs. Carter Page and Co., London Wall, were represented by violas, annuals, and early dahlias. Miss Willmott, V.M.H. (gardener, Mr. C. Fielder, V.M.H.), Warley Place, Great Warley, showed the glowing tritoma Orange King.

ORCHID COMMITTEE.

The contributions to the meeting of this committee were comparatively few in number, but of much interest.

Mr. Macdonald, gardener to Sir George H. Kenrick, Whetstone, Birmingham, secured a Silver Flora Medal and Cultural Commendation for thirteen fine plants of Dendrobium Dalhousieanum, all carrying long, drooping panicles of buff, maroon-blotched flowers; these plants were all raised from one specimen secured a few years ago. A very large specimen of D. Dalhousieanum exhibited by Mr. Salter, gardener to Lord Lawrence, Chetwode Manor, Bucks, stood six feet high clear of the pot, and carried a dozen grand spikes. A Cultural Commendation was worthily awarded.

From the Orchid Nursery Company, Gateacre, came a small group of Lælio-cattleya Cowani, and other lælio-cattleya hybrids. A curious Lissochilus with yellow and green flowers, evidently a free grower, with spikes 3ft. to 4ft. high, was shown by Mr. W. van de Weyer, Smedmore House, Corfe Castle, Dorset.

From the Burford Lodge collection Mr. White, grower to Sir Trevor Lawrence, Bart., brought up a fine example of Brasso-cattleya Nivalis, with over thirty white flowers; Lælio-cattleya Fascinator-Mossiæ, with lovely purple lip (A.M.); L.-c. Fascinator, with six splendid blooms; and Odontoglossum crispum. Messrs. J. and A. McBean, Cooksbridge, staged Odontoglossum Phœbe splendens (A.M.), with flowers fully four inches across, the segments being much broader than in the usual forms of this graceful odontoglossum. Dendrobium Falconeri, shown by W. R. Lee, Esq., Plumpton Hall, Heywood, was especially fine, nearly a yard high, smothered in bloom, and in a 54-sized pot; from the same exhibitor came Odontoglossum Parlova, with deep maroon-purple flowers.

NARCISSUS AND TULIP COMMITTEE.

The displays of tulips submitted to this committee were numerous and of great excellence.

A particularly fine exhibit of Darwin and May-flowering tulips was arranged in very bold style by Messrs. Sutton and Sons, Reading, on a high four-tiered staging with a background of acers and bamboos. The flowers were very large, and the varieties, set up in groups of four bunches each, were most imposing. Particularly striking were the representations of Bacchus, Sunrise, Scarlet Emperor, Orange King, Clara Butt, Fairy Queen, Psyche, La Tristesse, Mrs. Stanley, Pride of Haarlem, Inglescombe Pink, and Philippe de Commines and Black Chief, two of the black tulips. Messrs. R. H. Bath, Lim., Wisbech, set up a fine lot of Cambridge-grown tulips, all Darwin and May-flowering sorts, tall, stately, and brilliant. There were about a hundred varieties, each represented by a good bunch of from a dozen to a score of flowers. A few varieties of outstanding merit were Salmonea, Mrs. Moon, Fairy Queen, Orange King, Suzon, Bleu Aimable, The Fawn, and Golden Goblet.

Tulips, almost entirely Darwin varieties, were capitally displayed in tall glass vases by Messrs. Jas. Carter and Co., Raynes Park. There were about fifty large bunches, and notable among the varieties were Mrs. Cleveland, Loveliness, Clara Butt, Mons. S. Mottet, the branching stemmed white tulip; Mrs. Moon, Gretchen, The Fawn, the lovely Inglescombe Pink, and the bold rose-pink Antony Roozen. Some splendid tulips from Messrs. Hogg and Robertson, Dublin, showed that the Irish climate had been more kind of late than our own, for the flowers were wonderfully clean; Biscuit, Millet, Pride of Haarlem, Fairy Queen, Rev. W. Ewbank, Inglescombe Pink, and Mrs. Moon were grand, and a vase of Iris lupina was as much admired as the tulips.

Mr. Christopher Bourne, Simpson, Bletchley, put up a score or so of vases of clean tulips that included such good yellow sorts as Bouton d'Or, Solfaterre, Mrs. Keighley, and Mrs. Moon. Messrs. R. Wallace and Co. submitted tulips associated with Japanese maples, and a selection of irises, the latter including a series of the regelia hybrids, with I. violacea, etc. Among the tulips Beauty of Bath, Chameleon, Jaune d'Œuf, Inglescombe Scarlet, and Grenadier were conspicuous. Messrs. Jas. Veitch and Son, Chelsea, presented Darwin tulips, and also a good selection of the gorgeous and interesting Parrot varieties.

Messrs. Barr and Sons, Covent Garden, filled a large space with a famous collection of tulips, a hundred and eighty varieties

being staged at the end of the hall; Inglescombe Yellow, Inglescombe Pink, W. T. Fish, Bouton d'Or, Louis XIV., King Harold, Salmon Prince. Velvet Gem, John Ruskin, Doris, and Flamingo were sorts we made special note of. Messrs. R. and G. Cuthbert, Southgate, set up well-grown tulips loosely in large vases, and staged a very representative collection.

Some of the very finest of tulips were those brought from St. Asaph by Mr. W. A. Watts. The blooms were very fine in size, form, and colour, but the varieties were somewhat limited, the finest being Clara Butt, Picotee, Suzon, King Harold, Pride of Haarlem, Baronne de la Tonnaye, The Fawn, Gesneriana lutea, and Inglescombe Pink. Other exhibitors of tulips were Miss Dixon, Edenbridge; Messrs. Fells and Son, Hitchin; and the Wargrave Hardy Plant Farm, The Arcade, Liverpool Street.

ROCK GARDEN COMPETITION.

Three competitors entered for the Clarence Elliott Cup offered for an exhibit of rock garden plants, and these were Sir Everard Hambro, Hayes Place, Hayes; Mr. E. J. Arbib, Martens Grove, Crayford; and Captain Treherne, Muirburn, Strathaven. Sir E. Hambro (gardener, Mr. Granfield) secured the cup for an arrangement in which Lewisia Howelli, Silene Hookeri, Saxifraga cochlearis, S. argentea, S. calyciflora, Asperula suberosa athoa, Haberlea virginalis, Jankea Heldreichi, Oxalis cuneaphyllo rosea, and Helichrysum bellidioides were the leading features.

CERTIFICATES AND AWARDS.

First Class Certificate.—To Pæony La Lorraine, from Messrs. J. Piper and Son, Barnes and Bayswater.

Award of Merit.—To Brasso-laelio-cattleya Veitchi, The Dell var., from Baron Bruno Schröder (gardener, Mr. Shill), The Dell, Egham; to Odontoglossum Phœbe splendens, from Messrs. J. and A. McBean, Cooksbridge; to Lælia-cattleya Fascinator Mossiæ, from Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking; to Heliotrope The Speaker, from Mr. Phillip Ladds, Swanley Junction; to Carnation Lady Shrewsbury, from Messrs. William Cutbush and Son, Highgate; to Rose Flora Mitten, from Mr. J. Elliott, Hassocks; to Aster Purdomi, from Messrs. James Veitch and Sons, Chelsea; to Thunbergia Gibsoni, from W. van de Weyer, Esq., Corfe Castle; to Rhododendron Rose Queen and R. Wrighti, from Miss Mangles, Littleworth, Seale, Surrey; and to Tulip Massanet, from Messrs. R. H. Bath, Lim., Wisbech.

MEDALS.

Silver-gilt Flora.—To Messrs. Dobbie and Co., Edinburgh, for sweet peas, etc.; to Messrs. G. Mount and Sons, Canterbury, for roses; to Messrs. Sutton and Sons, Reading, for tulips; to Messrs. J. Carter and Co., Raynes Park, for tulips; to Messrs. Hogg and Robertson, Dublin, for tulips.

Silver-gilt Banksian.—To Messrs. William Cutbush and Son, Highgate, for roses and carnations; to Messrs. Barr and Sons, Covent Garden, for tulips; to Messrs. R. H. Bath, Lim., Wisbech, for tulips, and to Mr. W. A. Watts, St. Asaph, for tulips.

Silver Flora.—To Sir G. Kenrick (gardener, Mr. Macdonald), Whetstone, Birmingham, for dendrobiums; to Mrs. Lloyd Edwards, Llangollen, for saxifrages; to Mr. G. Reuthe, Keston for rare shrubs, etc.; to Messrs. James Veitch and Sons, Chelsea, for pelargoniums, etc.; to Messrs. R. Wallace and Co., Colchester, for tulips; to Messrs. R. and G. Cuthbert, Southgate, for tulips.

Silver Banksian.—To Messrs. Dobbie and Co., Edinburgh, for tulips; to Messrs. J. Veitch and Sons, Chelsea, for tulips; to Mr. C. Bourne, Bletchley, for tulips; to Messrs. B. Cant and Sons, Colchester, for roses; to Mr. C. Engelmann, Saffron Walden, for carnations; to Mr. A. Hemsley, Crawley, for alpines, etc.; to Mr. P. Ladds, Swanley Junction, for greenhouse flowering plants; to Messrs. Stuart Low and Co., Enfield, for carnations; to Messrs. H. B. May and Sons, Edmonton, for greenhouse plants; to Messrs. Paul and Son, Cheshunt, for flowering shrubs; and to Mr. Charles Turner, Slough, for caladiums.

Bronze Flora.—To Messrs. J. Cheal and Sons, Crawley, for rock garden; to Messrs. Fells and Son, Hitchin, for hardy flowers; to Colonel M. Lockwood, M.P., Romford, for schizanthuses; to Messrs. Reamsbottom and Co., Geashill, Ireland, for anemones; to Wargrave Hardy Plant Farm, Arcade, Liverpool Street, E.C., for alpines; to Messrs. Whitelegg and Page, Chislehurst, for violas.

Bronze Banksian. — To Messrs. Carter Page and Co., London Wall, for violas and annuals.

Scottish Horticultural Association.

The monthly meeting of this association was held at 5, St. Andrew Square, Edinburgh, on the 6th inst. Mr. King, the president, was in the chair, and there was an attendance of eighty-five members.

The evening was an open one, and questions relating to the production of young potatoes at Christmas from tubers which had not been allowed to sprout (of which authenticated cases were given); the production of blue colour in the flowers of hydrangea; the question: "What is a hardy exotic plant, as defined in Flower Show schedules"; and questions relating to the cultivation of the soil, fruit growing, and other matters were discussed.

The exhibits were: New aubrietias, exhibited by Mr. F. Baillie, Liberton; calceolarias, sweet peas, and collarette dahlias, exhibited by Messrs. Dobbie and Co., Edinburgh; new auriculas, exhibited by Mr. John Fraser, The Old Manse, Inverkeithing; Deutzia crenata magnifica, and D. crenata latifolia, exhibited by Mr. A. Porter, Davidsons Mains; and vegetables and new strawberry, Liberal, exhibited by Mr. James Scarlett, Sweethope. Messrs. Dobbie and Co., Mr. Porter, and Mr. Scarlett were awarded cultural certificates for their exhibits.

At the meeting on June 3, Mr. R. K. Brown, Dunnikier Gardens, Kirkcaldy, will read a paper on "Soil Knowledge."

The Alpha No. 3 obtained First Award for Hand Sprayer at the R.H.S. Trials, Wisley, April 23rd, 1913.

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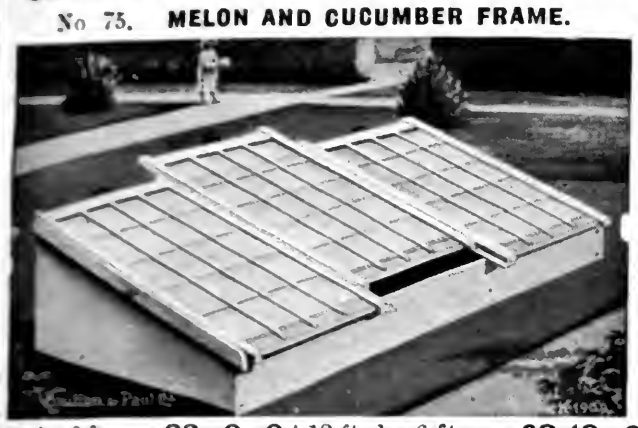

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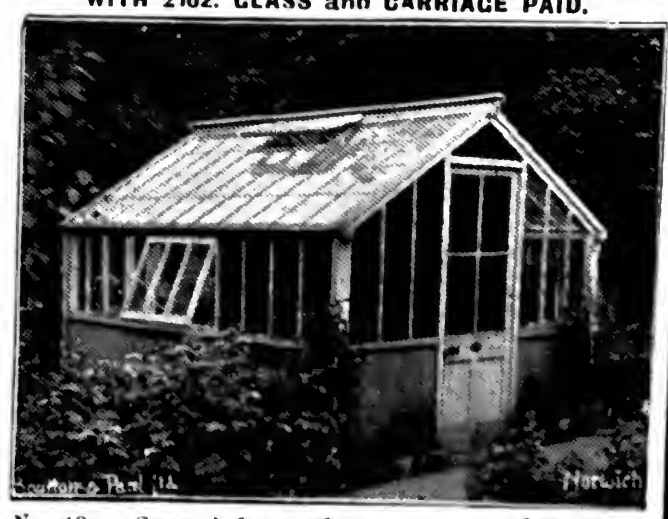

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ORCHIDS: THEIR POPULARITY AND CULTURE.

The following is the text of a lecture delivered before the Bath Gardeners' Society recently by Mr. H. Alexander, orchid grower to Lieut.-Colonel Sir George Holford, Westonbirt, Tetbury, Gloucester.

The cultivation of orchids, commencing over a century and a-half ago, has always been an extremely attractive subject, for among these plants we have the most exquisitely curious and beautiful of all Nature's productions. The extraordinarily formed flowers are rich in every shade and blending of colour; some of them possess a fantastic appearance, and often emit the most refreshing and delicate odour.

Orchid growing was at one time looked upon as exclusively the privilege of the few, and as a craze. This, like many of the old ideas associated with the cultivation of these interesting plants, was, as seen in the light of present-day knowledge, very extraordinary. Formerly, there were several reasons which caused many who admired them to hesitate before undertaking their cultivation. The high price which nearly all the showy kinds commanded was in itself a serious matter, to say nothing about the uncertainty that existed as to their growing, after large sums had been spent in procuring them. In the early days, orchids, as soon as received, were placed in houses where a hot, steamy atmosphere, without ventilation, was maintained at all times, a method adopted to imitate the damp, close jungle in which all tropical orchids were then supposed to have their home.

It was towards the middle of the nineteenth century that a change of system in growing orchids under artificial conditions was brought about by Joseph Cooper and Donald Beaton, two of the ablest and most scientific gardeners in this country in those days. These cultivators, grasping the truth in the direction that more attention should be paid than hitherto to the climatic conditions under which orchids grow at the various altitudes in the tropics, adapted their cultural treatment accordingly by commencing to keep a more reasonable temperature, and admitting fresh air into the houses. Somewhere about the same time Mr. Paxton, afterwards Sir Joseph Paxton, adopted a similar treatment and an improved method of potting, with special regard to efficient drainage and extra attention to root development. These were the chief deviations from the established practice, and in them we see the approach to the cultural routine of the present day. Another change that had an enormous influence on the cultivation of all plants under glass, and contributed in no small degree to the improvement and extension of the cultivation of orchids, was the heating of glass-houses by means of the hot-water system. Then followed the modern plant house with the improved methods of ventilation and means for the promotion of humidity.

How to popularise orchid growing has for many years past occupied the minds of those who have been associated with these plants. Neverthless, one could scarcely expect much advance in this direction until a fair idea of their modest needs became more widespread than hitherto. For upwards of a quarter of a century there has been much evidence forthcoming as to the right and wrong methods of culture, and I venture to say there is no branch of modern horticulture that exhibits such wonderful progress as the cultivation of orchids. Their popularity to-day is greater than any other class of plants that require to be grown under glass, and the ranks of their admirers are ever increasing. Who will say that their popularisation is not still in its very infancy? The Royal Horticultural Society, without doubt the leading society of its kind in the world, has recently erected at Wisley a very large and elaborate structure for the cultivation of orchids. This fact alone is of sufficient evidence to one and all of the popularity of orchids, and of the importance that every gardener must in these days have a good knowledge of their cultivation. All students at Wisley thus have every facility for acquiring proficiency in the art. The good and necessary example set by the society should encourage the formation of collections, large or small, and all gardeners should study the nature of these plants in order that they may be fully prepared in case of necessity.

It is by no means necessary to have a complete range of greenhouses before embarking on orchid culture. Anyone wishing to add grace to the ordinary run of greenhouse plants will find one or two houses amply sufficient to successfully grow a very large and representative collection of beautiful orchids. In forming a small collection, I always advise keeping to the best known and easiest grown kinds, selecting them to suit the house they are to be grown in. For example, it is useless to try to grow cattleyas and odontoglossums under similar conditions. Both are of fairly easy culture, and essentially orchids for the small collector if arranged in a suitable house and temperature. If only one house is devoted to orchids, I would always advise keeping this at an intermediate temperature, that is, a minimum winter temperature of 50 to 55 degrees by night and 55 to 60 degrees by day, these figures to rise in summer 5 degrees by artificial heat, and up to 80 degrees when the sun is bright. In this temperature it is possible to grow a great variety of orchids, including some of the showiest and most beautiful kinds in existence.

(To be continued.)

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

DISEASED LEAVES OF CLERODENDRON FALLAX.—J. M. S., Chew Magna: I shall be glad if you will explain the dirty patches on the leaves of Clerodendron fallax I send herewith. I had the same trouble last year, and have used strong insecticides without effect.—The patches are due to the presence of one of the fungi, and the damp, moist surroundings in which the plants are growing facilitate the spread of the disease. Spray the plants occasionally with a weak solution of sulphide of potassium, and at intervals dust affected parts with flowers of sulphur.

REPOTTING A CACTUS.—S. R., Aylesbury: Some time ago you were kind enough to reply to me concerning a root-bound cactus. I now send a piece of growth. The flowers are white, and the plant is about to flower. Can I divide and repot specimen safely?—The plant is a phyllocactus, but what species or variety we cannot state. After the plant has flowered it may be divided, but the work should be done with great care, and it is desirable that every portion carries a supply of roots. Use comparatively small pots, as phyllocacti dislike overpotting; well drain the pots, and use a

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

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who will give the matter immediate attention.

compost of fibrous loam, some old decayed manure, and some crushed old mortar or lime rubble. A handful of wood ashes may be added with advantage. Pot firmly, and keep the plants shaded and in a closer, moister position than usual until the roots have taken a good hold upon the new soil, when more light and more ventilation must be given until they are exposed to full light. All cacti love plenty of bright light and sunshine.

"KEW BULLETIN."—C. D. J., Nottingham: Kindly tell me where I can obtain the "Kew Bulletin"; I believe this publication frequently deals with Colonial matters, therefore I should like to obtain it.—The "Kew Bulletin" can be obtained through any newsagent, or from Wyman and Sons, Fetter Lane, London, E.C.

NECTARINES DROPPING. — H. R., Leatherhead: Having been a reader of The Gardeners' Magazine for about twenty-five years, I venture to ask your opinion concerning the dropping of nectarine fruits, examples of which I enclose. I have had charge of the trees for fourteen years, and have always had excellent crops of quite exhibition-sized fruits. This season the trees have been treated in precisely the same manner as hitherto. The house is a hip-span, facing south, with inside border. The latter was mulched in the winter with cow manure. The trees started to bloom before heat was turned on, and the temperatures have been kept even, beginning with 40 degrees, and lately 55 degrees on mild nights with a corresponding rise by day, with air top and bottom; so I feel sure there has been no check. Last year the trees carried heavy crops, and I have never before had any difficulty during the stoning period. Last season, when the fruits on some of the trees were ripe, my employers were away, and so I shaded the house to keep the fruits until they returned. Perhaps this, and the sunless autumn weather, may have been the cause of our present trouble. Any help you can afford will be greatly appreciated. I may add that a little lime is sprinkled on the border occasionally previous to watering with rain water.—There is nothing whatever in the full-sized leaves, the fruits and the growths sent, to suggest the cause of the loss of crop by the fruits dropping. Stoning is often a troublesome period, but as there has been no trouble in this direction previously, it is difficult to account for it now. We can only suggest that the shading last year, coupled with the cool, sunless autumn, kept the wood from ripening properly; a heavy crop kept on the trees as long as possible would also retard ripening of the wood. Give the borders a good dressing of lime or old plaster rubbish, and proceed with your usual excellent methods to secure well-ripened growth for the sext season's crop; the circumstances have been unusual this year.

BLISTERED VINE LEAVES.—G. R., Cray: I am enclosing leaves of Alicante vine which show some blisters. Kindly tell me the cause and remedy. Ours is a small span-roofed vinery with four pairs of vines, representing four varieties. The fellow cane to the one with blistered leaves shows no sign of any trouble. The border is an inside one, and the vines have been planted about six years.—The weather has had a great deal to do with the blistering. Bursts of sunshine have played upon the leaves while they were very sappy and soft. The use of a little more fire heat during dull weather, accompanied by sufficient ventilation to provide a fresh, brisk atmosphere, will work wonders. Probably the vine affected was overcropped last year, or its position may be such that it receives more moisture than the others; in any case, it is not in such good health as the rest of the vines, and this is due to some local cause. Remove the badly affected leaves, and dust any that show blistering with flowers of sulphur, so that mildew or mould may not develop. The real cause of the mischief can only be ascertained by close observation.

PRIMROSES.—C. P., Linwood: The primrose of which you send us flowers is very fine, but it does not appear to be sufficiently distinct from some that are already in cultivation to justify it receiving a distinctive name. It is not, however, possible to determine the merits of primroses or other flowers from two or three blooms, and we suggest that you submit a dozen or so of well-grown plants to the Royal Horticultural Society's Floral Committee in the spring of 1914. It should certainly be taken care of.

COLLARETTE DAHLIAS.—M. W., Basingstoke: I propose to plant some of the collarette dahlias this season, and should be glad if you will suggest a good dozen varieties, and where I can obtain them.—You can obtain collarette dahlias from any of the nurserymen who advertise in our columns. In this new group considerable difficulties arise when a selection is desired, as so much depends upon personal taste. However, the following are all good: Betty, heliotrope, white collar; Corbeille de Feu, bright orange-terra cotta, yellow collar; Diadem, rosy pink, white collar; Diamant, deep rose, pale rose collar; Gallia, crimson, with creamy edge and collar; Grand Papa Charmet, rich crimson, creamy collar; Henri Farman, yellow, shaded red, creamy collar; Leitstern, dark crimson, white collar; Mdme. Poirier, blush-purple, white collar; Maurice Rivoire, deep crimson, white collar, a fine garden dahlia; Souv. de Chabane, vivid yellow, crimson shaded, with yellow, white-tipped collar; and Souv. de Bernardeau, old rose.

NAMES OF PLANTS.

F. E. S., Bletchley.—1, Primula involucrata; 2, Saxifraga cæspitosa; 3, Erysimum rupestris.

A. A., Exeter.—1, Cheiranthus Marshalli; 2, Polypodium Dryopteris; 3, Thalictrum flavum; 4, Calceolaria Clibrani; 5, the double form of Saxifraga granulata.

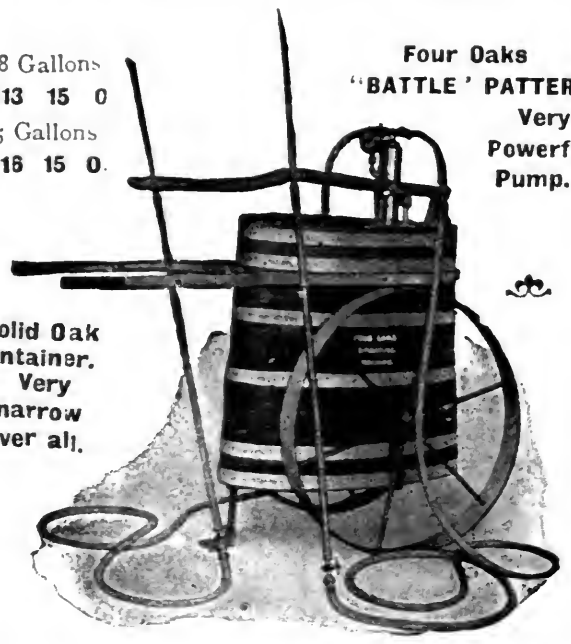
S. P. R., Aylesbury.—1, Arenaria montana; the viola looks very much like the old Cleveland Purple, but is probably a slight colour reversion from a named sort, or a seedling.

E. T., Beaumaris.—1, Desfontainea spinosa; 2, Cassinea fulvida (or Diplopappus chrysophyllus); 3, probably Olearia stellulata, send again in autumn; 4, Berberis Wallichiana; 5, a form of Arbutus hybrida; 6, Pittosporum Tobira.

P. B., Rugby.—1, Acalypha Macafeeana; 2, send when in flower; 3, Mahonia aquifolia; 4, Euonymus radicans variegata; 5, a form of Caragana arborescens; 6, Tiarella cordifolia; 7, a Sedum, probably S. lydium, send when in flower.

Spraying.

One of England's leading Fruit Growers says: "I consider the 'Four Oaks' Spraying Machine, **'Battle'** Pattern, to be **the only** practical machine on the market."



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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS, AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

Date. 1913. May 4 to May 10.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 4—Sunday	—	43	42	51	42
,, 5—Monday	2 42	48	48	58	44
,, 6—Tuesday	2 12	52	49	54	44
,, 7—Wednesday	4 54	48	46	55	35
,, 8—Thursday	—	48	47	53	47
,, 9—Friday	0 12	51	49	56	48
,, 10—Saturday	12 15	55	50	60	46
Means	(total) 22 15	49	47	55	44

Date. 1913. May 4 to May 10.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
May 4—Sunday	0·41	52	51	49	40
,, 5—Monday	—	51	50	49	39
,, 6 Tuesday	0·01	52	50	49	35
,, 7—Wednesday	0·08	50	50	49	24
,, 8—Thursday	0·11	52	50	49	41
,, 9—Friday	0·01	51	50	50	41
,, 10-Saturday	—	52	50	49	35
Means	(total) 0·62	51	50	49	36

FORTHCOMING ENGAGEMENTS

NEXT WEEK.

TUESDAY, May 20.—Royal Horticultural Society's Great Exhibition in the Royal Hospital Gardens, Chelsea; opens at 12 noon.

WEDNESDAY, May 21.—Chelsea Flower Show, continued; admission from 7 a.m. to 8 p.m.

National Tulip Society's Exhibition in connection with the Chelsea Show.

Devon County Show, at Barnstaple; three days.

Royal Meteorological Society's Meeting.

Kew Guild Annual Dinner at the Holborn Restaurant at 6.45 p.m.; dinner at 7.30 p.m., Mr. William Goldring in the chair.

Perpetual Carnation Society: Dinner at the Holborn Restaurant.

THURSDAY, May 22.—Chelsea Flower Show, concluding day; admission from 7 a.m. to 6 p.m.

SATURDAY, May 24.—Linnean Society's Anniversary Meeting.

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VOL. LVI.—No. 3,108. SATURDAY, MAY 24, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Horticulture at Chelsea.

There is no occasion for surprise that the great horticultural exhibition, which during the past week brought in their tens of thousands gardening experts and garden lovers to Chelsea, should have created interest of a quite exceptional character. Such is the reputation of the Royal Horticultural Society that no doubt arises in the public mind as to whether an exhibition held under its auspices will be successful. But the Chelsea show represented a quite distinct advance on the part of the society, and it came into comparison not only with the many exhibitions that have been held for a long series of years in the gardens of the Inner Temple, but with the great international gathering at Chelsea last year. This comparison it has borne in a manner that has justified the anticipations of the most sanguine, and the exhibition may without hesitation be recorded as one of the most complete of the many successes the society has achieved in the course of its many-sided activities during the past quarter of a century. As compared with the Temple shows, extensive, interesting, and attractive as they unquestionably were, the Chelsea show evinced such an immense improvement in every particular upon them as to give rise to a feeling of unbounded satisfaction to the visitors, whether Fellows or otherwise. The area of the exhibition was fully three times as large as the most extensive of the shows within the boundaries of the City, a point of some importance; but still more important is the fact that visitors could move about freely, and with some degree of comfort. Great as was the additional space provided both for exhibitors and visitors, it was by no means in excess of requirements, for exhibitors were heard complaining of their failure to obtain all the room they had applied for, and the huge tent became decidedly crowded at certain hours, even on the opening day, when the charge for admission was comparatively high. To moderate crowding no serious objection could well be taken, and it is a distinct asset to a society, inasmuch as comparatively few members of the general public care for thinly-peopled exhibitions, whether horticultural or otherwise. Notwithstanding this fact, it would probably be well on the occasion of future exhibitions to increase the tent by at least one span, and add two or three feet to the width of the gangways. Comparisons were very freely instituted by the many visitors between the exhibition of the past week and the international gathering of last year, and by no means to the disadvantage of the first of the two. It was not on so large a scale, as indicated by the fact that the whole of the exhibits were arranged in the Royal Hospital grounds under canvas, or in the open, and that the area of the tent was less. The exhibition in the big tent was, however, larger in proportion to the area of canvas than was that of last year, the additional accommodation being obtained by the reduction of the space allotted the visitors, which, as already mentioned, appeared to have been carried a trifle too far, especially on the western side of the tent, where the tables are arranged in parallel rows. Of the various classes of plants and flowers that were shown we have, with but trifling exceptions, nothing but praise. All that are available for exhibition at this time of year were shown in a condition at least equal to that of similar kinds contributed to last year's exhibition, and they were, as a whole, arranged with much greater taste. The improvement in the latter respect was evidenced both in the general scheme and in individual grouping, and we are in accord with the consensus of opinion as to the greater attractiveness of the exhibition. As so well shown in the comprehensive and otherwise admirable report that appears in another part of the present issue, one of the most beautiful and interesting of the many features was that formed by the wondrous display of orchids. In the method of presenting orchids to public notice our cultivators are far in advance of those who give their attention to these plants in other parts of the world. Much as we should like to see some reduction in the height of arrangements of orchids, we do not suggest that exhibitors should have restrictions placed upon the exercise of their taste. Roses were exhibited in much larger numbers than usual, and the numerous groups formed a series of object-lessons of much value in the use of the rambling roses, in their diversity of training, for decorative purposes. It might also have been seen how much better is the effect produced when standard and pyramidal specimens of both rambling and climbing polyantha roses are associated with an undergrowth of the hybrid teas, than when the carpeting is formed with dwarf varieties having small flowers. As in the case of orchids, nowhere are roses so tastefully shown as in this country, and the same is true also of carnations, which constituted a delightful feature, in which skilful development of the individual blooms and tasteful arrangement were happily combined. Hardy trees and shrubs were somewhat unequal, a fact that is not surprising considering the difficulty that is experienced at this season of the year in exhibiting any considerable number of those remarkable for the beauty of their flowers at the same time. Mollis azaleas and a considerable number of hardy rhododendrons may now be had in perfection, and the several bold groups produced a brilliant effect. Clematis were

MR. H. NAYLOR.

also finely shown, but in some cases miscellaneous flowering shrubs were not specially attractive, owing in part to the plants not having attained to a very high degree of development, and in part to their being too crowded. It was rather too early for the occupants of the herbaceous border to be shown on an extensive scale, but several good collections were exhibited, and there was a surpassingly beautiful display of alpine flowers in the numerous rock gardens that formed so delightful a feature on the southern side of the grounds. Considering the heavy outlay involved in the formation of such gardens, the enterprise of exhibitors is deserving of much praise; as, indeed, is that of the majority of those who contributed so liberally of the products of their skill. If we may add a further word or two of criticism, it would be in reference to the poor approach to the exhibition from the Embankment gate. Surely not a few exhibitors would have been willing to incur considerable expense to do the most of the beautifying of such approach after the bulk of the cartage is finished, on the eve of the show. Then too, at the hospital end of the tent, packing-cases were very much in evidence, and detracted from that finish we expect at a great exhibition of this kind. Another year it may be possible to arrange the horticultural sundries together apart from the plants and flowers. We are glad to be able to record that fine if not brilliant weather was experienced during the first two days. Queen Alexandra paid a visit early on Tuesday, and expressed great pleasure in all she saw, and ere the day had run its course the society had set up a new record of attendance and takings for a "first day."

Mr. H. Naylor, head gardener to Lady Battersea at The Pleasaunce, Overstrand, Cromer, is still a young man, but he has crowded just about as much horticultural experience as possible into his life. He has charge of one of the most delightful, and, at the same time, most unique of gardens, one designed very largely by the late Lord Battersea, so close to the sea that many people thought the position an impossible one for a good garden. By means of clever shelter, planting conditions have been provided which, added to skilful culture, have made The Pleasaunce one of the most successful gardens in the country. Mr. Naylor commenced his horticultural career in his uncle's nursery at Harrow. From Harrow to Tring Park was an easy migration; here he spent four years under the late Mr. Hill, and then took service at Effingham Hill House, near Dorking, under Mr. A. Alderman. After eighteen months at Effingham and three years at Aldenham House Gardens, under Mr. E. Beckett, he became foreman to Mr. Tidy at Stanmore Hall, Middlesex, where he stayed three years before taking his first appointment as head gardener to the late Mrs. Macdonald, at Preston Manor, Brighton. The Harrow district seems to have had a peculiar attraction for Mr. Naylor, for, after two years at Brighton, he took charge at Piggott Manor, Elstree; the late J. M. Hughes, Esq., leased Piggott Manor, and subsequently purchased Harrow Weald Park, and to this larger charge Mr. Naylor was transferred after three years at Piggott Manor. Four years at Harrow Weald Park concluded his preparation for The Pleasaunce, where he has done such excellent work during his six years of office.

Odontoglossum crispum Princess Mary.—On Thursday, the 15th inst., Messrs. William Bull and Sons had the honour of attending by Royal command at Buckingham Palace for the purpose of showing Princess Mary the beautiful new odontoglossum dedicated to her Royal Highness, which we illustrated in our issue of the 10th inst.

Mothers' Day Celebration.—For several years past Mothers' Day has been celebrated in the United States and Canada, usually on the second Sunday in May, when everyone is expected to write or go to see his or her mother, and wear a coloured flower, while, if the mother has passed away, a white flower is worn, and flowers are laid upon the grave. An effort is being made to institute such a celebration in our own country, and it deserves the support of everyone, and particularly of florists and lovers of and workers among flowers. The Y.M.C.A. is moving in the matter, and held a celebration at the headquarters, Tottenham Court Road, on Sunday last, but the movement is not confined to any one sect or body, though in its initial stages it is being confined to men. What do our readers think of the Mothers' Day idea?

Royal Gardens at Athens.—The King of Greece is having new gardens formed, and the old gardens remodelled in connection with the Royal residences at Athens, and the work of designing the former and the remodelling the latter has been entrusted to Mr. A. Prentice Mawson, the son of Mr. T. H. Mawson, the well-known garden architect.

Protection from Fire at Truro Show.—The fire protection arrangements at the Bath and West of England show, which will be held at Truro during the coming week have been entrusted to Messrs. Merryweather. An equipment of motor and horse fire engines will be installed at their fire station in the exhibition ground, and fire-main piping will be laid down with hydrants fixed at various points. The fire protection equipment will be in charge of a detachment of the Merryweather fire brigade. The firm will exhibit several new steam and petrol-driven pumps for water supply, fruit tree spraying, etc.

Cambridge Readership in Forestry.—Mr. William Dawson, lecturer in forestry in the University of Aberdeen, has been offered by the General Board of Cambridge University the appointment of Reader in Forestry at Cambridge University, in succession to Mr. A. Henry—the position being that of head of the Forestry Department of the University. Mr. Dawson, who is a native of the city of Aberdeen, has had a good record. He holds the M.A. and B.Sc. degress of Aberdeen University, and is considered one of the leading experts in this country on the subject of forestry. Under his skilful supervision the Forestry Department of Aberdeen University has made remarkable progress during the six years he has held the lectureship. As a student at Aberdeen University Mr. Dawson met with much success, gaining prizes in botany, zoology, economics, and agriculture. He was also elected to a Carnegie Scholarship, and subsequently to a Fellowship for study abroad. He went to Germany and Austria, and devoted himself to the study of forestry in the Forestry Academy at Tharandt, Saxony, and also at Munich, studying specially under Professors Neger, Neumeister, and Mayr. On his return home he was appointed to his present post, that of lecturer in forestry at Aberdeen University. There is reason to believe that the Readership in Forestry at Cambridge will, within a short time, be raised to a Professorship.

Flora of Shikotan.—To a recent meeting of the Linnean Society Dr. Hisayoshi Takeda contributed an interesting paper on the flora of Shikotan, the most southern of the Kurile Islands, which are between Kamtschatka and Yezo. Shikotan contains a number of high hills, and a considerable proportion of these are covered with coniferous and deciduous trees, others with dwarf bamboos. The vegetation of this island is in a quite primitive state. The number of the higher plants known to Dr. Takeda is 324, and belong to 213 genera and 62 families, of which 245, including eight new species, are new to the flora of this island, while 136 species are not mentioned in Miyabe's "Flora of the Kurile Islands," and 58 genera and eight families are additions to that work. Among plants which are common to Shikotan and Yezo, but not found in Saghalien, there are a number of plants which are distributed over North-eastern Asia.

Sheffield Botanical Gardens.—For some time past the beds and borders in these gardens have been resplendent with the rich and varied hues of early-flowering tulips, and the brilliant display of colour produced by the 20,000 or more plants have proved immensely attractive to the visitors. The principal varieties represented in the Sheffield Botanical Gardens are Belle Alliance, Cottage Maid, Grace Darling, Mon Tresor, Prince of Austria, Proserpine, Purple Crown, and Standard Royal. Mr. J. Bennett, the able curator, may be heartily congratulated on the success he has achieved in the arrangement of the colours.

Forest Trees and their Seedlings.—For some years past Dr. Zederbauer has been conducting a series of experiments at Mariabrunn, with a view to determine the influence of forest trees on their progeny. The trees used in the experiments were those of the Scots Pine. The results show that individual variations amongst trees depend partly upon the character of the situation and partly upon innate characteristics. Seedlings from trees possessing open crowns are faster growing than those from trees with more compact crowns. The average height of the former type of seedling at six years of age was 3ft. 9in., that of the latter 2ft. The age of the seed tree has a distinct influence upon the seedlings, which were about 6in. higher when raised from seed of young trees than when the seeds were obtained from old trees of the same habit. Seedlings raised from a vigorous Scots pine were free from leaf cast (Lophodermium pinastri), while the seedlings from a weakly tree of the same age were much injured by the fungus.

Amenities of Surrey.—Mr. J. St. Loe Strachey, of Newlands Corner, has presented a petition to the Surrey County Council urging the formation of an Amenities Committee, to which all public schemes undertaken by any public local authority within the county should be referred for its direction and advice. This reference is regarded as especially desirable in order that the committee may make recommendations as to the way in which contemplated improvements and developments can best be carried out without injury to the natural beauties, rural amenities, and architectural and historic monuments. The petition further suggests that the Amenities Committee shall appoint district committees, which shall appoint parish committees or individual representatives in every parish.

TOMATOES OUT OF DOORS.

Tomatoes in the open air are admittedly a most precarious crop, and their success or failure depends essentially on the nature of the climatic conditions that are experienced. Two years ago we had practically ideal weather for outdoor tomatoes, and some excellent crops were secured in many gardens. However, if we leave out of consideration the uncontrollable influence of the climate, there is no doubt that careful and judicious handling of the plants, especially when they are in their earlier stages of growth, goes a very long way towards ensuring success in this culture.

Preparing the Plants.

Chief of all things, perhaps, is the necessity for having the plants forward and in active growth as early as possible in the season, so that they may be sufficiently advanced in growth and hardened in constitution to be ready for putting out at the first favourable opportunity. This will not occur until all danger of their being cut back by frost has passed. But, while urging the necessity for hardening off the plants early in the season, it must be borne in mind that if this is overdone, the plant's growth is restricted, and it will become starved and weak in consequence. Nothing must be done that would tend to check their free and active growth in this manner, for under such conditions, it would be a long time before they could recover sufficiently to recommence active and vigorous growth, however favourable may be the soil and the method of preparing it for their reception.

Unfortunately, growers do not always give proper attention to soil conditions in open-air tomato culture. Frequently, the mistake of placing healthy and forward plants in heavy, retentive soil is made. The temperature of the soil under such circumstances is invariably low—much too low for the tomato plants, and there is, moreover, scarcely anything to encourage healthy root action. So, the plants cannot make headway, for this vigorous root growth is absolutely essential if they are to develop a strong and sturdy habit early in the season. Therefore, in preparing a soil which is naturally heavy and retentive, and lacking in a sufficient proportion of humus, there is no better plan than that of working in the ground a mixture of thoroughly well-decayed manure and leaf-mould, to which a little sand has been added.

The better the rooting medium for tomatoes the more forward and vigorous will be the growth of the plants. Yet, at the same time, it is more advisable to keep the roots well to the surface rather than run any risks of a low soil temperature; afterwards they may be earthed up and given a top-dressing of some suitable material. It must be remembered, however, that where the roots are kept near to the surface and the plants so exposed during periods of drought, there is a greater risk of flagging, due to lack of moisture. Here it is essential to give waterings through the surface mulchings.

Planting.

Well hardened tomato plants should be ready for planting out by the end of May or early in June, when they should be upwards of 6 or 7in. in height. They must have plenty of air during the day, closing the frames early and protecting with straw or matting if the plants are at all tender. Soft plants sometimes do well after being planted, but more often than not a touch of cold weather crops up in June, and checks them very severely, so that in some cases they are killed altogether. If the plants are standing thickly in the frames, ready for planting, it is very essential to prevent their rooting through into the medium on which they are standing; otherwise there will be a serious check when they are eventually moved. For planting, failing walls or fences, the rows should be marked out 18in. apart, and the tomatoes planted with a trowel at 16 or 18in. apart in the rows, a good watering being given after planting to complete the work.

Training.

Some growers use sulphate of iron for outdoor tomatoes, this fertiliser being finely ground and used at the rate of 1lb. to the pole, the manuring being done before the plants are put out. If the soil generally bears an unusually good crop of tomatoes, it is well to make the rows somewhat wider apart, placing a 5ft. bamboo cane for each plant as it is set out. Then a tightly-stretched wire can be tied to the canes at a height of 4ft. Only two or three trusses should be allowed on plants growing in soil not particularly favourable or productive of a good bearing crop of outdoor tomatoes, and then the plants should be stopped for good. Peat moss manure makes an excellent mulching for the plants as soon as they have been put out, and if this material has been well heated it should be given as a surface mulching as soon as the water given

STYRAX WILSONI.

A distinct and beautiful Chinese species of small growth, and bearing a profusion of white flowers. A.M., R.H.S., May 2. Miss Willmott, V.M.H., Great Warley.

to the newly set out plants has soaked in. There will then be little need for a further supply of moisture for some time to come.

Of course, the plants must be kept to one stem only, and great care must be exercised in staking, and finally in pinching back the growth so that the strength of the plants may be restricted. The top of the main stem must be pinched out when it is as high as the stake.

Spraying.

Spraying is particularly important work in outdoor tomato culture. It should be commenced from the first, with the idea of keeping away disease, or preventing it from developing if it is present in an inactive condition in the plants. A good Bordeaux mixture is about the best material for this purpose. In the case of the much-dreaded sleeping disease, where the leaves droop successively from the base upwards, increasing daily, and sometimes accompanied by discoloration, it is essential to remove any plants that show the disease and burn them at once. The soil in which they have been growing should also be sterilised with quicklime. Potato disease is a likely menace to tomatoes growing in the open, and in seasons when there is much of this disease about constant attention must be given to spraying. No other method is available for preventing attack by potato disease, Bacillus botrytis, Peronospora omnivora, Sclerotinia sclerotiorum, Fusarium Solani, Fusarium Lycopersici, and Curl, or Macrosporium Solani.

Varieties.

The old-fashioned Magnum Bonum tomato was grown very extensively years ago in the open ground, but now it appears to be somewhat out of date; yet at the same time it is difficult to beat for cropping and quality of fruit, and the individual fruits are probably heavier than those of any other variety. Sutton's Magnum Bonum is, in my experience, one of the best early varieties, and sets its fruit very freely. In selecting any variety of tomato for open-air culture, the most important thing to bear in mind is its constitutional characteristics. Some kinds possess the hardiness and strength of constitution, which fit them for exposure in the open, but others do not, and it is in selecting well-known varieties belonging to the latter class that so many growers made mistakes in outdoor tomato culture. Almost every nurseryman has his own special strain of outdoor "toms," and, as an example, Laxton's Open Air is still one of the best smooth-skinned varieties. It fruits most abundantly when carefully tended, and produces immense clusters of medium-sized good-flavoured fruit. In Jersey, Dreadnought is a popular open-air tomato, but one does not need to go into details; almost every experienced grower of outdoor tomatoes swears by his own particular strain, and nothing could be better, for he knows that it gives him the best results under certain conditions, and his experience in this direction does not tempt him to make any changes. J. C. Newsham.

Climbing French Beans.—This type of bean is not so widely cultivated as its merits deserve; its cropping powers are enormous, and carried over a considerable period, under proper treatment. A sowing in well-prepared trenches may now be made. The rows should be 6ft. apart, and the plants 7in. apart in the row. In colder districts it would be advisable to sow in boxes, which should be placed in a cool house or frame, and planted out after being properly hardened off.—W. Messenger.

FLOWERS AT HAMPTON COURT.

Tulips here, there, and everywhere formed the dominant feature of the floral display at Hampton Court during the Whitsun holidays. It must not be thought, however, that, though tulips predominated, they monopolised the display, for in the majority of cases they were associated with some other flower or flowers.

Many pleasing combinations were noted, and mention will be made of a few. The long border, stretching from the Palace towards the main road, along which the trams pass, is planted with a grand selection of May-flowering tulips, disposed in good-sized blocks or masses of each kind. In this way the collective effect of each variety can be seen, while their beauty is considerably enhanced by the judicious selection of flowering subjects with which they are associated.

For instance, special mention may be made of the beautiful dark salmon-rose tulip Edmee, springing from a mass of the sulphur wallflower Fairy Queen; Inglescombe Pink, with a carpet of yellow polyanthus; La Candeur, plentifully sprinkled over a groundwork of Aubrietia purpurea; Prince of Austria, associated with crimson wallflowers; Whistler, a scarlet variety, over double white arabis; the charming Elegans alba, carpeted with the rich-coloured aubrietia Lloyd Edwards, Pride of Haarlem, a rich rosy-scarlet flower, associated with White Gem wallflower; La Tulipe Noir, with yellow wallflowers; Rose Mignon and dark polyanthus; Mr. Farncombe Sanders, associated with Anemone coronaria; Blushing Bride, with a carpet of the beautiful yellow Alyssum saxatile; and Prince of Austria, with White Gem wallflower.

Where all are so beautiful it is difficult to select any for spepcial mention, but the following beds call for recognition in some way. A bed of standard plants of Azalea mollis, carpeted with dark pansies, over which is plentifully scattered the graceful Tulipa elegans alba. The bright-coloured tulip Mr. Farncombe Sanders overtopping the yellow wallflower. Aubrietia Dr. Mules and a white daisy in association as a groundwork to the single white tulip La Candeur, tulip Clara Butt, carpeted with double white arabis and Nemophila insignis mixed.

Alyssum saxatile with dot plants of Cytisus præcox and pink tulips. Nemophila insignis and the little red daisy Mavourneen. A very fine purple wallflower, lit up with tulip White Joost van Vondel.

Though wallflowers of different shades are numerous at Hampton Court, one bed viewed at a distance was, from its tone of colour, somewhat of a puzzle. Close attention revealed the fact that it was planted with that showy annual Erysimum Perofskianum, whose wallflower-like blossoms are of an intense orange tint. Tulips Europa and Grace Darling were associated with it.

The Hampton Court strain of polyanthuses fully uphold their reputation; in fact, they are this season much finer than last year, as the tropical summer of 1911 tried these plants very much. With masses of tulips stretching as far as the eye can reach, a question that suggests itself is how many bulbs are planted in Hampton Court Gardens alone?

The beauty of these gardens by no means depends upon the floral display alone, as the rich verdure of the lawns, the tender green of the unfolding leaves of the limes, which are so numerous, and the sombre-tinted yews, which stand out like sentinels over the expanse of grass, all combine to form a charming spring feature.

Altogether it may be said of Hampton Court Gardens at the present time that they fully maintain their good name, and in some features go much beyond it. Every praise is due to Mr. W. Marlow, who furnishes the gardens with so many delightful floral pictures at different seasons of the year. W. Truelove.

ROYAL GARDENERS' ORPHAN FUND.

Rarely has an annual festival dinner of this excellent charity passed off so successfully as the one held under the genial chairmanship of the Right Hon. Colonel Mark Lockwood, M.P., at the Hotel Cecil, on Thursday, May 15. The chairman was well supported by Messrs. N. N. Sherwood, E. Sherwood, H. B. May, D. Ingamells, P. R. Barr, G. Cuthbert, Wm. Cutbush, J. F. McLeod, W. Poupart, R. L. Wright, G. Gordon, R. H. Pearson, W. Howe, T. Bevan, Witty, Anderson, G. Monro, E. Rochford, G. Ingram, W. Leach, W. P. Thomson, R. Wallace, W. Nutting, A. Turner, W. H. Lees, G. Reynolds, A. Dimmock, C. Dixon, A. Bunyard, Cull, Cox, W. H. Page, etc.

The dining-room was beautifully decorated by Mr. R. F. Felton, with flowers and plants kindly supplied by friends of the institution, roses, carnations, tulips, and irises being the chief subjects used.

As is usual on these occasions the loyal toasts were given and honoured before "fumigation" was allowed or the musical programme commenced. The Chairman, in giving "Prosperity to the Royal Gardeners' Orphan Fund," suggested that his remarks were "interruptions" in the programme, because he was quite sure everyone present knew far more about the charity and its work than he could tell them. With brilliant touches of wit and humour Colonel Lockwood referred to the widening love of gardening, to the enormous amount of pleasure provided for others by gardeners, to the modest pay gardeners received, and to the deplorable fact that even among such healthy folks as gardeners there were many who passed away in the midst of life, leaving behind them a widow and children unprovided for. For these orphans the Chairman pleaded most earnestly, and subsequently he had the very great joy of hearing that his appeal, coupled with the efforts of the committee and friends, resulted in the addition of £1,245 to the funds. Mr. Edward Sherwood, the treasurer, responded, thanking the chairman for his presence, sympathy, and help. He gave a few particulars, and stated that the fund had distributed £27,495 in the assistance of orphans of gardeners, and last year its grants amounted to £1,796. The amount of good done was limited by the funds at the disposal of the committee, and he once more asked the press to kindly urge upon gardeners their responsibilities in this connection, and the desirability of larger numbers becoming annual subscribers, so that the fatherless children might be fed, clothed, and given a fair start in life. It was a most effective straight-from-the-shoulder speech that the Treasurer made, and we hope that his earnestness will meet with that response he so greatly desires.

Mr. N. N. Sherwood ably proposed "The Visitors," and an equally able response came from the Hon. Thos. Mackenzie, High Commissioner (and formerly Prime Minister) of New Zealand.

Mr. H. B. May gave "The Chairman," and this toast met with a hearty reception.

A capital musical programme was carried out under the direction of Mr. Turle Lee, Miss Kate Rooney, Miss Doris Cowan, Mr. Alfred Heather, and Mr. R. Johnson singing admirably, while Mr. Valentine Hill told humorous stories. "Auld Lang Syne" seemed to come all too early, thus proving that the meeting had been most successful.

We may add that the Chairman gave 20 guineas, Mr. Sherwood and his sons £105, Mr. Newton Mappin £50, Mr. Leonard Sutton £50, and Sir F. Crisp, £30. The various members of committee collected noble sums, and the Covent Garden friends contributed magnificently through Mr. D. Ingamells (Flower Market, £105 10s.), Mr. H. L. Wright (Fruit Market, £33 17s.), and Mr. W. Poupar (Vegetable Market, 20 guineas). Various seedsmen and nurserymen also contributed handsomely. We congratulate all who took part in the proceedings.

NEW PLANTS AND FLOWERS.

PÆONY LA LORRAINE.

This pæony will, we feel, eventually occupy a high position in gardens and may prove to be the forerunner of a quite new race. It is a tree pæony, but, as seen, is comparatively dwarf and very bushy. The parents are the new Pæonia lutea and the salmon-coloured variety of P. moutan named Princess Elizabeth. The flowers are large, about six inches across, very double and of a beautiful salmon-tinted buff shade. To all intents and purposes it is a yellow tree pæony, and we understand that it is quite hardy, and flowers later than P. moutan, opening in the ordinary way during the first week in June. Pæony La Lorraine was the most conspicuous new plant at the great Ghent International Exhibition, held from April 26 to May 4, and was raised and exhibited by Messrs. V. Lemoine and Sons, Nancy, France. F.C.C., R.H.S., May 13. Messrs. J. Piper and Son, Barnes and Bayswater.

ODONTOGLOSSUM PHŒBE SPLENDENS.

A very fine variety in which the individual flowers have been greatly glorified by the use of a large blotched O. crispum as one parent. The flowers are white with a few dark maroon blotches. If this should produce a large branching spike like the more typical forms of the hybrid it will be a most magnificent orchid. A.M., R.H.S., May 14. Messrs. J. and A. McBean, Cooksbridge.

PÆONY LA LORRAINE.

Flowers rich salmon, tinted buff. F.C.C., R.H.S., May 14. Messrs. Piper and Son, Barnes.

ASTER PURDOMI.

A species found at considerable elevation in the province of Shensi, China, where it was collected by Mr. Purdom. The plant is about nine inches high when in flower, and has lowly tufted growth. The flower heads are a pleasing shade of violet, measure about 1¼ inches across, and seem to be produced fairly freely. This aster should prove a valuable plant for the rock garden. A.M., R.H.S., May 14. Messrs. Jas. Veitch and Sons, Chelsea.

HELIOTROPE THE SPEAKER.

A splendid variety for pot culture. It has the large dense trusses seen in the variety Lord Roberts, but the colour is paler, and each flower has a distinct white eye. A vigorous variety that pleases the market growers. A.M., R.H.S., May 14. Mr. Philip Ladds, Swanley Junction.

CARNATION LADY INGESTRE.

This is a charming perpetual-flowering carnation, bearing smooth-petalled flowers of large size, light salmon-pink colour and delicate fragrance. A.M., R.H.S., May 14. Messrs. Wm. Cutbush and Son, Highgate.

RHODODENDRONS.

R. Wighti.—A fine Himalayan species, with large trusses of pale yellowish flowers, each flower carried on an unusually long pedicel. The trusses are terminal and the flowers campanulate; the ovate-lanceolate leaves are deep green above and red-brown beneath. A.M., R.H.S., May 14. Miss C. Mangles, Littleworth, Seale, Surrey.

R. Rose Queen.—A beautiful hybrid with goodly trusses of funnel-shaped, semi-drooping flowers, each bloom fully three inches long. The colour is a lovely shade of rose-pink, with an orange flush at the base of the tube. A.M., R.H.S., May 14. Miss C. Mangles, Littleworth, Seale, Surrey.

TULIP MASSENET.

A very distinct Darwin tulip, with stout, rounded flowers borne on sturdy stems. The colour is soft buff, with a deep flushing of rich rose over the centre of each segment. Seen against a dark background this is a very effective tulip. A.M., R.H.S., May 18. Messrs. R. H. Bath, Lim., Wisbech.

ROSE MISS FLORA MITTEN.

A strong-growing rambler rose bearing goodly trusses of single flowers that are of a delicate and beautiful shade of pink. R. Brunoni and the wild R. canina are the parents, and the child has a more or less perpetual habit of flowering. The flowers are about three and a-half inches across, and have a dense cluster of golden stamens in the whitish centre. A.M., R.H.S., May 14. Mr. J. Elliott, Hassocks.

ALOE MARLOTHI.

A strong-growing succulent plant, the stout stem bearing a rosette of closely-set leaves, each leaf about 1½ft. long, 6in. wide, and bearing a large number of brown-tipped thorns. The inflorescence is much branched, and the branches carry numerous cylindric flowers, yellow, with brown tips to the three inner segments. The stamens project half an inch beyond the perianth, and the filaments are bright violet. This species is a native of South Africa, and flowered last year at La Mortola. Bot. Mag., t. 8484.

PRUNUS PENNSYLVANICA.

Though said, by Aiton, to have been introduced in 1773, this North American species was unknown to Loudon in 1842. It is a free-flowering tree of slender growth, and rising upwards of 30ft. high. It blooms in April or early May, on the growth of the previous year, and the white blooms, each half an inch across, are carried in very short-stemmed umbels all along the growths. The little fruits are bright red when ripe. The species should make a good companion to the Bird Cherry, P. padus or P. avium, for planting in pleasure grounds or by woodland walks. Bot. Mag., t. 8486.

AMONG THE ALPINE FLOWERS.

"We turned our steps and loiter'd slow
'Twixt borders pale with later spring;
Polyanthus crowding ring on ring,
Love's banner, heartsease, balm for thought,
White tulips, blue forget-me-not."

H. C. Beeching.

The alpine lover is not content with possessing these flowers of the later spring in the borders alone, but they share the rock garden with other and less tutored flowers. We cannot do without the forget-me-not, even if we scorn some of the border forms, and replace the ordinary myosotis by M. Reichsteineri, the tulip by some of the smaller species, such as Tulipa linifolia, the polyanthus by the many charming primula species; the heart's-ease by Viola gracilis, and allow the fragrant balm to occupy some rougher corner, where its greater stature will better consort with a few of the bigger plants than associate with our daintiest gems of the alpine flora.

The alpine flowers of the time are truly many and beautiful, and as we loiter among them we feel that we cannot do aught but linger in their midst, rejoicing in their beauty and reluctant to leave their neighbourhood.

Androsace Chumbyi.

Labelled in strict botanical language by the somewhat cabalistic-looking designation of A. sarmentosa x villosa, this charming plant is better known to the alpinist as A. Chumbyi or A. sarmentosa Chumbyi, and, for convenience sake, we may well adhere to the former, a name well known and easy to negotiate in common conversation about our favourites. It is of the aspect of A. sarmentosa, although there are about its rosettes and general appearance traces of the influence of its other parent, A. villosa. Save in very wet parts of the country, where it may call for a covering of glass in winter to throw off the rain, it is as easy to manage as possible, especially if allowed to grow among chips and sand, with some free compost beneath, such as equal parts of loam, leaf-soil, or peat and sand with a mere trace of lime in some form in the soil. In a sunny place it will do well, but it is even prettier on the moraine, where its silvery-grey woolly foliage harmonises well with the chips and stones. In the moraine it seems quite happy, and is charming with its bright flowers of a warm pink or rose. Long ago it used to be the summum bonum of the alpinist to succeed with the androsaces, but many of them are not at all difficult, and A. Chumbyi is one of the easiest of all in sunny places where there is not too much wet to rot off the pretty rosettes.

Erythronium Pink Beauty.

Straying along a little narrow pathway, where the croziers of a small collection of good hardy ferns are unfolding, one stands long, and stoops oft to admire and inspect the lovely Erythronium Pink Beauty, said, I believe, to be a variety of E. Johnsoni. As one gazes at it one feels impelled to call in the aid of all the choicest complimentary adjectives and similes to endeavour to do justice to this flower. With the background of rougher greenery and unfolding fronds, this erythronium is simply perfect in its beauty. How can one attempt to describe it? Handsome, marbled, glossy leaves, whence rise a stout stem carrying a coronal of exquisite flowers, exquisite alike in substance, form, and colour. It is scarcely possible to conceive a more gem-like flower. It seems almost casting a slight upon it to use the simile "gem-like," for no hard gem, however beautiful or dazzling in its brilliance, can vie in the mind of the flower-lover with this exquisite erythronium from across the Atlantic, with its tier of unsurpassable pink flowers. Yet such a beauty must condescend to be treated like other mundane things. It is happy in a cool spot in light soil with loam, peat, or leaf-soil and sand. To naturalise in some choice corner this would be a rare beauty, but where it grows best it is almost perfection in every way.

Lithospermum prostratum.

Not a novelty, by any means, but yet among the most beautiful of all the Gromwells, and, withal, the most generally useful, is Lithospermum prostratum, which it appears a crime to neglect, even though one has spoken of it before. Trailing down a slope of the rock garden, veiling the stones, with all their hardness, with its healthy, deep green foliage, starred with dark blue flowers, it is a picture which gives joyance to the beholder, and makes him more and more delighted with his flowers. It is hard to say whether the typical deep blue form or its charming variety Heavenly Blue, is the more delightful. Both are acceptable, and neither can well be dispensed with, once we have become their possessors. Yet they are not always easy to establish, and one frequently comes across good cultivators who confess themselves baffled by Lithospermum prostratum. One secret of success is, I think, to procure young plants, small in size, and to wait with patience until they extend. Some eight years ago I left a fine large plant behind in moving to my present home, and began with quite a small one. Planted in gritty and hard soil, without any lime in it, and facing almost south-west, it hung fire for a year or two, giving one cause for uneasiness many a time and oft but in the long run flourishing, and now giving an abundance of its lovely flowers. Less in size, but doing well in much the same position, Heavenly Blue promises to become as fine in the course of time.

Other Flowers.

What a prodigal abundance of bloom there is now! Saxifrages galore, mossy, silvery, and of various other sections, in red and white and yellow, some marvellously spotted; violas many, primulas in choice loveliness, aubrietias, arabises, drabas, Cytisus kewensis and other beauties of the race; narcissi still, fritillarias, late scillas, and many other choice things of all manner of genera, make the garden truly a pleasaunce of the early May.

S. Arnott.

Cucumbers.—It is of considerable importance in the cultivation of early crops of cucumbers to avoid overcropping these plants or exhaustion soon follows, and some time is required before they can be brought to bear satisfactory again. Pinch the shoots of vigorous young plants at each joint, but where they have been in bearing some time, or have been overcropped, allow a little extra growth to extend, and otherwise encourage the plants by light, rich top-dressings and frequent applications of weak liquid manure. Fumigate lightly on two or three alternate nights if greenfly should appear, always having the foliage dry prior to the operation. Keep the temperature from 70 to 75 degrees, and a bottom heat of 85 degrees, with a free use of the syringe. Plants grown in frames or pits with manure as bottom-heat do not require so much feeding as those grown on trellises in houses, as the roots penetrate the manure composing the hotbed, and make a more luxuriant growth.—F. Jordan.

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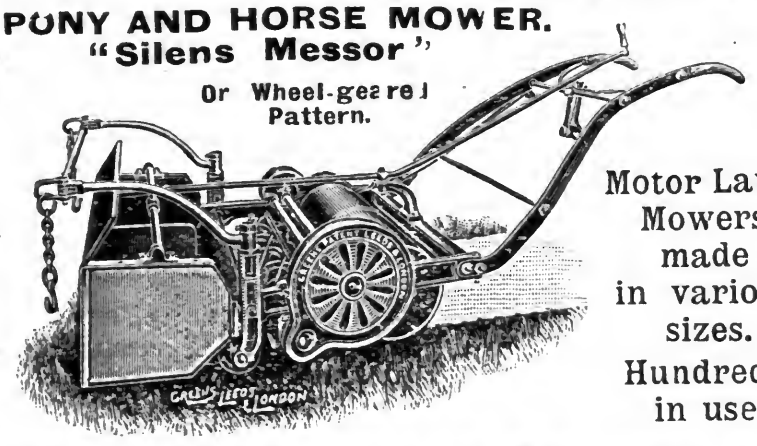

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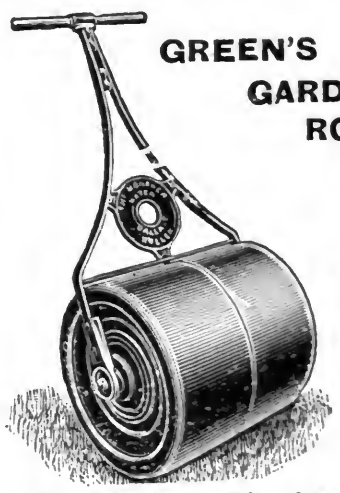

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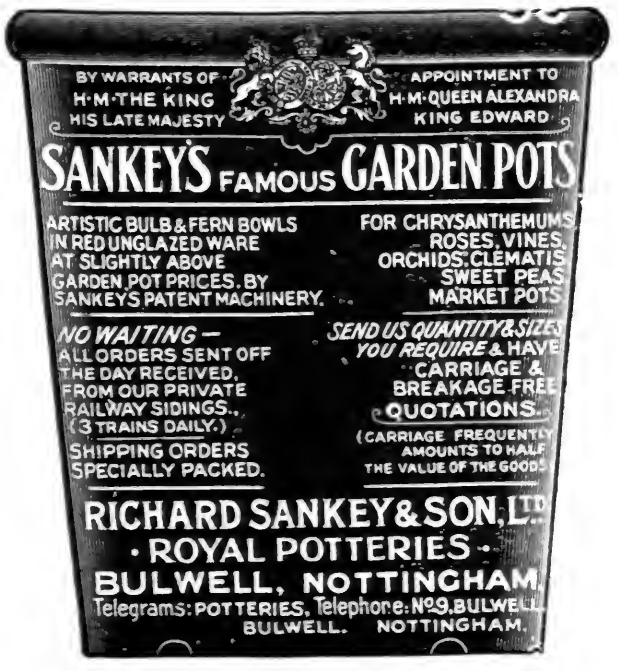
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DOT PLANTS IN FLOWER BEDS.

From time to time there appear in the pages of The Gardeners' Magazine very charming illustrations of scenes in famous gardens. Beginners, and those somewhat inexperienced in the arrangement of plants in the flower garden in summer time, cannot fail to learn a great deal from the study of many of the flower beds shown in these illustrations, and from carefully reading the very clear and concise references to them.

Young gardeners a generation ago very rarely had an opportunity of seeing such beautiful reproductions, and were obliged to travel long distances to inspect the bedding-out at certain establishments. Now they can see still more distant ones (to them) as well in The Gardeners' Magazine.

The style of bedding-out varies a great deal every few years. At one time, of course, carpet bedding found much favour (and a tremendous amount of work for the gardener and his staff). Zonal pelargoniums, calceolarias, and violas had a long run of favour, and still enjoy it. Then came the less formal methods of arranging the plants in the beds, and more room for the gardeners' skill. A plantsman who had no difficulty in putting up charming groups in conservatories and greenhouses rarely experienced any in carrying out successfully the newer styles of bedding out.

Much judgment, however, must be exercised by those who are inexperienced, or the beds will present a very weedy appearance. I do not intend to deal at all with the groundwork plants in this note, as too much space would be required for the purpose, but simply with the preparations necessary in connection with three kinds of plants. Although there are many other kinds which are most attractive, I think these three very important, and should be included in all beds of medium to large size.

Fuchsias.

Half-standards—those two and a half to three feet high—and full standards should be used, and in the large beds both kinds may be judiciously disposed in the same beds. The beginner would do well to allow the shoots of the plants to make fair progress before he prunes, or, more correctly, disbuds, then he will not produce a too formal-shaped head. The latter should be well balanced, but not too stiff. It is best to plunge the pots containing the plants in the beds, so in good time they should be repotted so as to get them well established before the bedding out is done.

Bring on the new growth steadily in a warm greenhouse temperature, and pinch off the ends of some shoots to create a balance, but not so persistently as to induce a weakly growth, and, eventually, small flowers. Keep the leaves clean and free from red spider and thrips. Gradually harden the plants from the first week in May, and have them ready for planting by June 10.

Bougainvilleas.

Straggling shoots of these may now be pruned back to an inch of their base; young shoots will soon grow; other branches may be tied in a little at present so as to cause them to droop gracefully. Of course all ties must be removed when the plants are put out as only central supporting stakes, neat and well placed, should be allowed.

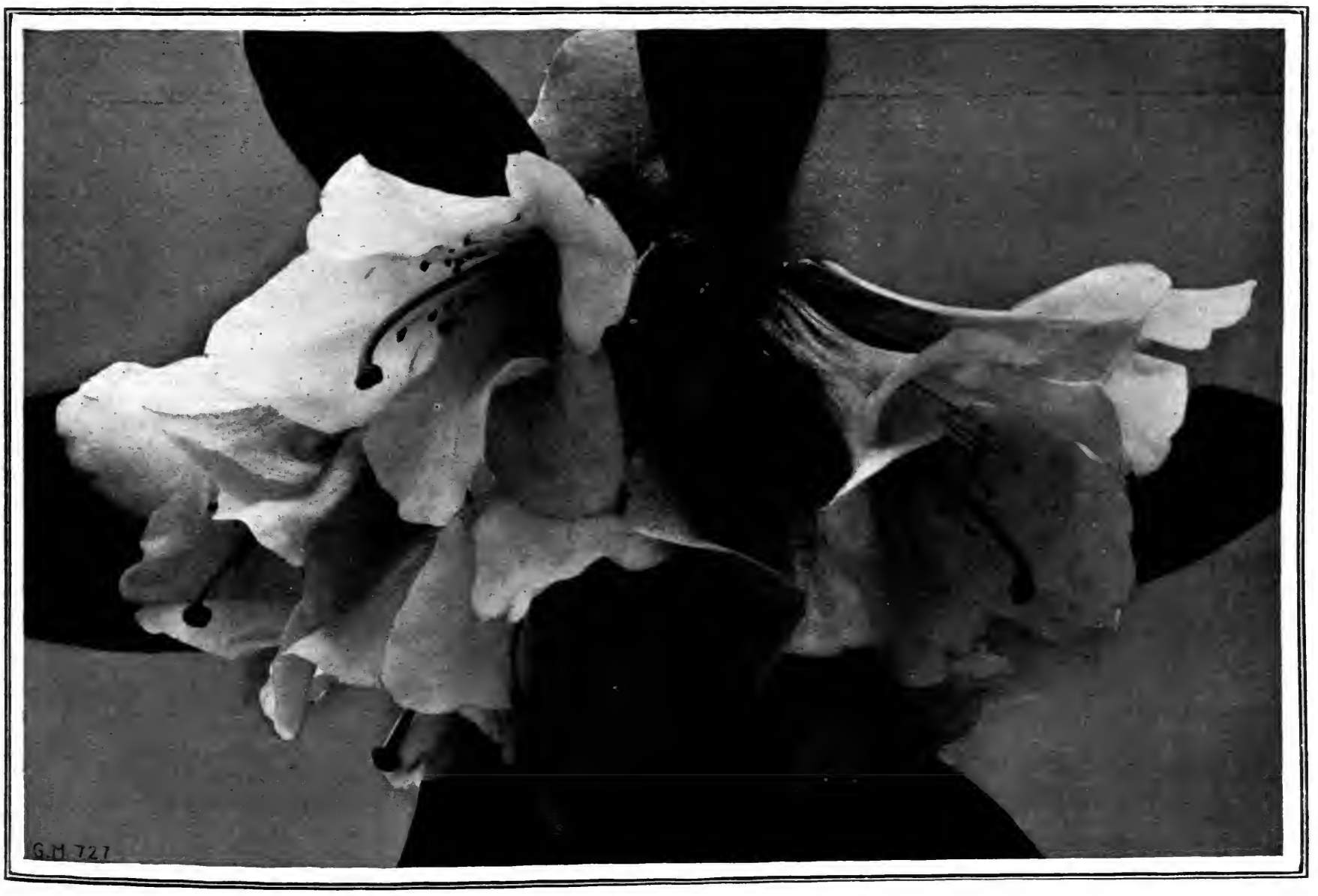
To encourage a free growth keep the plants in a day temperature of 68 degrees, with a rise from sun heat, and a night temperature of 60 degrees. Syringe the branches on bright mornings, and repot any plants that require this attention. Loam, leaf-mould, rotted manure, old lime rubble, and sand will form a suitable compost; pot firmly. When the new shoots are six to nine inches long give the plants greenhouse treatment, and duly harden them in May ready for planting out a few days after the fuchsias.

Plumbagos.

Although the blue-flowered form is the favourite, the white one, P. capensis alba, should also be grown. Rather severe pruning may be carried out, as old plants, which are the best, produce nice flowering branches when so treated. Old specimens may be repotted in a mixture similar to that recommended for bougainvilleas, when the new shoots are three inches long, but young plants must not be repotted, or they will make too much wood, and bear few flowers.

Full standards of the two last-named kinds are the best for effect in large beds, so that their long, graceful, well-flowered branches may depend in a natural manner, and produce the best effect possible. Harden the plumbagos in the same way as the others. It is important that all the plants should have plenty of light while under glass.

G. B.



RHODODENDRON ROSE QUEEN.

Flowers rose-pink, with orange flush at the base of the tube. A.M., R.H.S., May 14. Miss C. Mangles, Littleworth, Seale, Surrey.

APPLE PROSPECTS IN THE SOUTH.

Though it is too soon yet to form any proper idea of what the apple crop may be, there is always something interesting in a well-kept orchard at this season of the year when the trees are bursting into flower. One can take note of how the varieties are blooming, the time they expand their flowers, and the kind of weather experienced. Some varieties flower much earlier than others, and if the weather is favourable during the time they are in flower there is usually a crop of fruit.

In going through a large Sussex orchard the other day, I was struck with the way the trees were flowering, considering there were such heavy crops last year. Irish Peach, as usual, was the first to expand its flowers. I have known this variety in flower by April 7; this year it was the 20th before the trees were in full bloom. Following close on this variety was Bismarck; though this is not an early kind to ripen its fruit, it is one of the first to flower, and if the weather is favourable at the time we have usually a good crop of fruit. The long rows of trees, with their highly-coloured flowers, look very promising at the present time. Next we came to a quarter planted with Golden Spire, and the flowers of these were fully expanded on April 23, so they were close on the others. Warner's King was just bursting its flower buds on April 25, while Beauty of Bath, which was growing close by, was showing well, but would not be in bloom for another week. This, though an early variety, is not one of the first to flower. Cox's Orange Pippin was a few days later. There is a large breadth of Lane's Prince Albert, from which several tons of fruit were gathered last year, and these looked wonderfully well, but the trees would not be in bloom for another week or more. There are some hundreds of trees of many of the leading varieties, most of which look promising.

When visiting this same orchard last year while the fruit was being gathered, one could not help but admire the very fine samples that were grown, and which met with a ready sale at remunerative prices. It is not usual for trees to bloom so freely every year, unless some pains are taken to regulate the crop, as in favourable seasons the trees are so loaded with fruit that they become exhausted, and therefore not capable of forming fruit buds for the next. Where the trees are looked over after the fruit has started to swell, and the crop is freely thinned, this assists the trees wonderfully, not only in maturing their crop, but in forming flower buds for the following season. In the case of the early culinary varieties, such as Ecklinville, Lord Suffield, and others with fruit that will cook well as soon as large enough for use, those taken off will far more than pay for the labour expended on them.

Spraying is another operation that should receive attention, for if the trees are thoroughly cleansed from all pests of every description, they will grow more rapidly and produce finer crops. From experience it has been proved that spraying has wonderfully assisted the growth of these trees. It is far better to have a moderate number of well-developed flower buds than a large quantity of weakly, deformed ones, which, should the weather and other conditions be all that one could desire, are incapable of producing fine specimens. The aim should be to so regulate the crop as not to have a glut one season and none the next. We all know that weather conditions play a most important part in fruit production, but it is the grower's place to assist nature where possible.

Spraying has become more general of late, especially among those who are depending on their crops for a living. Growers, too, are beginning to realise the advantage of grading their fruit, and sending only such samples to market that are likely to command good prices. There is much more satisfaction in being able to realise at once than be compelled to hold over until a more favourable opportunity presents itself, which may not come. Gathering and grading are two important items in this business, and unless these receive special care and attention it is seldom that the best prices are obtained.

H. C. P.

MOSS ROSES.

I am constrained to take up the cudgels on behalf of this charming section of roses, having noted with regret that they have, to a very large extent, "gone to the wall" during the past decade. The more aggressive beauty found in the other sections, which constitute a large and ever-increasing army, is, to a large extent, responsible for their downfall and neglect, not forgetting that they are practically ignored by the large societies. And yet it is difficult to conceive anything more exquisite than a white or pink moss ross in bud form.

It is true moss roses are rather "miffy" subjects, and in order to create and to maintain vigorous growth careful and constant care is required. I remarked a number of wonderfully fine specimens in a Devonshire garden a couple of years ago, and the owner assured me that enormous quantities of cow manure had been incorporated with the soil during the process of preparation, and, further, that it had been supplemented by a heavy annual dressing, together with a thick mulch in May. I gathered that the natural soil was greasy loam, and this seems to prove that a rich, highly-cultivated soil is essential to fine development.

With regard to the origin of moss roses, there does not appear to be anything like a consensus of opinion, although they are supposed to have sported from the old cabbage rose, and to have been introduced from Holland near the end of the sixteenth century. The most successful growers are of opinion that, in pruning, a portion of the branches should be removed in their entirety after the plants pass out of flower, and that each and all should be cut back severely the first season after planting.

Among varieties, Blanche Moreau is a great beauty of spotless purity, while the dark green moss is very abundant. White Bath, too, is very fine, and, perhaps, superior to the foregoing. Comtesse de Murinois is a magnificent variety, with large, flesh-pink flowers; rosy-blush colouring is represented in Gloire des Mossenses; and Celina, Venus, and Little Gem boast crimson and purplish-crimson hues.

Walter H. Aggett.

PERPETUAL-FLOWERING CARNATIONS FOR SUMMER BEDDING.

It is only during the past few years that perpetual-flowering carnations have been used for summer bedding in the flower garden, but the practice of planting them in this manner is on the increase, as they have been proved to be eminently suitable for outdoor culture in this country.

One advantage is they make a display of bloom over a much longer period than any other type of carnation, and they can be had in flower from the time they are put out until autumn frosts check their growth.

Now is the best time to plant out perpetual carnations for a summer display. The best plants for the purpose are those struck from cuttings twelve months ago, as they are strong healthy plants in 5in. pots, with a number of blossom buds ready to expand. This is the best type of plant to use for the purpose, although specimens that were rooted early in the winter can be planted, but these do not commence to flower until later in the summer. Plants that are required for summer bedding must be treated accordingly if they are to give the best results. They may be pinched later than those grown for winter flowering, and should be kept cool all the winter, even a cold frame, provided that damp can be expelled, will suit them well.

The soil must be well prepared for them by adding a suitable quantity of manure, and cultivating it deeply. Bone-meal is a valuable ingredient to incorporate with the soil, and it should be thoroughly mixed in as cultivation proceeds. Heavy, retentive soil is not ideal for carnations, and when this has to be dealt with, it is necessary to add a liberal supply of coarse sand, wood ashes, and old mortar rubble, so as to bring it to a more friable and porous condition. See that the plants are quite moist at the roots before being turned out of the pots, for if planted in a dry condition it will be difficult to moisten the soil about the roots again. Plant firmly, and allow a distance of fifteen inches between the plants, as they produce the best effect when planted fairly closely. Keep the shoots neatly tied as growth proceeds, and also pay attention to disbudding, and remove dead blooms promptly. Water regularly during hot, dry weather: liquid stimulants can be given with advantage. Ply the hoe between the plants occasionally.

If it is desired, a little more space may be allowed betweeen the plants, and the ground carpeted with iresine or alternanthera: beds so arranged always present a smart, neat appearance.

In conclusion, I would recommend the planting out of old stock plants that have flowered during the winter: any odd piece of ground will accommodate them, and they will produce a quantity of bloom for cutting.

As regards varieties, the following make good bedding plants: Britannia, scarlet: May Day, Winsor, Mrs. H. Burnett, and Enchantress, pink: White Perfection, white; and Mikado, heliotrope.

J. Gardner.

Pentas carnea.—This is a useful soft-wooded flowering shrub, and may be bloomed at almost any season. Cuttings of the young wood are quite easily rooted, and may be grown on into five-inch pots, pinching the points once or twice to obtain a bushy growth, then allowing them to bloom. When the flowers are past their best the spikes may be removed, and, given growing conditions, the plants will grow freely, and will again bloom as freely as before.—H. Prime, Hatfield House Gardens.

NOTES FROM SCOTLAND.

Atmospheric Influences.

The past winter has, judging by reports that have from time to time appeared in the pages of The Gardeners' Magazine, been an unusually variable one in respect to the weather. In general an excessive amount of rainfall has been recorded. In Scotland it has dealt very harshly with all closely connected with land, be they of the horticultural or agricultural fraternity, and as a sequence, work of most kinds, especially that of seed-sowing and the planting of potatoes is greatly in arrears.

Worse still, however, is the amount of damage that in places has been done by flooding, where, owing to the abnormally swollen state of the river courses, the water have overflowed the banks or have made breaches in them, through which the stream rushed carrying destruction everywhere in its wake, making inland seas over wide areas. This, occurring as it did at mid-winter, was viewed philosophically, there being at that time little but the root crops (turnips) to sustain damage, but to have another and still worse inundation in May, when crops in general were sown, as was the case a few days ago, and in some extreme instances to remain for some time, is something unprecedented and disheartening.

Land thrown up in ridges and planted with potatoes, or in others much wider and sown with cereals, was by the action of the water levelled to its former state, and the seed crops swept away or laid bare, while in places the soil itself has largely disappeared. While one must heartily sympathise with farmers or market growers of vegetables, who in this way have lost portions of their crop, time, and labour, the allotment holders and owners of small gardens who, in some instances, have lost all, really seem entitled to a still larger share. Mid-Scotland has suffered most: here the rainfall was heavy and almost continuous for several days, and several of the rivers, being quite unable to contain the volume of water precipitated as rain, conjointly with the largely augmented sources rushing from neighbouring hills, soon overflowed, endangering life and property to an unusual extent.

Fruit Prospects.

The blossom on most kinds of fruit trees and bushes has for the most part been abundant, while the foliage where this is in evidence is clean and free from insect pests, due no doubt to the frequent washings it has been subjected to for some time past. Gooseberries and currants of all kinds will without doubt bear heavy crops; while strawberries and raspberries look very promising, and are so late in opening blossom that they should escape frost. This, however, has so far been an ideal season in this respect, very slight frosts, in some favoured districts not any, having been experienced for weeks past. Plums promise well, and plenty of fruit has set, which the weather continuing favourable for the remainder of the month should swell off satisfactorily.

Pears bore a large amount of bloom, but it was evident that a great deal of it was useless, being small, flimsy, and wanting in respect to the productive organs. Apples are not yet conspicuous except a few early kinds or others against walls There is one feature connected with these that is by many not considered a favourable omen, namely, the foliage is quite in advance of the bloom, a point which is regarded by long experienced practitioners as unfavourable to a good set of fruit.

Apple Golden Spire.

I was somewhat surprised a short time ago to discover what a strong hold this variety now has upon Scotch growers for market, one of whom had beheaded a large plantation of mixed varieties and regrafted the whole lot with this. The explanation, which was freely given, was to the effect that the variety was always fruitful, so much so that thinning of the crop to ensure the desired size was advisable. This is easily accomplished in the case of bush trees, and these, owing to free bearing, seldom attain any considerable size.

Furthermore, the fruit was early in reaching maturity, and, although not quite up to dessert standard, was sufficiently high in this respect to command the market early in the autumn before foreign supplies arrived; in this rested its chief value as a market fruit. James Day.

Dalry, Galloway.

Coprosma Baueriana variegata.—Time was when the variegated-leaved form of the New Zealand Coprosma Baueriana was grown more often than it now is. Apart from its value as an ornamental-leaved shrub for the greenhouse, it was often used for bedding purposes during the summer months. The leaf is of a deep glossy green, and the variegation consists of a broad margin of gold. It is propagated by means of cuttings, but, with the possible exception of Luculia gratissima, I know of nothing so quickly injured if cuttings are allowed to flag before insertion as this coprosma.—K.

CHELSEA SHOW—WISTARIA MULTIJUGA VAR.
A large-flowered form, the colour purplish, exhibited by Messrs. J. Piper and Son, Barnes.

AURICULAS.

These flowers seem to be increasingly popular, and perhaps it may be of some value if an "old hand" gives a few of his ideas to those who wish to start growing them. There is no need to spend a great deal of money in order to form a collection, for, as in other flowers, many of the cheapest varieties are also the best. Let us take the grey-edged class first. Here George Lightbody, a variety raised over 50 years ago by Mr. Headley, is still pre-eminent: this, along with George Rudd and, perhaps, a few plants of Marmion, are all that a beginner need obtain. In white edges he must have Acme, Conservative, and Heather Bell. In green edges Mrs. Henwood, Shirley Hibberd, and Abraham Barker are cheap. In selfs he needs nothing but Mrs. Potts and Ruby; still cheaper. If he grows these well he can face any competitor on the show table.

But he may want more variety, so let him purchase Lancashire Hero and Olympus to add to his greys; Traill's Beauty and Mrs. Dodwell to his whites; Ossian, Orient, and Prince Charming to his greens; Mikado, Harrison Weir, Mrs. Phillips, Favourite, and Miss Barnett, to his selfs; and, if he has a liking for a yellow self, as I have, let him add Daffodil to the list.

Every auricula grower worth his salt raises seedlings. I do, and although I have not "set the Thames on fire," yet I still go on, for the pleasure of seeing seedlings bloom is very great. I have been raising seedlings for more years than I care to count, and my experience teaches me that it is best to keep greys to greys, whites to whites, selfs to selfs; and in the selfs as we want the blues bluer, the reds redder, and the blacks blacker, it is best to keep the three colours apart. I would advise would-be seedling raisers to try the following crosses:

G. Lightbody x Olympus.
G. Rudd x G. Lightbody.
Lancashire Hero x G. Rudd.
Shirley Hibberd x Mrs. Henwood.
Mrs. Henwood x Prince Charming.
Acme x Mrs. Dodwell.
Acme x Conservative.
Mrs. Potts x Favourite.
Mikado x Mrs. Phillips.
Harrison Weir x Ruby.
Daffodil x Buttercup.

James W. Bentley.

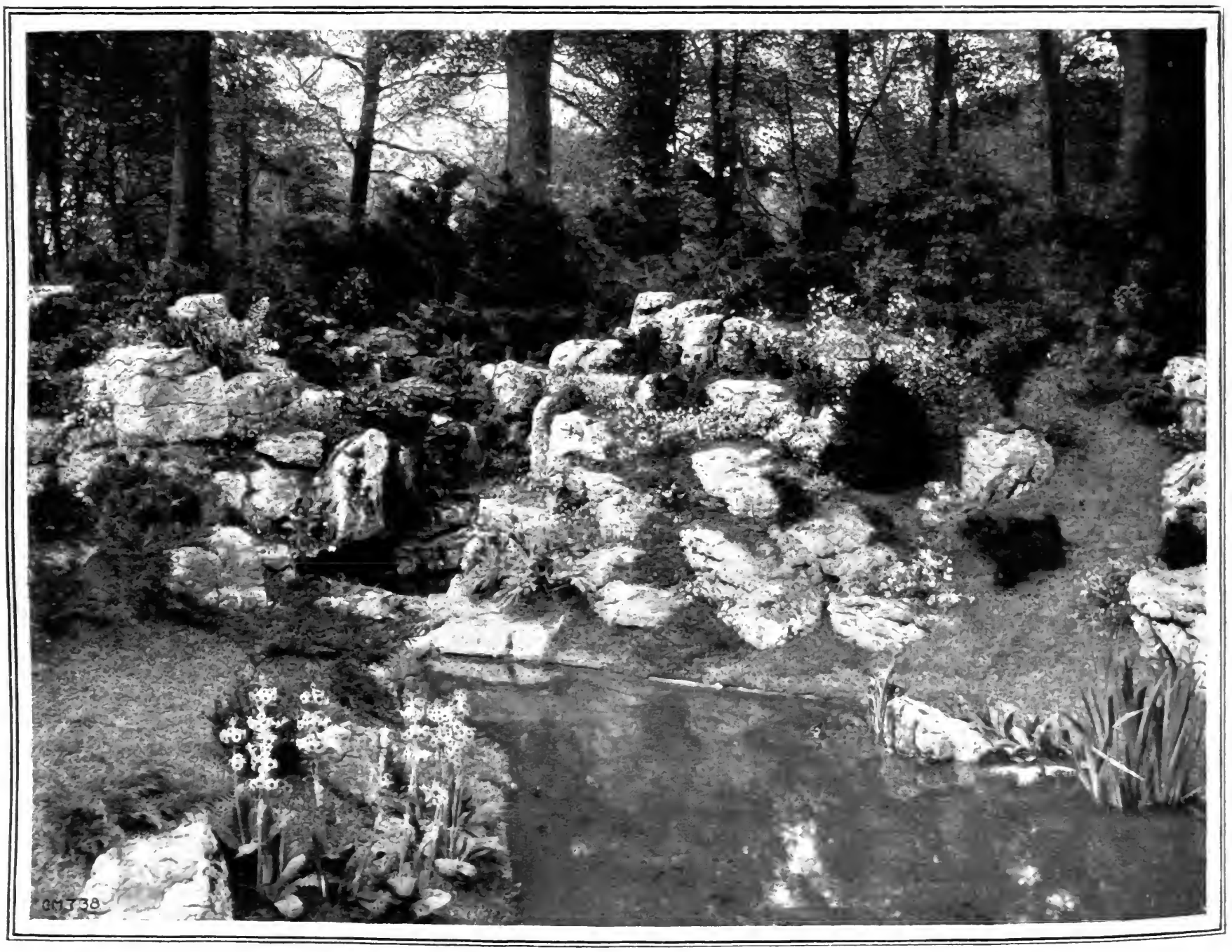
MORISIA HYPOGÆA.

Few will question the opinion that Morisia hypogæa is one of the most beautiful of our alpine plants, or will dispute the view of those who hold that every collection of such flowers of any pretensions should include this charming dwarf plant. It is very delightful, with its flat rosettes of finely-cut, shining leaves, and its bright little yellow flowers close set in the foliage, which so well displays the brightness and beauty of the little blooms. It is, indeed, a plant worthy of all praise. When we come, however, to speak of its cultivation, we are on more doubtful ground. It is not a troublesome plant in the ordinary sense of the term, but it is uncertain, and those of us who wondered at first that it has been lost to cultivation for years before its re-introduction, can understand why this was the case. What its duration of life may be is difficult to tell, but most people who have grown it become more and more chary of asserting that it is a long liver, although it is certainly hardy and perennial.

The writer knows of good cultivators who cannot retain Morisia hypogæa without propagation for more than two or three years. Others, again, can count the lives of some of their plants up to seven or eight years, yet, with hardly an exception, these cultivators admit that it is not absolutely reliable, and that it is well to keep a spare young plant or two for replacement, if necessary. It appears to matter little whether the soil be of almost pure sand or of a richer character; the Morisia may succumb in a year or two, or may survive for several years. There are, doubtless, some cultivators who may traverse this statement, but it has been advanced after long personal experience and comparison of that of others whose knowledge is entitled to consideration. Generally speaking, a light, well-drained soil of almost pure sand will suit M. hypogæa best, and there it is more likely to sow itself.

Its propagation by root-cuttings is easy. In early spring or in autumn a plant should be lifted, and a portion of its roots employed as root cuttings, cutting them up into lengths of about an inch, and inserting them in sandy soil, with the top part just at the level of the soil. When done in spring, it should be very early. The tops of these root-cuttings will soon show signs of growth, and, when rooted, the cuttings, which should be put round the sides of the cutting pot may be repotted singly into smaller pots and grown under glass before planting out.

S. Arnott.



CHELSEA SHOW—PART OF ROCK AND WATER GARDEN.
Constructed by Messrs. Wallace and Co., Colchester.

THE GREAT FLOWER SHOW AT CHELSEA.

To begin with, let us say that the great exhibition held in the grounds of the Royal Hospital, Chelsea, on May 20, 21, and 22, was a huge success, and proved beyond all question the great strides horticulture is making, and the great popularity enjoyed by the Royal Horticultural Society. We may remind those who visited the Temple Show of 1911—the last of a long and fine series—that the show held this week was three times as large as that one, and a much more comfortable function. Exhibitors, who numbered nearly 250, were grumbling, however, because they had insufficient space, and in some cases the gangways were all too narrow, especially one largely occupied by the row of pillar supports of the tent.

The greater part of the exhibition was held in the great tent familiar to those who attended the "International" in 1912, and the effect produced was better than last year. Orchids, roses, hardy flowers, masses of flowering trees and shrubs, fragrant carnations, gorgeous tulips, fruits, and vegetables formed the greater part of a wonderful display that covered the better part of three acres. Out of doors the rock gardens and formal gardens were extraordinarily fine, and gave ample evidence of British pluck and enterprise, for many hundreds of pounds had been expended upon their production—indeed, many of these designs looked as though they had been in position for years, and were intended to remain there for years to come.

Novelties of many kinds were in evidence, and these we shall refer to in detail, with illustrations in our next issue. The Orchid Committee had no fewer than eighty orchids placed before it for consideration for award, and other committees were equally busy.

ORCHIDS.

As at the great exhibitions held in previous years at the Inner Temple Gardens, orchids were an outstanding and brilliant feature, and the section to which all visitors turned sooner or later.

Dealing first of all with the display from amateur collections, the one so beautifully arranged by Mr. H. Alexander, grower to Sir George Holford, Westonbirt, Tetbury, Gloucester, at once attracted attention. Mr. Alexander showed magnificent plants, a large number of them being specimens of considerable size and splendid growth; moreover, every plant was set well apart from its neighbour, in an ample groundwork of maidenhair ferns; palms were used as a background, and green moss finished off the margin. Turning to the special subjects in this group (which, by the way, was not more than half as big as the superb International effort of 1912), we may

CHELSEA SHOW—LÆLIO-CATTLEYA BRITANNIA WESTONBIRT VAR.
Sepals and petals brilliant rose-pink, lip bright crimson-purple. F.C.C., R.H.S., May 20. Lieut.-Colonel Sir George Holford, Westonbirt, Tetbury.

make mention of several dozen spikes of the golden Oncidium Marshallianum, Cymbidium eburneo-Lowianum with two fine spikes; Miltonia vexillaria with 14 spikes and 59 flowers; M. v. Snowflake, with 15 spikes and 85 blooms; M. v. Marmorata, with 75 flowers; and M. v. virginale, with no fewer than 29 spikes and a total of 125 lovely flowers. Then there were the grand Lælio-cattleyas, notably L.-c. Fascinator, L.-c. Britannia Westonbirt var., with two spikes carrying eight superb purple-red and mauve-tinted flowers, and occupying the central position (see illustration); L.-c. E. S. Ball, L.-c. Ganymede Westonbirt var., and L.-c. Luminosa. The brasso-cattleyas, with their fine fringed lips, were a grand feature, twenty fine specimens being arranged, including B.-c. Digbyano-Mossiæ, B.-c. Digbyano-Schröderæ, B.-c. Queen Alexandra, and B.-c. Mdme. Hye. The cattleyas were fine, notably C. Mossiæ Mahomet, with fourteen richly coloured blooms; C. Schröderæ Geisha, white, and finely formed; C. Dusselplenty, Brasso-diacrium Colmani—a rare white hybrid, Cœlogyne Parishi, and Oncidium pulchellum.

Mr. Jules Hye, Conpure, Ghent, brought over the lovely Miltonia Hyeana var. Eureka, with crimson base to the rose flushed white flowers. From W. P. Burkinshaw, Esq., Hessle Hall (gardener, Mr. Barker), came Cattleya Lueddemanniana Schröderiana and Miltonia Bleuana Hessle var., the latter very handsome with its red blotch and yellow disk. Odontoglossum Othmarschen, grandly marked with brilliant chocolate-crimson, was finely shown by Baron Bruno Schröder (gardener, Mr. Shill), The Dell, Egham. Mr. Evans, Congleton, Manchester, also staged some grandly blotched odontoglossums.

Sobralia macrantha alba, a big specimen carrying over thirty pure white flowers, was a fine example from J. Gurney Fowler, Esq. (gardener, Mr. Davis), Glebelands, South Woodford, and probably the largest specimen of its kind. Also from the Glebelands collection came the rare, yellow-green Cymshapely flowers, heavily marked with soft red-rose on a mauve-tinted ground; O. Georgius Rex, with a splendid spike of thirty-two grand blooms over four inches across, with heavy crimson blotches on a whitish ground; Lælia purpurata Queen Alexandra, white; Lælio-cattleya Sylvia var. Princess Victoria Louise, with yellow flowers and ruby-tipped lip; Odontioda Diana, with grand rich red flowers, vermilion tinted; Brasso-cattleya Princess Elizabeth, pale silvery mauve; Miltonia Charlesworthi, a brilliant hybrid between M. Hyeana and M. vexillaria G. D. Owen, and with a wonderful crimson blotch at the base of the lip; Lælio-cattleya Golden Glory, Odontioda Lutetia, and beautiful examples of the brilliant O. Bradshawiæ, O. Charlesworthi, O. Chantecleer, and O. Keighleyensis.

A lightly arranged bank of orchids from Messrs. James Cypher and Sons, Cheltenham, merited attention, and indeed attracted it by reason of its beautiful masses of Oncidium Marshallianum and Renanthera Im-

CHELSEA SHOW—ROCK GARDEN.
Constructed by Messrs. Whitelegg and Page, Chislehurst.

-dorfei Undine; and C. Skinneri, with eight spikes. Of the odontoglossums we have only space to refer to O. illustrissimum Westonbirt var., with rose and red-brown flowers; A. armainvilliersense and Anthotes, O. crispum Zoroaster, A. Acme, and the finely-formed red-purple O. eximium King George.

A beautiful and very gracefully arranged group of orchids from Sir Jeremiah Colman, Bart. (gardener, Mr. J. Collier), Gatton Park, Reigate, was very greatly admired. Particularly pleasing was the central pyramidal arrangement of well-grown and good forms of Odontoglossum crispum, Odontioda Bradshawiæ, and O. Vuylstekæ, set over a groundwork of asparagus and moss. Oncidiums and rare miltonias were associated at one end, and cattleyas and Dendrobium Dalhousieanum at the other. A few of the choicest features of the group were Odontoglossum Queen of Gatton, with fifteen yellow and brown flowers; O. Vuylstekeanum, O. Phœbe splendens, Lælio-cattleya Boylei, the L. anceps hybrid with white, yellow-throated flowers; Odontoglossum Thompsonianum in bidium Woodhamsianum Fowler's var., with a pair of spikes.

Mons. H. Graire, St. Fuscien, Sains, France, sent over Odontioda Chelseaensis St. Fuscien with a spike of twenty large old-rose coloured flowers.

Messrs. Charlesworth and Co., Haywards Heath, had a bold and startling exhibit, the ends consisting of big mounds of fine varieties of Miltonia vexillaria from which arose spikes of white odontoglossums and Phalænopsis Rimestadiana. In the centre the fine old Lælio-cattleya Dominiana was massed in a big group, about a score of specimens being set up, with a background of coloured odontoglossums. In the bays between the miltonias and lælio-cattleyas, the odontoglossums and odontiodas were associated with Cymbidium Humbloti, Renanthera Imschootiana, Oncidium pulchellum, Dendrobium Phalænopsis, Cymbidium Pauwelsi, C. Alexandræ, etc. Of outstanding excellence were Odontoglossum Empress of India (see illustration), with a spike of nineteen large schootiana. All along the back Cattleya Mendeli, Lælio-cattleya Dominiana, L.-c. Fascinator, and C. Mossiæ were set up boldly amid ferns. In the foreground were miltonias and odontoglossums in abundance, with the white Phalænopsis Rimestadiana, the yellow Dendrobium Thwaitesi Veitchii variety, Masdevallia Veitchi grandiflora, Vanda teres, Cymbidium Alexandræ, and a mass of Cymbidium Mandiæ, Epidendrum bicornutum, Maxillaria Sanderiana, and the tall, orange-coloured Lælia Latona.

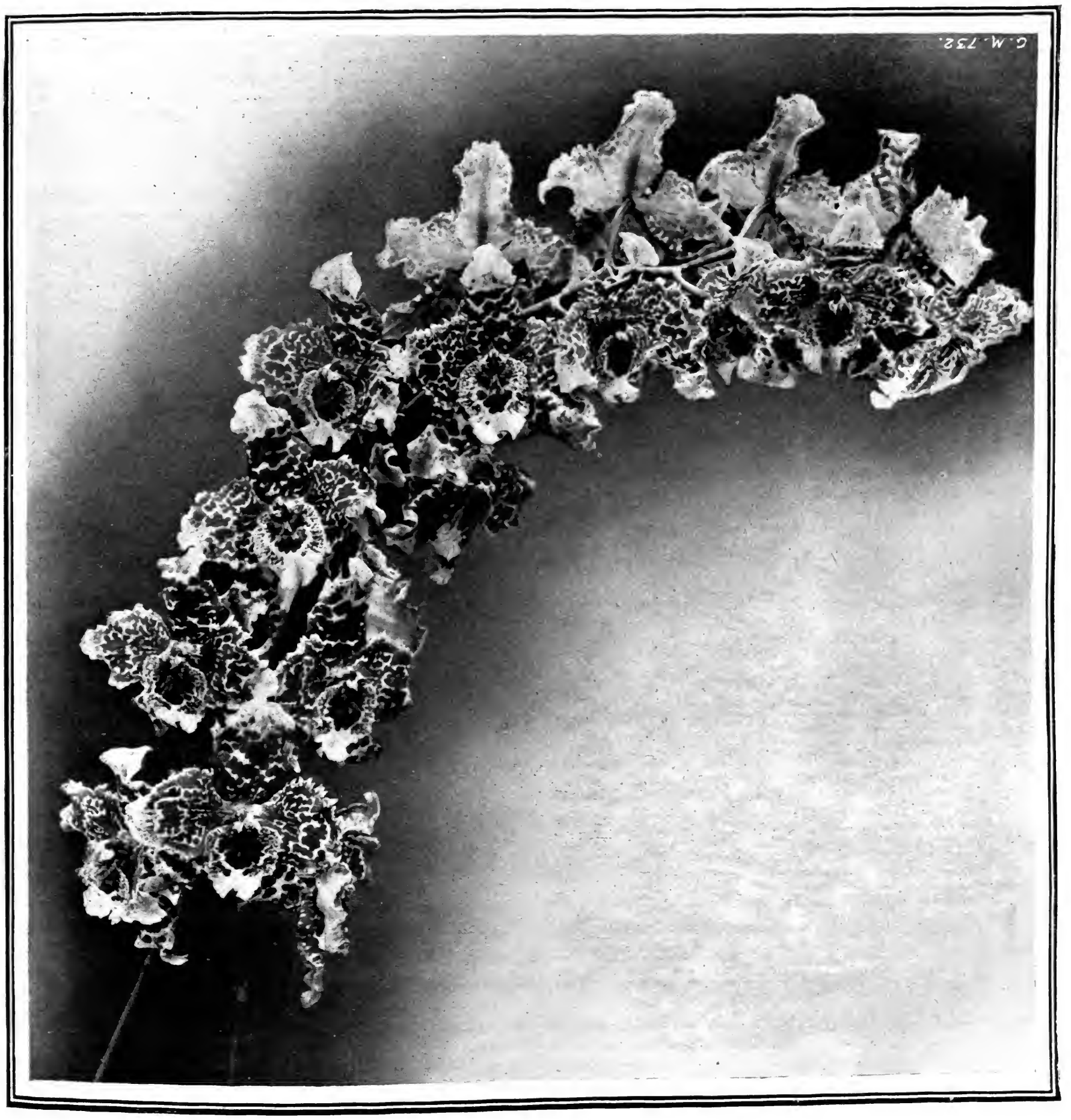
For elegance of arrangement, brightness, and the inclusion of many choice things, Messrs. Sander and Sons' group of orchids was of great excellence. We much admired the high light background, where Phalænopsis Rimestadiana, Cœlogyne Dayana, Renanthera Imschootiana, and Dendrochilum glumaceum were associated in high elegance masses on either side of a bold central group of cattleyas, Lælio-cattleyas, and Brassocattleyas, from among which rose spikes of Cymbidium Pauwelsi, C. Gottoianum

bellissimum, a lovely chaste variety, and various odontoglossums, odontiodas, etc. At the ends were masses of miltonias and odontoglossums. Picking out a few special subjects from this splendid collection we must note Brasso-cattleya Mrs. Leemann var. Diadem, with yellowish flowers, B.-c. mirabilis, the new Maxillaria Fletcheriana, L.-c. Imperator Regina, the wonderful Oncidium Cooksoniæ illustris, Cœlogyne pandurata, Miltonia St. Andre, with Odontioda Roger Sander, O. Lælia Sander, O. Deloscasæ var. Solon, all derived from Miltonia Warscewiczi, and an odontoglossum. Odontoglossum Conqueror, a sort of groundwork for fine forms of Cattleya Mossiæ, C. Dusseldorfei Undine, Odontioda Bradshawiæ, the lovely yellow Odontoglossum luteo purpureum Vuylstekeanum, O. Aireworth, and the pure white O. armainvilliersense. Dendrobium Bronckhardti and Lælio-cattleya Phœbe lent colour to the ends of this display.

Messrs. Armstrong and Brown, Tunbridge Wells, came out strongly with a large and beautiful exhibit set up in their best style. Masses of Cymbidium Lowianum marked the top corners, and fine spikes of Phalænopsis Rimestadiana arranged over Odontoglossum teresting green and black flowers; the quaint Bulbophyllum Ericessoni, Odontioda Chanticleer, Odontoglossum eximum Armstrongæ, with red-purple flowers on white ground; and Miltonia vexillaria G. D. Owen.

Mr. C. F. Waters, Balcombe, Sussex, had a low group that was pleasing to look upon after the many other high arrangements. He presented a host of light varieties of Odontoglossum crispum, forms of Lycaste Skinneri, Cattleya Mendeli, and C. Mossiæ, with a few renantheras, etc.

Cymbidium insigne towering up among bamboos formed the background of Mr. H.



CHELSEA SHOW—ODONTOGLOSSUM EMPRESS OF INDIA.

Flowers large, richly marked with rose-red on deep blush ground. Exhibited by Messrs. Charlesworth and Co., Haywards Heath.

O. crispum excelsior, fine white and shapely, O. perciltum Aerides Lawrenceanum, and Angræcum Sanderianum were other beautiful kinds on view.

Mr. Sidney W. Flory, Tracey's Nursery, Twickenham, contributed a rather flat bank of orchids, and the chief features of his display were good forms of Cattleya Mendeli, Vanda teres, Brasso-cattleya Queen Alexandra, heavily blotched odontoglossums, and a little set of the golden-veined Anæctochilus petola.

Messrs. Hassall and Co., Southgate, provided a graceful group, and carefully avoided the evils of overcrowding. Miltonias formed Thompsonianum formed the high central feature. Below the latter a grand lot of Odontioda Bradshawiæ, O. Rosefieldense, O. Charlesworthi, O. Vuylestekeæ, white odontoglossums and Miltonia Bleuana were beautifully grouped over ferns. A pair of good specimens of Cœlogyne Dayana were set high in the bays, and their long pendulous spikes hung over groupings of Lælio-cattleya Hyeana, L.-c. Mrs. Temple, L.-c. eximia, L.-c. Fascinator (a fine lot), Brasso-cattleya L.-c. Veitchi, B.-c. Leemannæ, and B.-c. Langleyense. In the foreground we were attracted particularly by Cattleya Skinneri alba, Cœlogyne pandurata, with its ever in-

Dixon's group of orchids, tall odontoglossums were also used at the back with choicer varieties, and some pretty odontiodas in front. Miltonias were well represented, and so were orange-coloured lælio-cattleyas.

Messrs. J. and A. McBean, Cooksbridge, had an extremely pretty exhibit that was also a large and handsome one. This firm grows odontoglossums grandly, and on this occasion used lovely spikes of light forms of O. crispum in great numbers, massing them at the back, ends, and centre, with grand groupings of Cattleya Mossiæ in the bays. Right in the front was a whole host of brilliant odontiodas and special odontoglossums.

Of the latter O. Vuylstekeanum, O. Clytemnestra, O. Mastiff, rich brown and white; O. King Arthur, rose and purple-brown; Cattleya Mendeli Mayflower, C. Mossiæ Dreadnought, Odontioda Lambeauianium, Odontoglossum Phœbe splendens, and O. Brightness, almost wholly of a rich red-brown colour.

The display made by Messrs. Stuart Low and Co., Enfield, was very attractive, and its outstanding feature was a stand of Phalænopsis Rimestadiana, Renanthera Imschootiana, and dendrochilums. Against a background of palms, Dendrobium Warderianum, D. thyrsiflorum, and Oncidium Marshallianum showed up finely, while in the valleys were D. formosum giganteum and Cattleya Mendeli. Oncidium concolor was very fine in the foreground, with miltonias, Odontioda Bradshawiæ, O. Lambeauianum, the dainty Cypripedium niveum, and the fragrant Cattleya citrina.

Another glorious exhibit was displayed finely by Messrs. Mansell and Hatcher, Rawdon, Leeds, the general design being three large mounds with two bays or valleys. At the ends Cymbidium Lowianum and white odontoglossums were set well above Lælio-cattleya Hyeana, L.-c. Aphrodite, L.-c. Fascinator, L.-c. Canhamiana, Cattleya Mossiæ, and C. Mendeli. In the centre cymbidiums were associated with the bright Renanthera Imschootiana, Cattleya Empress Frederick var. alba was a fine centre plant with beautiful yellow, brown marked lip. Oncidium pulchellum was very lovely all round the base of the central mound, while Miltonia vexillaria filled the valleys except where, in the foreground, we noted such choice things as Odiontioda Rosefieldense, O. Gaunti, rich vermilion, Odontoglossum crispum eboraicum, O. percultum, O. crispum Royal Gem, and the fine Miltonia vexillaria Chelseaensis.

Mr. E. W. Davidson, Twyford, contributed a nice lot of odontoglossums and lælio-cattleyas, and made up a very pleasing group of choice varieties of these and other orchids.

ROSES.

If there had been nothing else in the great show at Chelsea the roses alone would have repaid a visit, and the method of arranging the groups, which reminded one of the International Exhibition last year, was a great improvement on what one has been in the habit of seeing at the Temple. Varieties of the rambling types were the conspicuous feature, and these were represented largely in quite a variety of forms. Indeed, they went a long way to demonstrate the popularity of this comparatively modern section of the great rose family.

Messrs. W. Paul and Son, Waltham Cross, were represented by a beautiful group of roses. Weeping standards of many delightful varieties, which included Tausendschon, American Pillar, Blush Rambler, Hiawatha, Excelsa, Sylvia, Coquina, and Lady Gay looked down, as it were, on a groundwork of finely-grown pot plants, some of the most conspicuous of which were Madame Maurice de Luze, Marcella, Mrs. Joseph Welch, Sunburst, Portia, Arthur R. Goodwin, Entente Cordiale, and Antoine Rivoire.

A very effective group of roses, mostly ramblers was set up by Mr. George Prince, of Oxford. It would be difficult to imagine finer flowered specimens of Dorothy Perkins, Hiawatha, Lady Godiva, White Dorothy, and Minehaha than those represented in the group, while dwarf plants of Mrs. Cutbush, Jessie, Jeanne d'Arc, and others formed a pleasing ground work.

Roses in pots and roses cut made up the striking exhibit sent by Messrs. Frank Cant and Co., Colchester. Rambling roses of the Hiawatha and Dorothy Perkins types formed the background and sloping down in front of them were bold masses of Lady Roberts, Mrs. George Shawyer, and Mrs. John Laing. Specimen blooms in boxes reminded one of a summer rose show, and altogether the display was worthy of the high reputation of this firm.

Near at hand Messrs. Alexander Dickson, Newtownards, had a small but very choice exhibit of cut roses, which included Queen Mary, Mrs. Cornwallis West, Mrs. Campbell Hall, Verna Mackay, and Alexander Hill Gray.

Messrs. B. R. Cant, Colchester, filled a big space with roses. Ramblers were there in great profusion, both in pots and arranged in bamboo stands. Amongst the varieties of other roses which seemed to stand out most conspicuously were Elizabeth, Rose du Barri, St. Helena, very fine; Sunbeam, Sallie, a lovely rose; and Lady Reay.

Messrs. A. J. and C. Allen, Norwich, were exhibitors of a small group of roses, in which Sunburst was conspicuous, but the effect would have been better if there had not been so much material crowded into the space. A corner of one of the tables was occupied by a few roses which came from Messrs. A. Robichon and Fils, Orleans, France, and amongst them a new hybrid briar, of which Frau Karl Druschki was said to be one of the parents; but any attempt at taste in arrangement was conspicuous here by its absence, the whole exhibit having a very unfinished appearance.

Quite a pleasing little group of roses, interspersed with acers and ferns, was set up by Messrs. Stuart Low and Co., Bush Hill Park. In this group Ulrich Brunner, with long stems, was in good form, and the same remarks apply to Mrs. John Laing, Mrs. George Shawyer, Frau Karl Druschki, and the Lyon Rose. Varieties of the rambling section were freely employed in the formation of the group.

Weeping standards were the chief feature in the group exhibited by Mr. Charles Turner, of Slough, and amongst them the specimens of Lady Gay, Dorothy Perkins, and Blush Rambler were very well grown. The groundwork underneath was filled up with roses in pots.

Beautiful were the specimen ramblers and weeping standards in the group arranged by Messrs. W. Cutbush and Son, Highgate, and equally beautiful was the bed of dwarf polyantha roses that formed the groundwork.

CHELSEA SHOW—FORMAL GARDEN.
Designed and formed by Messrs. J. Carter and Co., Raynes Park, S.W.

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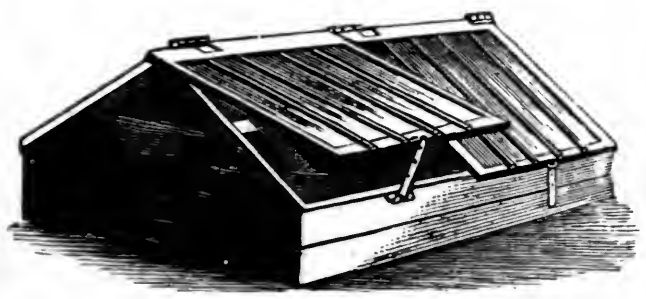

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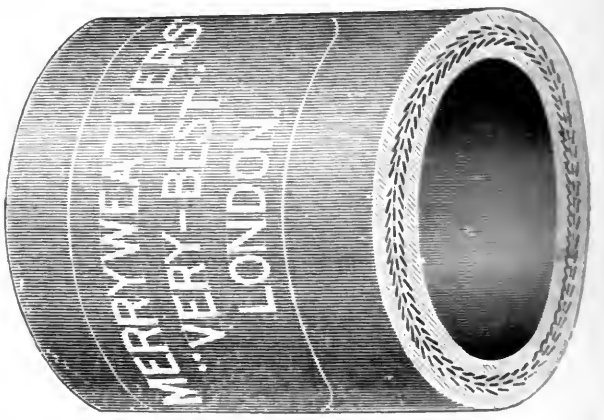

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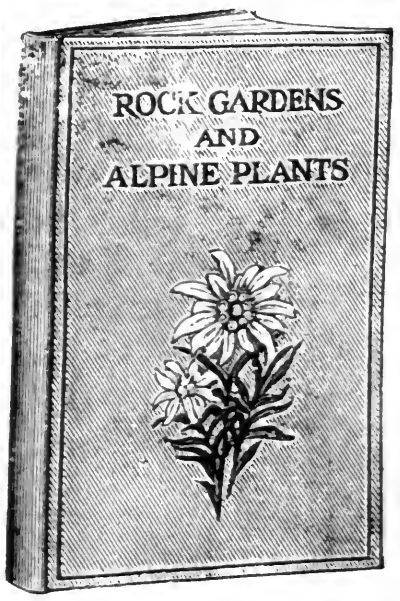

ROCK GARDENS AND ALPINE PLANTS.

By E. H. JENKINS, F.R.H.S.

Edited by T. W. SANDERS, Editor of "Amateur Gardening."

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Among the varieties were the white Yvonne Barbier, Baby Tausendschon, Mrs. W. Cutbush, Orleans Rose, Jessie, and Maman Turbat.

Novelty was the feature of the rose group exhibited by Messrs. Hobbies, Lim., Dereham. From one point you looked through a pergola of clustering ramblers, chains and posts enclosed the group, and on the tops of the latter cut blooms of roses were arranged. All the specimens were well grown, and the exhibitors are to be congratulated on their break away from the orthodox type of group.

Messrs. George Paul and Son, Cheshunt, made a big display. Weeping standard roses towered up above dwarf specimens, the wichurianas being much in evidence, and the finely flowered plants of Mrs. Aaron Ward, Hugh Dickson, Sunburst, Freda, and Richmond were much admired.

Messrs. George Mount and Sons, Canterbury put up a fine group of roses. The big specimens included White Dorothy, Lady Gay, Dorothy Perkins, and Hiawatha. Of great excellence were the blooms of Mrs. John Laing, Ulrich Brunner, Frau Karl Druschki, Lady Pirrie, Richmond, and Mrs. George Shawyer.

Throughout the whole period of the show crowds of visitors gathered round the display of blooms of Madame Edouard Herriot rose, which was shown in fine colour by Messrs. G. Beckwith and Son, Hoddesdon, who also showed a fine group of Willowmere. M. Hemeray Aubert, Orleans, exhibited plants of the pretty little crimson rose Ponceau.

CARNATIONS.

These formed a charming feature of the exhibition, and their popularity was unquestioned; indeed, they vied with orchids and roses for first place among the subjects staged in the big tent.

A very handsome group, consisting of finely grown Princess of Wales, and Old Blush malmaison varieties, were grouped in little mounds by Mr. W. Jennings, gardener to Leopold de Rothschild, Esq., Ascott, Leighton Buzzard. Between the carnation grouplets Mr. Jennings placed Statice profusa, the whole producing a fine effect.

Messrs. Wm. Cutbush and Son, Highgate, presented a very beautiful exhibit of carnations. Theirs was a circular design with a central mound of flowering plants of the red Lady Coventry, over which was arranged a large vase of a yellow ground fancy variety. Grouplets of Cecilia, Baldwin, Princess of Wales, The Queen, King Arthur, and the crimson Maggie Hodgson formed a lovely groundwork for tall vases of beautiful blooms of R. F. Felton, Lord Rothschild, White Wonder, White Enchantress, Mrs. Lucy Mackinnon, Edna, Marmion, and other leading varieties.

Messrs. Young and Co., Hatherley, Cheltenham, had a squarish group with a bed of moss and ferns. A high columnar stand of the yellow Cecilia occupied the central position, and round it were tall stands of Marmion, Duchess of Devonshire, White Enchantress, Mrs. Brodie Henderson, and Edith Waters. In smaller vases were capital blooms of Rose Enchantress, Rose Doré, Scarlet Glow, Regina, Mikado, Electra, Winsor, Britannia, Hon. Lady Neeld, Mrs. Greswolde Williams, Baroness de Brienen, and May Day. The whole was a most effective contribution, and one could see the grand central column of 200 Cecilias from afar.

Mr. C. Engelmann, Saffron Walden, adapted a novel method in the disposition of his group of carnations, for he made a groundwork of flowers, setting these in low vases on a bed of moss. He filled a large square space, and high in the centre were pyramidal stands with hundreds of blooms of Rosa, Lady Northcliffe, Sunstar, Elektra, White Mrs. Lawson, and White Wonder. My Rose—a lovely rose-pink, the inevitable crimson Carola, the brilliant Beacon, Triumph, Pioneer, and Emperor were varieties set in lower stands and vases, and the whole was a fine effort that further enhanced Mr. Engelmann's reputation.

Messrs. Stuart Low and Co., Enfield, put up a familiar-looking circular group of carnations, and they presented a very pleasing contribution, in which were fine blooms of Triumph, Baroness de Brienen, Fairmount, Empire Day, Princess of Wales, Lady Alington, Mrs. C. F. Raphael, and White Wonder in vases and stands of varying height. The flowers were grouped with ferns, asparagus, and palms. Mr. H. Burnett, Guernsey, had a somewhat small group for him, but he had lovely flowers of Mrs. C. F. Raphael, Beacon, Mikado, Marmion, Mrs. Tatton, White Wonder, etc., staged in tall glass vases.

Particularly effective was the lovely exhibit of carnations set up by Mr. A. F. Dutton, Iver, Bucks. Mr. Dutton filled a triangular space with large baskets of beautiful blooms, and everyone admired this dainty and novel display. Of course, Mrs. A. F. Dutton was finely represented, and so were such excellent varieties as Niagara, Britannia, Winsor, Mikado, Scarlet Glow, Rose Pink Enchantress, Triumph, May Day, and Enchantress. Mr. Dutton is to be heartily congratulated upon the beauty of his blooms and their arrangement.

Mr. S. Mortimer, Farnham, was represented by vases of Carola, Enchantress, Winsor, Victory, and other carnations, with two rows of the sweet-scented All-the-Year-Round stock in front of the vases. The very capital perpetual-flowering pink named Procapital perpetual-flowering pink named Procapital perpetual-flowering pink named Procap

fortnight too early for the bulk of even "May" flowers. In not a few instances the plants shown evinced signs of a degree of forcing that is resented vigorously by hardy flowers, and we are prompted to ask the question whether the best interests of even commercial horticulture are served by exhibiting flowers so far out of season as to mean their appearing altogether out of true characted. This protest refers, of course, to such border plants as should be seen at a July or Augnst show, and does not apply to those subjects that are simply given glass protection to ward off inclement weather. Taken altogether, for all our mild criticism, we readily acknowledge that hardy plants and flowers were very well shown by a large number of well-known growers.

The group of hardy plants and flowers arranged on the ground by Mr. James Box, Lindfield Nurseries, Haywards Heath, was replete with brightly coloured subjects of varied character, suitable for the most part for the general border, whilst in the foreground a choice assortment of primulas, sarracenias, viola species, and other dwarf growing, moisture-loving plants added to the interest of the exhibit. Incarvillea grandiflora was beautifully shown, and the neat yellow heads of Tritoma rufa, and tall spikes of Verbascum Ivanhoe gave relief to the brilliant scarlet geums and Anemone Rouge Ponceau, the latter being as attractive as a Darwin tulip with the addition of elegant foliage. Messrs. T. S. Ware, Lim., Feltham, put up big masses of irises, pæonies, lupins, and trollius, with a foreground of bedding violas in distinct, bright colours. They had also some fine primulas, and a patch or two of epimediums, plants which for beautiful foliage and small but graceful flowers are most useful for shady borders or nooks in the moist parts of a rockery.

Despite the early date, Kelway's delphiniums made a fine show, and an excellent background for the brilliant pæonies and pyrethrums that formed important features of the Langport firm's exhibit. The shimmering white petals of the large-flowered tree Pæony Queen Alexandra stood prominently in front of the group, Elizabeth, a big double flowered variety with rosy-salmon and buff tints, being another variety that pleased us. The delphiniums bore no labels, but blue, mauve, and purple were represented in a wonderful variety of shades.

A circular bed of Viola cornuta purpurea, arranged on the ground by Messrs. Gunn and Sons, Olton, Warwickshire, was a method of arrangement that showed the value of this fine purple flower for big, bold masses. A central mound of the tall white plumes of Saxifraga pyramidalis served to intensify the depth of colour in the violas. The same firm also showed a bed of phloxes, which, in spite of forcing, came out in good colour. Geo. A. Strochlein was specially bright, and Flambeau was also a good salmon-scarlet. Mr. Amos Perry's hardy ferns constituted a distinct feature, and contained many choice and very beautiful varieties of the most useful species. Polystichum angulare frondosum is so broad in frond and regular in division of its fronds as to make it absolutely distinct from most forms of the species, but P. angulare divisilobum laxum is one of fine parts and quite characteristic habit. The various crested forms of Athyriums and Lastreas were all most interesting, and Osmunda gracilis added to the dignity of the group.

The border and rock plants shown by Mr. Perry upheld the reputation of the firm for the excellence and extent of their collection. Lewisia cotyledon, with its pink and white starry flowers, and Viola cornuta Perry's Yellow were small, but choice, subjects, and the varied assortment of Iris germanica, tulips, and pæonies made bold splashes of bright colours. Messrs. G. and A. Clark, Lim., Dover, put up some fine things, such as eremuri, hybrid verbascums, an orange-coloured form of Genm Mrs. Bradshaw, named Mr. J. Bradshaw, and the glowing crimson flowers of Pyrethrum Mrs. Bateman Brown.

Messrs. R. Wallace and Co., Colchester, had a most effective group arranged in three mounds, the central one consisting of choice liliums, among which the pendant mahogany-coloured flowers of L. Dalhansoni, the buff-tinted L. excelsum, and bright yellow L. Hansoni were prominent. L. Marhan and its variety Elien Willmott were other two choice things, and the dwarf, brilliant orange L. tenuifolium Golden Gleam was chaste in the extreme. Early gladioloi, with eremuri, were the feature of one of the side mounds, while astilbes were freely used on the opposite side. Parrot and other tulips, salmon-pink tree pæonies, Primula Veitchi, with whorled umbels of rosy flowers, and a choice variety of violas made up a bright group arranged by Messrs. W. Artindale and Son, Sheffield, and Messrs. George Bunyard and Co., Lim., Maidstone, showed pæonies, lupins, and tulips, as well as miscellaneous border plants. Cytisus incarnatus purpureus was one very distinct and pretty plant of shrubby habit, and the lilac-blue flowers of Pentstemon Menziesi made a good show.

Messrs. Geo. Jackman and Son, Woking, occupied the same position as at the International with a big group of hardy plants, among which Verbascums densiflorum, phœniceum, and Ivanhoe, and the white-flowered Delphinium Moerheimi were spiked flowers of telling aspect. Dodecatheons, double meconopsis, Euphorbia pilosa major, and a colony of Cypripedium pubescens were among the less common subjects of dwarf habit in this interesting group. The massed annuals displayed on either side of a side exit of the tent by Messrs. Watkins and Simpson, Lim., London, showed the decorative value of the best selected strains of clarkias, nemesias, and schizanthus in no indefinite manner, whilst the firm's named antirrhinums once more emphasised the value of these homely flowers for bedding purposes.

Lupinus polyphyllus azurea and Verbascum caledonia on Messrs. G. Gibson and Co.'s stand evidently resented the forcing necessary to bring them out so early, for their colours were somewhat insipid, but the Bedale firm had on their stand some splendid saxifragas, violas, and aubrietias, as well as pink spiræas, dicentras, and white broom.

ALPINE AND KINDRED PLANTS EXHIBITED ON TABLES.

Mr. H. Hemsley, Crawley, built a rockery on staging which he furnished with alpine plants of many kinds. The drooping Onosma Bourgoei, the metallic-hued Sempervivum purpureum, the sombre flowers of Bowles' black viola, and the tiny white Androsace lactea, were a few totally differing but equally interesting little gems that helped to fill his stand. Mr. Hemsley also showed his blue and white forget-me-not named Marie Raphael, and many were the comments this quaint flower drew from the visitors. Mrs. E. Lloyd-Edwards, Bryn Oerog, near Llangollen, brought up her choicest hybrid saxifrages, such as S. sanguinea superba, surely the richest coloured of all, the white-flowered Queen May, and Rose Beauty with clear rosy-pink flowers. Aubrietia Lloyd-Edwards, a quaint yellow-flowered saxifrage, and Wolley Dod's variety of Cheiranthus montanus, were also shown by Mrs. Lloyd-Edwards, who had a painted garden scene as a background to her exhibit.

Polyanthuses and alpine auriculas from Messrs. Storrie and Storrie, Glencarse, Perthshire, were very charming. Messrs. Storrie have succeeded in selecting groups of auriculas that agree in colour so that yellow shades, lavender, and purple, amber and bronze may be had as desired from seed, and the flowers, although not of orthodox form from the florists' point of view, are large and effective for use in the garden. Mr. Howard Crane, Highgate, showed a variety of violas arranged in shallow bowls of sand, there being represented a range of colour extending from pure white through all the colours available in this family.

Mr. James Douglas, Edenside, Great Bookham, showed a collection of auriculas that would have done credit to a National Auricula Show. He had grandly flowered plants of Wm. Smith, a green edge that received an Award of Merit; Mildred Jay, an alpine purple-mauve shaded flower; and the ever good Phyllis Douglas, one of the most attractive of the blue-ground alpines. Prince Charming was a capital green-edge, and Canary Bird a good yellow. Mr. G. W. Miller, Clarkson Nurseries, Wisbech, had selected varieties of daisies, violas, and pyrethrums, his Viola cornuta, purple and mauve varieties, being very attractive. Messrs. Kent and Brydon, Darlington, showed alpine plants on an improvised rockery, and among the subjects displayed were Silene Veseylisti, Veronica chamædrys pedunculata, Aquilegia glandulosa, and Erinus alpinus carmineus. Euonymus radicans Kewensis, a miniature shrub, was very interesting, and the Asperula suberosa was well flowered. The whole exhibit was full of choice and rare things that delight the connoisseur.

Mr. C. H. Herbert's perpetual-flowering pink Progress was as attractive as ever, and he had two or three other varieties, showing possibilities of a range of colours in these continuous-flowering pinks. Sunset, Cottage Maid, Eclipse, and Delicata were the names of four separate and distinct-coloured varieties shown from Acock's Green. Among Messrs. Dobbie and Co.'s pansies we were particularly attracted by Mrs. C. Kay, a deep purple fancy, Sunburst—particularly bright, and Unicorn. Their violas included Edina, a rich navy blue, Redbraes Yellow, Virgin White, and Hector Macdonald, a white-centred blue-banded variety. Mr. Stuart Maples, Stevenage, had a small rockwork exhibit, containing plants of Chrysogonum virginiacum, Oxalis enneaphylla, Myosotis rupicola, and Achillea serbica, besides a number of other useful alpines in suitable arrangement.

Messrs. J. Piper and Sons, Bayswater, showed some choice alpines on a table rockery in the big tent, where we saw Dianthus gloriosus, Æthionema armenum Warley variety, Lychnis Lagascæ, and several primulas in choice assortment. Violas, shown by Mr. W. R. Tranmer, Alma Nurseries, Cottingham, Hull, included Alma—a purple, Maggie Mott, Moseley Perfection, and a number of other varieties that are recognised as the best of their respective colours.

Quite a nice selection of alpines were shown by Messrs. Thompson and Charman, 11, Adam Street, Adelphi, W.C. The very choice Campanula Stepheni nana, and the free-flowering Lewisia Columbiana were easily noticeable, but there were many other very attractive and lovely subjects on this stand.

Mr. Geo. Underwood, Leicester, showed violas in variety, a few among many varieties that we liked being Evelyn Bell, Darkie, General Baden Powell, and Gladys Finlay. A good white cornuta was simply labelled V. cornuta alba, and was very much admired. Primula Cockburniana, P. Veitchi, Achillea tomentosa, and Habranthus pratensis were shown among other things in baskets by Messrs. Whitelegg and Page, Chislehurst.

Novelties in Chinese hardy plants were the feature in Messrs. Bees' stand, brought from Sealand Nurseries, near Liverpool. Roscoea cautilioides, Senecio abrotanifolia, and Dracocephalum bullatum were evry nice. Celmisia spectabilis argentea was a new plant from New Zealand, and Primula vittata, P. Bulleyana, and P. Beesiana were only a few among the many choice Chinese primulas shown. Pedicularis siphonantha, a really unique plant, with charming rosy-cerise flowers and quaint aceæna-like foliage, was undoubtedly one of the best novelties in the show. Enthusiasts were very much interested in the remarkable collection of primulas shown by Dr. MacWatt, Morelands, Duns, Scotland, who, as everyone knows, can show primulas as few people can. Among the rarest were P. deflexa, P. Munroi, P. grandis, and P. Parryi. The whole exhibit was full of novelty and worth, and there was but little in the show of more absorbing interest to those who love and study the primroses of both hemispheres.

Mr. Reg. Prichard, West Moors, Wimborne, showed Campanula Stevensi nana, one of the dwarfest and best of the dwarf campanulas; Helichrysums bellidioides, and Linum capitatum, as well as a variety of alpine plants of quite good quality.

Messrs. Reamsbottom and Co., Geashill, Ireland, had their St. Brigid anemones in a wonderful variety of colour, the blues and mauves and the brilliant scarlets being helped by the whites and paler pink shades. Primula pulverulenta and a hybrid between it and P. Cockburniana called Yarm variety were shown by Mr. W. Laurenson, Yarm-on-Tees. The hybrid is a promising plant of vigorous growth, with fine terra-cotta flowers. Messrs. Phillips and Taylor, Bracknell, Berks, had a group of bog and water plants on one side of the big monument. Primulas pulverulenta Bulleyana and japonica were associated with Trollius Orange Globe and Spiræa Peach Blossom, while gunneras, polygonums, anchusas, etc., made up the principal portions of a good show. Mr. J. Macdonald, Harpenden, made another remarkable display of grass for lawns and golf links. Dried specimens of a great variety of grasses, with botanical names, made a feature of educational value, as also did little patches of growing grasses of varied character grown in soil and on soft, porous felt.

A big crowd gathered round Mr. G. Reuthe's stand, the hardy plants from the Foxhill Nurseries, Keston, embracing a host of charming little rock plants, and quite a collection of Himalayan rhododendrons, which were both graceful in form and of pleasing colours.

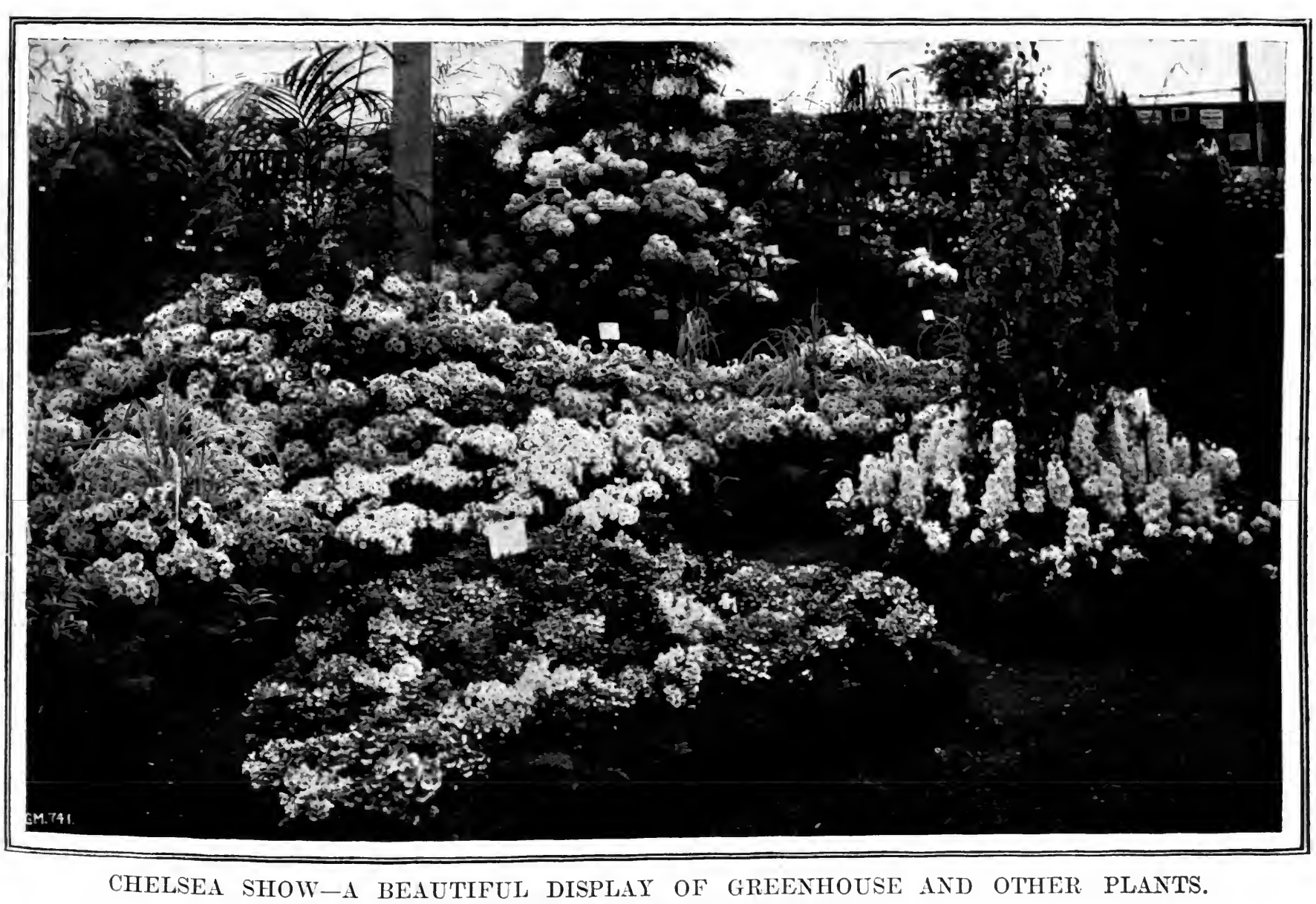
ROCK AND FORMAL GARDENS.

Undoubtedly the rock and formal gardens were, as a whole, finer than in 1912; few were so extensive as last year, but it was evident that many lessons taught by the International Show had been taken to heart, and the rock gardens were more like real rock gardens, and less like mere displays of rocks and alpine plants.

Passing through an iron gate with lions mounted on the pillars on either side, you went by way of a paved walk into an old English garden, arranged by Messrs. Carter and Co. From the low terrace wall a grinning gargoyle spurted water into a semi-circular pool, and the stone-edged borders round about were thickly planted with azaleas and rhododendrons. Little stone men played with dummy cards on a round stone table, or, at least, they were supposed to play, and you mounted the steps to an upper terrace and paved garden. Here a little fountain played under an elm that was permanent, and here again the borders beyond the pavement were furnished with flowers. From the paved garden you looked into a heather-thatched tea house, which looked as old as the armour that hung on the walls. From a leaded window in this structure you looked out over a garden that seemed to belong to a past and gone page in history, where the feminine fashions of modern London seemed somewhat out of place. It was hard to believe that this creation was all the work of the last few weeks.

You hardly could realise that you were in the Chelsea Hospital grounds when you turned a corner and your eyes rested on the weathered Welsh stone which played such an essential part in the rock garden arranged by Messrs. R. Wallace and Co., of Colchester. Away in the distance water tumbled down a rocky cascade into a pool below, and the green turf, dotted here and there with stones, sloped gently to the water edge. Scotch firs at the background seemed to add a still more natural appearance to the cascade, and, while just enough alpine flowers were planted in the crevices between the stones, anything approaching extravagance was studiously avoided. Then, to find contrast, you turned to the left across an expanse of grass and looked over a loose stone wall into a sunk garden, where a kind of stone-built summer-house, covered in with Horescombe tiles from near to Bristol, looked as if it ought to have been in a garden on the Cotswold Hills to have been quite at home. You entered the old English sunk garden by means of stone steps, and wandered round it on a paved footway, admiring the flowers that filled the borders under the shelter of the walls, and you wondered how the pool of water in front of and underneath the stone-built tea house managed to get there. Then, to leave the garden, you mounted other steps, at the top of which there was a stone garden seat, and the figure of a lady supporting an old-world sundial, and then you passed out—and remembered that, after all, you were in the grounds of the Chelsea Hospital. It only remains to be said that Messrs. Wallace's fine effort will be remembered for many a day to come, and we cannot close this all too inadequate description of it without according a word of praise to Messrs. Wallace's expert, Mr. Dillistone, who was responsible for designing these charming gardens.

Messrs. Pulham and Son, 71, Newman Street, Oxford Street, W., had a rock and water garden on an imposing scale, with a neat garden house on the rising ground, from which the whole of the design could be viewed comfortably. A large irregular pool occupied a considerable part of the length of the exhibit, with low rocks rising from the grassy bank on the one side, bolder rocks rising from the other side of the water, then a narrow, rough paved pathway and a steadily rising wall of rocks beyond, with a beautiful little ravine near the summer-house, where a small rocky bridge spanned the rocky watercourse which supplied the pool below. In this cool, shady ravine were ferns and other shade-loving plants. This corner was one of the prettiest of ideas, and was a surprise to all who passed along the pathway to the summer-house. Among the higher rocks were iberis, phloxes, saxifrages, veronicas, cotoneasters, sedums, cytisus, rock cistus, daphnes, etc.; while round the pool we made note of irises, spiræas, bamboos, ferns, trollius, funkias, moisture-loving primulas, etc., with iberis, lithospermums, alyssums, etc., on the rocky mounds. There was something decidedly bold about the scheme of rock garden for which the Guildford Hardy Plant Company was responsible. From the front you looked on a bed of hardy primulas, and surmounting a piece of rockery



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beyond were showy-looking geums. Twisting paved walks, with plants growing between the stones, wound in and out amongst the mounds, and at every turn you came across something of special interest. Perhaps amongst the many things that were represented nothing attracted more notice than the little group of the orange-coloured Habranthus pratense.

A diminutive pool with water lily leaves floating on the surface, and surrounded by grey Welsh stone, was the first feature of interest in the rock garden arranged by Messrs. Barr and Sons, London. Beyond this and either sides there were intersecting paths flanked with more rock work and more flowers, and away at the back the garden seemed to lose itself in a woodland glade of bluebells and forget-me-nots. It is hardly necessary to say that the pockets between the stones were furnished with all the gems of the alpine section, with azaleas behind, and anchusas lifting up their blue heads at intervals here and there.

GREENHOUSE PLANTS.

In the centre of the great tent Messrs. Sutton and Sons, Reading, set out a formal flower garden, consisting of a central circular raised bed of very bright and graceful clarkias; Scarlet Beauty shining finely here. Round this were four sets of six beds each, one large and five small ones in each set. These were filled with the firm's specialities, such as stellate and cactus-flowered cinerarias, dwarf nemesias in all brilliant hues, fragrant East Lothian stocks, glorious double begonias, a blaze of colouring; streptocarpus, white, blue, and rose; gorgeously oriental-looking calceolarias, one of which, by reason of its distinctness and beauty, so greatly interested Her Majesty Queen Alexandra that she was graciously pleased to accept a spray of flowers. There were also elegant alonzoas, a glorious lot of rose and white, and mauve Primula obconica, smothered in blooms of fine quality, and one large bed of showy schizanthuses. A little semi-circular bed of large-flowered crimson and white nemesias mixed was one of the prettiest and most striking of the many combinations in this interesting and very effective garden.

The wonderful exhibit from Messrs. Webbs', of Stourbridge, was composed of four huge banks, one consisting of calceolarias, another schizanthuses, and a third cinerarias, and a fourth of begonias and gloxinias. Brilliant in the extreme were the colours shown in the groups, and in front were boxes of green grass, masses of the white Hydrangea Madame Moullière, and Primula obconica gigantea. The brilliancy of the flowers, as a whole, was softened by the interspersal of maidenhair ferns, while a soft green background of muslin added effect. This beautiful display would have been still more effective if the tent roof at this point had been higher. Messrs. Watkins and Simpson, London, set up an interesting display of clarkias, schizanthuses, nemesias, and petunias.

Messrs. Carter and Co., Raynes Park, made up a veritable flower garden in their brilliant exhibit, which filled a large space, and was made up of mounds of stellate and cactus cinerarias, schizanthuses, and others, with masses of gloxinias, white and pink stocks, verbena Miss Willmott, petunias, calceolarias of brilliant colours, florists' cinerarias, salvias, and other things, with miniature lawns of the greenest grass dotted about in between, margined with white streptocarpus. The whole scheme of the exhibit was novel and original, the arrangement of the plants left no room for criticism, while good cultivation was the hall mark of every plant represented. A very fine collection of amaryllis was shown by Messrs. Robert P. Ker and Sons, Aigburth Nursery, Liverpool. Many of the colours represented were very beautiful, and amongst the varieties that attracted attention were Magnificent, The Queen, White Lady, Pink Beauty, Monarch, and Scarlet Gem. The flower stems were short and sturdy, and the plants were pleasingly arranged over a groundwork of maidenhair fern.

MEDALS AND AWARDS.

Gold Medals. — To Sir George Holford, K.C.V.O., C.I.E., Westonbirt, Tetbury, for orchids; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. R. Wallace and Co., Colchester, for rock and formal garden; to Mr. J. Wood, Boston Spa, for rock garden; to Messrs. Jas. Carter and Co., Raynes Park, for flowering plants and vegetables; to Messrs. J. Veitch and Sons, Chelsea, for trained fruit trees, for stove and greenhouse plants, and for flowering shrubs, etc.; to Messrs. Sutton and Sons, Reading, for flowering plants; to Messrs. R. L. Russell, Richmond, for stove plants, ivies, and shrubs; to Messrs. Blackmore and Langdon, Bath, for begonias, etc.; to Messrs. Frank Cant and Co., Colchester, for roses; to Messrs. R. and G. Cuthbert, Highgate, for azaleas; to Messrs. Dobbie and Co., Edinburgh, for sweet peas, etc.; to Mr. C. Englemann, Saffron Walden, for carnations; to Messrs. W. Paul and Sons, Waltham Cross, for roses and flowering plants; to Messrs. J. Piper and Sons, Bayswater, for shrubs, etc.; to Messrs. J. Waterer and Sons, Bagshot, for flowering plants; to Messrs. H. B. May and Sons, Edmonton, for ferns; to Messrs. Alex. Dickson and Sons, Newtownards, for tulips; to Hon. Vicary Gibbs, Elstree, for vegetables; to Messrs. W. Fromow and Sons, Chiswick, for Japanese maples; to Messrs. T. Rivers and Son, Sawbridgeworth, for fruit trees and citrus fruits in pots; and to Messrs. W. Cutbush and Son, Highgate Nurseries, for carnations.

Farrer Cup.—To Messrs. Bees, Lim., Liverpool, for rare alpines.

Davidson Cup.—To Messrs. Charlesworth and Co., Haywards Heath, for the best cattleya, not a hybrid, in the show (C. Percivaliana var. Mary Regina).

R.H.S. Silver-Gilt Cups. — To Messrs. J. Backhouse and Son, Lim., York, for rock and water garden; to Messrs. Barr and Sons, Covent Garden, for rock and water garden; to Messrs. J. Piper and Son, Bayswater, W., for rock and water garden; to Messrs. J. Veitch and Sons, Chelsea, for tulips and general exhibits; to Messrs. Jackman and Son, Woking, for clematises, shrubs, and plants; and to Messrs. G. Bunyard and Co., Maidstone, for apples.

R.H.S. Large Silver Cups.—To Mr. Maurice Prichard, Christchurch, for alpine, garden, and herbaceous plants; to Messrs. Sutton and Sons, Reading, for vegetables, etc.; to Mr. L. R. Russell, Richmond, for foliage and flowering plants; to Messrs. Paul and Sons, Cheshunt, for roses and azaleas; to Mr. Charles Turner, Slough for roses, carnations, lilacs, etc.; to Messrs. E. Webb and Sons, Stourbridge, for calceolarias and flowering plants; to Messrs. Young and Co., Cheltenham, for carnations; and to Mr. Amos Perry, Enfield, for herbaceous and alpines.

R.H.S. Silver Cups.—To Sir Jeremiah Colman, Bart., Gatton Park, Reigate, for orchids; to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. Stuart Low and Co., Bush Hill Park, for orchids; to Messrs. J. and A. McBean, Cooksbridge, for orchids; to Messrs. Pulham and Son, Newman Street, for rock garden; to T. S. Ware, Lim., Feltham, for rock garden; to Messrs. J. Cheal and Sons, Crawley, for formal garden, alpines, and shrubs; to Messrs. Jas. Carter and Co., High Holborn, for formal garden; to Hon. Vicary Gibbs, Elstree, for pelargoniums; to Miss Troyte-Bullock, Yeovil, for pelargoniums; to Leopold de Rothschild, Esq., C.V.O., Leighton Buzzard, for carnations and statice; to Messrs. W. Cutbush and Son, Highgate, for flowering plants, etc.; to Messrs. Ben Cant and Sons, Colchester, for roses; to Messrs. J. Hill and Son, Lower Edmonton, for ferns; to Hobbies, Lim., Dereham, for roses; to Mr. J. MacDonald, Harpenden, for grasses; and to Messrs. G. Mount and Sons, Canterbury, for roses.

R.H.S. Standard Cup.—To E. H. Davidson, Esq., Borlases, Twyford, for orchids; to Messrs. Mansell and Hatcher, Rawdon, for orchids; to the Craven Nursery Company, Clapham, Yorks, for rock garden; to Messrs. Cunningham, Fraser, and Co., Edinburgh, for alpine plants; to Mr. Clarence Elliott, Six Hills Nursery, Stevenage, for rock garden; to Mr. G. Reuthe, Keston, for rock garden and herbaceous plants; to Messrs. Whitelegg and Page, Chislehurst, for rock garden and alpines; to Messrs. G. Beckwith and Sons, Hoddesdon, for roses; to Mrs. B. Barrett, Castlethorpe, for schizanthus; to Mr. A. J. Bruce, Chorlton-cum-Hardy, for sarracenias; to Miss Litkie, Garden, near Hulbert, Duns, for primulas; to Mr. Reginald Prichard, Wimborne, for alpines; and to Mr. Geo. Prince, Longworth, for roses.

Silver-gilt Hogg Medal. — To Messrs.

Laxton Bros., Bedford, for strawberries and fruit trees.

Silver-gilt Knightian Medal.—To the King's Acre Nurseries, Hereford, for fruit trees.

Silver-gilt Flora Medal.—To Messrs. Hascall and Co., Southgate, for orchids; to Messrs. Barr and Son, Covent Garden, for tulips, etc.; to Messrs. Stuart Low, Bush Hill Park, for carnations, etc.; to Messrs. Phillips and Taylor, Bracknell, for herbaceous, etc.; to Messrs. Hogg and Robertson, Dublin, for tulips, etc.; to Mr. Bell, Guernsey, for carnations; to Mr. J. Box, Lindfield, for hardy plants; to Mr. Burnett, Guernsey, for carnations; to Messrs. G. and A. Clark, Dover, for hardy plants; to Messrs. Jefferies and Son, Cirencester, for tulips; to Messrs. T. S. Ware, Feltham, for herbaceous plants, etc.

Silver-gilt Banksian Medal.—To the Guildford Hardy Plant Nursery, Guildford, for rock garden; to Messrs. Artindale and Son, Sheffield, for hardy and water plants; to Messrs. Allwood Bros., Haywards Heath, for carnations; to Messrs. Artindale and Son, Sheffield, for hardy and water plants; to Messrs. Bakers, Wolverhampton, for hardy alpine and bog plants; to Messrs. Fletcher and Son, Chertsey, for American plants; to Messrs. Gibson and Sons, Bedale, for herbaceous plants; to Messrs. Kelway and Son, Langport, for herbaceous; to Messrs. Ker and Sons, Liverpool, for amaryllis; to Mr. A. Needham, Kelmscott, for tulips; to Mr. R. C. Notcutt, Woodbridge, for flowering and foliage plants; to Messrs. Watkins and Simpson, Covent Garden, for annuals in pots.

Silver Knightian Medal.—To the Thatcham Fruit Farm, Newbury, for vegetables.

Silver Flora Medal.—To Mr. S. W. Flory, Twickenham, for orchids; to the Burton Hardy Plant Company, Christchurch, for rock garden; to Messrs. R. H. Bath, Wisbech, for tulips and carnations; to Mr. C. Blick, Hayes, for carnations; to Mr. C. Bourne, Bletchley, for tulips; to A. P. Brandt, Esq., Bletchingley, for fancy pelargoniums; to Messrs. H. Cannell and Sons, Swanley, for cannas, pelargoniums, etc.; to Messrs. Carter Page and Co., London Wall, for herbaceous; to Mr. J. Douglas, Great Bookham, for carnations; to Mrs. Edwards, Llangollen, for alpines; to Messrs. Godfrey and Son, Exmouth, for pelargoniums, etc.; to Messrs. Gunn and Sons, Olton, for herbaceous; to Mr. A. Hemsley, Crawley, for alpines; to the Misses Hopkins, Shepperton, for herbaceous; to Messrs. E. W. King and Co., Coggeshall, for sweet peas; to Rev. H. Buckston, Hutton Hall, for calceolarias; to Mrs. Rolls Hoare, Horsham, for scented pelargoniums; to Robert Sydenham Limited, Birmingham, for sweet peas; to Messrs. Thomson and Charman, Adelphi, for hardy plants; to Messrs. Robt. Veitch and Son, Exeter, for calceolarias; to the Wargrave Plant Farm, Liverpool Street, E.C., for tulips, herbaceous, etc.; and to Mr. Carlton White, Bond Street, for clipped box and topiary work.

Silver Banksian Medal.—To Mr. H. Dixon, Wandsworth, for orchids; to Mr. C. F. Waters, Balcombe, for orchids; to Messrs. R. Tucker and Sons, Oxford, for rock garden; to Messrs. A. J. and C. Allen, Norwich, for roses; to Mr. E. C. Bowell, Cheltenham, for alpines; to Mr. H. H. Crane, Highgate, for violas; to Messrs. John Forbes, Lim., Howick, for herbaceous plants; to Mr. H. J. Jones, Lewisham, for pelargoniums; to Messrs. Kent and Brydon, Darlington, for flowering plants; to Messrs. B. Ladhams, Lim., Shirley, for hardy plants; to Mr. W. Lawrenson, Yarm-on-Tees, for primulas; to Mr. W. A. Manda, St. Albans, for foliage and plants; to Mr. G. W. Miller, Wisbech, for herbaceous; to Mrs. S. Mortimer, Farnham, for stocks and carnations; to Messrs. Reamsbottom and Co., Geashill, for anemones; to Messrs. W. H. Rogers and Son Lim., Bassett, for alpines, etc.; to Mr. J. D. Webster, Chichester, for carnations; and to Messrs. W. Wells and Co., Merstham, for carnations.

Bronze Medal.—To Messrs. Barrie and Brown, 39, King William Street, E.C., for herbaceous plants; to Messrs. W. and J. Brown, Peterborough, for lilacs, roses, etc.; to Mr. T. E. Dawes, Syderstone, for rhubarb; to Mr. R. d'Enncourt Day, Sutton Scolney, for Spanish iris; to Mr. H. N. Ellison, West Bromwich, for ferns and palms; to Mr. Stuart Maples, Stevenage, for alpines.

AWARDS TO HORTICULTURAL SUNDRIES.

Silver-Gilt Flora Medal.—To Mrs. Edith Fisher, E. Molesey, for water-colour drawings of gardens.

Silver-gilt Banksian Medal.—To Messrs. J. Carter and Co., Raynes Park, S.W., for seed-testing experiments; to Castles' Shipbreaking Co., Lim., Millbank, S.W., for garden furniture; to Messrs. Drew, Clark, and Co., Leyton, for diamond extension ladders; to Messrs. Sutton and Sons, Reading, for botanical and scientific exhibits; to Messrs. Wood and Sons, Wood Green, N., for pergola, garden houses, etc.

Silver Banksian Medal.—To Messrs. Pulham, 71, Newman Street, W., for garden furniture; to Messrs. G. and W. Purser, Lim., Hatton Garden, E.C., for spraying appliance; to Messrs. D. Roberts and Son, Tottenham, N., for tubs for shrubs; to Messrs. Wm. Duncan Tucker and Sons, 27, Cannon Street, for greenhouses, etc.; to the United Brass Founders and Engineers Co., Manchester, for spraying machines; to Messrs. Watkins and McCombie, 19, Paternoster Row, E.C., for horticultural illustrations; to Messrs. J. P. White and Sons, Lim., Pyghtle Works, Bedford, for garden furniture; to Miss Edith H. Adie, 9, Brechen Place, S.W., for oil paintings of garden subjects; to the Four Oaks Spraying Machine Co., Sutton Coldfield, for Knapsack sprayers; to Messrs. Green and Nephew, Lim., 107, Queen Victoria Street, E.C., for flower glasses; to Messrs. Headley Bros., 13, Devonshire Street, Bishopsgate, E.C., for garden books and pictures; to the Potter's Art Guild, Compton, Guildford, for terra-cotta garden furniture; to Messrs. R. Wallace and Co., Colchester, for plans of new gardens; to the Acme Patent Ladder Co., Earlsfield, for ladders, steps, etc.; to Messrs. Benton and Stone, Lim., Birmingham, for syringes, etc.; to Messrs. T. Crowther and Sons, Fulham, for iron gates, vases, etc.; to the Dryad Works, Leicester, for Dryad cane furniture; to the En Tout Cas Co., Lim., Syston, Leicester, for garden seats and trelliswork; to Messrs. A. W. Gamage, Lim., Holborn, London, for garden houses, chairs, etc.; to Messrs. H. Hartjen and Co., Noble Street, E.C., for spraying machines; to Messrs. J. H. Heathman and Co., Parsons Green, S.W., for various ladders, engines, etc.; to Messrs. Bolckow, Hughes, and Co., Blyth, for teak wood garden furniture; to Messrs. Charles P. Kinnell, 65, Southwark Street, S.E., for boilers; to Messrs. Liberty and Co., Regent Street, W.; for garden furniture; to Messrs. Maggs and Co., Queen's Road, Bristol, for teak wood garden seats; to the Patent Safety Ladder Co., Peterborough, for extension ladders.

Bronze Banksian Medal.—To the Leyton Timber Co., Lim., Deptford, for rustic garden furniture; to the London Provincial and Export Co., Wandsworth, S.W., for garden furniture; to Messrs. Thos. Sayer and Co., 45, Wilson Street, E.C., for garden furniture; to Messrs. Vipan and Headley, Leicester, for garden seats, etc.; to the Selborne Society, Hanwell, W., for bird nesting boxes; to Messrs. Barr and Sons, Covent Garden, for garden requisites; to Messrs. Blake and Mackenzie, Liverpool, for flower pots and seed testers; to Mr. Robert Hughes, Potter's Bar, for water-colour drawings of gardens; to Mr. J. Pinches, Camberwell, S.E., for horticultural (acme) labels; to Robert Sydenham Limited, Birmingham, for rustic table decorations; to Messrs. Cooper, Pegler, and Co., Christopher Street, E.C., for spraying machines; to the Economic Fencing Co., Billiter House, E.C., for wood fencing and trelliswork; to Messrs. Fenlon and Son, 8, Tudor Street, E.C., for new hotwater boilers; to the Hardy Patent Pick Co., Sheffield, for garden forks, spades, etc.

ORCHID COMMITTEE AWARDS.

First-class Certificate. — To Cattleya Empress Frederick alba, from Messrs. Mansell and Hatcher, Rawdon, Leeds; to Odontioda Chanticleer Orchidhurst var., from Messrs. Armstrong and Brown, Tunbridge Wells; to Lælio-cattleya Britannia Westonbirt var., from Lieut.-Colonel Sir George Holford, Tetbury, Gloucester; to Lælio-cattleya Sylvia, Princess Victoria Louise, from Messrs. Charlesworth and Co., Haywards Heath; to Miltonia Charlesworthi, from Messrs. Charlesworth and Co., Haywards Heath; to Lælio-cattleya Fredk. Boyle, Gatton var., from Sir Jeremiah Colman, Reigate; to Odontoglossum Queen of Gatton, from Sir Jeremiah Colman, Reigate; and to Odontoglossum Othmarschem, from Baron Bruno Schröder, Englefield Green.

Award of Merit.—To Odontoglossum eximium Armstrongæ, to Brasso-cattleya Excelsior, and to Lælio-cattleya Aphrodite splendens, from Messrs. Armstrong and Brown, Tunbridge Wells; to Oncidium McBeanianum, to Cattleya Mendeli May Queen, to Odontioda Charlesworthi Perfection, and to Cymbidium Gottianum superbum, from Messrs. J. and A. A. McBean, Cooksbridge; to Lælio-cattleya Ganymede, Holford var., from Lieut.-Colonel Sir G. Holford, Tetbury, Glos.; to Odontoglossum illustrissimum Westonbirt var., from Lieut.-Colonel Sir G. Holford, Tetbury, Glos.; to Odontioda Chelseaensis var. St. Fuscien, from Mons. Graire, Amiens, France; to Odontoglossum Georgius Rex, from Messrs. Charlesworth, Haywards Heath; to Brasso-cattleya Vilmoriniana, var. Etna, from Messrs. Sander and Sons, St. Albans; to Odontonia Lælia Sander, from Messrs. Sander and Sons, St. Albans; to Oncidioda Cooksoniæ var. illustris, from Messrs. Sander and Sons, St. Albans.

Cultural Commendation.—To Sobralia macrantha alba, from J. Gurney Fowler, Esq., Woodford; to Miltonia vexillaria virginale, and to Miltonia vexillaria Snowflake, from Lieut.-Colonel Sir G. Holford, Tetbury, Glos.; and to Cattleya Mossiæ Mahomet, also from Westonbirt.

FLORAL COMMITTEE AWARDS.

First-class Certificate. — To Nephrolepis exaltata Willmottæ, from Messrs. H. B. May and Sons; to Cupressus Lawsoniana Fletcheri, from Messrs. Fletcher; to Meconopsis Delavayi, from the Edinburgh Botanical Gardens.

Botanical Certificate.—To Olearia Chathamica, from the Rev. A. T. Boscawen.

Award of Merit.—To Campanula Stevensi nana, from Mr. R. Prichard; to Pentstemon Davidsoni, from Mr. C. Elliott; to Auricula William Smith, from Mr. J. Douglas; to Calceolaria Clarefield Gem, from Mrs. Litkie; to Rose Nancy Perkins, from Mr. Perkins; to Rose Irish Fireflame, from Messrs. Alex. Dickson and Sons; to Rose Mrs. Campbell Hall, from Messrs. Alex. Dickson and Sons; to Saxifraga Grandfieldi, from Sir Everard Hambro; to Begonia Lena, from Messrs. Blackmore and Langdon; to Roscoea cautilioides, from Messrs. Bees, Lim.; to Rose White Tausendschon, from Messrs. Wm. Paul and Son; to Sarracenia Brucei, from Mr. A. J. Bruce; to Aster Falconeri, from Messrs. Barr and Sons; to Cytisus Andreana prostrata, from Mr. L. R. Russell; to Styrax Wilsoni, from Miss Willmott, V.M.H.; and to Lonicera tragophylla, from Messrs. J. Veitch and Sons.

*** The sections devoted to trees and shrubs, stove and greenhouse plants, tulips, sweet peas, fruits and vegetables, and sundries, are unavoidably left over, as also is a portion of the Rock and Formal Gardens section, until our next issue (May 31), which will also contain descriptions, with illustrations, of the new plants.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

THE COOL HOUSE.—The various species and hybrids of the odontoglossums are now giving a fine display of bloom. The dull weather which has been prevalent has prolonged the freshness of the flowers, but, on the other hand, it has checked plants in an advanced state of bud development expanding their flowers. I have previously pointed out the injury likely to be caused by keeping the flower spikes two long on the plants, and I will only mention that the fact of the flowers retaining their beauty for a longer period does not lessen the liability of the plants to suffer from the strain caused by flowering. With a continuance of the present conditions outside, no doubt many exhibitors will find considerable difficulty in having their plants in full bloom in time for the summer shows, and where plants are required it is best to give them a little warmer conditions to assist them to expand a few days before they are required. It is advisable that all cool orchids that have been treated in this manner should have the cool house treatment two or three days before they are required for use. This enables them to regain any loss of vigour caused by the warmer treament.

ONCIDIUM MACRANTHUM.—There is no oncidium more worthy of cultivation than O. macranthum, for it is most tractable grown in the cool house, and does well under the same conditions as are suited to Odontoglossum crispum; that is to say, a temperature ranging from 50 to 55 deg. normal winter conditions, with about 55 to 58 deg. in summer. The greatest difficulty will be found in keeping the house at the summer temperature mentioned, but every effort should be made to do so. The temperature of the cool house is not so great a consideration to its occupants as obtaining the suitable conditions of the atmosphere. A pure but practically saturated atmosphere is essential. The plants are in practically an active state of growth at all seasons of the year, and therefore require liberal root moisture, and thus annual repotting is desirable. This is best done when the new roots make their appearance, from the base of the newly-developing growth. We find they require liberal pot-room. The pots used should be well drained, and a fairly open compost with a liberal amount of sphagnum meets their requirements; this is made firm about the roots and base of the plants. The flowers are usually produced during the late spring and summer months. The long rambling spikes are best trained by having four neat stakes placed at even distances around the edges of the pot, so that the flower scape may be displayed to the best advantage after they expand. There are no orchids more serviceable for exhibition than O. macranthrum in a high state of development, or for general decorative effect. —H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

ACHIMENES that are growing freely and rapidly approaching the flowering stage will benefit by an occasional application of plant food and soot water. Allow plenty of room between the pots, and neatly stake and tie the individual plants. Grown in baskets they are very pleasing, if in the process of planting the corms have been so placed that some must grow through the moss at the sides, these being allowed to hang naturally, while the growth of the others are carefully tied out. As the flowers develop the plants may be removed to a somewhat cooler temperature, and every effort made to prolong the flowering season.

NEPENTHES.—These interesting stove plants are seen at their best when growing in baskets. It is not advisable to unnecessarily disturb them at the roots, but when a shift is required the present is a suitable time for their receiving it. They grow well in a mixture of Osmunda fibre or coarse orchid peat, sphagnum moss, and well broken charcoal. Carefully make this material firm about the roots, which must not be damaged, with the fingers, or by the aid of a dibber. sever when roots have formed, and pot up basket will derive benefit from having the spent surface compost removed and replaced by a top-dressing of new material. Subsequently they will require a humid atmosphere, to be shaded from sunshine, and when growing freely plenty of water. Propagation may be effected by cuttings, or, better still, by half-severing the stem under a joint, binding round a little of the compost within a handful of moss. Completely sever when roots have formed, and pot up or put in baskets, and keep the young plants very close until they are established.

BEGONIA GLOIRE DE LORRAINE.—This begonia is also adapted to basket culture. Prepare wire baskets by lining them with fresh green moss and filling with a compost of fibrous loam two parts, peat and leaf-mould one part each, a little dried cow dung, and sufficient sand to keep the compost open. The earlier rooted plants may now be used in filling the baskets. Turn them out of their pots and place several round the sides and one in the centre, the number to be used depending upon the size of the basket. Plant fairly firm, leaving sufficient space at the top for watering, it not being always convenient to remove the basket for dipping. Give a start in the stove, afterwards, if desired, they may be suspended from the roof of a cooler house. Those to be grown in pots should be shifted on as becomes necessary. Plants to be grown in small pots for late flowering may now be raised from cuttings.

OTHER BASKET PLANTS.—Among the other stove plants that may be grown in baskets are Asparagus Sprengeri and decumbens, and several of the crested and plumose varieties of nephrolepis, including Amerpohli, Marshalli, and todeaoides. Planted firmly in a similar compost to that above recommended, in baskets lined with moss, they are not only useful in decorations, but also provide quantities of foliage for associating with cut flowers.

VENTILATING AND FIRING.—In bright, warm weather ventilate early and fairly freely in the daytime; a little air may also be admitted with advantage on mild nights. Dispense as far as possible with fire-heat, checking the fires early in the morning in bright weather, and avoiding the too free use of them at night, always, however, being prepared for the dull or wet day and cold night.—H. Prime, Hatfield House Gardens.

THE FLOWER GARDEN.

SUMMER BEDDING.—This important work can now be proceeded with safely, excepting in the northern and cold exposed districts, where a commencement is usually deferred until the end of the month. In the general way a somewhat definite idea is formed at the end of the previous season as to the arrangement of the beds in the following year, and stocks of the various subjects which will be required are worked up. Variation in the schemes from year to year increases the attractiveness of summer bedding when tastefully carried out, and this should not be a difficult matter with the many beautiful plants available. When due thought and attention have been given in this respect, transferring the plants to their summer quarters is very much simplified, and can be executed in a methodical manner, saving much time and worry. The beds will, as a general rule, have been occupied by spring flowers, some of which impoverish the soil considerably, and steps must be taken to enrich the soil. On the other hand, many require well-decayed manure; this must be done with due consideration of the requirements of the kinds that are to occupy the different positions. Planting some kinds in ground that has been liberally manured would produce disappointing results, especially in the case of pelargoniums, and some plants grown for their brilliantly-coloured leaves: these are usually seen to their best advantage in poor soil. On the other hand, many require well-manured soil, among them being begonias, fuchsias, heliotropiums, stocks, asters, and nicotianas. Large specimen plants grown as pyramid and standard form enter largely into most bedding arrangements of the present day. These, on being transferred to the open, are most liable to damage from winds, and as planting proceeds, each one must be securely staked and tied. This takes up much time at such a busy period, but it must not be neglected.

DAHLIAS.—In most gardens dahlias form a distinct feature and have quarters allotted to them. When such is the case the ground has been well dug and manured, and so needs but little preparation at the present time. It will, in fact, be only necessary to move the surface, and work it down to receive the plants. They make useful additions to herbaceous borders, and are often used in an effective manner; their freshness is very appreciable when many of the other inhabitants are beginning to die down, and with their wide range of colours it is possible to so arrange them as not to be obtrusive in any colour scheme. When used in this manner it is a good practice to work in plenty of rotten manure when preparing the sites, and also to use some fresh soil to work round the roots when planting.

TERRACE SPECIMENS. — Agapanthus, myrtles, etc., growing in vases and tubs for furnishing terraces are now growing very freely, and should be very liberally supplied with water and applications of artificial and liquid manure. These subjects readily respond to good treatment.—T. B. Field, Wych Cross Place Gardens.

Dalechampia Roezliana.—When it was first introduced in 1867, this dalechampia was spoken of as a rival to the poinsettia, to which indeed it is nearly allied. In both of them the showiest portion of the inflorescence is not the flowers themselves, but the bracts which subtend them. This dalechampia forms a plant of rather upright growth, and the flowers are borne on the upper part. The floral leaves or bracts are of a bright rosy-pink colour, a decidedly pleasing tint. There is a variety (alba) with white bracts. Seeds often ripen from which young plants can be readily raised, while cuttings also strike without difficulty.—K.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

PUBLISHING MANAGER,
148-9, Aldersgate Street,
London, E.C.,

who will give the matter immediate attention.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

PROPAGATION OF THE COMMON BROOM.—P. E. W., Beaulieu: Will you please tell me how to propagate the Common Broom?—The Common Broom may be readily increased by means of seeds sown thinly in drills in the open ground. The seeds ripen freely, and should be sown as soon as ripe; seedlings should be transplanted in spring. It is also possible to increase stock by layering, or by making cuttings of flowerless shoots during August or early September, placing these in fine sandy soil, in a cold frame or under a hand-light in a shady position. The varietal forms, such as Andreanus, pendulus and sulphureus, must be increased by cuttings if they are to be kept true, or be grafted upon the type form.

ORIGIN OF THE GHENT FLOWER SHOWS.—A. P., Bristol: I have been very greatly interested in your descriptive and illustrated account of the recent great show at Ghent, the more so because, passing through Belginm while it was held, I called at Ghent and saw the exhibition. I congratulate you upon the promptness with which you presented the account of this wonderful display, but I should be greatly obliged if you will tell me, briefly, through your columns, how the Ghent shows originated.—About the year 1622 Bishop Triest, long known for his love of flowers and art, formed a brotherhood of gardeners at Ghent, with St. Amand and Ste. Dorothee as the patron saints. In addition, a society of amateurs was founded at Ghent in 1669 by Abbot Reyntkens, who was devoted to horticulture, and wrote a book thereon, which was published in 1675. These two fraternities did excellent work in the encouragement of horticulture, but, as in the case of all the other organisations, they were suppressed by the decree of August 18, 1792. But the number of gardeners in the employment of the large landed proprietors and the wealthy amateurs rapidly increased, and little by little commercial cultivators, half florists and half market gardeners, became established about Ghent. It was chiefly along the Conpure that the establishments of the latter were met with. Even after the great changes in this part of Ghent the horticultural establishments remained. At the commencement of the 19th century there was, on the right-hand side of the river, and at the point where the passage of the Conpure joined the paved roadway, a public-house, bearing the sign, "In Frascati." It was occupied by a gardener, and his fellow gardeners, of whom there were considerable numbers in the neighbourhood, were the principal customers. A goodly number of amateurs also visited the house for the purpose of meeting those having tastes similar to their own. It was at one of the meetings at this inn that the Société Royale d'Agriculture et de Botanique had its origin. On October 10, 1808, Frans Van Cassel, who had returned from England a short time previously, described to his friends what he had seen in England, and he proposed that a society should be formed at Ghent for the purpose of organising exhibitions of flowers, etc., with a view to assist the development of commercial horticulture and a love for flowers in the city. The proposition was received with enthusiasm, and at a subsequent meeting Avocat Lebèque, one of the principal judges and a distinguished amateur horticulturist, was requested to prepare the rules. Of the forty-seven persons who assisted at the foundation of the society, eighteen were gardeners, and the other founders included architects, doctors, lawyers, hosiers, plumbers, painters, and a police commissioner. To render the exhibition interesting and useful, each member was required to send two pots containing plants, flowers, or shrubs, or pay a small fine. Members could send more than two pots, but not more than six. The arrangement of the exhibition was made by five specially appointed commissaires, and the members had to accept without murmur the position in which their plants were placed, or pay a fine. In carrying out its programme the society held its first exhibition at "In Frascati," February 6, 1809. This proved most gratifying to the promoters, and the subsequent shows were so successful that in 1815 it was found necessary to provide more room for them. It was then arranged to hold them in the garden of "In de Zaal Flora," a public-house in the Rue de la Caverm, and a spacious building was specially erected for the purposes of the shows. Three years later the King evinced a warm sympathy with the objects of the society, and the committee asked him to permit them to add Royale to the title, and grant them a coat of arms, and he at once granted the requests. The coat of arms was composed of a watering-pot, spade, rake, and other gardening tools, with the motto, "Veneficia mea. Quirites; haec, sunt." Since then the society has made great progress, and for many years it held its exhibitions at the Town Hall, and then at the Casino where it made its home. Now it has the huge building in which the recent quinquennial exhibition was held.

GERMINATION OF MUSTARD AND CRESS.—A. H., Newcastle: Will you kindly let me know the shortest possible time in which mustard and cress can be secured ready for use from the time of sowing. Of course, I am aware different temperatures give different results. This may seem a rather silly question, but I have been told

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that my predecessor could have mustard and cress ready thirty-six hours after sowing; if there is an express method I should like to know about it.—We do not know what is the shortest possible time in which mustard and cress can be had fit for use after sowing, but, given suitable conditions, and a thorough soaking of the seeds in warm water previously, so that they are just about to germinate when spread upon moist, warm flannel or felt stretched over a box of soil placed over hot-water pipes or in a close propagating frame, there is no doubt thirty-six hours would not be far short of the mark.

PERPETUAL CARNATIONS FOR NEXT WINTER.—J. H., Leicester: I have four dozen perpetual-flowering carnations now blooming freely in six-inch pots, but I want them to flower next winter, from September onwards. Please tell me what I should do with them to secure good blooms at the date suggested.—Unless there is an abundance of room two-year-old plants are not likely to prove so successful for next winter's flowering as young stock struck early in the present year. Carnations do not respond readily to a severe cutting-back process, such as one might practice upon pelargoniums and similar subjects; consequently they will steadily become taller as the season advances. Remove the flowers as soon as they expand, cutting the stems back to where new growths appear. Pot next month and keep the plants in a cold frame or cool house; pinch back some of the earlier growths so as to render bloom production as curious as possible. We strongly urge you to purchase a few young plants for flowering next winter, and treat them as advised in our columns, because these will give you the finest flowers. The larger and older plants will flower freely, but the flowers will be smaller, and, as already suggested, they will occupy considerable space.

HELPFUL BOOKS FOR THE R.H.S. EXAMINATION.—W. E., Cheshire: Will you please tell me what books would be most useful for a gardener to study for the purposes of sitting for the Royal Horticultural Society's examination in horticulture?—We have answered similar questions on several occasions, but we are rather pressed for space this week, and a full answer would be somewhat lengthy. However, write to the Secretary, Royal Horticultural Society, enclosing a large stamped envelope for reply, and ask for full particulars concerning the society's general examination in horticulture, together with a list of the books suggested as useful for those studying for this examination. We suggest that now, or subsequently, you obtain the papers set at the previous examinations conducted by the R.H.S.; these can be obtained for 2s., and they will prove very helpful to you in your studies, especially if you work at them in your spare time, and get some competent horticulturist to check your answers.

GARDENING ENGAGEMENT.

Mr. J. Davies, for six and a-half years gardener to C. P. Palmer, Esq., Brynheulog, Neath, has been appointed gardener to H. Cuthbertson, Esq., Darran Court, Neath.

Chrysanthemums.—The whole of the stock should now be growing in cold frames. Early attention must be paid to potting on the various batches until they are finally placed in their flowering pots. Attend to the "stopping" of the decorative kinds at the proper time, and give them as much space as is practicable, as overcrowding is favourable to the development of "rust." If healthy cuttings are available it is a good plan to strike a batch now for flowering in six-inch pots. Both the large-flowering and decorative kinds are useful for furnishing the outsides of large groups, when grown in this manner. Spray the whole of the plants with an insecticide occasionally to keep them free from aphis.—E. Harriss, Lockinge Gardens.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1913. May 11 to May 17.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 11—Sunday	7 30	53	51	62	39
,, 12—Monday	—	53	51	58	43
,, 13—Tuesday	7 0	57	54	68	51
,, 14—Wednesday	5 54	55	52	65	42
,, 15—Thursday	7 0	48	45	59	45
,, 16—Friday	8 50	47	45	64	43
,, 17—Saturday	11 5	51	47	70	38
	(total)				
Means ..	47 19	52	49·2	63·5	43

Date. 1913. May 11 to May 17.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
May 11—Sunday	0·01	53	49	50	29
,, 12—Monday	0·05	53	51	50	31
,, 13 Tuesday	--	54	51	50	47
,, 14—Wednesday	—	54	52	50	32
,, 15—Thursday	—	54	52	50	42
,, 16—Friday	—	54	52	51	37
,, 17—Saturday	—	54	52	51	26
	(total)				
Means ...	0·06	53·5	51·2	50·2	34·6

CATALOGUES RECEIVED.

CHRISTOPHER BOURNE, SIMPSON, FLETCHLEY.—A dainty and beautifully-illustrated catalogue of daffodils with descriptions of all the finer sorts, and very useful lists of varieties classified according to prices.

V. LEMOINE AND SONS, RUE DU MONTEL, NANCY.—Two very interesting catalogues have reached us from Nancy, one dealing largely with florists' flowers and including novelties in pelargoniums, and the other devoted chiefly to shrubby plants and novelties and rarities, notably among deutzias, hydrangeas, and philadelphuses.

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

TUESDAY, May 27.—Messrs. J. Waterer and Son's Rhodendron Exhibition at Horticultural Hall, 4 days.

Bath and West of England Show at Truro, 5 days.

The following dates of exhibitions have been recently announced:—

Epsom Horticultural Society, Rose Show, June 26, at Woodcote Grove; Summer Show, August 4, at Epsom College.

Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.

Ealing Horticultural Society, July 9.

Weybridge Horticultural Society, July 10, at Barbam Lodge, Oatlands Drive.

Edgware Horticultural Society, July 12.

Dulwich Summer Show, July 17, at St. Barnabas Parish Hall; Chrysanthemum Show, November 12 and 13, at the Baths, Goose Green.

Ulverston Rose and Sweet Pea Show, July 18.

Birmingham Horticultural Society, July 18 and 19, in Handsworth Park.

Haywards Heath Flower Show, July 23, in Victoria Park; the twenty-fifth exhibition.

Tunbridge Wells Flower Show, July 23 and 24.

St. Quintin Horticultural Society, July 24, in the Gun Club grounds Wood Lane, W.

City of London Rose Show, July 26, at Cannon Street Hotel.

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VOL. LVI.—No. 3,109. SATURDAY, MAY 31, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Humus.

The presence of humus, or the remains of matter derived from previous generations of vegetation, in the soil is of such recognised imporance to the gardener and agriculturist, that a little consideration of its production and general distribution, and presence, cannot be out of place. Primarily it represents the product of one of those natural successive processes by which life is contantly maintained on the earth's surface. Age after age we see vegetation pass through its phases of reproductive growth and decay. Every spring we see a renewal of active growth and the production of an infinite quantity of fresh vegetative material clothing the world with verdure, and not only providing for its own vital needs, but also for those of the animal world which is entirely dependent upon it. Every autumn we see a return of much of this material to the soil whence it sprang, and we know that in the process of decay an equal quantity becomes available as raw material for future growth. We also know, however, that indedependently of this supply to the root systems, the great bulk of the new growth owes its existence to the carbonic acid gas in the atmosphere, and certain earthy salts in the soil, which, by the potent action of the sunbeam on the green colouring matter of the foliage, the chlorophyll grains are broken up and recombined to form the infinite number of compounds, boons and banes, and the structural material of the plants concerned. Humus, therefore, by itself would appear to provide but a small portion of the nutritive material, but its beneficial effect in the soil is twofold. In the first place, there is no doubt that as it is mainly composed of carbon, its decomposition in the soil results in the restoration of much of its gaseous ingredients to the air, and, in the second place, it renders the soil more open and friable, and thus of easier access to the penetrating roots. Thus it is that alluvial soils brought down by rivers and tributary streams are practically ideal ones for cultivation. Without the general admixture of vegetable debris they would form impermeable clays; with it they are, as we have said, the richest soils we know of. If we follow up such streams to their sources in the hills we shall speedily appreciate how this beneficial admixture is brought about. We shall find in the mountain glens, rock formations which, under the influence of frosts, are constantly being split up, a process which is also facilitated by the expanding and spreading roots of the vegetation which there prevails. The stream itself, from time to time, becomes a torrent, which, invading its boundaries, undermines and brings down into its bed both the disintegrated rock and the vegetation it has borne. These materials are then again attacked by the water, and carried downwards towards the inevitable sea. On the way the rocks are gradually broken up, ground up, and reduced to gravels, sands, and even impalpable mud, while the vegetable debris is rotted and reduced on a similar scale. When such a stream reaches the low-lying valleys and flat lands, which, in times of "spate" or winter storm they invade and overflow, the fine admixture of ground rocks and vegetable remains, freed from the onward impulse of the flood itself, are, to a large extent, deposited to form another layer of the alluvial which has already formed the flat expanse peculiar to such deposits. Below such deposits there are usually found others of gravel, which represent an earlier stage of the stream's history. As regards the annual deposit of the shed foliage, we are probably as yet but on the threshold of discovery as to how it is disposed of so as to reassume its function as a material for future growth. It is but of late years that we have obtained a glimpse of the functions of bacteria in the soil, friendly and hostile. We know by actual experience how an unswept garden pervaded with liberal heaps of dead leafage soon becomes bare of it by means of the worm, which drags the leaves into its burrows, devours them wholly or partially, and thus immediately turns them into rich material available for root absorption. This may be considered probably as the shortest cut to reassimilation. Fungi also play a potent rôle, but, in all probability, it is the microscopic bacterial world which, in the long run, plays the chief one in completing the vegetative cycle.

MR. JOHN A. GRIGOR.

Mr. John A. Grigor, of Sea Park Gardens, Forres, N.B., is widely known as a particularly successful grower and exhibitor of sweet peas and chrysanthemums, but his successes in these directions are but outward and visible signs of his capabilities; and, after all, they are evidences that Mr. Grigor rides a hobby or two while engaged in the wider practice of general gardening. Mr. Grigor's father was thirty years head gardener at Fairfield, Aberdeen, so he commenced his horticultural career under parental guidance, subsequently serving his apprenticeship at Kingskussie Gardens, Aberdeen, and afterwards acting as journeyman at Ching Castle, Dupplin Castle, and Eglinton Castle. The latter Ayrshire seat was Mr. Grigor's farthest south, as from thence he went northward, and held the position of foreman at Drumtochty Castle, Fordoun, for two years, following this up with two and a-half years at Bruckley Castle. The latter is a fine place and from it Mr. Grigor secured the position of head gardener to A. M. Gregory, Esq., at

Maryhill, Elgin, where he laid out a new garden, and took up chrysanthemum culture as a hobby, and with great success. Three and a-half years at Maryhill were followed by six years as head gardener to Sir David Stewart, at Banchory House, Aberdeen, where, as an all-round gardener, Mr. Grigor made a good reputation for himself, and gave every satisfaction to his employer. At present, Mr. J A. Grigor is head gardener to Mrs. Dunbar-Dunbar, at Sea Park, Forres, and it was shortly after settling down here that he made sweet peas a hobby: for a couple of years he cultivated these flowers experimentally, but with such success that in 1911 he practically had matters all his own way when he competed at Aberdeen, Perth, Banff, Edinburgh, and Inverness; four silver cups fell to his share, as well as other awards. In 1912 he led in the Scottish class at the National Sweet Pea Society's exhibition in July and won five first prizes with five exhibits at Perth, one of them being the Scottish Cup offered by the N.S.P.S. for competition among members resident in Scotland. Besides cups for sweet peas and chrysanthemums Mr. Grigor also holds trophies of his skill as a cultivator of fruits and vegetables.

The King's Medal for Roses.—The King has presented a gold medal for competition at the annual exhibition of the Isle of Wight Rose Society, of which Lord Tennyson is the president.

Presentation to Mr. George P. Berry.—On the eve of his departure to take up his duties as General Inspector of Horticulture in England, under the Board of Agriculture, a number of Mr. George P. Berry's horticultural friends in Edinburgh met him in the Royal British Hotel on the 23rd inst., in order to wish him Godspeed and to present him with an address giving expression to their appreciation of what he had done to advance horticultural interests during the time he had occupied the post of senior lecturer in horticulture in the Edinburgh and East of Scotland College of Agriculture, to be followed by a more tangible token of the esteem in which he is held by them at a later date. The chair was occupied by Mr. David King, the president of the Scottish Horticultural Association, who presented the address, and amongst others present were Mr. Alex. M'Callum, M.A., LL.B., director and secretary of the Edinburgh and East of Scotland College; Mr. C. Comfort (Mr. Berry's oldest friend), Mr. Massie, Mr. Whytock, Mr. Fife, Mr. Scarlett, Mr. Todd, Mr. Phillips, Mr. Richardson, and a number of other gentlemen with whom Mr. Berry had been intimately associated during his stay in Edinburgh.

Fine Warm Weather.—The Chelsea Show was favoured with good weather, and consequently with a record attendance, but it was not until Saturday, May 24, that really warm, summer-like weather began, though a change was imminent on the Friday evening. A brilliant Saturday was followed by a still more brilliant Sunday, when glorious summer weather was experienced over a greater part of the country, and cloudless blue skies were the order. In the Metropolis a shade temperature of 80 degrees was common, and in some districts 82 degrees were registered, while in full sunshine the register was up to 120 degrees. Monday, May 26, was equally fine and equally hot, but a slight breeze made the heat more bearable. Tuesday provided another fine, hot day with light breezes. On Tuesday evening, however, a thunderstorm broke over the home counties, and was very severe in some parts of the Thames Valley and in Essex. In the Reading district and in South Oxfordshire fruit and other trees were badly damaged by hail, while at Castle Hedingham a large number of glass-houses were wrecked by hailstones, many of which weighed twelve to the pound. In few places, however, did the storm do harm; indeed, the rain was welcomed by gardeners and farmers after the four hot days. Wednesday, as we go to press, the day is beautifully fine, but there are clouds and a breeze to temper the heat of the sun. The storm of Tuesday night has cleared the air, and freshened up trees, shrubs, and all garden and farm crops.

Fruit Crops in Kent.—The season is now so far advanced that it is possible to estimate with some degree of accuracy the fruit supplies for the coming season. In Kent the prospects are decidedly satisfactory, notwithstanding the damage that was done by spring frosts to the blossom produced early in the flowering season. The crops of apples and pears have the promise of proving highly satisfactory. Early cherries and plums suffered much from frosts, but later varieties were but little injured, and good crops may be anticipated. The gooseberry crop is somewhat uneven, but currants are likely to give an abundant yield, the black varieties, in many districts, being more promising than for some years past. Strawberries promise a heavy crop, the plants being in a robust state of health and producing strong flower trusses.

Wild Flowers of Mahableshwar.—At the meeting of the Royal Horticultural Society at Vincent Square, Westminter, on Tuesday, June 3, at three o'clock, Professor O. W. Müller, M.A., I.E.S., of Elphinstone College, Bombay, will give a short lecture on the "Wild Flowers of Mahableshwar," India, illustrated by water colour drawings by Mrs. Müller.

Window Gardening at Sheffield.—The Sheffield Corporation has voted the sum of £100 for the purpose of promoting window gardening and flower culture generally in the city. The Bowling Greens Sub-Committee will organise the competition, and £5 will be offered as the first prize in each ward.

American Gooseberry Mildew.—According to a report presented to the quarterly meeting of the Kent County Council this destructive disease continues to extend in the gooseberry plantations in Kent. The total area in the county known to be infected is 3,995 acres, and of the area over which the American Gooseberry Mildew has spread, 1,502 acres are in the Maidstone district, 1,350 acres in the Swanley district, and 443 acres in the Sandwich district. The area of the gooseberry plantations that are quite healthy in Kent is 1,461 acres.

Royal Botanic Gardens, Kew.—An addition has been made to the Royal Gardens, Kew, by the purchase of Gumley Cottage, a Georgian house, on the east side of Kew Green, which was built early in the reign of George III. for the accommodation of the Court during his Majesty's long stay at Kew. The house is to be used chiefly for microscopic work.

Newcastle Horticultural Society.—For several years past this society, which is one of the oldest in the provinces, has been greatly hindered in its work by having a balance on the wrong side, owing chiefly to unfavourable weather on the occasion of its summer shows. The deficit at the close of last year was £400, and it was decided by the executive to make a strenuous endeavour to clear the deficiency. The results have fully justified the effort, for already the deficiency fund amounts to £276, and we hope the executive will be able to obtain a sufficient sum to strike a balance before the date of the exhibition.

Street Hawkers of Fruit and Flowers.—At the annual conference, in Glasgow, of the National Federated Associations of Fruiterers and Florists, a resolution was passed urging all Corporations to seek power to register street hawkers. The President (Mr. Boyes, of Leicester) said it was necessary they should make the Home Secretary understand that there was on foot a movement demanding fresh legislation relating to this matter. In supporting the proposal, Mr. McGinnes said that in Liverpool they had, as the result of street trading, miles of empty shops, and that city was losing £30,000 in rates owing to 2,000 shops being shut.

Visits to Altrincham Gardens.—For some years past the Altrincham Gardeners' Association have included in their annual programme visits to notable gardens in the district, and these have been found at once interesting and instructive. This year the first visits were made to the gardens of Dunham Knoll, the residence of Mr. T. Haslam, and of Glenfield, the residence of Lady Crossley, and occupied a long afternoon. At Dunham Knoll the display of polyanthuses, tulips, and wallflowers in the flower garden, and the finely-grown calceolarias and schizanthus in the conservatory, proved highly interesting to the visitors. Polyanthuses were also in a high state of development in the flower garden of Glenfield, and in the conservatory the perpetual carnations were a great source of attraction.

Chelsea Pensioners' Gardens.—It may be of interest to those of our readers who found time to see the gardens of the Pensioners of the Royal Hospital when visiting the Royal Horticultural Society's exhibition at Chelsea that the small gardens were formed by Lord John Russell in 1841 when he was Paymaster-General. He held that office four years, during which time, as he acknowledged, "the work was all done by the cashiers and the only official act of any consequence performed was the giving allotments of garden ground to 70 old soldiers."

Edinburgh Royal Botanic Gardens Guild.—The first meeting of this Guild will be held in the Lecture Hall of the Royal Botanic Gardens, Edinburgh, at 8 p.m., on Wednesday, June 4, for the purpose of electing a president, vice-presidents, committee, secretary, and treasurer. The number of replies from old members of the staff is considered encouraging, and it is hoped that all who can possibly attend will endeavour to be at the meeting.

Wild Flower Show at Glasgow.—During the past six years it has been the custom at this season to supplement the beautiful displays of cultivated flowers in the People's Palace, Glasgow, with contributions of native plants. Much interest is taken in wild flowers, which have labels attached bearing both the common and scientific names, and large numbers of visitors, who but a few years ago were unacquainted with native plants, have become familiar with a considerable number of the wildings growing within a radius of several miles of Glasgow. A few days since we found on the tables flowers of about sixty species, among them being cowslips, broad-leaved garlic, lesser celandine, bluebells, wood anemones, primroses,

golden saxifrage, marsh andromeda, the wild hellebore, wood violets, and the greater stitchwort.

Eradication of Plant Diseases.—At the Rome meeting of the General Assembly of the International Institute of Agriculture, measures for preventing the spread of plant diseases received full consideration. As the outcome of the discussion a committee was appointed to draw up a series of resolutions that would represent the views to which expression had been given. As the result of the work of this committee the following resolutions were submitted to the General Assembly by whom they were unanimously adopted: (1) The General Assembly recommends that the Governments of the countries adhering to the International Institute of Agriculture should, if they have not already done so, create a Government service of phytopathology. (2) Recognising the utility of an international agreement upon the means of preventing the diseases of plants, it is of opinion that the assembling of an international commission of specialists is indispensable: and it expresses a wish that the Government would be willing to follow up the initiative it has already taken in this question, by inviting a meeting of the international commission as soon as possible, during the month of May, 1914, at the latest. (3) It is of opinion that at each General Assembly of the Institute the specialists of the various Governments should meet in a separate commission to discuss the results of their researches ad studies in the diseases of plants. (4) It begs that the countries adhering to the International Institute will at once begin to study the various questions which the International Commission of Phytopathology will have before it, basing their study upon the materials which the International Institute of Agriculture will be able to furnish.

Model Town Garden Competition.—We are informed by the organising secretary of the Ideal Home Exhibition, which will be held at Olympia from the 9th to the 25th of October next, that amongst the competitors for the Gold Cup offered by the "Daily Mail" for the best and most practical model of a garden, suitable for a town and city house, are Messrs. James Carter and Co., of Raynes Park; Messrs. J. Cheal and Sons, of Crawley; and Messrs. W. H. Cook, Lim., of Orpington.

Sale of the Byrkley Lodge Orchids.—The collection of orchids belonging to Sir William Bass is to be sold under the hammer of Messrs. Knight, Frank, and Rutley at Byrkley Lodge, near Burton-on-Trent, early in July next.

The Fairchild Sermon is, in accordance with the custom that has obtained for 184 years, preached at St. Leonard's Church, Shoreditch, on Whit Tuesday, and to horticulturists is of considerable historical interest. Thomas Fairchild, whom the sermon commemorates, was a son of John Fairchild, of Alwine, Wilts, and was born in 1667. When fifteen years of age he was apprenticed to a clothworker, but having no liking for that avocation, he devoted his attention to gardening. He became a nurseryman and market gardener at Hoxton in the early part of the eighteenth century, and attained the position of one of the foremost nurserymen and market gardeners of his time. He was greatly interested in the scientific aspects of horticulture as well as being well versed in the practice of the gardening art, and first became known among scientists by a paper contributed to the Royal Society's "Transactions" (Vol. XXXIII., p. 127) on the "Different and Sometimes Contrary Motion of the Sap in Plants." His garden and vineyard at Hoxton were of much interest, and with reference thereto, Bradley writes in his "Philosophical Account of the Works of Nature" of "That curious garden of Mr. Thomas Fairchild at Hoxton, where I find the greatest collection of fruits that I have yet seen, and so regularly disposed, both for order in ripening and good pruning of the several kinds, that I do not know any person in Europe to excel him in that particular; and in other things he is no less happy in his choice of such curiosity, as a good judgment and universal correspondence can procure." Fairchild corresponded frequently with Linnæus, and in addition to his experiments relating to the flow of sap in plants, he devoted considerable time and attention to the investigation of sexes in plants. Dr. Pulteney refers to Fairchild as follows: "My plan does not allow me to deviate so far as to cite authors on the subject of gardening unless eminent for their acquaintance with English botany. Some have distinguished themselves in this way; and I cannot omit to mention with applause the names of Fairchild, Knowles, Gordon, and Miller." Fairchild published "The City Gardener" in 1722 at the price of one shilling, and in his will he left a sum of £25 for a sermon to be preached annually at the church mentioned above on Whit Tuesday "On the wonderful work of God in the Creation." It should be added that Fairchild died in 1729, and was interred in the old burial ground in Hackney Road, now an open space close to Shoreditch Church.

The Japanese Larch.—Fifteen years since ten plots at Cockle Park were planted for the purpose of demonstrating several important points in forestry, and have proved most useful. According to last year's report, which has been recently published, the most remarkable feature of these demonstration plots has been the highly satisfactory growth of the Japanese larch on poor clay soil. They have outstripped the European larch in growth, and are free from aphis attacks and larch canker, which are so injurious to the European species.

RHODODENDRONS AT WESTMINSTER.

Messrs. John Waterer and Sons, of the American Nurseries, Bagshot, Surrey, held an exhibition of rhododendrons at the Horticultural Hall during the past week.

The popular Pink Pearl rhododendron still holds its own as one of the most lovely of hardy-flowering shrubs, and it was massed here in grand style. It has a rival, however, in Alice, which bears finely-formed trusses of lively rose-pink flowers, and carries these boldly on shapely plants that possess an ideal habit for bedding. A fine lot of this variety filled the central position in the main group, opposite the entrances. Its blooms are scarcely so large as those of Pink Pearl. Another lovely new variety is Corona, which is heavily flushed with coral pink over blush pink, and offers a quite new effect in hardy rhododendrons. Bagshot Ruby is yet another new-comer, and its blooms are of a rich glowing red shade that has suggested its title. Gomer Waterer is not so new, but it is a grand modern variety with superb trusses of large blush white flowers, and the plants have a very fine habit.

Such brilliant red and scarlet varieties as Prometheus, Doncaster, Michael Waterer, and Brilliant provided breadths of rich colouring in the display, and the white George Hardy, delicate blush-coloured Mrs. E. Stirling, and white, maroon-blotched Francis B. Hayes served to accentuate the glowing colours of the other varieties.

WINDOW GARDENING.

Window gardening has of recent years come in for some share of the increased attention given to gardening generally, and it has much to recommend it where the plants so grown do not shut off any desirable view of the garden proper. In living rooms on the ground floor it may easily happen that a row of even moderate-sized zonal pelargoniums, if standing on the window-sill, or on a level with it, will conceal a good deal of the garden from the view of those sitting at the table or anywhere away from the window. If the outlook is towards the road, or our neighbour's house on either side, this is all to the good, but not otherwise. In the case of first-floor windows on the contrary, we cannot usually see much of the garden, in any case, unless we are near the window, and therefore no plants of the height ordinarily used for this purpose can do much in the way of shutting out the garden. Nothing is more delightful than a bank of flowers to look at when one wakes on a spring or summer morning; besides which one can have the windows wide open at the bottom, as many hygienically-instructed people do nowadays, without being unduly exposed to the public gaze before one gets up.

When entering on the tenancy of a house one has to take such arrangements as exist, but when fitting them up for ourselves it is a debatable question what course we shall adopt, though one is very much restricted in the choice of boxes or balconies by the construction of the windows and window-sills, and the general design of the house. The time and labour, too, which one is prepared to spend upon this department of the garden is a very important consideration, but when the plants have been put in position, it is to be assumed that some lady member of the household will regard them as her own particular province, as with pot plants indoors and cut flowers. A good wide window-sill lends itself naturally to movable boxes of flower-pot ware, pottery, or wood, and when this plan is adopted it is very convenient to have a duplicate set of boxes, so that the winter occupants may be ready to put in when the summer ones come out, or the latter ready to put in when the spring plants are beginning to look untidy. This is not absolutely necessary, but it avoids intervals between the seasonal displays when the plants would otherwise look coddled—a thing to be avoided above everything in window gardening. Moreover, a box on the first-floor window-sill is exposed to a great deal of wind, and possibly sun also, and plants newly put in are apt to suffer and look uncomfortable for some time after being planted, and in some cases never look so thrifty and vigorous again.

The alternative to this method is to keep the plants in pots, a more laborious method and one entailing a good deal more attention in the way of watering, as pot plants, if well rooted in the pots, will sometimes need watering once a week, even in midwinter, if the prevailing winds lie the other side of the house, so that the rain does not help them. But this method has the advantage of enabling us to replace any plant that is not doing very well with practically no trouble beyond that of keeping a sufficient reserve supply. By this means, if we do not mind taking the trouble, we need only put plants in when at their best, and only selected ones then.

A row of pots on the bare, open window-sill is, of course, out of the question, even at the back of the house, unless there is another row in some kind of trough, basket, or balcony in front, which will conceal the pots in it, and the plants in which hide

the pots on the sill. We usually see the most effective displays in window-gardening arranged on this principle, tier rising above tier, and when the front row consists of hanging plants and the back row of fairly tall ones, a beautiful bank of flowers may be produced. But a very presentable effect may be obtained from just a narrow balcony able to hold one row of pots only, and placed just sufficiently below the window-sill for the plants on the latter to show well above them, and yet have their pots concealed by plants of even medium height.

A mistake that is often made in window-gardening of this latter kind is in putting the plants in pots which are too small, not only for their proper development of growth, but to enable them to stand up in some measure against the violence of the winds they will have to endure. Many think that a large pelargonium will grow in a forty-eight pot, and so it will, but it will need watering twice a day in hot weather, its growth will be restricted, its period of flowering shortened, and the size of its trusses lessened, while every little wind will blow it over, so that it leans on its neighbour, or, if the pot is standing in a saucer, blow it out of the upright, so that the pot has to be set level before it can be effectively watered, a business which, when multiplied by twenty or fifty, takes time, and is decidedly annoying when you have the can in your hand ready for watering.

Still, though we should put our plants in larger pots than we would if they were to grow in a house, where the atmosphere is moist instead of excessively drying, it is not advisable to give them unduly rich soil, or the two things together will cause such vigorous growth that we shall have more leaf than flower, and this increased leafage wil loffer more surface to the wind. This is especially true of zonal pelargoniums.

Alger Petts.

RHODODENDRON CILIATUM.

This is a pretty Himalayan species, hardier than many from that region. It forms a dwarf, compact bush, and produces its bell-shaped blush-coloured flowers in great profusion. In sheltered spots out of doors it is very effective, but this is not its only claim to recognition, as it forms a delightful feature in the greenhouse, and, furthermore, has proved to be of great value to the hybridist, as it has played a part in the production of many beautiful garden forms, particularly among the tender kinds.

The valuable R. præcox resulted from the crossing of R. ciliatum, and the hardy R. dahuricum, which will often bloom out of doors in the depth of winter, while R. præcox is not far behind it. This last-named was raised over fifty years ago by the late Mr. Isaac Davis, of Ormskirk, but its merits were some years in gaining recognition; indeed, when it was submitted to the Floral Committee of the Royal Horticultural Society it only gained a Second Class Certificate. There is nothing to prevent it, even after this lapse of years, being put forward for the higher honour. R. ciliatum has, in conjunction with the primrose-tinted R. Dalhousiæ, given us R. Countess of Haddington, one of the most popular of greenhouse kinds. Association with R. Edgeworthi yielded R. Princess Alice, intermediate in appearance between its parents, but with the delicious fragrance of R. Edgeworthi itself. Since then a great many other ciliatum crosses have been raised. W.

IRIS TINGITANA.

This iris, which is a native of Tangiers, whence it was introduced into this country in 1872, resembles a glorified Spanish iris. The blossoms are very lovely, the standards being violet-blue, and the falls a delicate French grey, which colour is set off by the gleaming yellow of the central blotch. The flowers measure five inches across and with the falls spread out ten inches. The width of the falls is about two inches, and the height of the standards is four inches.

Although this iris has been known in England for over forty years, it is but little grown, and apparently very few are able to flower it satisfactorily. Numbers of letters appear from time to time in the gardening press deploring this species' persistent refusal to bloom. These failures have not been confined to beginners who have but just taken up the cult of gardening, but many of our most noted horticultural experts have had to admit like ill-success. The late Sir Michael Foster stated that he had never flowered it in the open. Mr. Archer-Hind informed me that he had only flowered it once in thirty years; the late Rev. Henry Ewbank, of Ryde, allowed that for fifteen years it had not bloomed with him, and the late Mr. Wolley Dod said that he had grown it for twenty years without having flowered it, and wrote, "I must confess myself quite at a loss to know what its requirements are," while Mr. Irwin Lynch, in his "Book of the Iris," states that it is not worthy of cultivation, presumably by reason of its shy blooming qualities.

In the face of all these records of failure in the growing of this iris, it is very satisfactory to be able to record an unqualified success. Some years ago, when Mr. Elwes paid me a visit, we got on the subject of tender plants, and he said he thought it useless to employ the same soil in this country as that in which they thrived in their native land. Plants which in their homes grow in sand would not flourish in that material in England, but required richer soil to make up for the change of climate. I carefully considered this view, and, having heard that Iris tingitana grew in sand, determined to take Mr. Elwes's advice. I had grown this iris for some years with complete want of success, while it was left in the ground during the winter, but with an infrequent flower when it was lifted after the foliage had died down and replanted in the late autumn. I had, however, invariably grown it in sandy soil.

In preparing the new bed a deep layer of manure was placed eight inches below the surface, and with the upper soil was mixed an equal proportion of old mushroom bed manure, so that it was extremely rich. The bulbs were put in at a depth of three inches, and completely surrounded by silver sand. The next year there were twenty-nine flower-spikes from thirty bulbs, and another year eleven out of twelve bloomed, and for years this iris has flowered superbly. However, this year there are no flowers, probably owing to the bulbs not being properly ripened during the wetness and darkness of the preceding summer. The bulbs are invariably lifted when the foliage has died down, and are kept in a dry drawer until the end of October, when they are replanted. If they are left until the middle of November the tops will have begun to grow, but this does not appear to affect their blossoming.

The blooming season of Iris tingitana is very erratic. Perfect blossoms are sometimes produced as early as January, and from that date they flower until the end of April. Last year they were at their best in the third week of April. Some time ago I received a letter from a correspondent asking if I would inform him how I succeeded in flowering this iris. I sent full cultural particulars, and in the following year was glad to receive a letter from him saying that he had followed my instructions implicitly, with the result that his irises flowered very well. Anything that will tend to induce this lovely iris lay asides its shy-flowering habit and become an abundant bloomer is well worthy of note. Wyndham Fitzherbert.

TRIAL OF POWDER SPRAYERS AT ASHTON

Under the auspices of the Royal Agricultural Society, a competitive trial of hand-worked powder sprayers took place at the National Fruit and Cider Institute, Long Ashton, near Bristol, on Friday, May 23. For the probable reason that makers have not paid as much attention to dry as to liquid machines, there were not many entries. Only six competed, and the judging was in the hands of Mr. C. S. Martin, late manager of the Toddington Orchard Company, and Mr. Young, of Wisbech.

For the purpose of the trial powdered lime, flowers of sulphur, and Bordeaux powder were used, and the first appliances to be used were those furnished with wheels. Messrs. Weeks and Sons, Maidstone, entered a somewhat complicated dry powder sprayer mounted on two wheels, and so arranged that it works automatically as it is drawn along, and is turned by hand when it is stationary. The same firm also sent another machine of similar type, but travelling on one wheel.

Messrs. F. Randell, Lim., North Walsham, sent a machine of a quite different design. This sprayer was mounted on small wheels, and it appeared very rigid when at work. The power is obtained by means of a pump, the upward and downward strokes of which play their parts in the working of the machine. The hopper containing the powder is fitted with an agitator to keep it moving.

Messrs. D. T. Gralton and Sons, Newleake, Boston, Lincolnshire, sent a machine which distributes the powder by means of a fan arrangement, and made under the same patent as their dry potato sprayer. There were good points about this sprayer, but it was not very portable, and it suffered for the want of an agitator.

Having carefully tested the wheeled apparatuses, the judges proceeded to test the merits of the knapsacks, and eventually gave the first prize to one of German make called the "Grun," and exhibited by Messrs. Moellenkamp and Co., 85, Farringdon Street, London, E.C. This machine is furnished with a round tank, and is easily carried on the back. The adjustments for regulating the amount of powder distributed are simple and ingenious, and powder that is lumpy is ground fine before it is sent out.

Messrs. Pilter and Co., 22, Bush Lane, Cannon Street, London, E.C., took the second prize with a machine called the "Pilter," which is largely used in Indian tea gardens and rubber plantations. This sprayer, which is carried on the back, is easily worked. Another competing knapsack was sent by Messrs. H. Hartjen and Co., Noble Street, London, E.C. It has a mechanical grinder, a bellows lever, and an arrangement for graduating the amount of powder distributed. There did not seem to be very much to choose between the three knapsack sprayers, and any of them would be useful for dry potato spraying in gardens, and sulphuring strawberries, roses, and other plants.

Parsnips.—From seeds sown early in March the plants will be forward enough for thinning. After completing this operation, hoe the ground between the rows, and apply a light dressing of soot when the plants are damp.—W. Messenger, Woolverstone Park Gardens.

NEW PLANTS AND FLOWERS.

ROSES.

Mrs. J. Campbell Hall. This fine, large, light cream-coloured tea-scented rose we have previously described, and now illutsrate it. A.M., R.H.S., May 20. Messrs. Alex. Dickson and Sons, Newtownards.

Irish Fireflame.—An exquisitely beautiful single rose, and forming an addition to the series of lovely single varieties that has emanated from Newtownards. The bronzy-green leaves form a fine setting to the lovely golden flame-coloured blooms. The buds are redder than the open flowers. A.M., R.H.S., May 20. Messrs. Alex. Dickson and Sons, Newtownards.

White Tausendschon.—Those who admire and prize the beautiful climbing rose Tausendschon will be glad to welcome its white counterpart. Apparently as free in growth and flowering as the type, this bears large, rounded blooms of purest whiteness. A.M., R.H.S., May 20. Messrs. Wm. Paul and Son, Waltham Cross.

ODONTOGLOSSUM QUEEN OF GATTON.

A strikingly beautiful odontoglossum, and a finely-grown one, its spike carrying fifteen fully expanded flowers. The ground colour is nankeen-yellow, this showing at the tips of the sepals and petals, and as veinings through the blotches and spots of rich red-brown. The lip is white, spotted with rose-purple and red, and with a little yellow tinting on the apex. The largest flowers were three inches across. F.C.C., R.H.S., May 20. Sir Jeremiah Colman, Bart., Gatton Park, Reigate.

ODONTOGLOSSUM GEORGIUS REX.

A regal orchid, its yard-long branching spike bearing thirty very fine blooms. Each flower was about four and a-half inches across, with white, rose-tinted ground colour; on the petals the greater part of the surface is occupied by rich red-brown colouring, but on the sepals this rich colour is broken up into blotches and spots. The lip is broad and rounded, pale yellow, with golden disk and fine central deep red-brown

ROSE MRS. J. CAMPBELL HALL.

A new, large-flowered tea-scented variety, with creamy-white flowers. A.M., R.H.S., May 20. Messrs. Alex. Dickson and Sons, Newtownards.

markings. A.M., R.H.S., May 20. Messrs. Charlesworth and Co., Hayward's Heath.

ODONTOGLOSSUM EXIMIUM ARMSTRONGÆ.

This striking variety has a distinct and fairly wide margin of pure white around its red-purple colouring, and in most of the blooms these colours were very well defined. There were nine fine flowers on the spike exhibited. A.M., R.H.S., May 20. Messrs. Armstrong and Brown, Tunbridge Wells.

ODONTOGLOSSUM ILLUSTRISSIMUM WESTONBIRT VAR.

This bold and beautiful variety had eight very handsome flowers of good shape and large size. The sepals and petals are chocolate-red, rose tipped with darker rose shading round the apices, and whitish edges to the segments. The lip is deep chocolate-red with a broad white apex. A.M., R.H.S., May 20. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

ONCIDIODA COOKSONIA ILLUSTRIS.

This is a lovely form of one of the most modern hybrids, produced by crossing an oncidium with an odontioda. The spike was slightly branched at the apex, and carried ten brilliant orange-scarlet flowers, with an under-lie of yellow, the latter colour showing through towards the tips of the petals, and on the three-lobed lip. The latter has a prominent yellow crest. One of the most outstanding orchids in the show. A.M., R.H.S., May 20. Messrs. Sander and Sons, St. Albans.

ODONTIODA CHANTICLEER ORCHIDHURST VAR.

In colouring this must stand as one of the most brilliant of the odontiodas, and one of the finest forms. It carried fifteen open flowers, besides several buds. The colour is deep orange-red with a yellow crest. About two inches across, the blooms were of quite rounded form, and their setting on the spike was good. F.C.C., R.H.S., May 20. Messrs. Armstrong and Brown, Tunbridge Wells.

ODONTIODA CHARLESWORTHI PERFECTION.

A superb variety, carrying a dense spike of rounded flowers of wonderful substance, the segments being thick and fleshy. The colour is not easy to describe, but brilliant red—almost blood-red—about fits it. The lip has more scarlet in it, and the bold crest is rich yellow. A.M., R.H.S., May 20. Messrs. J. and A. McBean, Cooksbridge.

ODONTIODA CHELSEAENSIS VAR. ST. FUSCIEN.

This is the finest form of O. Chelseaensis yet exhibited, and the well-grown plant produced a spike of twenty flowers and buds. Each flower was 2½ inches across, and of a bright pink, rose-tinted shade, with buff-pink tips to sepals and petals. The pale yellow lip is bright pink in the centre, and has a rosy apex. A.M., R.H.S., May 20. Mons. H. Graire (gardener, Mons. de Voss), St. Fuscien, Sains, France.

ONCIDIUM McBEANIANUM.

A fine hybrid between O. macranthum and O. superbiens, and combining the freedom and other good qualities of both parents. The spike is of great length and branched. The flowers are about three inches across, the sepals light greenish-brown, and the petals pale yellow with brown bars and spots. The small lip has a small purplish crest. A.M., R.H.S., May 20. Messrs. J. and A. McBean, Cooksbridge.

ODONTONIA LÆLIA SANDER.

This is one of a very distinct series of hybrids. This form is the result of crossing Miltonia Warscewiczi with Odontoglossum amabile. It shows the influence of M. Warscewiczi very markedly in the broad lip and the shining rich brown markings on it. The sepals and petals are also bright brown, tipped with white, and the lip has also a wide white apex, and a bold golden-yellow crest. A.M., R.H.S., May 20. Messrs. Sander and Sons, St. Albans.

CATTLEYA MENDELI MAY QUEEN.

With broad, white petals and sepals, and a bright purple apex to the fringed, frilled, and daintily yellow-throated lip, this chastely beautiful variety was much admired, and the more so because the plant carried one spike of three and another of four large blooms. A.M., R.H.S., May 20. Messrs. J. and A. McBean, Cooksbridge, Sussex.

CYMBIDIUM GOTTIANUM SUPERBUM.

A further improvement is the series of hybrids derived from Cymbidium insigne. As shown, it carried a pair of large, bold blooms, four inches or more across, white, faintly tinged with pink, and with a rose-pink flush along the back of the dorsal sepal. The lip is white, spotted, and lightly barred with red-brown, and with a light yellow crest and stain of yellow on the front lobe. A.M., R.H.S., May 20. Messrs. J. and A. McBean, Cooksbridge.

LÆLIO-CATTLEYA APHRODITE SPLENDENS.

A very fine form, its broad petals pure white at the base, but gradually shading to pale rosy-mauve at the apex. The narrow petals are similarly coloured, and this shading is delightfully effective. The large, almost circular, lip is intense royal purple with creamy throat, that is veined with purple. A.M., R.H.S., May 20. Messrs. Armstrong and Brown, Tunbridge Wells.

LÆLIO-CATTLEYA BOYLEI GATTON PARK VAR.

L.-c. Boylei was produced by crossing Lælia anceps with Cattleya Trianæ, and it has the growth and extending spike of L.-anceps with broader cattleya-like flowers. In the Gatton Park variety the flowers are almost pure white; in the wide open lip the delicate blush-pink, frilled apex emphasises the beauty of the light yellow throat. F.C.C., R.H.S., May 20. Sir Jeremiah Colman, Bart. (gardener, Mr. J. Collier), Gatton Park, Reigate.

LÆLIO-CATTLEYA BRITANNIA WESTONBIRT VAR.

This glorious lælio-cattleya formed the central feature of the Westonbirt collection of orchids at the Chelsea Show, and it was figured in our issue of May 24. A grand plant it carried seven wonderful flowers with broad soft lilac-mauve petals and paler sepals, and a broad, well-expanded lip of richest purple hue with golden throat and pale mauve margins. F.C.C., R.H.S., May 20. Lieut.-Colonel Sir George Holford, Westonbirt.

LÆLIO-CATTLEYA GANYMEDE HOLFORD'S VARIETY.

This brilliant orchid was represented by a fine plant which bore two spikes, each 2½ft. long, measured from the base of the pseudobulb; one carried eight and the other seven flowers, each with a spread of six or seven inches. The petals are soft yellow, orange tinted; the broader petals rosy-orange, and a lovely shade; the lip deep yellow in the throat, with a ruby-coloured apex and rim. A.M., R.H.S., May 20. Lieut.-Colonel Sir George Holford, Westonbirt.

LÆLIO-CATTLEYA SYLVIA VAR. PRINCESS VICTORIA LOUISE.

A charming hybrid from L.-c. Phœbe and L.-c. Ascania. Only two of its half-dozen flowers were expanded, but these were sufficient to show what a fine appearance a large plant in bloom would have. The broad sepals and petals are of a light chrome yellow shade, and the frilled lip is of similar colour, with deeper yellow interior, and some bright crimson and purple markings across the squarish apex. F.C.C., R.H.S., May 20. Messrs. Charlesworth and Co., Haywards Heath.

MILTONIA CHARLESWORTHI.

A very distinct and beautiful miltonia derived from M. Hyeanum crossed with the fine M. vexillaria var. G. D. Owen. The large flowers are of a very pretty shade of rich old rose, with a butterfly-like blotch of dark maroon at the base of the broad lip; the lower sepals bore also a maroon mark at the base. F.C.C., R.H.S., May 20. Messrs. Charlesworth and Co., Haywards Heath.

MECONOPSIS DELAVAYI.

An interesting little plant, with somewhat spathulate, dark green leaves that are scarcely more than half an inch across at their widest part, and are three to four inches long. From the centre of a tuft of leaves the flower appears at the end of a peduncle from four to six inches long. As shown the flowers seems pendulous at the end of the stem; they are an inch and a-half broad, and rich blue-purple, with a central cluster of blue-purple stamens, tipped with golden anthers. A Chinese species, and probably the newest plant at Chelsea. F.C.C., R.H.S., May 20. Professor I. Bayley Balfour, Regius Keeper of the Royal Botanic Gardens, Edinburgh.

SAXIFRAGA GRANDFIELDI.

A capital saxifrage of garden origin. It has sturdy clustering rosettes of stout, white-edged leaves and spikes of white flowers. The spikes are about a foot or so high, branching loosely and carrying three or four shapely flowers, each about half an inch broad, at the ends of the branches. One large flower terminates each spike, but it is almost hidden by the shorter upper branches. One may hazard that S. pyramidalis was one parent of this useful garden plant. A.M., R.H.S., May 20. Sir Everard Hambro (gardener, Mr. Grandfield), Hayes Place, Kent.

STYRAX WILSONI.

A particularly elegant and graceful shrub from China. It has slender, wiry branches that flower freely upon the side twigs, the pure white pendant blossoms appearing in twos and threes in alternate clusters. On one branchlet about five inches long we counted twenty-six of these dainty blooms. The pale yellow anthers add to the beauty of this very pretty shrub. At Great Warley this shrub has proved hardy during a period of four years, but at Kew a good-sized plant has had its branches cut back by severe weather, but did not succumb. A.M., R.H.S., May 20. Miss Willmott, V.M.H. (gardener, Mr. C. Fielder, V.M.H.), Warley Place, Great Warley.

OLEARIA CHATHAMICA.

This is a rare shrub collected some time ago in the Chatham Islands by Captain Dorrien-Smith. As shown it was a yard or so high, branching along the upper half, and producing white, downy branches with alternate lanceolate green leaves, with crenate-serrulate margins, and white downy undersides. Most of the branches bore a terminal flower-head slightly over two inches broad, with about three dozen palest lavender ray flowers around a cluster of purple florets, the reddish-brown stigmas being slightly exserted. Botanical Certificate, May 20. Rev. A. T. Boscawen, Ludgoan Rectory, Long Rock, Cornwall.

CAMPANULA STEVENSI NANA.

A dense-growing variety scarcely three inches high, and forming a close matt of narrow-leaved growths, studded with inch wide, erect bells of a bright rosy-lilac shade, with the finest veins of a deeper hue. A useful rock garden plant. A.M., R.H.S., May 20. Mr. Reg. Prichard, West Moors, Wimborne.

NEPHROLEPIS EXALTATA WILLMOTTÆ.

One of the loveliest ferns imaginable, and one extremely difficult to describe. The fronds are divided most minutely, and somewhat curled, so that a plant looks like a lot of the most exquisite moss piled up by fairy fingers. All the ladies fell in love with this beautiful plant, and with one accord they referred to it as "cool-looking and mossy." It is a sport from N. Marshalli compacta. F.C.C., R.H.S., May 20. Messrs. H. B. May and Sons, Edmonton.

SARRACENIA BRUCEI.

A very handsome sarracenia, with tall, erect pitchers, green below, but with a crimson rim and deep crimson veinings in the

throat. The wide frilled lid is white and pale green, with heavy reiterating crimson veins. A most interesting hybrid, evidently from S. Drummondi and S. Atkinsoni. A.M., R.H.S., May 20. Mr. A. J. A. Bruce, Chorlton-cum-Hardy, Manchester.

CUPRESSUS FLETCHERI.

A very neat pyramidal conifer that grows only about fifteen inches or eighteen inches high, and is of sturdy, compact habit. It grows densely, and is of elegant appearance, and should prove a very useful shrub for large rock gardens and for grouping in the pleasure grounds near the house. F.C.C., R.H.S., May 20. Messrs. Fletcher Bros., Ottershaw Nurseries, Chertsey.

CALCEOLARIA CLAREFIELD GEM.

This is one of the most beautiful of herbaceous calceolarias that should become very popular for greenhouse and conservatory decoration, rivalling C. Clibrani in grace and brilliance. The foliage is narrower, but otherwise very like that of the popular florists' varieties, but the branching clusters of intense yellow, crimson dotted flowers rise about a yard high. Plants in 48 and 32-sized pots become perfect sheaves of brilliant blossoms and possess an elegance quite wanting in the dense compact sorts. A.M., R.H.S., May 20. Mrs. Litkie (gardener, Mr. Hulbert), Clarefield, Pinkney's Green, Maidenhead.

AURICULA WILLIAM SMITH.

A green-edged show auricula, bearing a large truss of bloom. The wide green edge is divided from the central white paste by a blackish zone. A fine grower, and of high quality. A.M., R.H.S., May 20. Mr. Jas. Douglas, Great Bookham.

ROSCOEA CAUTILOIDES.

A hardy Chinese plant, introduced in 1907. Its erect growths produce two or three sheathing leaves and from the centre extends a spike carrying several flowers at the apex. Though individual blooms are not long lived, there is a little succession to carry on the effect. The blooms have a quite orchid-like appearance, the large bilobed lip being the chief attraction of the pale yellow flowers. A.M., R.H.S., May 20. Messrs. Bees, Lim., Liverpool.

BEGONIA LENA.

A pendulous, tuberous-rooted begonia that makes a fine basket plant, flowering most freely and producing elegant, fair-sized, soft red, semi-double flowers. A.M., R.H.S., May 20. Messrs. Blackmore and Langdon, Twerton-on-Avon, Bath.

ASTER FALCONERI.

A very fine aster, growing about a foot high, as shown. The soft green leaves are stem-clasping, pointed, and hairy; the stems are also hairy. Each growth is surmounted by a flower head four and a-half inches across, and of a pretty mauve-blue shade. A yellow disk adds to the beauty of this Himalayan plant. It is quite hardy, and should prove very useful for the rock garden and for the border. A.M., R.H.S. May 20. Messrs. Barr and Sons, King Street, Covent Garden, London.

PENTSTEMON DAVIDSONI.

A lovely shrubby species growing only two or three inches high, and of prostrate habit. The neat, small, rounded leaves are closely set and greyish-green. Compared with the size of the plant and leaves, the flowers are large, being two-lipped, an inch and a-half long, tubular, and of a pretty old rose shade of colour. P. Davidsoni comes from the Rockies, and was first found by Mr. Elliott in a private garden in Surrey, and apparently has been but recently introduced to cultivation from its native habitat. A.M., R.H.S., May 20. Mr. C. Elliott, Stevenage.

LONICERA TRAGOPHYLLA.

A Chinese species of robust growth, and one that produces long, tubular, light yellow flowers that are sweetly fragrant. The flowers are about four inches long, and some of the clusters carry eleven blooms. A.M., R.H.S., May 20. Messrs. Jas. Veitch and Sons, Chelsea.

LADY GARDENERS.

Having for the past ten years conducted the examinations of the pupils of the Practical School of Gardening in connection with the Royal Botanic Society of London, I may be allowed to offer a few remarks on the question of the general efficiency of lady gardeners. At the Lyceum Club, on the occasion of the first dinner of the Agricultural and Horticultural Section, the well-known writer, Mrs. Flora Annie Steel, in replying to the toast of "Open-air Women," gave a charming account of her gardening experiences, and dwelt at some length on the subject of women gardeners.

But the adaptability of women as gardeners did not appear to me to be fully considered by any of the speakers, and as this point has been frequently discussed in the gardening press of late, I would like to add my quota to the subject. Roughly speaking, about one-half of the pupils who have presented themselves for examination during the past ten years were women, but of late the number of the latter has been decidedly on the increase.

The examination, which is conducted on both practical and theoretical lines, consists of a general knowledge of gardening operations—making and inserting cuttings, grafting and budding, seed sowing, pruning, trenching and ground levelling, dealing with insect pests, etc., while the list of questions to be answered in a given time relates to the laying out and planting of a garden, plants for various soils and sites, the cultivation of vegetables, fruit and flowers, and the best means of dealing with various soils—in fact, everything that pertains to the vegetable or flower garden, from the purchase of the ground to its final cropping.

Though the general all-round efficiency of the pupils, both men and women, after a three-years' course of instruction is parcularly good, yet, I must admit that the theoretical part is more ably carried out by the women than the men. Not only is the scope of the question more fully considered, but, generally speaking, a greater amount of detail and careful preparation is to be found in the papers of the women. With reference to the practical operations they can, as a rule, be more efficiently carried out by the men, but here again the work of the women is far and away beyond reproach. Whether lady gardeners will succeed as heads of large establishments where men are principally employed, I am not prepared to say, but there is no reason why, as advisers, both public and private, or in the management of the smaller gardens and grounds, they should not do equally well with men; indeed, at the present time, several important posts in connection with gardening and the laying out of new grounds are being ably filled by women.

The occupation, too, is a healthy one, and for this reason alone many women have been induced to join the ranks of the gardening profession.

A. D. WEBSTER.

NEPHROLEPIS EXALTATA WILLMOTTÆ.

A beautiful, moss-like fern, with finely-divided foliage. The most dainty of all the exaltata varieties. F.C.C., R.H.S., May 20. Messrs. H. B. May and Sons, Edmonton

See page 394.

Mulching.—Late planted shrubs, either deciduous or evergreen, should be given a good mulching of some moisture-retaining material if such work was not carried out as planting proceeded; rotten manure is best for this purpose except in the case of the delicate kinds of American shrubs, when a dressing of peat or leaf-mould will be more suitable. Grass mowings can be used when nothing better is at hand, but it requires to be moved occasionally, otherwise the surface settles down and becomes impervious to water. Some inhabitants of the flower garden will be greatly assisted if mulched with manure, especially pæonies and delphiniums. Mulching becomes a most important operation when circumstances do not permit watering to be carried out in an efficient manner.—T. B. FIELD, Wych Cross Place Gardens.

NOTES FROM KEW.

Though many of the bulbs and forced shrubs that have for some time formed a bright and attractive feature in the large greenhouse at Kew are now practically over there is no lack of flowers in that ever-popular structure.

The practice generally prevails of arranging the plants in groups or masses of one particular kind, and in this way the beauty of the different subjects is seen to the best advantage.

Calceolarias.

One of the most striking things is a large semi-circular bank of Calceolaria Clibrani, the plants being about four feet high, and as much through. This calceolaria is certainly most valuable for greenhouse or conservatory decoration, as not only can large plants be obtained, but they are light and elegant in contour compared with many of the garden forms. A group of smaller examples in another part of the structure serves to show its beauty when grown in this way.

Calceolarias of the herbaceous section, with flowers large in size and brilliant in colouring, are also numerous, while a pretty shrubby species, C. violacea, is also flowering freely. This, which forms a fair-sized bush with slender shoots, has rather small helmet-shaped flowers, in colour white or nearly so, and plentifully spotted with purple.

Many subjects that one would naturally expect to see at this season are freely represented, namely, carnations, cinerarias, hippeastrums, Primula sinensis, Primula obconica, pelargoniums of different sections, spiræas, eupatoriums, stocks, and nemesias.

Uncommon Plants.

These include the comparatively new Rehmannia Kewensis, Erlangea tomentosa, and Statice Suworowi; Arctotis aspera and Arctotis aureola, shrubby composites with whitish and golden-yellow flowers respectively; the rose-coloured Oxalis floribunda, valuable as a basket plant; the strange and gorgeous Strelitzia Reginæ; Impatiens Oliveri, a giant mauve-coloured balsam; several begonias, Coleus shirensis, with long spikes of purple flowers; Eupatorium ianthinum, with large heads of lavender-coloured blossoms; Kalanchoe Felthamensis, a hybrid kind of taller growth, and with deeper-coloured flowers than the well-known Kalanchoe flammea; and a large batch of Primula malacoides, which shows this charming species at its best.

ODONTOGLOSSUM GEORGIUS REX.

A large-flowered hybrid of the O. Lambeauianum section. Ground colour white, tinted rose, and heavily blotched with deep red-brown, almost crimson. A.M., R.H.S., May 20. Messrs. Charlesworth and Co., Haywards Heath. See page 393.

Hard-wooded Plants.

A great many of these contribute their share to the floral display, notable among them being several heaths, namely, Erica persoluta alba, white; E. propendens, lilac; E. Wilmoreana, rosy-red; E. candidissima, white; and E. ventricosa, a kind of purplish-red. This last-named species is, from its dense growth and profusion of flowers, well suited for growing as small plants. The sense of smell reveals the presence of a few belated flowers of Boronia megastigma, while other members of the same genus still in flower are B. elatior, B. heterophylla, and B. fastigiata. Indian azaleas are now for the great part over, but there is a fine batch of that pretty little rich-coloured variety Hexe, grown, as it so generally is, in quite small pots.

Another pretty hard-wooded plant is the Australian Aotus gracillima, whose long, slender arching shoots are densely packed for some distance with small pea-shaped flowers, in colour red and yellow.

Climbing and Pillar Plants.

The roof of the greenhouse is always more or less gay with climbing plants, and just now many of them are in a very attractive condition. Abutilons are very showy, even though Abutilon insigne, which has been in bloom for a long time, is nearly over. Others now in full flower are Boule de Neige, white; and Golden Fleece, yellow, as well as the slender-growing A. megapotamicum variegatum. There are two quite distinct kinds of this grown at Kew, one being apparently the type, and the other a garden form.

Loose growing fuchsias are also very pretty, while two pillar plants stand out in a conspicuous manner. They are Streptosolen Jamesoni, which botanists tell us is really a Browallia. In its warm, reddish-orange colour it is, however, very distinct from any of the generally grown kinds of Browallia. The other pillar plant is Lantana salviæfolia, which is often bedded out in parks and gardens under the name of Lantana delicatissima. It is, however, rarely seen as a pillar or roof plant, though it has been long grown in this way at Kew, and has for years gained many admirers.

Despite the number of new roses, that good old variety, Gloire de Dijon, is by no means out of the running, as a large plant secured to the roof and laden with blossom will testify.

An uncommon and beautiful climber that fully merits a note to itself is Lathyrus pubescens, which is trained up one end of the greenhouse. Good examples have often been shown at Kew, but it is decidedly uncommon in gardens. The flowers, freely borne in clusters, are of a lavender shade, a very pleasing tint.

K.

Prunus sinensis flore plena.—This is usually seen grown as a subject for forcing, but given a specimen on its own roots and planted in a sheltered position, it forms a delightful little outdoor shrub. The comparatively large, double flowers clothe the rather upright shoots for some distance. It is often increased by grafting, but plants on their own roots can be readily increased by layers.—W.

Salsafy and Scorzonera, if properly cultivated, are very acceptable additions to winter vegetables, and for the main crops seeds may be sown at the present time with the full assurance of success. Ground manured for a previous crop and deeply stirred will prove suitable. Apply a surface dressing of burnt refuse and soot, which should be well raked in; draw the drills fifteen inches apart, and an inch deep, sow thinly, and eventually thin the plants to six inches apart.—W. MESSENGER.

CAMELLIA RETICULATA.

The Queen of Camellias should commend itself to everyone having large conservatories or winter gardens to furnish, as in leaf and flower it is one of the most lovely members of a once popular genus. C. reticulata is almost hardy, as it succeeds in the open in favoured parts of the country, and only requires the protection of an unheated greenhouse, in colder parts, to grow it to perfection. Good specimens may be grown either in pots, or planted out against a wall, although the natural habit and greatest beauty are displayed when one is planted out and forms a bush free from all restraint. Like other members of the genus, it does best in a good holding compost of loam and peat, with some sharp sand added, the whole being well mixed previous to using. When potting or planting, the soil should be firmly rammed, as camellias, being extremely hard-wooded, are rarely satisfactory in loose soil. Watering also calls for careful attention at all seasons, and when actually required should be given in quantity, so as to saturate the body of soil.

The foliage of Camellia reticulata is distinct, being long and pointed, and having the margins finely toothed in a regular manner. It is in the flowers, however, that its great beauty lies. These are of immense size, semi-double, of anemone form, and coloured a glowing shade of rich pink, relieved by the soft contrast of the golden anthers that protrude amidst the petals. When grown under cool conditions, it flowers towards the end of March or early in April, and remains effective for three or four weeks. A feature of interest is that it blooms in a quite small state, as plants only 15in. in height will not infrequently carry half-a-dozen flowers.

THOMAS SMITH.

Coombe Court Gardens.

THE BEST AUBRIETIAS.

The ever-increasing popularity of aubrietias, as spring bedding and rock garden subjects, is but a fitting tribute to the value of this group of hardy plants for decorative purposes. Whether as a carpeting subject for beds, as an edging plant, or for creating beauty upon an old wall, or in drifts down the rock garden, few groups of early-flowering plants can equal, and certainly none surpass, a really good selection of aubrietias.

My list of the best aubrietias may be freely criticised, but I wish to say that my choice is based simply upon my own observations of recent years.

Many observers have put it on record that Lloyd Edwards is the best deep-hued aubrietia. This is a good useful variety, very neat in growth, but it is hardly the equal of the renowned Dr. Mules, as grown here. Dr. Mules is indispensable, and with it I would bracket Excelsa, Duke of Richmond, Invicta, and Hokkaido, as especially fine varieties of very rich colouring.

Rather lighter in hue, having more of a reddish tone in the purple, are Lady Constance, the earliest of all aubrietias, and the fine Eastern Beauty, a direct descendant of Dr. Mules. In the reds Bonfire leads at present; it is a fine glowing colour. Mars is also very good, while Vivid, Boatswain, and Prince John are among other notable forms. These are superior to Fire King, and of better colour than the larger-flowered Alfred Wilcox, both of which have rendered good service.

Of the pinks, Bridesmaid, a very pale variety; Moerheimi, a good round-flowered neat grower. Charming, a sterling, bright pink; and Princess, rather paler, are all extremely good, while Lilac Queen, a rosy-lilac, is near enough to be included in this section.

It is a difficult point to decide within the group of what I will term blue sorts, i.e., those varieties with flowers having blue as the dominant colour, and not sufficiently deep to merge either into purple or violet. Perkinsi may be noted here; also Prichard's A1; both are good. Heroine is a strong-growing, exceptionally early novelty of great merit.

Lavender is a first-rate form, the best of the lavender shades; the seedling Fairy comes very near in colour, but is quite distinct.

The best six, in my opinion, taking the whole group through are Lavender, Bonfire, Invicta, Excelsa, Dr. Mules, and Eastern Beauty, though one could possibly select another half-dozen very near to these.

Clacton-on-Sea. P. S. HAYWARD.

A SWEET-SCENTED BORDER.

Borders near paths, dwelling-room windows, or even in odd corners, may be made most charming by sowing thinly, seeds of the following kinds of annuals now: Mignonette should form the ground-work, and Shirley poppies, still more thinly grown, should be seen above the mignonette. An edging of night-scented stock, Mathiola bicornis, will complete the border. For many years I formed some borders in this way, and they were always greatly appreciated. The mignonette must be thinly sown; then the plants branch out and continue to flower throughout the season. The poppies are still more thinly grown, so as to prevent any overcrowding. If there is crowding the plants do not last long enough. GEO. GARNER.

CUPRESSUS LAWSONIANA FLETCHERI.

A dwarf, greyish-green variety, of compact habit and of retinospora-like appearance. Grows about 18 inches high. F.C.C., R.H.S., May 20. Messrs. Fletcher Brothers, Ottershaw Nurseries, Chertsey. See page 395.

SWEET PEAS.

Culture under Glass.

The cultivation of sweet peas under glass has extended to an enormous extent during the past few seasons, and, judging from the results obtained by experienced growers, glass culture is likely to increase for some time to come, especially for market supplies, at least until the inevitable happens—the price falls so low that it does not pay well enough to warrant the outlay. Unfortunately, the amount of light and sun during the early months of the year is not sufficient to allow sweet peas to bloom much before the first week in May, although last season we had them in good condition some fourteen days earlier, but it must be remembered that we had an exceptional amount of bright weather during April. This season has been very different, and the growth has kept soft and been somewhat more inclined to bud dropping than ever. I have noticed this before, that growers might note that, although they may sow very early—even in August, it does not follow that they will obtain correspondingly early supplies of flowers. Strong early plants kept very hard are a decided advantage, and mid-September sowings are most likely to give good results. Plants raised at that period were quite tall and strong enough by the first or second week of April to carry good flowers if the weather conditions had been such as to allow them to retain their buds.

It is not always want of light that induces the plants to shed their buds; too generous treatment in the early stages, and a temperature in excess of requirements are both potent factors, and, although at no time must the plants be hurried, it is especially desirable to keep them steady just as the first flower buds are pushing.

This stage has, however, been passed for the present season, and the plants are now flowering quite freely, and to keep them growing freely and giving good long-stemmed flowers, the plants may be treated quite liberally. When in pots it is astonishing the amount of water and manure they will take, and during really hot weather a good damping down with the hose will help them materially.

In good lofty houses the plants, if hard, will stand a good deal of sun, but it is best to give a little shade now to keep down the temperature somewhat. Referring again to bud dropping, when looking through a large house of sweet peas quite early in April, I noted several odd plants that had not dropped a bud; they were evidently rogues (white) that had cropped up here and there among two or three varieties, and if a strain of this character could be worked up, it would mean much to the grower of these flowers under glass, as they were well in bloom three weeks in advance of any of the others (some twenty varieties).

CALCEOLARIA CLAREFIELD GEM.

A very graceful herbaceous calceolaria, carrying branching head of fair-sized golden, red-dotted flowers. A.M., R.H.S., May 20. Mrs. V. Litkie, Clarefield, Pinkney's Green, Maidenhead. See page 395.

Varieties for Glass Culture.

The question of varieties under glass is, if anything, more important than out of doors; last season I was very much impressed with the variety Annabelle Lee, and, after seeing it again this year, I should venture to say it is one of the very best under glass. The colour, rosy-lilac. Lady Miller was seen in good form early last year, but out of doors it disappointed me. After growing it, and seeing it growing under glass, I would strongly recommend anyone to give it a big share of the space at their disposal. It is aptly described as apricot on cream, with just sufficient pink in it to warrant it being termed cream-pink. The raiser, when discussing it late last autumn, said: "Man, it's the grandest pea you ever saw!" and I admit it—under glass.

In the brighter shades Inspector and Thomas Stevenson are good enough for anything, and they keep their colour well. With such varieties as these, the crimsons and scarlets are not wanted under glass, they appearing quite dull by the side of them. Ruby Palmer, a new variety, may prove an acquisition in this class, as it appears to be a self crimson without any sign of blue or magenta in it, which so many is very obnoxious. Melba, Barbara, and Stirling Stent are, of course, very fine, and it is simply a matter of choice which of these three or Inspector is grown. Mrs. Routzahn is another sweet pea in the pale shades which does well, and it certainly is deeper in colour under glass than out of doors, a point which should at once recommend it to growers.

There is not a great demand for flowers of a maroon colour, but the variety Brunette is so rich, and of such good form, that it should sell well, the red-maroon shade harmonising so well with some of the creams and cream-pinks when colour contrasts are desired. Elfrida Pearson, Doris Usher, and Hercules are so well known that it is quite unnecessary to more than mention their names, and either ought to satisfy the most exacting as a pink variety. New Marquis, Blue Picotee, and Mrs. McIlwrick are three new varieties that are worth noting.

Sweet Peas in the Open.

Sweet peas generally are growing well out of doors, and in many instances are stronger than usual, and what is wanted now is fairly warm and dry weather to steady them down a little. Staking, where not completed, should be pushed forward with all possible speed, also the thinning and regulating of the shoots (especially of autumn-sown plants) must be proceeded with, although this advice is hardly necessary to the sweet pea enthusiast, as in many instances this is done almost too soon. I defer it as long as possible to secure a good root action.

As mentioned, the plants are, in most cases, very strong, but the flower beds are not as early as in some seasons, and in very few collections will blooms open before the first week in June, at least where they were sown in October. Last season the first blooms out of doors were cut here on May 18, but I very much doubt if any will be fully open by the end of the month—the usual date being the 25th.

Market growers are taking the cultivation of sweet peas much more seriously than they were a few years ago, and it would not surprise me in the near future to see them on the market quite up to the best exhibition standard, and I might add that under better methods of cultivation they ought to be quite as remunerative, or even more so, than when grown on the old haphazard system. This change has been largely brought about by the many splendid exhibits that have been put up at the horticultural shows by our sweet pea specialists from time to time, thus emphasising the great amount of good that exhibitions do to the trade of this country.

THOMAS STEVENSON.

ASPARAGUS: ITS LITERARY AND CULINARY ASSOCIATIONS.

(Continued from page 332.)

Mode of Culture.

And now having taken the literary and culinary sides, I should like to give you the other side, viz., the cultivation of the plant for the market, its native habits, etc. Loudon, in his "Encyclopædia of Gardening," about 1835, gives us much interesting information on this score. He says that asparagus belongs to a class of esculents which may be considered as comparatively one of luxury. It occupies a large proportion of a gentleman's garden, often an eighth part, but enters sparingly into that of the cottager. A moist atmosphere is congenial to asparagus, which is a seashore plant. Asparagus officinalis, L. English botany, t. 339, Asphodeliæ, B.P. Asperge, French; Spargel, German; Aspergie, Dutch; Asparago or Sparagio, Italian; Esparrago, Spanish. It is a perennial plant, found in stony or gravelly situations near the sea, but not very common. It grows near Bristol, in the Isle of Portland, and sparingly in Seaton Links, near Edinburgh. The roots consist of many succulent round knobs, forming together a kind of tuber, from which numerous erect round stems arise, with alternate branches, sub-divided into alternate twigs, not unlike a larch fir tree in miniature. The leaves are very small, linear, and bristle-shaped, the flowers of a yellowish-green, and odorous, are produced from June to August, and the berries of a yellowish-red. The whole plant has a very elegant appearance. Many of the steppes in the South of Russia and in Poland are covered with this plant, which is there eaten by the horses and oxen as grass. It is cultivated, to a great extent, in the neighbourhood of Paris, and to a large size in the neighbourhood of Ulm and Augsburg, on the banks of the Danube, where the soil is a calcareous sand, three or four feet deep, and the subsoil always saturated with water. In the neighbourhood of London it is cultivated to a greater extent than anywhere else in the world, and chiefly at Deptford and Mortlake. Some growers at these places, and especially the latter, have above one hundred acres each. The most celebrated grower of that day (about 1835) was Grayson, of Mortlake, who produced shoots nearly half an inch in diameter.

Coming down to later times, we find that the cult flourishes in East Anglia, and amongst our greatest growers we may mention Mr. Harwood, of St. Peter's Street, Colchester. He generally carries first honours at the Royal Horticultural Society's Spring show, and treasures the memory that our late King Edward VII. so admired the exhibit at the Temple Show that the happy grower was sent for. Mr. Harwood is not only one of the greatest and most successful growers of the day, but also a raiser of new varieties. His plan is to grow the plants flat at first, and when they are two years old they are taken up and planted in the new bed. Soil, sandy loam, eighteen inches in depth over the plants. All asparagus beds should be well manured in November. Salt should not be used as it makes the earth cold, and tends to keep the asparagus back. Some bundles shown at the Temple Show weighed sixteen pounds, and were comprised of only one hundred heads. The best sorts to grow are Giant Reading, Connover's Colossal, Batavian, and Argenteuil.

In this country asparagus is frequently forced, but seldom with much success, the heads being usually small and stringy, without sufficient succulence. For this purpose an asparagus bed is dug up, and the plants transferred to a place heated with manure, where they come up in a fortnight or three weeks; but as the roots are always much injured by the operation of transplanting, the little success that attends this method is easily accounted for. In many parts of the North of Europe, especially about Riga, a far better mode is adopted. The forcing takes place in the asparagus beds themselves without disturbing the roots; the trenches are filled with the hot manure, and the beds are covered with the same material about six inches deep. If the weather is very severe the beds are also covered with frames, but this is rarely necessary in England. Treated thus, asparagus is as fine as if it waited till May to make its appearance. But when this method is practised the heads cannot be cut down at the natural time in the same season.

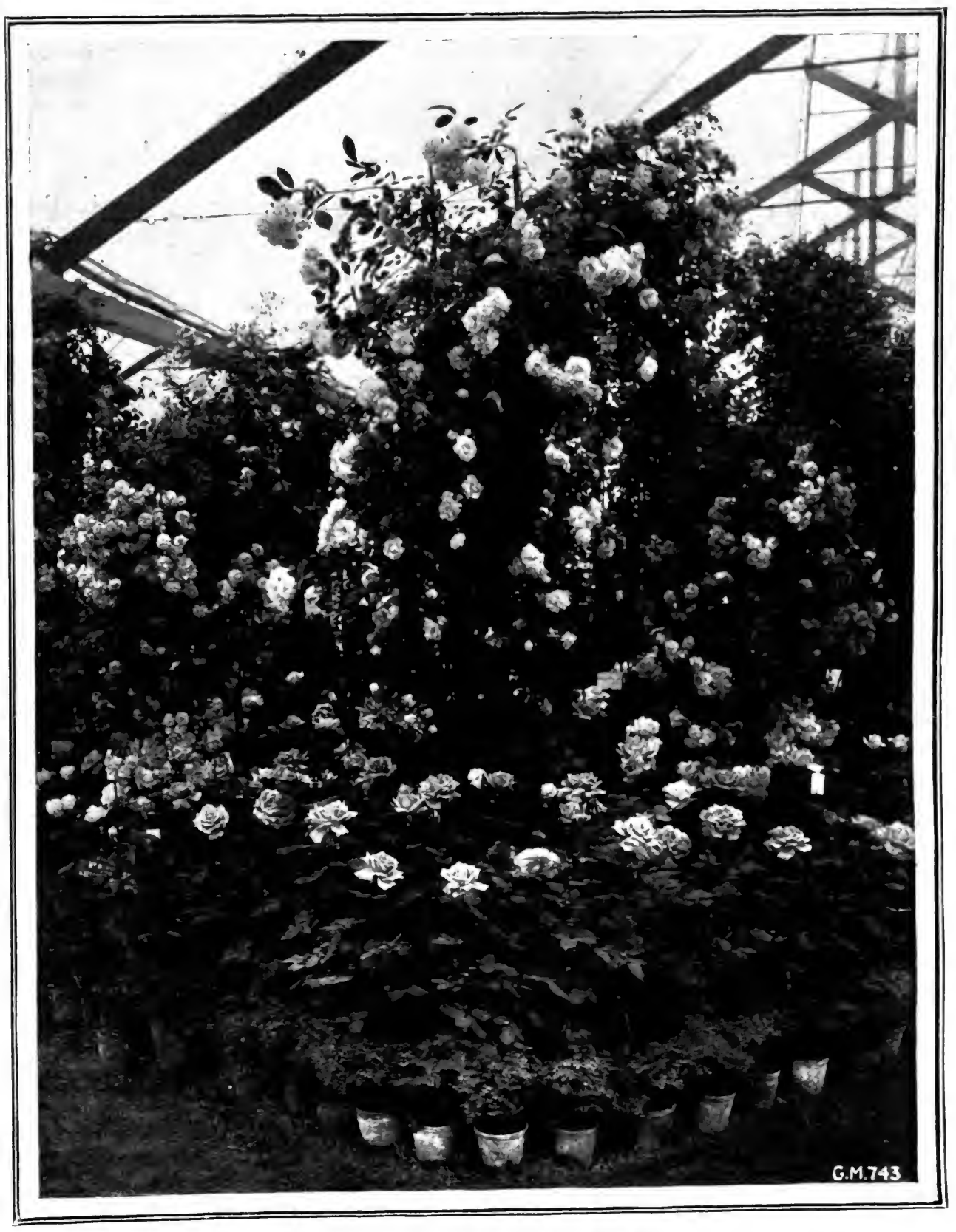
In order to recover from the effects of forcing the plants must be allowed to grow as freely as possible during the succeeding summer, so that they may form a new supply of food for the support of the heads of the succeeding spring. When it is wished to have exceedingly large heads of forced asparagus, pieces of bamboo, or any other hollow tubes, should be put over the shoots when they first make their appearance. The latter will acquire a length of eighteen inches without losing their tenderness.

H. C. Philbrick.

WORMIA BURBIDGEI.

An evergreen stove shrub well worthy of consideration for its foliage alone. The elliptic-shaped leaves are large, dark green, and of a stout leathery texture. The flowers are borne in an unbranched panicle, and are about three inches across; the colour is bright yellow. The individual blooms do not remain long in beauty. They are composed of five petals, and bear a somewhat close resemblance to some of the hibbertias; indeed, the wormia is a member of the same order, namely Dilleniaceæ. The specific name perpetuates the memory of the late Mr. F. W. Burbidge, so long identified with Trinity College Gardens, Dublin. In the years 1877 and 1878 he visited Borneo, the main object being the introduction of Nepenthes Rajah, which was successfully accomplished, while many new plants were found, notably this Wormia. It was first distributed in 1885.

K.



ROSE WHITE TAUSENDSCHON.

A pure white variety of the popular rose-coloured multiflora rose Tausendschon. A.M., R.H.S., May 20. Messrs. Wm. Paul and Son, Waltham Cross.

See page 393.

STORY OF A LOCAL PLUM.

If you happen to be passing along the Severn side in April, below Gloucester, where the river broadens out into an estuary, you may see on either side of the stream sloping hillsides and flat lands planted as orchards that are living masses of pearly white plum blossom. Should you happen to be in the same country again in August, you will see plum picking in full swing in the orchards. You will meet spring drays and carts laden with hampers of fruit, and at the station yards you will observe tons of plums from the Severn side being packed off to the mining valleys in South Wales, and the big manufacturing centres in the Midlands and the North. There will be nothing unique about either the first picture nor the latter, except that the plums in bloom in April are of a variety belonging to the Severn Vale, and at picking time you will probably find no fruit just like them in any other county in England.

The plum referred to is a local variety known as the Blaisdon Red, and, so far as I am aware, it is confined to the district where it has established itself, nor have I ever seen the name in any nurseryman's list. Yet in its own district the Blaisdon Red is the most profitable plum that is grown, taking one season with another. Intermingled with it you find Victorias, Prolifics, Czars, and the rest of the recognised commercial varieties, which occasionally bring in more money, but, taking the average of years, there is nothing pays like the Blaisdon Red, and the fruit-growers in the Vale of Severn are jealously proud of the plum, which they look upon as being peculiarly their own. As the name implies, the plum is red, not very large, and of prune shape, but it is excellent for preserving and cooking, it travels well, and will stand the wet of even a summer like the last without suffering much damage. In fact, it is just the plum for handling in big quantities for market supplies and meeting the requirements of the masses.

Propagation is not a difficult matter, for Blaisdon Red, like the Pershore of Worcestershire, grows on its own roots. Suckers are thrown up by fruiting trees very freely, and the latter are taken up and planted to make fresh orchards. The trees are grown entirely as standards, which have an upright habit, compact, yet bushy, and after young specimens have been cut back to form the head little or no pruning is required. The great point in favour of the Blaisdon Red is that if any variety bears this will, with the result that it is a very bad season indeed when there are no Blaisdons; and though in glut years they may be worth very little in comparison, still their reputation sells them in the South Welsh markets that are not far away, and in the heaviest of plum years there is probably as little waste with Blaisdons as in any other of the many plums that are now in cultivation.

Now the story of this local plum is quite an interesting one, and its establishment in the Severn Vale is within the memory of a few persons still living. Not long ago I was in a little village on the banks of the Severn, but on the opposite side of the river from the place where the Blaisdon Red originated. There I met an old gentleman, who claims the credit for being the first to bring Blaisdon Red across the river. He established an orchard of his own, which, he says, has paid better than any other piece of land on his farm during a fifty years' tenancy; but there are numerous other orchards in the village and district, all fruitful and profitable, while the cottagers and small occupiers, who mix up fruit-growing with salmon-fishing, look to Blaisdon Reds to help pay the rent. In fact, the introduction of Blaisdon Red from the other side of the river a good many years ago has gone a long way towards making this a fruit-growing district of some importance.

The old gentleman referred to had peculiar reasons for being interested in the plum under notice, for it originated in the garden of his parental home in the tiny little village of Blaisdon, on the outskirts of the Forest of Dean. Strangely enough, too, it was the death of an apricot that brought about the existence of the Blaisdon Red plum. This apricot occupied a place on a wall, and it displayed that bad habit of apricots of dying back, a branch at a time, until there was nothing left. Then out of the stock below the ground, upon which the apricot was no doubt originally worked, there sprang up a plum growth, which was allowed to remain and take the place of the old apricot. It was regarded as having a touch of novelty, but in course of time, when it fruited, the plums were found to be good. Other suckers came up, and were duly taken off and planted. There were not so many varieties of plums grown then as there are now. Nurseries were not so numerous, nor trees so cheap, so the folk about Blaisdon begged a few grafts from the original tree, which were freely given, and in this way, as well as from suckers, the variety became distributed, and became public property, as it were.

In telling this story, the old gentleman, who remembers the first Blaisdon Red tree and described the place where it grew, had only one regret, i.e., that his family did not keep the stock in their own hands, and plant every available inch of land they could get with it, for the purpose of establishing orchards. Had they done this they might have reaped a rich harvest before anyone else got a start; but it is easy to be wise after the event, and they did not know the treasure they had in the variety that Nature presented to them.

On the other hand, the accidental introduction of the Blaisdon Red plum has added considerably to the fruit-growing wealth of a district and a community of growers. Had the old root of the disappointing apricot been grubbed out, as it well might have been, the Blaisdon Red plum would never have originated, and without it the locality where it is now grown so largely might never have been a plum-growing district at all. Further, from a financial standpoint, hundreds of pounds that have gone into the pockets of fruit-growers in the Vale of Severn and round about would never have found their way there if an apricot tree in an old-fashioned country garden had not died back and sent up a plum sucker from its stock below the ground. Such, then, is the story of Blaisdon Red, the best all-round plum that is at present grown in the Vale of the Severn. H.

LABOUR AND WAGES.

I was much interested in the remarks made by Mr. James Day on page 188 with reference to work and wages, as this is one of the greatest worries that gardeners have to contend with in many places in the rural districts, for there are few classes of labour so ill paid as that of the garden labourer. Farm labourers in many instances (I know from personal experience) are far better paid than the men who work in the gardens, as they are able to earn extra money at various times of the year by what is termed piece work. As an example, a good hedger will earn from £1 to 25s. a week during the short days in winter, and the same may be said of a hay trusser; while in the summer time much of the work in many places is done by the piece.

Garden men have no such privileges; their wage is the same the whole year round, from 14s. to 16s. per week, out of which they have to pay 2s. 6d. or 3s. 6d. for rent. If there are any labourers who deserve an increase in wages, they are the garden labourers. Their work at times is by no means easy; digging, for instance, for weeks together. Mowing and such like, is quite as trying as much of the work for which a much higher wage is paid. Every gardener in the rural districts knows full well the difficulty he has in procuring suitable men, especially in places where the hours of labour are from six in the morning to six at night, with no short time on Saturdays. Young, strong men prefer to go to towns where the hours are shorter and they have their Saturday afternoons to themselves.

It is now very difficult to obtain young men to work in the houses, as few intelligent, smart young fellows care to be tied in the way they are, and lead such a monotonous life as falls to the lot of many in some of the out-of-the-way places. True the case is somewhat altered since bicycles have come within the reach of most people, but during the winter season the roads are bad, so that it is difficult to get about on them. When young men of the present day apply for a situation they usually enquire the hours of labour, if there is any Sunday duty, and if so, was it paid for. Also whether there is half-day on Saturday, how much holiday is allowed, etc.; and if they find such things are not in accordance with their views they at once decline the place, or, if they accept are not satisfied, and are soon gone again, knowing full well they can obtain higher wages with less restrictions in gardens that are within a comparatively short distance of towns.

Gardeners in such places are put to great disadvantage, not being able to procure the pick of men as they should be able to do where a more generous scale of wages is provided. If employers would take into consideration that it was to their interest to assist the young men by providing them with books and papers, also by having a suitable room in the village where they could meet and enjoy themselves, there would be an immense improvement. In the rural districts houses in many instances are very scattered, and there is no meeting-place except the village inn, which is by no means an ideal spot either for convivial gatherings or for raising the status of a young gardener or improving his knowledge. Near towns the case is quite different, as there are usually all kinds of amusements and entertainments going on, where the young can go and enjoy themselves, or where those who are more studiously inclined can attend suitable technical classes and so improve their knowledge in many and varied subjects. The wages men receive in the rural districts will not admit of many luxuries of this kind; even where young men are disposed to follow a studious career, they have great difficulty in obtaining the necessary books to enable them to do so, and unless a man has a superior knowledge of the business or profession he is called upon to follow he cannot hope to reach the goal of his ambitions. H. C. PRINSEP.

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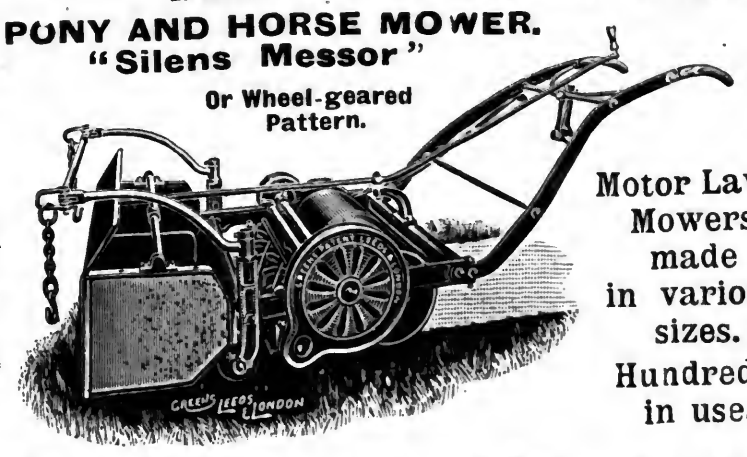

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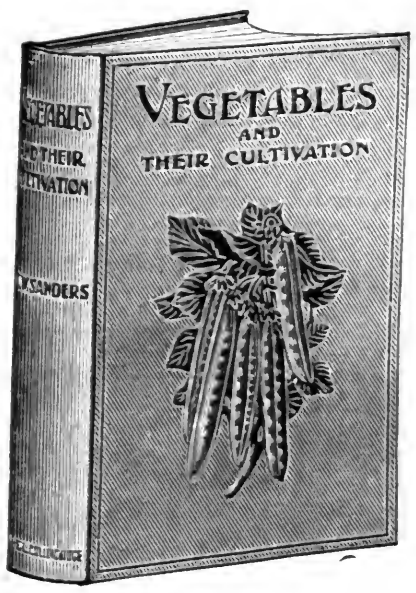

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EXHIBITIONS AND MEETINGS.

GREAT FLOWER SHOW AT CHELSEA.

(Concluded from page 385.)

ROCK AND FORMAL GARDENS.

Planted out in beds, with grass walks between them, the azaleas, acers, rhododendrons, and other flowering and ornamental subjects, shown by Messrs. J. Cheal and Sons, Crawley, produced a surprisingly beautiful effect, the splendid condition of the plants and the taste evinced in their arrangement being worthy of the high reputation enjoyed by the firm. From this point in the exhibit a paved pathway led one into a garden of the old English type, with its imitation well in the centre, and beds ding plants, edged with lavender. Out of this restful enclosure a paved pathway led on to feature number three, which was a tastefully-arranged rock garden, made of a calcareous stone from Swanage, which only wanted a bit more weathering to make it look quite in keeping with the hardy primulas and other plants that filled the crevices. The Crawley's firm's exhibit did not enjoy the best of positions, but few people missed it, and all who saw it added their meed of praise.

It is by no means uncomplimentary to any other exhibitor to say that the most natural looking rock garden in the show was that arranged by Mr. J. Wood, of Boston Spa, Yorks. It was truly a rock garden, nothing else but rock and water; and, as you looked at it, you felt that instead of being brought all the way from Yorkshire, Nature had put the stones there, thrown them up by some upheaval in the past, and left the craggy points in some places, and the edges of the strata emerging from the ground in others. You could also imagine that the rocks had been weathered and washed where they lay by the storms of passing generations, leaving just enough soil in the pockets and crevices for the pretty little alpines to grow in. In reference to the latter, there was nothing out of the ordinary, but every clump of plants was in its right place, looking as if they had grown there from the days of infancy. There was a suspicion of newness about the rockery set up by Messrs. T. S. Ware, Feltham, but otherwise it was attractive, and the big patches of aubrietias, azaleas, and violas made a good display, and the semi-aquatic plants round the edges of the ornamental pool in the centre looked quite at home.

Enormous were the stones used by Messrs. J. Piper and Sons, Bayswater, in the formation of their rock and water garden, but what is more to the point, they arranged them to such good effect that they looked as if they had occupied their positions for years. Even the London sparrows seemed quite at home as they hopped from stone to stone. A very natural-looking pool that twisted in and out was crossed by stepping-stones, and a paved way led up to a stone seat, set, as it were, in the side of a face of rock. Water trickled musically down a cascade, and lost itself in the pool below. In the crevices between the stones grew, or seemed to grow, batches of suitable plants, and in the sunlight the colours of crimson primulas were reflected in the water. At one point an ornamental purple wistaria drooped over the pool, at another a white one; while at one corner there was a compact little representation of a bog garden that seemed to have been dropped in just the right place.

Enclosed by a yew hedge and paved with stones of all shapes, Mr. R. C. Notcutt, of Woodbridge, made a garden of hardy mollis and other azaleas and rhododendrons. The former, which filled a raised bed in the centre, were interspersed with Japanese maples, and the whole effect was very pleasing. Messrs. R. Tucker and Sons, Oxford, set up an arrangement of rockwork with the usual steps and paved ways. A batch of blue gentians at one corner was very pleasing, and popular rock plants were dispersed about.

ROCK GARDEN EXHIBIT AT CHELSEA.

Arranged by Mr. J. Wood, Boston Spa, who was awarded the gold medal. One of the most natural pieces of rock-work yet displayed.

Mr. Clarence Elliott, Six Hills, Stevenage, used his position to great advantage, skirting a low bank with easy rockwork, rendered gay by colonies of Primula sibirica, P. involucrata, Gentiana acaulis, iberis, aubrietias, and Daphne cneorum. On a rocky bed near by were saxifrages and sedums in the open sunshine, with aquilegias, anemones, and dwarf pines. On the larger, bolder part of this rock garden Mr. Elliott had a superb mass of the glorious blue Aquilegia glandulosa, carrying wonderful blooms on sturdy stems. Besides this we noted alpine phloxes, Saxifraga Stormonth Seedling, ramondias, and Viola gracilis. For the dainty little rose-red Pentstemon Davidsoni Mr. Elliott secured an A.M. Alpines of many kinds were exhibited by Messrs. Cunningham, Fraser, and Co., Comely Bank Nursery, Edinburgh, but the leading subjects were choice saxifrages, Pinus mughas, Schizocodon

Soldanelloides, the cushion-like Erica hypnoides, Haberlea rhodopensis, and Primula Littoniana. This group was on raised tabling out of doors, and was at a very convenient height for inspection.

The rockery from Messrs. J. Backhouse's Nursery at York struck one as being a representation of a bit of peak scenery, and there was a pleasingly natural look about the water that trickled down the cascade into the pool below. Here we saw gentians growing on a grassy bank, and a mixed bed of hardy flowering plants at one corner attracted attention.

A combination of paved garden and rock garden, with rocky walls sustaining narrow terraces, made up the exhibit from Mr. Maurice Prichard, Christchurch. The rock garden was in the centre with a paved path around and the walls beyond. On the terraces some of the most interesting plants were Œnothera ovata, Primula Cockburniana, Geum Mrs. Bradshaw, Oxalis enneaphylla rosea, Achillea herbarota, gleaming white; Primula japonica, P. pulverulenta, P. sibirica, and P. Bulleyana. On the rock garden proper Daphne cneorum, the rosy Dianthus Emile Parc, Gentiana acaulis, Phlox pilosa Brilliant, Veronica salicornoides tucked into crevices, Trollius pumilus, Silene Hookeri, Lewisia cotyledon, and L. Howelli. There appeared to be rather too many wooden labels showing on the rockery set up by Mr. G. Reuthe, of Keston, as they seemed to overwhelm the diminutive plants. The green moss, too, that was freely used, would hardly be found in anything but a temporary rock garden, and on this account the imitation of permanency was not a complete success.

A rustic bridge, a boggy kind of stream, a flower-studded bank behind, with a pathway leading up to it, were the features of the rock garden arranged by Messrs. W. Cutbush and Sons, Highgate. There was a cunningness about the device, and, without over-doing it, the material employed was used to good advantage. The Craven Nursery Company, Clapham, Yorks, was responsible for a small rockery, on one side of which blue gentians were conspicuous, and on the other a mass of white trilliums attracted attention.

TREES AND SHRUBS.

The choicer trees and shrubs, chiefly the flowering kinds, were grouped in the big tent, and the crowds that gathered round them indicated the interest these plants created.

In this section, Messrs. Jas. Veitch and Sons, Lim., Chelsea, had a grand group, which was made up chiefly of rhododendrons Pink Pearl, Doncaster, Mrs. E. C. Stirling, and Marchioness of Lansdowne. Hydrangeas Hortensia rosea and Madame M. Hamar were very fine, and the golden azaleas Anthony Koster, Nancy Water, and others gave a bright splash of colour that formed a contrast to the pink of the rhododendrons. The flatness of outline was broken by standard specimens of Styrax japonicum, Rosa hugonis, Cytisus Dallimorei, and other plants of more than passing interest. Though the group of hardy-flowering trees and shrubs, shown by Messrs. W. Paul and Son, Waltham Cross, was a little flat, the display was beautiful and striking, and the colours were pleasingly blended. Rhododendrons Pink Pearl, Lord Palmerston, and Sigismund Rücker made a bold centre, and around them were azaleas, lilacs, cytisuses, honeysuckles, and a host of other things.

Messrs. Geo. Jackman and Son, Woking, had a very interesting group of plants of hardy character, which included some fine specimens of Kalmia latifolia, Hydrangea arborescens grandiflora alba, Philadelphus aurea, and Viburnum plicatum, together with ivies in variety, and other flowering and foliage shrubs. A great display of rhododendrons was made by Messrs. Fletcher Brothers, Chertsey, who exhibited amongst other better-known varieties the following novelties: Duke of York, salmon pink; Helen Paul, pink; Profusion, of the same shade; and H. M. Arderne.

Messrs. Paul and Son, of Cheshunt, showed a group of hardy azaleas, in which Glory of Cheshunt, Milton, High Beech, Orange, and Freda Paul were conspicuous varieties. Mr. Chas. Turner, of Slough, sent a collection of lilacs that were hardly open enough to show to the best advantage. Amongst the varieties represented were Madame Lemoine, Charles, and Souvenir de L. Spath, Negro, and Arthur W. Paul.

Very bold and handsome were the great flat blooms of the finer clematises, shown on the growing plants by Messrs. Geo. Jackman and Sons, Woking. These were grouped with acers, palms, maples, and ferns. Fairy Queen, silvery-pink; Nellie Moser, rose and white; Lady Caroline Neville, pale blue; Lazarstern, deep blue, very large; Imperatrice Eugenie, pure white; and Jackmani rubra, deep red-purple, were just a few notable varieties in a fine group. Mr. Reuthe, Keston, showed a number of trusses of Himalayan rhododendrons, and the brilliant Embothrium coccineum, with other interesting flowering shrubs.

Perhaps the most attractive variety in the mass of rhododendrons shown by Messrs. J. Waterer and Sons, Bagshot, Surrey, was Alice, a lovely pink flower, but, Cynthia was also striking, and the same adjective describes Michael Waterer, Marquis of Waterford, and Mrs. E. C. Stirling. Messrs. W. and J. Brown, Stamford, set up a big mass of named varieties of lilac, along with dianthuses and other plants.

Messrs. J. Waterer and Sons, Bagshot, also had a collection of acers outside the tents, and near at hand Mr. L. R. Russell put up a fine group of cut ivies and other plants in tubs, and at another point the same firm set up a most striking collection of flowering trees and shrubs, intermixed with acers and other ornamental foliaged plants, with a little bed of the bright salvia Glory of Zurich close at hand. Messrs. Fromow and Sons, Chiswick, had a very large group of Japanese maples in the Elm Avenue, in which practically every type of these ornamental acers was represented.

Two great groups of Ghent and mollis azaleas did much credit to the skill and taste of Messrs. R. and G. Cuthbert, Southgate, who always show these fine shrubs so splendidly. Every plant was smothered in bloom, and the colours were gorgeous in all shades of orange, salmon, and brilliant pink, as well as all shades of yellow, from faintest cream up to brilliant gold. Anthony Koster, Mdme. Mayer, Alphonse Lavalle, Graciosa, Clara Butt, W. E. Gladstone, J. C. van Tol, Comte de Gomer, T. J. Seidel, and Ellen Cuthbert forms a very fine selection from the scores of beautiful varieties presented by the Southgate firm.

Flowering trees and shrubs, from Mr. R. C. Notcutt, Woodbridge, were greatly admired, and the group was rendered very attractive because of the free use made of standards of ceanothus, brooms of various kinds, etc. Lilacs formed the foundation of the group, but Philadelphus rosace, with very large single white flowers, salvias, the striking Fabiana imbricata, Cytisus Daisy Hill (cream and crimson), and Philadelphus Bouquet Blanc were a few other good things. Among the lilacs exhibited by Messrs. Paul and Son, Cheshunt, Philemon, Souv. de L. Thibaut, the double Marc Micheli, Charles, the very dark Chas. Joly, Belle de Nancy, and Doyen Keteleer were a very fine set; the flowers were cut and shown in vases, and were delightfully fragrant.

The group of ancient wistarias in fancy pots and tubs exhibited by Messrs. J. Piper and Son, Barnes and Bayswater, was a source of attraction to lovers of flowering trees and shrubs. The plants were all imported from Japan, and were evidence of the considerable variation obtained in both Wistaria sinensis and W. multijuga. In some of the specimens the old stocks were stout trunks many inches in diameter. The white W. brachybotrys was very lovely, and we were much interested in some of the bicoloured forms of the long-spiked W. multijuga, especially the one with quite large, rich mauve and soft lavender flowers (see illustration). Then there were slender-spiked purple forms and some of delicate pink. This was a novel display, rendered all the more interesting because of the Japanese ware pans in which the trees were growing. With Pink Pearl rhododendrons piled high in the centre, and bold groups of the blue Hydrangea Mariesi, Messrs. Wm. Cutbush and Son, Highgate, provided the chief points of a big and showy group. The new Hydrangea Mdme. Mouillère, Verbena Miss Willmott, standards of Cytisus Andreanus yellow arums, Mollis azaleas, heaths, and the white-tipped Silver Star araucaria were used to fill up between.

A goodly set of pigmy Japanese trees from Messrs. Barr and Sons, Covent Garden, showed how skilful training can bend cupressus, larches, maples, etc., into all kinds of shapes; storks, porches, gates, and other quaint devices were presented, and there were innumerable examples of the Fuji-yama design in Cupressus obtusa. There were tiny plants in wee little pots simulating old age, and giants 3ft. high with trunks gnarled with age and skill.

Messrs. W. Cutbush and Sons were responsible for a fine display of topiary work, and the fantastically-cut peacocks, ships fully-rigged, squirrels, cocks and hens, or both, not to mention a host of other queer-looking specimens in box and yew, looked as if they were enjoying quite vigorous health, in spite of all the clipping.

A number of clipped box trees, packed in hampers, which came from Mr. C. White, London, and stood near to the Embankment entrance, were not displayed to the best advantage, but in another big group, from the same firm, all sorts were admirably represented. Quite a bewildering variety of quaintly-cut yews and box, exhibited by Messrs. J. Piper and Sons, Bayswater, London, demonstrated the popularity of topiary work. The same firm also showed a number of trained bay trees in tubs.

STOVE PLANTS.

For leaf-colouring, brilliant or dainty, nothing can exceed the caladiums, and a goodly group, such as arranged by Messrs. J. Peed and Son, Norwood, is an asset to any show. The group was a big circular one, and the specimens were set up well among maidenhair ferns. Particularly fine were the examples of Excellent, with its white blotches on a crimson ground; Guil Mar, salmon-pink; Sir Julian Goldsmid, palest pink and green; Flamingo, red flushed over pink; Mikado, red, bronze, and green; Silver Queen, semi-transparent, white; and Scarlet Pimpernel, a glorious variety, with buff ground and rich red-scarlet centre and veins, a bold, pleasing group.

Stove plants were finely staged by Messrs. Jas. Veitch and Sons, Chelsea, and their group was notable for its fine crotons, anthuriums, alocasias, the bright Kalanchoe flammea, Medinilla magnifica, with pendant spikes, and the striking Gloriosa Rothschildeana. Orchids were freely used in this effective and handsome display.

A group of many-coloured foliaged plants grown in stove temperature was shown by Messrs. L. R. Russell, Richmond. Anthurium regale occupied a conspicuous position in the centre, and close at hand was a fine specimen plant of Dracæna Victoria. Some of the crotons in the group were beautifully coloured, particularly Reidi, Thompsoni, and Mrs. Iceton, and a small corner patch of the beady Nertera depressa in one corner attracted some attention. One novelty in the group was a flowering plant of Medinilla magnifica superbiens, and Bougainvillea Maud Chettleburgh was admired. The same firm also staged a collection of the newer varieties of caladiums.

GREENHOUSE PLANTS.

Although they were disposed in all parts of the great tent, and therefore lost something of their collective effectiveness, the greenhouse

plants formed a large and interesting section of the great show.

Of special interest was the contribution of insectivorous plants from Mr. Bruce, Chorlton-cum-Hardy, arranged in a delightful manner with green moss and ferns. The Sarracenias were the great feature, and of these there were about a hundred and fifty plants, representing about thirty species, varieties, and hybrids, ranging from the old and hardy S. purpurea to the new crimson-veined S. Brucei, which gained an A.M. S. Willmottæ, C. flava gigantea, S. Fieldi, S. Stevensi, S. Williamsi, S. Willisi, and S. Courti were in capital form, and very interesting and beautiful with their accompaniment of sundews and other bog plants. Very glowing was the bank of Salvia splendens Pride of Zurich, a mass of brilliant scarlet, disposed by Mr. R. L. Russell, Richmond. On the value of this plant for greenhouse or flower garden decoration there is no need to dwell. Messrs. H. B. May and Sons, Edmonton, displayed a selection of ivy-leaved pelargoniums and standard specimens of heliotrope, marguerites, salvias, fuchsias, etc.

and especially glowing among the zonal varieties were Harry James, Paul Crampel Improved, Scarlet Glow, Ryecroft Gem, R. C. Pulling, Will. Toinon, Queen, and Floris, all these having large blooms of orange or scarlet shades.

A collection of species, varieties, and hybrids of pelargoniums was submitted by Mr. J. Seden, gardener to Mrs. Rolls-Hoare, West Grinstead Park, Horsham; the old Scarlet Unique, Miss White, Prince of Orange, and Rollison's Unique were included in these fragrant-leaved kinds. Messrs. Carter Page and Co., London Wall, brought a selection of pæony and decorative dahlia flowers, as well as various annuals.

A wonderfully fine exhibit of greenhouse plants was made by Messrs. Jas. Veitch and Sons, Chelsea. They occupied two tables, and over the intervening space they carried six pairs of rafter-trained fuchsias with their flowers hanging overhead. Underneath these were gloxinias, a splendid selection of a fine strain of erect-flowering streptocarpuses, Cineraria Matador, C. hybrida with white, blue-tipped flowers, C. Feltham Beauty, C. Royal Blue, excellent; the new C. Sunrise, house calceolarias which did him very great credit, as the plants were admirably grown, and furnished with fine flowers. The scented-leaved pelargoniums shown by Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, at Aldenham House, made up an interesting group of educational value.

Messrs. T. S. Ware, Lim., Feltham, suffered somewhat as a consequence of having to sandwich their tuberous-rooted begonias in between masses of orchids. They had fine flowers and a beautiful series of varieties, and the display would have looked far better if away among foliage plants, etc.

Bottle-brush plants as standards and bushes were conspicuous features in the interesting group of plants set up by Messrs. Stuart Low and Co., Bush Hill Park, but specimens of Acacia pulchella were also effective, and a tree that attracted much attention was the new Araucaria Silver Star. A little group of gerberas were very effective, and the deep blue of the hydrangeas contrasted pleasingly with other shades of colour round about. Speaking collectively, this was an exhibit in which very superior

CHELSEA SHOW—A FINE COLLECTION OF CALCEOLARIAS, CINERARIAS, GLOXINIAS, SCHIZANTHUSES, ETC.
Exhibited by Messrs. E. Webb and Sons, Wordsley.

One of the loveliest groups, and certainly one of the most brilliant, was composed entirely of calceolarias, and staged in a circular mound by Mr. Herbert, gardener to Mrs. Litkie, Clarefield, Pinkney's Green. The centre consisted of C. Clibrani, and the outer ring of intermediate varieties; but the great attraction was the elegant Clarefield Gem (A.M.), a free-flowering herbaceous variety of the most elegant habit, and carrying branched trusses of yellow, crimson-dotted flowers of good size and great beauty. This should be a grand greenhouse plant, and an immensely popular one.

A high conical mound of schizanthuses, built up by Mr. C. W. Lane, gardener to Mrs. Claude Barrett, Hatton Court, Castlethorpe, would have been a very solid mass were it not for the innate grace and beauty of this beautiful greenhouse plant. There were myriads of butterfly-like blooms ranging from white to dark purple, and with orchid-like blotchings in very many of the varieties. Mr. H. J. Jones, Lewisham, staged his show and zonal pelargoniums in the form of a huge bed, and, as the plants were of moderate size, they could be looked down upon. They produced a brilliant effect.

buff and blue; Calceolaria Clibrani and C. Buttercup, gerberas in variety, and a glorious lot of amaryllis, the graceful Elæocarpus reticulatus, and the yellowish Cineraria florescens. This exhibit met with great admiration. Streptocarpuses, finely selected, freely flowered, and arranged on a long bank, were from Messrs. John Peed and Son, Norwood; the plants showed a capital range of colouring, and the erect trusses carried the large blooms well above the foliage.

Messrs. Jarman and Co., Chard, were represented by a bank of cut zonal pelargoniums, a bank of Viola cornuta, and, of course, some blooms of the sweet and elegant sweet sultans—Bride, Bridesmaid, and Bridegroom. Calceolaria Veitchi and C. Bronze Age, which attracted so much attention a year ago, were again exhibited by the raisers, Messrs. Robert Veitch and Son, Exeter. Of C. Bronze Age they have now a brilliant crimson selection with yellow centre. C. Golden Glory was also presented.

Mr. Charles Turner, of Slough, put up a rather crowded group of show pelargoniums. Mr. Arthur Shambrook, gardener to the Rev. H. Buckston, Sutton-on-the-Hill, Derby, showed a group of green-quality predominated. Well-grown plants of show pelargoniums in named varieties were staged by Mr. J. W. Barks, gardener to A. P. Brandt, Esq., Bletchingly Castle, Surrey. The trusses were large, and, for a private gardener's exhibit, it was most creditable.

It is perhaps safe to say that Messrs. Blackmore and Langdon never staged a finer group of tuberous begonias. The massive double flowers were simply superb, some colours being delicate and others strikingly brilliant. One of the finest flowers in the group was the white Mrs. Peter Blair, but we also admired Princess Victoria Louise, and the baskets of Golden Shower and Lena, which gained an Award of Merit. Both individually and collectively the plants were of a wonderful standard of quality. A large number of trusses of single zonal pelargoniums were staged by Mr. V. Slade, of Taunton, the flowers being interspersed with suitable greenery. A very bright exhibit was set up by Messrs. Godfrey and Son, Exmouth, in which fancy pelargoniums and Veronica Hulkeana predominated.

A very pretty effect was made by Messrs. Cannell and Sons, Swanley, who showed some

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fine specimens of Calceolaria Clibrani, with masses of Schizanthus Wistonensis, show pelargoniums, and splendidly-grown florists' calceolarias, the whole making a showy exhibit. Pyramid azaleas are not often seen in these days at London shows, but Mr. Charles Turner, Slough, showed a few good specimens, trained in the once-popular conical form. There were also carnations in the group, and some ferns and acers. A few well and naturally-grown azaleas seemed to come in for more admiration than the trained specimens.

Messrs. Wells and Co., Merstham, had a small group of well-grown carnations in which White House, Triumph, etc., were well represented; their position was not a happy one, squeezed in between orchids and begonias.

Quite an effective collection of scented geraniums, in which a host of varieties were represented, was staged by Mr. E. Mitchell, gardener to Miss Troyte Bullock, Yeovil.

TULIPS.

These were a grand feature of the show. Tulips were boldly massed in a circular group by Messrs. R. H. Bath, Wisbech, and the attention paid these flowers was evidence of the growing popularity they enjoy. Gesneriana lutea, Parisian Yellow, Clara Butt, Baronne de la Tonnaye, Massenet, the deep red Rosalind, La Tulipe Noir, and Flava were a few outstanding varieties. A few pillar roses in the group and a circling band of violas added dignity to the display. In another group the same firm displayed tulips with dwarf roses, and stands of carnations. Mr. Christopher Bourne, Bletchley, presented well-grown tulips of the Darwin and cottage garden varieties, and John Ruskin, Goudvenk, Corydon, The Fawn, Erguste, Gesneriana lutea, Orange King, and Mrs. Moon were among the best.

Messrs. Barr and Son's display of tulips was a fine one, and the flowers looked very well in association with Japanese maples. This was a large display, and notably good were Mrs. Moon, Plutarch, Inglescombe Yellow, Margaret, the lovely pink and blush Edmee, Nauticus, Vitellina, and Columbus. The Wargrave Plant Farm, The Arcade, Liverpool Street, E.C., put up some capital flowers of popular varieties of cottage and Darwin tulips, and they had Fairy Queen in very fine condition. Messrs. Hogg and Robertson, Dublin, showed how fine tulips can be grown in Ireland, by staging a large collection of the best cottage and Darwin varieties of Inglescombe Yellow, Europa, Mrs. Moon, Clio, La Tulipe Noir, Inglescombe Pink, and May Queen; they had very handsome bunches.

Another tulip show was made by Messrs. Sutton and Sons, Reading, this firm setting up a sharply pitched bank of fulgens lutea, Black Chief, The Fawn, Louis XIV., Baronne de la Tonnaye, Inglescombe Yellow (very fine), Prince of Orange, Dom Pedro, Clara Butt, Lucifer, Iris, and the glowing scarlet Caledonia, a fine cottage tulip; there were other varieties, but these were the chief. Some superb tulips were set up by Messrs. Dobbie and Co., Edinburgh, and of Mrs. Moon, Picotee, Europe, Inglescombe Yellow, Margaret, Mrs. Farncombe Sanders, and Inglescombe Pink there were grand examples.

Quite a long length of tabling was occupied by the May-flowering tulips shown by Messrs. J. Veitch and Sons, Chelsea. The nearly black Darwin tulip Leonardo da Vinci was very much admired, as also were the Darwins Louise de la Vallière, Mr. F. Sanders, Suzon, and Clara Butt. Inglescombe Yellow was the finest of its colour in the collection, which was very choice all the way through. Messrs. Cartwright and Goodwin, Lim., Kidderminster, showed a pretty bank of tulips over a groundwork of Isolepis gracilis. A number of the best varieties were represented in flowers of moderate size.

The tulips from Messrs. A. Dickson and Son's Nursery, Belfast, were not only beautiful, but they had the merit of being very tastefully arranged. Amongst the varieties which attracted most attention were Sensation, Bartigon, Dom Pedro, Inglescombe Pink, The Fawn, Leghorn Bonnett, Orange King, Bacchus, Fashion, Clara Butt, Monument, Melicette, and Fairy Queen. The greatest credit is due to the Irish firm, not only for the wonderful variety displayed, but the admirable way in which each stand of flowers showed itself to advantage, and distinct from its neighbours. Judging from the remarks one heard in respect of these tulips, it is doubtful whether any exhibit in the show was more admired.

A circular group of May-flowering tulips, set up by Messrs. J. Jefferies and Son, Cirencester, was much admired. Grown at a high elevation on the Cotswold Hills, the flowers were very fresh, the stalks long, and the colours brilliant. Europa, a scarlet form, attracted much attention, as also did Blue Flag, but a very large number of varieties of these beautiful and popular tulips were represented. Mr. C. W. Needham, Hale, Cheshire, showed a collection of tulips that were interesting in their variety, but would have been more effective if they had been staged better. Messrs. Barrie and Brown, London Bridge, showed a small and rather crowded collection of tulips and roses with some quaint little specimens of the old-fashioned house leek.

SWEET PEAS.

These are now one of the features of the great spring shows, and at Chelsea they were splendidly shown.

Plants in pots, carrying lovely flowers, were used by Messrs. Dobbie and Co., Edinburgh, to form a background to several dozen bunches of very delightful flowers set in glass vases. In colouring the blooms were in some cases even brighter than in July. Such varieties as Thos. Stevenson, Rosabelle, Mark's Tey, Chas. Foster, May Campbell, Decorator, Lavender George Herbert, Mrs. Cuthbertson, Inspector, Brunette, and Dobbie's Scarlet, were of exceptional merit. The spikes were full-sized, and carried big, cleam blooms of great beauty. The new Ruby Palmer, a rich red, was among the novelties. Messrs. Sutton and Sons, Reading, had secured long stems to their spikes of sweet peas, and they put up an attractive display of Moneymaker, Mrs. Heslington, Barbara, Doris Usher, Mrs. W. J. Unwin, Mrs. C. W. Beardmore, King Manoel, and Lady Evelyn Eyre.

The sweet peas from Messrs. E. W. King and Co., Coggeshall were in fine form, and staged to make up an interesting and pretty exhibit. Here we noted Anglian Orange in lovely colour; Hercules, Anglian Crimson, Anglian Pink, the new claret-red and rose-coloured Anglian Royalty, and new bicolor, Thos. Stevenson, Prince George and Queen Mary. Miss Hemus, Upton-on-Severn, showed sweet peas in association with petunias, poppies, etc.

Another contribution of sweet peas was made by Mr. Robert Sydenham, Birmingham, and the varieties prominent in this group were Maud Holmes, Apple Blossom Spencer, R. F. Felton, Barbara, rich salmon-orange; Princess Mary, blue; Lilian, and Cerise Spencer.

FRUIT.

Provided with space to show off their exhibits to better advantage than ever they could at the Temple, the fruit people added a feature of great interest to the show.

As good as ever is the term which describes the fruit trees in pots from Messrs. T. Rivers and Son, Sawbridgeworth. Rich in colour were the fruits of the Cardinal nectarine, and equally attractive were the peaches, which included Peregrine and Early Alfred. The foliage on every specimen was deeply green, and perhaps it was this that made the fruits of Knight's Early Black Cherry look even more deeply black than the name implies. Early Rivers plums were there, thickly hanging on pot trees, as well as the Stint and Bluerock, and hidden away under a canopy of foliage was a basket of fine specimens of the Apple Buckingham. The same firm also exhibited a very interesting collection of oranges and citrons. From the King's Acre Nursery Company, Hereford, there came a group of fruit trees in pots, all of which bore the mark of robust health. Particularly attractive were the cordon gooseberry, Bluerock plums covered with fruit, Duke of York peaches, Early Prolific plums, and a variety of apples and pears.

The way that apples and pears can be kept was again demonstrated by Messrs. George Bunyard, of Maidstone, who showed a number of dishes of firm, crisp-looking specimens, amongst which we noticed Annie Elizabeth, King of Tompkins County, Newman's Pippin, Alfriston, and other well-known apples, as well as enormous specimens of that familiar pear Uvedale's St. Germain. Messrs. Laxton Brothers, Bedford, are to be congratulated, not only on what they showed, but the way their exhibit was arranged. There were arches of loganberries, fruiting plants of the Phenomenal berry, peaches and nectarines, and gooseberries and currants in pots, as well as the Laxton berry and tempting-looking fruits of the latest of Messrs. Laxton's strawberry introductions King George and The Earl. The deep crimson colour of the latter fruit is very pleasing.

VEGETABLES.

Though vegetables were not largely displayed, the quality was quite up to Temple Show form. Near to one of the entrances to the great tent Messrs. Jas. Carter and Co., Raynes Park, set up a collection of the modern style which is now so well known. Amongst other things we noticed Early Morn peas, and Carter's Early Duke, Improved Longswood dwarf beans, Seville Giant Long-pod broad beans, Solid Ivory and Standard Bearer celery, along with fresh-looking cabbages, lettuces, cauliflowers, vegetable marrows, tomatoes, and new potatoes.

Messrs. Sutton and Sons, Reading, made a very fine display with vegetables. The centre-piece was Sutton's Superlative French beans in pots, and flanking on either side were mushrooms in boxes in a natural growing state, the finest of Early Giant peas, Late Queen broccoli, neat little White Bush vegetable marrows, Eclipse tomatoes, Scarlet Horn carrots, Telegraph cucumbers, and numerous other dishes. To say that the exhibit from beginning to end bore the Sutton stamp of quality means to say that it was first-class.

A very tasteful exhibit of forced vegetables came from the Thatcham Fruit and Flower Farm, Newbury.

It would be impossible to speak too highly of the magnificent collection of vegetables set up by that renowned grower, Mr. E. Beckett, of Aldenham House Gardens. In front of a background of a green shade were perfect specimens of cauliflower, vegetable marrows, Sutton's Perfection, Ideal lettuces, Long Purple fruits of the egg plant, and the greenest of peas. On stands along the tabling were fresh mushrooms, Pen-y-byd vegetable marrows, Quite Content peas, turnips, asparagus, tomatoes, red and yellow, potatoes, radishes, carrots, and broad beans. Everything showed signs of splendid cultivation, and the staging left nothing to be desired.

Some very fine sticks of rhubarb were shown by Mr. T. E. Davies, Syderstone, Norfolk.

AWARDS.

The following additional awards were made by the council of the R.H.S. after we had gone to press:

R.H.S. Silver-gilt Cup.—To Messrs. Wallace and Co., Colchester, for a herbaceous group.

R.H.S. Large Silver Cup.—To Mr. A. Dutton, Iver, Bucks, for carnations; to Messrs. John Peed and Son, West Norwood, for caladiums and flowering plants.

R.H.S. Standard Cup.—To Dr. John MacWatt, Duns, for primulas; and to Mrs. Litkie (gardener, Mr. Hulbert), Maidenhead, for herbaceous calceolarias.

SUNDRIES.

Interesting, perhaps, only to the really practical gardeners who visited the show, but nevertheless of real importance and utility, were the extremely varied articles and preparations, embraced by that comprehensive term, "horticultural sundries," which occupied a considerable amount of space, both in the tent and out of doors. The greater proportion of the exhibits were such as we have seen many times before, but such is the almost feverish energy and enterprise of present-day trade that nearly every exhibitor had something fresh to show, and an hour or two was profitably spent in examining and discussing the tools, chemical preparations, and aids to successful culture displayed in great profusion. One of the first things to attract our attention

INSIDE THE TENT

was an implement shown by Messrs. Corry and Co., Lim., Bedford Chambers, Covent Garden, W.C., which they call Vesey's Patent Universal Spreader. The article may be described as a metal hopper on wheels, with a revolving discharger at its base, through which fertilisers, seeds, lime, or sand can be rapidly and evenly distributed over lawns, golf courses, or similar places. This is a machine of undoubted usefulness, and is very easily used. Messrs. Cory had a range of chemical preparations, tools, and requisites suggestive of the extent and importance of their business as wholesale distributors of everything for use in the garden.

Another well-devised machine of great utility to the seed trade is the Reliance seed-packet filler, exhibited by Messrs. Blake and Mackenzie, Islington, Liverpool. By easy manipulation this machine can be so precisely adjusted as to convey to a seed packet an exact quantity of any kind of seed. The Simplicitas Seed-Tester was another important item in Messrs. Blake and Mackenzie's exhibit. A metal tank, filled with square, brick-like blocks, upon which the seeds are placed, may be warmed by either gas or oil lamps, and with the water kept at a temperature of about 70 deg., seeds germinate very rapidly. Mr. John Pinches, 3, Crown Buildings, Crown Street, Camberwell, showed the well-known Acme labels, a variety of plant supports, and metal exhibition tubes, and also a novel little sprayer attachable to any ordinary bottle.

The Four Oaks Spraying Machine Company, Sutton Coldfield, had a large stand inside the tent, and another in the open, upon both of which were shown a great variety of syringes, spraying machines, and garden cutlery. A novelty on their stand was a water can that is convertible into a spraying machine. Messrs. H. Pattison and Co., Greyhound Lane, Streatham, showed their lawn boots, and a strongly-made turf cutter for boring holes for insertion of tennis net posts, etc.

Messrs. Robinson Bros., Lim., Ryder's Green, West Bromwich, were occupants of a large stand, on which were seen Alpha pneumatic spraying machines, and an assortment of insecticides, Carmona fertilisers, and weed-killers. The British and Foreign Fibre Company, Glengall Road, Millwall, showed coco-nut fibre of excellent quality, which may well be called an everyday requisite in any large garden. The Acme Chemical Company, Lim., Tonbridge, Kent, had on view their weed-killers and arsenate of lead for spraying purposes.

The Key Fertilizer Company, Starling Place, Norwich, brought a lawn fertilizer, which they claim will rapidly convert rough, coarse grass into fine, close-growing turf. Samples of turf exhibited bore testimony to the beneficial effects of treatment with the fertilizer. Messrs. Wakeley Bros., Lim., Bankside, London, showed their specially-treated hop manure, which has frequently been mentioned in our pages as a most excellent manure for roses, fruit, or vegetables. Messrs. W. Voss and Co., Lim., showed their Creol Soil Steriliser, and seedling plants, grown in both sterilised and unsterilised soil.

Abol syringes, spraying machines, and insecticides were attractively displayed by Messrs. E. A. White, Lim., Paddock Wood, Kent, and their interesting booklet, "Steps to a Perfect Garden," proved interesting to a host of visitors. Another stand of chemical preparations, useful syringes, and other appliances came from the Boundary Chemical Company, Cranmer Street, Liverpool. The Kilm weed eradicator on this stand commended itself to us as a distinctly useful little instrument for dealing with plantains, daisies, etc., on lawns. Messrs. Joseph Bentley, Lim., Barrow-on-Humber, Hull, were represented by a display of sample tins and canisters of their familiar specialities, and on another stand Jeyes' Winter Wash, handy little sprayers, and syringes were shown.

One of the most remarkable of the exhibits in the whole section was the scientific display of germinating seeds, and microscopic examples of plant diseases, arranged by Messrs. James Carter and Co., Raynes Park. The seed-testing machines which were recently described in our columns were shown with a whole range of young seedlings in active growth, and a large number of powerful microscopes were set up, with slides of much interest.

The Gardeners Magazine had a large stand, upon which not only the paper itself, but a large selection of fine illustrations that have appeared in past issues, were exhibited, together with the various books on important horticultural subjects, published by Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C. Our sister paper, "Amateur Gardening," was represented by specimens of its coloured plates, and the process by which these are produced was demonstrated by examples of the first, second, and third printings, shown in conjunction with the original water-colour drawings.

The Chase Continuous Cloche was staged by the Three C.'s Company, Dale Street, Liverpool, there being, in addition to the original ridge pattern, a square protector, designed for covering small alpine and rock plants. Messrs. J. Weeks and Co., horticultural Builders, 72, Victoria Street, Westminster, S.W., had models of their well-constructed houses, and the well-known Duplex tubular boiler, as well as a section of a greenhouse roof, showing method of construction and making joints at ridge and eaves.

Lawn mowers were displayed on an elaborate stand by Messrs. Ransomes, Sims, and Jefferies, Lim., Ipswich, and also by Messrs. A. Shanks and Son, Lim., Arbroath, the latter firm's big horse machine being a powerful implement eminently adapted for use on broad expanses of grass.

OUTDOOR EXHIBITS.

Chief among the several firms showing ladders were the well-known Patent Safety Ladder Company, Peterborough, who showed their very handy and easily portable ladders that combine strength and adaptability to all needs of the gardener, with neatness and smart appearance.

Messrs. Chas. P. Kinnell and Co., Lim., Southwark Street, London, S.E., showed greenhouse boilers suitable for heating either a small amateur's house or an extensive range of forcing houses. Their "Charm" boiler is a circular upright, the Horseshoe is the favourite pattern with thousands who have a moderate amount of piping to heat, whilst the Anglian sectional, and Bisson horizontal tubular are obtainable in sizes equal to the largest requirements. A power-driven pump in action was another item of Messrs. Kinnell's exhibit, and with the fascination inseparable from working machinery this proved a great attraction to many of the gardeners present.

Messrs. Houtsch and Co., the Continental firm whose English headquarters are at Guildford, showed their peculiarly constructed boiler, the interior of which is divided into sections so arranged that the heat of the fire passes to and fro between water-filled bars five times before escaping. Messrs. Fenlon and Son, Tudor Street, E.C., showed their useful little heating apparatus which may be worked by gas or oil stoves. They also had a model greenhouse. Messrs. Skinner, Board, and Co., Bristol, had glass-houses built on their patent wire extension principle. The distinguishing feature of these houses is that wooden rafters and putty glazing are replaced by wire strands and metal clips.

Messrs. W. Duncan Tucker and Son, Lim., Cannon Street, London, E.C., exhibited capitally built greenhouses and very serviceable frames. Their span-roofed frames were especially good in regard to the manner in which the lights could be raised and fixed at any angle, either for purposes of access or for ventilation. Boilers of good workmanship were also shown by this firm. Messrs. Barford and Perkins, Peterborough, showed lawn mowers of several sizes.

Spraying machines, syringes, hand-pumps, etc., were largely shown by several firms. Messrs. Hartjen and Co., Noble Street, London, E.C., had their "Holder" pneumatic knapsack sprayers, and also the smaller and very useful hand-spraying machines which we recently described in our columns.

Messrs. Wm. Wood and Son, Lim., Wood Green, N., arranged an exhibit that may well be described as unusual in extent, as well as exceptional in variety of interest and high quality. One walked around from one object to another over old flagstone paths that, although newly laid, bore resemblance to time-worn paving in the grounds of an ancient abbey. Rose screens, pergola, and gateways surrounded garden lounges and chairs that invited repose, whilst appealing to artistic taste, and the thatched shelters and tea houses were finely done.

SPECIAL AWARDS TO HORTICULTURAL SUNDRIES AFTER TRIAL.

Award of Merit.—The Boundary Chemical Co., Cranmer Street, Liverpool, for Demon Continuous Spray Bucket Syringe; to Messrs. Cooper and Co., 24, Christopher Street, E.C., for Continuous Pump Knapsack Sprayer "Eclair No. 1"; to Messrs. Cooper and Co., 24, Christopher Street, E.C., for Continuous Pump Knapsack Sprayer "Etame"; to Four Oaks Spraying Machine Co., Sutton Coldfield, for Four Oaks Undentable Syringe; to Messrs. T. Green and Sons, Southwark Street, E.C., for 12in. "Silens Messor" lawn mower; to Messrs. T. Green and Sons, for 12in. "Silens Messor" lawn mower, with close-cutting blade for putting and bowling green; to Messrs. E. A. White, Lim., Paddock Wood, for "Abol" syringe; to Messrs. E. A. White, Lim., Paddock Wood, for "Abol" Continuous Knapsack Sprayer.

Highly Commended.—To the Alpha Extinguisher Co., Lim., Hereford, for Alpha hand diffuser; to Messrs. A. J. Barbour and Co., Leeds, for Watson's lawn sand; to Messrs. Barr and Sons, Covent Garden, for bulb planter; to Messrs. Corry and Co., Bedford Chambers, Covent Garden, for Tenax Grafting Wax; to Four Oaks Spraying Machine Co., Sutton Coldfield, for Four Oaks Centre Knapsack Pump, Four Oaks Large Continuous-pumping Battle Sprayer, Four Oaks nozzles; to Messrs. Hartjen and Co., 35, Noble Street, E.C., for Hartjen Battery Fillers and Holders; to Messrs. Headly and Edwards, for Through Water Way Garden Hose Reels; to Mr. V. T. Hill, Langford, for V.T.H. Patent Slug Traps; to Messrs. Lloyd, Lawrence, and Co., Worship Street, E.C., for Pennsylvania Lawn Cleaner; to Messrs. Skinner Board, and Co., Bristol, for Board's Patent Wire Tension Greenhouse; to Messrs. W. Voss and Co., Millwall, for Voss's Naptha Nicotyl; to Messrs. Wood and Sons, Wood Green, for square garden house with bamboo screen lining.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CYMBIDIUMS.—Plants of C. Lowianum, which have been recently in flower, and those plants that still retain their flower scapes, should have attention, for any repotting that may be necessary should be done as soon as the flower scapes have been removed. Most cymbidiums, and C. Lowianum in particular, should not be disturbed at the roots more frequently than is absolutely necessary. About every third year will be ample. This being the case, some consideration should be given to the quality of the potting compost, as only materials of a lasting character should be used. We find a compost consisting of equal portions of fibrous loam and peat, with sufficient silver sand and finely-broken crocks to render the compost porous, the most suitable. This should be firmly pressed, and the surface be covered with a layer of chopped sphagnum moss, which will add to the appearance of the plant when in full growth. The size of the pots should be proportionate to the vigour and size of the plants. Ample drainage is necessary, as, in addition to the plants remaining in the same pot for a long period, they require a liberal supply of root moisture during the greater part of the year. Freshpotted plants must be carefully shaded from direct sunshine and bright light after repotting. The atmosphere should also be maintained in a humid state, and they will be benefited by a syringing overhead, whenever the outside conditions are favourable. Other species that have recently been in flower, or are passing out of bloom, may also receive attention. The hybrids are too numerous to enumerate, but they are now so plentifully distributed in collections and gardens generally that the merits of the different kinds for decorative and house furnishing effects will be understood. Finely-flowered plants of C. Lowianum and its hybrids are most useful, the lasting qualities of the flowers, even when cut, rendering them in every way desirable.

LYCASTE DIPPEI, L. plana, L. aromatica, and other late spring-flowering kinds must also have attention. If the plants have been rested in a cool, reasonably-dry atmosphere, they will now be producing their flower buds These also should not be disturbed by being repotted more frequently than is absolutely necessary. Any repotting required should be done before the new growth is far advanced, for if left until after flowering, it is not beneficial. The new growth will then have become so far advanced as to incur the risk of it receiving a check.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CALCEOLARIAS.—Seeds should be sown now for raising plants for flowering next year. To grow calceolarias to a high degree of perfection they must not experience a severe check, therefore, sow the seeds thinly, so that when the young plants are lifted it may be done without disturbing the roots to any great extent. Sow in shallow pans filled with finely-sifted soil, made fairly firm. The compost should be composed of loam, leaf-soil, and sand. Place the pans in a cool, moist part of the greenhouse, and keep them shaded and covered with a sheet of glass till the seedlings are through. When large enough pot them singly, using thumb pots, and keep them in a cool house, and shade them at all times from bright sun. Shift them on before the roots become pot-bound, and grow them under cool conditions at all times. Calceolarias Clibrani and Veitchi make a pleasing contrast to the large-flowered kinds, and are likely to become quite as popular when better known. The plants should be lightly fumigated occasionally to keep them free from aphis.

PELARGONIUMS.—The plants for winter flowering may now be placed out of doors in an exposed situation. Attend to the stopping of the growths regularly, so as to encourage a dwarf, bushy habit. When well rooted they must be supplied with liquid manure and soot water, supplementing this occasionally with Clay's Fertilizer, which is admirably adapted to their requirements. Baskets may now be made up of ivy-leaved pelargoniums, these being very useful for the conservatory during the late summer and autumn months.

CYCLAMEN. — The young plants should now be sufficiently advanced to receive their final shift, which should be into 5in. pots. The compost must be carefully prepared, and be neither too wet or too dry when used. Good fibrous loam, leaf-soil, which has rotted naturally, a little dried sheep manure, and old brick rubble, finely broken up, form an excellent rooting medium for these. Brick rubble is also of much value as drainage for the pots, as the roots quickly take possession of it. The pots should be plunged to their rims in ashes near to the glass in cold frames. They must be carefully watered for some weeks after potting, and sprayed with rain-water several times daily during hot weather. Shade from bright sun, and ventilate the frames carefully, especially when cold winds prevail. Later on, when the plants are well established, the lights may be entirely removed in the evening, when the weather is warm.—E. HARRISS, Lockinge Park Gardens.

HARDY FRUITS.

MORELLO CHERRIES.—The management of trees when trained fanshape is very similar to that pursued with the peach and nectarine, and to procure regular crops of large fruits, every attention must be given at the right time. At present the branches are a mass of strong bloom, which promises well, should the weather prove favourable for a heavy crop when sufficiently advanced. Disbudding of the superfluous shoots, and selecting next year's fruiting wood, must be sedulously carried out, and all main leaders will need to be neatly secured to the walls or wires before they are injured by winds. Endeavour, as far as possible, to keep the walls clothed with healthy, fruitful wood, nothing being more unsightly and unprofitable than long, bare branches with only a few fruiting shoots at the top. To replace these there should always be ample new wood springing up from the base, forming, as it were, a continual succession of healthy branches. Keep the foliage and tips of the young shoots free from black aphis and other insect pests, so that the growth may not be crippled.

FRUIT TREES that were late planted should be watched carefully, and watered if needed, nothing being more harmful to late-planted trees than dryness at a time when new growth is being made. Keep a watchful eye on the new growths, and train them as desired to form well-balanced heads. Orchard trees must not be overlooked, and, if necessary, mulch early to encourage free growth, and the same remarks apply to trees that were lifted and root-pruned late in spring. Examine the soil about the base of the stems, and, if parted from the tree, slightly lighten the surface, and then tread the soil firmly. Keep all ties in good order to protect the bark from injury, and see that all the trees are correctly labelled.

GRAFTS.—Examine carefully those grafts which have taken and are growing away freely, and if the binding material is found to be too tight, remove it, and, if necessary, rebind with damp raffia. Damp at intervals the clay on late-grafted stocks, and fill up any cracks which have occurred. Make secure against storms the grafts that have taken, and where the binding material has been removed, or they may be blown off. Horizontally-trained pear trees, on which the grafts have failed to take, should have fresh young wood laid in, and at the proper time be budded. This I have practised with good results. Spray the leaves of pears and apples, if attacked by leaf fungus (Entomosporium maculatum) with Bordeaux mixture, or some other approved, safe, and reliable mixture recommended for that purpose.—H. MARKHAM, Wrotham Park, Barnet.

ANSWERS TO CORRESPONDENTS.

GREEN-HEARTED RANUNCULUS.—G. B., Dublin: Please let me know through your columns why the ranunculuses enclosed have green hearts.—All highly-bred florists' flowers have a tendency to revert to the ancestral type, and, remembering that petals of flowers are but specially-formed and coloured leaves, it is easy to see that the green petals in the centre of the ranunculus blooms are evidence of this power of reversion. In this case a very rich soil, and especially favourable conditions, followed by some check, such as changing temperature, may have caused the flower to take the easier course, and produce green, instead of coloured petals in the centre.

INJURED VINE LEAVES.—J. B., Tiverton: Kindly refer to an answer concerning vine leaves, that appears in this column.

GOOSEBERRY MILDEW.—W. A.: I enclose some gooseberry shoots that are badly infested with green aphis, but have also a white fungoid growth on them. Is the latter American Gooseberry Mildew?—Yes, the fungus on the shoots is American Gooseberry Mildew, a disease that must be at once notified to the County Council (offices, Penrhyn Road, Kingston), who will send an inspector and instruct you how to proceed.

YELLOW VINE LEAVES.—E., South Wales: I enclose some vine leaves that are showing signs of turning yellow. The vines from which they came have been planted about ten years, in an outside border that is entirely above the ground level, with a concrete base. The vines show plenty of fruit, and I am now thinning the bunches. It is chiefly at the top of the vines, and at one end of the house, that the leaves become yellowish. I shall be glad if you can suggest the cause and remedy.—The leaves are rather thin in texture, and suggest that the vinery has been kept too close during the dull weather, and consequently the leaves have suffered during the recent bright weather, being unable to stand the bright sunshine. The top of the house would naturally be the hottest, and so the upper leaves would suffer most in the event of insufficient ventilation. Probably, the position of the vinery in relation to other buildings or trees has something to do with the trouble. For instance, if the sun does not directly strike the house until it has risen fairly high, the sudden brilliance and heat are likely to prove very troublesome unless one is particularly alert. In the light of these remarks we think if you make a careful survey of the house and surroundings, you will soon find where the difficulty lies. We also advise you to be careful not to overcrop the vines, especially those that are weakened by the yellowing of the leaves.

CURE FOR WIREWORM.—F. H., Chesterfield: I shall be very pleased if you can assist me in what is proving a very serious difficulty. Two years ago I took charge of this garden, the greater part of which was a rough grass field. The ground needed for vegetables was trenched, the turf being buried, and plenty of manure added. I found the soil badly infested with wireworms, but all that were seen were picked out and killed. The ground was planted with Brussels sprouts, cauliflowers, and sweet peas, but all the crops were destroyed almost as soon as planted. Last winter the ground was again well dug, and given a good dressing of lime, afterwards soot was spread and forked in. Notwithstanding all this, the wireworms seem as numerous as ever. Sweet peas raised in pots, and planted out, have dwindled away, and I have found seven or eight wireworms at the roots of each plant killed. Cabbages are served the same, but culinary peas are not harmed. Last year a large bed of onions was also completely destroyed by the pest. Both my employer and myself will be very grateful for any help you can afford us in this matter.—The wireworm is the larva of the Click Beetle, a blackish-grey beetle about half an inch long. The beetle

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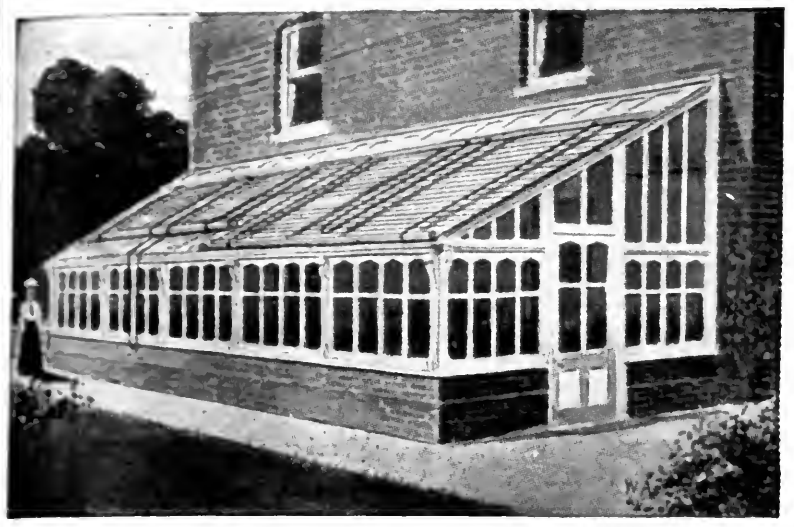

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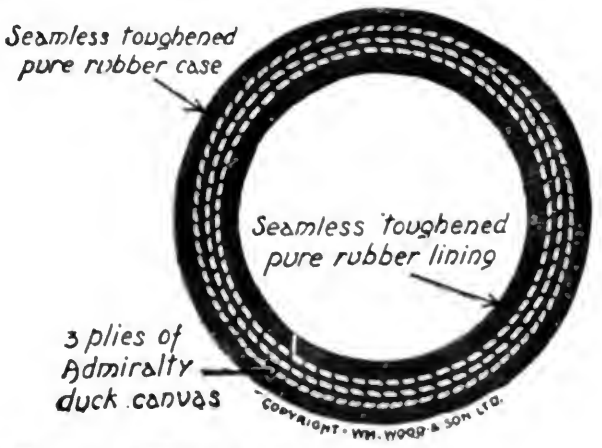
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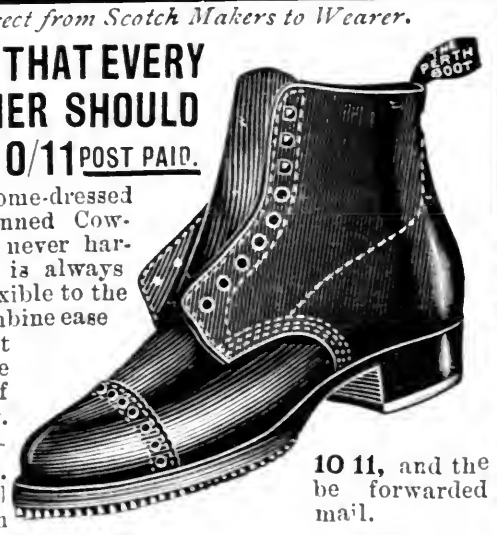

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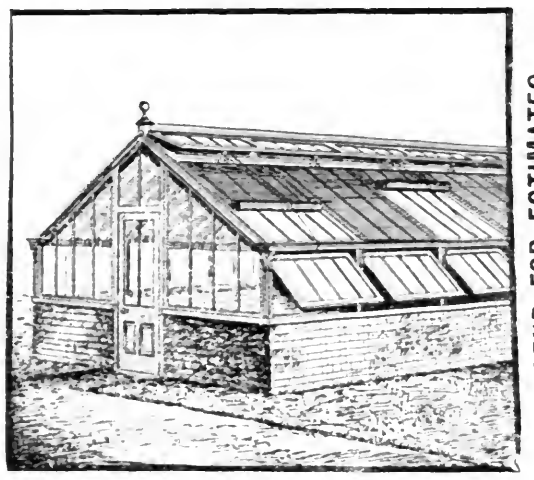

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GARDEN {FROM STOCK} FRAMES

lay their eggs on the ground, usually close to the roots of plants. The grub or larval stage lasts over three or four years, hence wireworms are so destructive. Old pasture land is often badly infested, and where this is the case some time must elapse before it is cleared of the pest. Any and every method should be adopted. One is to heavily dress the land with fresh gas lime in the autumn or early winter, forking this into the upper foot of soil. At the end of the winter the soil should be deeply dug again, and allowed to remain rough until needed for cropping. The gas lime must be fresh, and, if possible, three months should elapse from the time of using it until sowing or planting begins. The various proprietary soil insecticides advertised in our columns are useful aids. Traps made of hollowed halves of potatoes, pieces of carrot, and turnip, each with a short stick attached, should be placed all over the ground, and examined every day; the traps should be placed two or three inches below the surface of the soil; the stick will indicate their whereabouts, and be also a ready means of lifting the traps. Put the captured wireworms in a bucket, and eventually kill them with scalding water, brine, or paraffin.

FAILING TOMATOES.—E. C., Birmingham: Kindly tell me the reason of the failure of enclosed tomato plants. All other plants, such as fuchsias, gloxinias, etc., in the same house are doing well, and some plants from similar seed given to a neighbour have proved successful. — Over-watering and unsuitable soil are chiefly responsible for the failure. We advise you to obtain new soil, a fibrous loam, and some clean, healthy plants, and plant firmly; when well-rooted, tomatoes need plenty of water, but the soil must be firm and well drained. The plants you have are likely to prove far more trouble than they are worth, consequently we advise you to make a fresh start at once.

NAMES OF PLANTS.

B. S., Worcester.—1, Geum coccineum; 2, Viola gracilis; 3, Aquilegia glandulosa.

T. A. W., Axminster.—The fern is Ceterach officinalis, and the blue flower is Polygala amara.

V. S., Enfield: 1, Phlox setacea; 2, Saxifraga decipiens; 3, Berberis Darwini; 4, Cassinea fulvida.

J. E. B., Westerham.—1, Phlox setacea; 2, Morisea hypogæa; 3, Trillius europæus; 4, Juniperus Sabina.

F. P. D., Shrewsbury.—1, Daphne cneorum; 2, Ledum latifolium; 3, Ledum thymifolium; 4, Amelanchier alnifolia; 5, Cerasus padus.

ELCOMBE.—The calanthe we do not recognise; send again, earlier, another season; the shrub is Cupressus funebris. Why not send name and address?

C. A., Everton.—1, Linaria cymbalaria; 2, Camassia Cusicki; 3, Berberis stenophylla; 4, Leycesteria formosa; 5, Geum miniatum; 6, Miltonia vexillaria—a good variety.

MR. JOHN HEAL'S ACCIDENT.

With reference to Mr. Heal's accident on the 18th inst., when he was unfortunately knocked down in Putney High Street by a runaway horse and cart, we are pleased to have received reassuring reports. Unfortunately one of his ribs was fractured, but he is suffering principally from severe shock, and entire rest and quiet being at present absolutely essential, his medical man has forbidden his seeing anyone. We learn that very many enquiries have been made by Mr. Heal's numerous friends, showing how much he is esteemed and respected.

CATALOGUES RECEIVED.

J. F. WEST, TOWER HILL, BREWTWOOD.—Mr. West has a number of new dahlias to offer, including those of his own raising, and some Australian varieties of high repute. The leading varieties in all sections are listed in the catalogue before us.

OBITUARY.

LORD AVEBURY.

It is with deep regret that we learn, just as we are going to press, of the death of Lord Avebury, which occurred at his residence, Kingsgate Castle, near Ramsgate, early on Wednesday morning. Lord Avebury was an authority among men in many and diverse spheres, and as a horticulturist and entomologist was held in highest esteem throughout the horticultural world. To his many-sided character and wonderful achievements as scientist, politician, and business man the daily papers have paid just tribute, but it is for us to lament the removal, at the ripe age of 79 years, of one of the finest and best-loved patrons of horticultural science Britain has known.

MR. JOHN METHVEN, J.P.

On Saturday, the 24th inst., the death occurred with startling suddenness of Mr. John Methven, senior partner of the firm of Messrs. Thomas Methven and Sons, nurserymen and seedsmen, Edinburgh. Mr. Methven was at business till within two days of his death, and, though he had not been feeling quite up to his usual health, the suddenness of his demise was not anticipated. The deceased gentleman had had a long connection with the nursery and seed business of which he was the head, and which was founded by his father 45 years ago. He was also closely identified with the two horticultural societies—the Royal Caledonian and the Scottish Association—and with the Royal Scottish Arboricultural Society, on the boards of all of which he had served as an office-bearer. He leaves a widow, but no family.

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

TUESDAY, June 3.—Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Grass and the Toxicity of Soils," by Mr. Spencer Pickering, F.R.S., V.M.H.; Scientific Committee at 4 o'clock.
Scottish Horticultural Association.
National Amateur Gardeners' Association.
THURSDAY, June 5.—Linnean Society.
SATURDAY, June 7.—French Horticultural Society of London.

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VOL. LVI.—No. 3,110. SATURDAY, JUNE 7, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Flowers in Towns.

Within a comparatively recent period much has been accomplished by those who take an active interest in municipal affairs to increase the brightness and interest of the surroundings of those who from necessity or choice spend their lives in populous centres. The means by which this desirable result has been effected have been of a varied character, but where administrative ability has been accompanied by a full appreciation of the manifold charms of Nature, the town dweller has had his or her eye delighted and mind quickened by the beautiful displays of flowers and foliage provided for the adornment of the various open spaces. Few indeed are the towns of any importance that have not several parks and gardens in which one or more attractive floral displays are annually provided for the enjoyment of the people. In the great towns and cities the public parks and gardens, as so well known to those who have travelled much, extend over so large an area, and are maintained in so high a state of cultivation, as to form an important part of municipal activities. That this should be so is highly gratifying, for there can be no question as to the value of open spaces in contributing to the health and the enjoyment of town dwellers, whatever may be their position in the social scale. The efforts that are being made to improve the amenities of town life by the judicious use of the various ornamental plants that will thrive under the conditions that obtain in crowded centres should not, as is so often the case, be confined within the limits of the public parks and gardens. Important as are open spaces as an essential part of the more pleasing aspects of town life, it cannot be too clearly recognised that there are ample opportunities for beautifying other parts of towns, both large and small, with suitable forms of plant life. We have only to walk through the streets of towns, wherein the administration of the bodies responsible for their management is of the best, to see how great are the opportunities for their improvement from an æsthetic point of view. When, on the other hand, a visit is made to towns in which but little attention is paid to matters other than those of a distinctly materialistic character, one is so struck by the bare walls that flank the streets, and the absence of flowers from the windows as to at once understand how depressing must be the appearance of the streets upon those by whom they are being constantly used. The great need of practically all the larger towns is a fuller recognition of window gardening as a means of beautifying the streets. Entered into with some spirit and conducted along proper lines, it will afford an immense amount of pleasure to the occupiers of both private houses and business premises, and, with combined effort, the whole aspect of the streets will be changed. This need was recognised some years since by the municipal authorities at Liverpool, and practical expression was given to this recognition. With a view to encourage the working classes of the city to embellish their windows with flowers, the Corporation annually distributed large numbers of window boxes well furnished with plants. among those who made application for them. As the result of this procedure many streets, if not converted into avenues of flowers, had much of the bareness so depressing to those who are "in city pent" swept away. More recently the question of encouraging the cultivation of plants in window boxes has engaged the attention of several other municipalities in the Midlands and the North, notably those of Preston and Sheffield. The authorities of these two great industrial centres have proceeded on different lines to those laid down at Liverpool, and limited their activities in this direction to arranging a series of competitions for the summer season on which we have just entered. At both centres the competitors are grouped according to the wards in which they reside, and, as a separate set of prizes is provided for each ward (which, by the way, will have its own committee), the competition will be on terms as nearly equal as it is possible to make them. Each of the two courses of procedure has its advantages, and it would be a matter of considerable practical importance to discover the course by which the best results are obtained. To the poorer classes it is, of course, an immense advantage to be relieved of the cost of providing the boxes and the soil, and plants with which to fill them, and, in admitting this, it has to be considered whether window boxes so provided have the same interest taken in them as those which are obtained by the occupiers of the houses. It is a matter of common knowledge that many things which can be had for the asking fail to obtain an appreciation proportionate to their worth, and we have in mind several towns, notably Kingston-on-Thames, where window gardening has attained to a high state of development with no further encouragement than is provided by an annual competition for prizes provided by the public bodies or private donors, or the two combined. The essential point in entering on the development of window gardening in towns is to interest the people in the plants and their cultivation. The offering

MR. WYNDHAM FITZHERBERT.

of rather liberal prizes in accordance with a well-devised scheme is one means of accomplishing this object, and another is to assist those who may be desirous of beautifying their windows with flowers by advice on the selection or making of boxes, soil preparation, and the selection of suitable plants. The best results will probably be obtained by a combination of the two courses of procedure, and the advice could be given in the form of a lecture or practical demonstration, the latter being preferable. Window gardening of the future may be greatly helped by a still further development of children's flower shows. If children are encouraged at a comparatively early age to grow a few bulbs or plants, and to enter into competition with each other, they will become so interested in plant life that they may be expected to retain more or less affection for them in after life. In the case of children, there is no great objection to providing them with plants or bulbs, and the materials for their cultivation, but they usually become keen gardeners more quickly when they have to pay a halfpenny or a penny for the plant, pot, and soil. Dwellers in towns should be encouraged to not only make the most of the opportunities they have for engaging in window gardening, but also to clothe the walls of their houses with suitable climbers; those of free growth, light in colour, and easy to keep in proper order are preferable, and the well-known Ampelopsis Veitchi may be mentioned as one of the best examples of such climbers. It is a point of some importance that not only should private houses contribute their share to beautifying streets by means of window gardens, but that business premises should take advantage of the opportunities they possess for the production of floral effects. Many are the balconies and projecting windows that are now wholly destitute of flowers which may be utilised in the arrangement of displays of great beauty. We now and again meet with a most charming floral effect in association with business premises, like an oasis in the desert, and we would suggest that in schemes for the encouragement of window gardening in towns the desirability of stimulating an interest in flowers among those occupying premises in the commercial parts of towns should not be overlooked.

Mr. Wyndham Fitzherbert is well known to our readers as a writer upon the art of gardening, and for his familiarity with those plants which grow so well in the warmer parts of our islands. Widely read and widely travelled, with a keen eye and fine memory, and the pen of a ready writer, it is small wonder that his articles are always read with the greatest attention and interest. Always a lover of plants and gardening, Mr. Wyndham Fitzherbert has added to the knowledge he possesses of tender plants and shrubs by five journeys to the Cape, where he studied the Cape flora. He has been round all the principal islands of the West Indies, has spent some time in Algeria, and on several occasions has toured the Mediterranean shores, where sub-tropical plants are such a wonderful and pleasing feature. Mr. Fitzherbert writes, not only as a keen observer, but from practical knowledge as well, for at Kingswear, in South Devon, he has a garden of which he is very fond. As a photographer of garden subjects he is also successful, and on many occasions reproductions from his own photographs have accompanied his articles in our pages.

May Sunshine. — The "merrie month of May" just passed did not create a record for sunshine, but it was above the average in this respect. At Kew 217 hours of sunshine were registered during the month, and the mean maximum temperature was 64 degrees, and the mean minimum 46½ degrees, against an average of 61 and 44 degrees respectively. Rain fell on twelve days within the London area, and the total of 1.7 inches was considerably less than the average. In the same district the maximum shade temperature exceeded 80 degrees on May 25, 26, 27, 28, and 29, the highest being 84.4 degrees on May 26. On no other occasion since the records began in 1858 has May shown five consecutive days with a maximum of over 80 degrees, but in 1864 and 1867 there were three consecutive days with similarly high temperature. May 19, 1868, holds the record in this direction with a maximum shade temperature of 87.6 degrees.

The Lupin Bed at Hampton Court.—One of the great present attractions in the gardens at Hampton Court is a large bed filled with the pink Lupinus polyphyllus Moerheimi. Here, as elsewhere, it is a difficult matter to fully bridge over the time between the fading of bulbous and other spring flowers, and the arrival of gay summer blossom, and the lupin bed is a very successful attempt to maintain a continuity of flowers in the beds, and one upon which Mr. W. J. Marlow, the superintendent, is to be congratulated.

Fruit Prospects in the Blairgowrie District.—The small fruits industry in the Blairgowrie and Coupar Angus district has a bright prospect in view, should present weather conditions prevail. The season is from fourteen to twenty-one days late, and this means higher prices when the crop in the south is exhausted, and also a better crop because the danger from late frosts is over. Strawberries are promising remarkably well, but, in comparison with past seasons, will be fourteen days later. Raspberries, too, except where the stem borer is prevalent, are promising, while gooseberries and currants are already well laden, and, should late frosts keep away, will give a good return. In all exposed situations the plum crop is almost a failure, as a consequence of hail showers, with rain and boisterous cold winds. On wall trees in some favoured gardens, there is an ample crop. Pears are also poor, and only from wall trees can anything like a return be expected. Apples are yet uncertain, but, should the present fine weather prevail for another week or two, there should be a record crop, as there is a very fine display of healthy flowers on almost every tree. Altogether the season's outlook is hopeful to the fruit-grower and the gardener.

National Hardy Plant Society's Outing. — Members and friends of the above society to the number of thirty-six spent a most delightful afternoon on Saturday, May 31, when, by the kindness of Adeline Duchess of Bedford, they visited the gardens at Woodside, Chenies, where an extensive collection of hardy plants is exceedingly well grown. Travelling in a special saloon from Marylebone, the party was met at Chorley Wood Station by conveyances, and driven to the gardens, where her Grace extended a personal and cordial welcome, and accompanied the party on their tour of inspection, afterwards honouring them by her presence at tea. Before leaving the grounds the Chairman, Mr. F. Bonnell, in a few appropriate words, gave expression to the society's gratitude to her Grace for the hearty welcome and generous hospitality received at her hands. The gardens at Woodside have been fully described and illustrated in THE GARDENERS' MAGAZINE, and it suffices now to say that their appearance on May 31 bore ample evidence of their owner's taste and enthusiasm in all classes of hardy plants, and reflected great credit upon Mr. J. Dickson, the head gardener.

Colley Hill, Reigate, one of the beauty spots of beautiful Surrey, was dedicated to the public in perpetuity on Saturday, May 31. Colley Hill overlooks one of the fairest valleys in Southern England, and the old Pilgrims' Way from Winchester to Canterbury crossed the top of the hill. Lord Curzon, in his dedicatory speech, referred to the great work accomplished by the National Trust for Places of Historic Interest, to whose efforts the purchase of Colley Hill for the public was due. Of the £5,000 needed to purchase about sixty acres of land £500 yet remains to be subscribed, but this amount is already guaranteed. There was a large and influential gathering at the dedicatory service, and a reproduction of an ancient pilgrimage, carried out by Reigate residents dressed in the costumes of Chaucer's time, was one of the most charming parts of the proceedings. England in general, and London in particular, should be grateful that Colley Hill is now public property.

Royal Counties Show at Windsor, June 10, 1913. The Horticultural Section of this show will be probably a great attraction. Although a larger area than usual has been provided it will be too small to provide all the space applied for by leading exhibitors, but though there must be some disappointments in this respect, a very fine exhibition is assured. The section will be in charge of Mr. T. Fuidge, the veteran secretary of the Windsor Society.

Honour for Mr. R. A. Rolfe, A.L.S.—We learn with pleasure that the French Académie Internationale de Géographie Botanic has awarded its Silver Medal to Mr. R. Allen Rolfe, A.L.S., Editor of "The Orchid Review," as the botanical authority at Kew upon orchids. Mr. Rolfe, who entered Kew as a young gardener many years ago, has been honoured this honour in recognition of his work among orchids.

London Hardy Plant Exhibition. We are asked to state that circumstances have arisen which prevent the Hardy Plant Society from holding a London show on June 13, as arranged, and in place of this special classes have been provided at Birmingham, Taunton, and Edinburgh Shows, full particulars of which may be obtained of the respective secretaries, or of the Secretary of the National Hardy Plant Society, Mr. A. J. Macself, 52, Beechfield Road, Finsbury Park, N.

Kelsey Park, Beckenham, the estate of about twenty-four acres, containing beautiful gardens, woodlands, and two lakes, was opened to the public on May 31 by Mr. John Burns, President of the Local Government Board. Through the larger lake the river Beck flows, and the outlet takes the form of a pretty cascade fall. Mr. Burns urged the local Council to purchase more acres while land was cheap, observing that a shilling spent on parks was of more value than £10 spent

twenty years hence on a hospital or sanatorium. He stated that 11 per cent. of all London was parks and open spaces, a record no other city in the world could compare with.

The first competition for this trophy will take place on July 2, and the class in which it will be the premier award is for forty-eight roses distinct. It is hoped that this trophy will be the means of inducing

to £5 6s., and this amount has been handed to the Gardeners' Orphan Fund.

Development of the Flax Industry.—Flax cultivation was formerly a considerable industry in Yorkshire, and

ODONTOGLOSSUM AIREWORTH ORCHID DENE VARIETY.

Flowers red-brown with purple margins, and a white, red-spotted lip. A.M., R.H.S., June 3. Mr. E. H. Davidson, Orchid Dene, Twyford.

Valuable Rose Trophy for Colchester.—Mrs. Egerton-Green has presented a beautiful and valuable challenge cup to the Colchester Rose and Horticultural Society, in memory of the late Mr. Claude Egerton-Green, who took a very keen interest in the society and its work.

growers outside the district to compete at Colchester.

Help for Gardeners' Orphan Fund.—The charge of 1s. which is made by Messrs. G. Bunyard and Co., Lim., to non-customers and the trade for naming specimens of fruits has this season totalled

Selby was its centre; consequently, this town has been selected by the Development Commissioners as the site of experiments concerning the industry. A grant has been sanctioned, and the preliminary arrangements are being made by the Leeds University authorities.

PLAGIANTHUS LYALLI.

This showy and interesting plant belongs to the order Malvaceæ, and is one of the few shrubby species which may be grown out of doors in the British Isles. A native of New Zealand, it is described, with a coloured plate, in Vol. I. of the "Art Album of the New Zealand Flora," an elaborate work, produced by Mr. and Mrs. E. H. Featon. In its native country, when growing under the most favourable conditions, it attains the proportions of a small tree, twenty to thirty feet high, but in the British Isles we are accustomed to seeing it as a widespreading bush six to eight feet high, or as a wall plant. Its leaves are very distinct from those of the other hardy malvaceous shrubs, for they are ovate or cordate in outline, two to four inches long, and have long acuminate apices, and long slender stalks.

The white flowers possess a purity and charm which is, perhaps, equalled only by those of the cherry, and, although there is no relationship between the two, something about their general appearance suggested cherry flowers to the early New Zealand settlers, and we are told by Mr. and Mrs. Featon that they gave the plant the name of wild cherry. Blooms appear during early summer from axillary buds, each flower being about one inch in diameter, and terminating a slender stalk two to three inches long.

In this country the bush thrives quite well in light, well-drained, loamy soil, but is only suitable for the open border in the milder localities, colder districts necessitating the shelter of a wall. It is not an easy shrub to propagate, for, although cuttings can be rooted, there are usually a good percentage of failures. Layers, however, answer better, and if they are put down during March they may be expected to root during summer. A peculiarity of the shrub is the pretty, netted arrangement of the fibres of the inner bark. On this account it is sometimes called the "lace-bark tree," the bark being requisitioned for hats and fancy articles. Although it has long been an occupant of our gardens, it is by no means as common as its beauty warrants.

W. D.

NICOTIANA AFFINIS.

This favourite old garden species is not altogether supplanted by the newer hybrids, and in the gardens of those who enjoy the twilight of summer evenings it is not likely to be, for its delicious scent is borne on the evening air as that of few plants is in the latter half of the summer, when scented flowers are not too numerous, while the pure whiteness of its blossoms shows up more after dusk than before. Its appearance in the daytime is almost as dejected as that of the night-scented stock, so well called Hesperis tristis, and is an admitted disadvantage, making it unsuitable for beds in the more prominent parts of the garden. As it is grown mainly for its scent and its power of lighting up the summer twilight, it should be planted where we most enjoy the garden at that time—near arbours or summer houses, or where we most generally sit in the evenings.

It is a very tender subject, and must be raised accordingly. As it will keep on flowering until the frost comes, it is a good plan to get it in flower as early in the summer as possible, and, as it must not be planted out till all danger of frost is considered at an end, plants must be grown on in a frame, and potted up, even into forty-eights, if they are seen to be standing still before it is safe to plant them out. The seeds are very small, and must be sown very thinly, and the seedlings pricked out into pans as soon as they can be handled, and potted up into sixties as soon as they are ready.

They are rapidly-growing plants at this stage, and should have no more artificial heat than necessary to keep them from getting chilled during a cold spell, or we shall not know what to do with them by the middle of May. They must be hardened off very gradually, and then, when they are ready to plant out at the end of May or beginning of June, they should be fine sturdy plants, with leaves nearly a foot long. They may be planted a foot to a foot and a half apart, according to the richness of the soil and the vigour of the plants. Though they are plants for the sun, they will do fairly well in partial shade if the soil is not too dry and poor from the roots of trees.

These tobacco plants are sometimes recommended for pots in greenhouses, and one or two are worth having there for the sake of their scent, which is very pronounced in the damp air in the morning and evening. It is also worth while to grow a few as pot plants in the open, as they lend themselves so well to plunging in vacant or thin places in the mixed borders in July or August.

ALGER PETTS.

FRUIT PROSPECTS IN THE NORTH.

Our Aberdeen correspondent states that appearances in the north-east of Scotland this year point to a capital crop of fruits, especially strawberries, for which the county of Aberdeen is so well known. The outcome, it is to be hoped, will make up, in some measure, for the poor results obtained from this crop last year. In the Deeside valley, where hundreds of acres are planted with strawberries, the earlier varieties are now in full bloom, and, given a fairly normal season during the formation of the berries, a grand crop should result. It has to be noted, too, this year, that the plants are showing a much sturdier appearance than they did at the corresponding date last season. Of course, the risks of frost are always with growers. There was a very good crop of gooseberries last year, but this season it will not be so good, being only fair in some districts, and very poor in others. The high winds prevailing during the middle of May wrought much havoc among the "grosers." There have been no signs as yet of American mildew, but growers are on the alert. Currants, both red and white, are promising well, and the blacks look like a fair average. The black currant mite was responsible for the destruction of thousands of bushes last year, with the result that their numbers are now much below what obtained some years ago. Reports of the freshly-imported stock being affected are rife, and growers are finding it more and more difficult to cultivate this berry. Some growers are trying their hand with the loganberry, but only with a fair measure of success.

Of apples, plums, cherries, etc., the outlook is very satisfactory, as all are showing a wealth of bloom. No doubt this points to a good crop, but the practical grower knows full well that the best "bloomers" are often the worst "fruiters," and get rid of them at the earliest opportunity.

Summed up, the fruit prospects in this quarter are decidedly above the average, but it will not do to halloo until one is out of the wood, as there are so many untoward risks to contend with in the way of weather and disease. That such misfortunes may not be the lot of growers this year is the sincere desire of all who wish these hard-working, industrious folk well.

ROSE GOSSIP FOR JUNE.

I am penning these notes on the 20th of May, and, in not a few instances, our roses, fully exposed to the weather, are more backward in growth than I can call to mind for many years at this date. They are not looking badly, on the whole, but the frequent spells of uncongenial weather have checked the growth generally so active at this time, while the young shoots of maidens have not yet put on that promising look that makes even the foliage a delight.

I think some few readers may not have noticed the great protection against unkind winds provided by the early staking of our maiden roses; but it is so manifest that I would make a point of staking long before the plants needed it as a suppose only. The recent winds, too, have increased our plague of rose aphis, even where fairly well looked after, and it only emphasises more fully the great need of prompt and persistent methods of prevention. I noted some growths that were perfectly clear of fly just previous to the set of the wind in unkind quarters were completely smothered with fly a clear day afterwards, and this is by no means the only time I have noticed both fly and mildew take a firm hold with startling suddenness at such changes.

The frequent hoeing between the cuttings of roses inserted last autumn often means all the difference between success or failure, and never more so than during the early days of June, when their little amount of sap is active, and the weather so changeable. After the first loosening of the soil between the rows tread a little of it close to the cuttings, drawing up a small portion of the remaining fine soil towards the cuttings to aid in filling up cracks and securing more uniform moisture. These remarks apply equally to any cuttings of rose stocks inserted at the same time. Should the ground be very dry, I have found a few cans of water poured along the rows, and right into the cuttings, a considerable help to them.

A little extra cultivation, and a mulch around the base of wall and pillar roses will often be advisable now. In fact, it is quite necessary, in many cases, particularly where these extra-strong growers have comparatively little root run; and this is often the case. Indeed, it is quite surprising how some of our old climbing roses can do so well with a hard, and often paved, surface so close to their base. In such cases, a little loosening, or, rather, piercing, with an iron rod or spud will allow more copious supplies of liquid manure to percolate to the roots than could possibly be the case otherwise. During the prevalence of dry winds, a free use of the syringe, even with soft water alone, will do much good as a wash, and to ease the rapid drying up of young foliage against a dry wall. But the cost of a little insecticide is so small that I would at all times use a weak solution.

Under glass we need ample, but careful, ventilation, also to bear in bind how very rapidly the plants dry up under glass, as the atmosphere outside becomes dried. Many of the dwarfer growers can now be removed to the open, but far too often climbers in pots, as well as standards and weepers, are put into the open too soon.

ROSARIAN.

SANSAW, NEAR SHREWSBURY.

Among the many thousands who annually visit the great horticultural exhibition held at Shrewsbury during the month of August, not a few travel to the county town of Shropshire over the line running thence from Crewe and Chester. If keen on gardening matters, and not wholly absorbed in the exhibition, they must have noticed an interesting garden quite near the railway, not far from Yorton. For many years I had wondered who owned this garden, with its fine trees, wide lawns, its rising ground, as well as its pools of water, and the peaceful quietness that seemed to reign over all. My curiosity led me to make inquiries of Mr. J. Eckford, when at Wem, and he promptly satisfied my inquisitiveness by driving me over the same evening.

The residence and gardens possess the very curious name of Sansaw, and are situate in the parish of Clive, near Yorton. They belong to F. Bibby, Esq., who, however, resides mostly at Hardwicke Grange, another Salopian estate. Mr. Knowles, the gardener at Sansaw, is an old pupil of Mr. Crump's, at Madresfield Court, and, consequently, he is a keen fruit grower as well as a good all-round man.

Sansaw is pleasantly situated. The garden front is shown in one of the accompanying illustrations, and the big beeches and a fine blue spruce figure prominently in the same view. Roses are abundantly planted in proximity to the entrance; indeed, roses have been freely planted throughout the gardens, in beds and borders, and trained up pillars, over arches, or along low wire fences, and they flower uncommonly well. Rhododendrons are effectively grouped near the entrance, and hereabouts some giant beeches, a splendid Sequoia gigantea, and fine deodars are strikingly attractive features that show how great has been the care bestowed upon trees. Erect Irish yews are in fine condition, and there are a number of specimens towards the margins of the lawn. Lilacs, too, are capital, and a good collection of varieties has been planted in the wide border that separates the garden proper from the meadow land beyond.

Hardy flowers abound, but in only a few instances are these planted in straight borders. Shrubberies have been cleared, or severely thinned out, leaving only a suitable background for the herbaceous plants; a widening of the borders, thorough trenching, and the provision of a winding front line, have permitted the free grouping of all the best hardy flowers in an informal manner. Herbaceous plants never seem so much at home as when they have a background of trees or shrubs, and a frontage of well-kept lawn. The one great difficulty is lest the trees and shrubs rob the plants of their needful food, but this can be overcome. At any rate, it is overcome at Sansaw, for phloxes are as near perfection as may be, and they are always a good indication of the cultural methods followed. They were splendid in August, and so were gaillardias, phlomis, rudbeckias, especially the tall double form of R. laciniata, Galtonia candicans, asters, and zinnias. Annual flowers are freely used in the large borders, as well as in the straight borders just outside the kitchen garden walls, and they are so managed that they yield their beauty just when the first great flush of summer flowers has passed.

Clematises are very fine at Sansaw, and as they do well here they have been freely planted. They are growing on fences, against walls, and up larch poles, and at the time of my visit a particularly good form of C. Jackmanni was smothering a low wire fence at the end of a border with its fine violet-purple flowers. C. Marcel Moser was good, and so, too, were Countess of Onslow, the violet-purple Coccinea hybrid, the soft lavender Queen Alexandra, and C. viticella Kermesina. Clematises are so beautiful that they deserve wider cultivation, especially in gardens where they do well.

In the lower part of the gardens, near the railway, there is a considerable area of water, with a goodly island furnished with fine old oaks, planes, chestnuts, ash, elms, etc., with a marginal planting of shrubs, and spring-flowering bulbs between. A little way from the water a new rose garden has been made, and leading varieties planted. Every type of rose is represented, and there are arches and pillars for the ramblers and strong growers, as well as beds and borders for the dwarfs and standards. To separate the rose garden from a little nursery garden, where bright-hued shrubs, etc., were being grown for future planting, a thin belt of trees had been formed, but to prevent any appearance of bareness Mr. Knowles had made free use of two quite common subjects, and had produced a really fine effect with them. These were giant sunflowers and the variegated maize. In the fairly stiff and rather moist soil these had grown amazingly, and the sunflowers, in several varieties, towered above the maize and the shrubs, and their great golden flower heads made a brilliant scene that was most effective when viewed from a little distance along the water-side.

Sansaw differs from most gardens of any note in that it possesses no rock garden. However, it does not lack alpine flowers, especially those that flower early in the year, and these are grown in rockery banks near Mr. Knowles' pretty half-timbered house, but on the opposite side to that illustrated. In this view, the entrance to the little home farm is shown, with a quite considerable hill rising in the background.

SANSAW, NEAR SHREWSBURY, THE RESIDENCE OF F. BIBBY, ESQ.

The aforesaid banks contain many kinds of primulas, with alpine auriculas, veronicas, alpine phloxes, dianthuses, aubrietias, saxifrages, alyssum, etc., but the aim is to secure a bright and varied display, rather than a collection of rarities, and the aim is realised. Above the rockwork flowering shrubs are grouped, chiefly berberis, spiræas, azaleas, rhododendrons, and hypericums. Sansaw is a charming garden, a beautiful and quiet retreat, where good things, old and new, are used to advantage, and for the pleasure of the owner; it does not make any claim to notice as the home of the latest introduction, and the most up-to-date novelty; there is no excitement, no rushing from this new species to the other latest variety, and, probably, those most interested in the garden are wise in their generation, because, after all, there are plenty of good plants that are neither new or rare, and an abundance of beautiful flowers that are neither expensive or difficult to manage. We all desire progress, and know full well that novelty is the spice of life, but surely there is as much progress in getting the very utmost out of well-known subjects, as there is in keeping alive a rarity from the other side of the world.

Glasshouses do not form a large item in the Sansaw gardens, but fruit culture is a fine feature. Seldom are such fine Brown Turkey and Brunswick fig trees to be found out of doors as on the very high walls, facing south, just beyond Mr. Knowles' house. Pears are managed in great style, and favouring walls are clothed with trained trees in various styles, but cordons are generally planted when vacancies arise. Apples, too, are well cared for, and the trees have been brought into excellent health by spraying and proper thinning, rather than an excessive use of the pruning knife. In many cases regrafting has turned unprofitable trees into profitable ones, for Mr. Knowles is an adept at grafting and budding, and takes a keen delight in creating a new tree or rejuventating an old one. In the kitchen garden, as among the pears, apples, peaches, figs, and plums, Mr. Knowles maintains a high level of cultivation, and probably, if he were not so exceedingly modest and retiring, he would secure fame as an exhibitor of fruits and vegetables, for there is no question as to his ability as a cultivator.

Mention must be made of the Lady's Garden, an elongated rectangular lawn, enclosed on one side by a hedge, and on the other side and at one end by flowering trees and shrubs, notably lilacs, and flowering plums and cherries, but open at the lower end towards the side of the mansion, where, during summer, large specimens of hydrangeas, fuchsias, and Agapanthus umbellatus add to the brightness of the surroundings. This is an ideal retreat for afternoon tea, for pleasant chat or serious talk, for the beginnings of life's romance, for the concluding days of a life well spent, for childhood's play, and, dare it be said, a fine place for the offering up of incense —Havana or Manilla—at the close of a summer's day. Such retreats as these are, alas! none too plentiful in modern gardens.

C. H. CURTIS.

HERBACEOUS BORDER AND IRISH YEWS AT SANSAW.

Exacum macranthum.—Seedlings of this very pretty blue-flowering plant must be pricked off when ready. We prefer to place three seedlings in a small pot, and when large enough transfer the whole to 48's. When about four inches in height the plants are pinched, and then allowed to grow and flower. They are grown on a shelf in the shady part of the stove, and as the flowers develop care is taken that they are not sprayed when syringing the house, or the flowers become spotted and spoilt.—H. PRIME, Hatfield House Gardens.

THE STEPHANOTIS.

This plant is one of the very best for training on wires under the roof-glass of an intermediate house or stove structure. In many first-class gardens it is grown to perfection, but in some fairly good places are grown, but they are not well flowered —over-shading is, often enough, the direct cause of a lack of flowers. When grown in some structures a light shading will not materially affect the maturing of the wood, but in others where shading is put on rather thickly, chiefly for the benefit of pot and other plants on stages, the stephanotis under the roof suffers very considerably.

I know of one very large specimen growing in a palm house where many kinds of stove plants in pots are also cultivated. The stephanotis makes long-jointed shoots every year, but flowers are not freely borne on them. The house is very heavily shaded every summer, a permanent shading being put on.

I have had shoots so short-jointed that the main leaves overlapped considerably, and the trusses of flowers were also very close together, so that if stems were cut off they would form wreaths of natural shape without the special placing of any blossoms. In this case the plant was rarely shaded.

Plants trained under the short roof of a three-quarter span house—the short roof facing east or north—do very well, indeed, without any shading. Inexperienced cultivators often train the shoots near to the glass, and, furthermore, allow them to curl around the wires; then there is much trouble to face when it is necessary to take down the shoots for pruning and cleaning purposes. It is a lovely climber and deserves to be grown more extensively.

G. B.

IMPRESSIONS OF THE CHELSEA SHOW.

It was a glorious morning when a friend and myself set out for Chelsea. To use the Yankee expression, we had made arrangements some time previously "to do the show" well; so after a tramp of a few miles we arrived at the station, and there met a whole host of our gardening friends going by the same train. As the show at Chelsea was to be a big affair, so gardeners who were anxious to improve their knowledge flocked thither.

Arriving at the show in good time we found it not too overcrowded, so we were able to inspect the exhibits carefully. "What do you want to see most particularly?" I said to my friend. "Oh, all of it!" was his reply. Then we commenced on one side, and went through the big tent.

The first glance gave one the impression that the show was better organised than the International held at the same place last year, but those responsible for allotting the spaces evidently did not expect such a crush, or more room would have been allowed between the tables, especially where the cut flowers and smaller hardy stuff were staged. My impression was that, had these been arranged at the sides of the tent, leaving a broad gangway all round, visitors would have been able to inspect them more minutely. The elevated exhibits of orchids would have looked much better had they occupied one end of the tent, where grouping could have been more effective. I hope my friends will pardon these suggestions, as I am still a "learner" in the art and craft of gardening. My friend and I rambled round for the purpose of learning all we possibly could, for one is never too old to pick up a wrinkle or two. It would be difficult to describe all we saw, but the impressions left on one's mind by some of the exhibits were not the most favourable.

Among the cut flowers I did not find the exhibits arranged with that taste and effect expected; the idea that seemed most prevalent was the display of the largest number of flowers possible in a vase or space, regardless of their colours. There was a want of good taste. Tulips, sweet peas, anemones, and the like were not well staged. For instance, I missed a display like that put up by Mr. Norman Davis at the Bicentenary Sweet Pea Celebration at the Crystal Palace some years ago. I well understand that it was early in the season for sweet peas; but in these days of enterprise one expects something more than finely-grown flowers and beautiful varieties.

Tulips, too, though there were some splendid blooms, were not well arranged, in my estimation. A table of anemones attracted my attention very much, and it was a pity such fine blooms were not better displayed. Then, on a table of alpines, an exhibitor had tried to crowd the greatest number of plants possible into the space allotted him, and he accomplished the feat in a most marvellous manner. When one visits a Royal Horticultural Society's show one expects to see the art displayed "that doth mend Nature," not distort it.

It was pleasing to see the double begonias so arranged that every plant was made to act its own part. The orchids, with the exception of those staged by Mr. Alexander, were, I think, much too overcrowded. Flowering plants from seeds were in great force. I took particular notice of one group of cinerarias; had two-thirds of the plants been left at home, and the rest arranged more tastefully and lightly in the same space, the effect would have been far more pleasing, and visitors would have had a far better idea of what the plants were like. Ferns were well and effectively shown. No doubt someone will say, "But ferns are easily put up." So are other plants if a little taste and judgment are exercised; and it must be remembered that we who are not so proficient in the decorative art attend these exhibitions for the purpose of improving our knowledge.

One thing that impressed me very much was the soft green of the grass grown on a felt-like material, and I thought this would make a good groundwork for many of the cut flowers.

It was too early in the season to expect a large display of either fruits or vegetables, but of these there were some creditable exhibits. One would have thought that, after the wet and sunless season last year, hardy shrubs would not have bloomed so profusely, but of these there was a great display.

Space forbids further remarks on the many and varied things seen; but, on the whole, the exhibition was a great improvement on the last Temple Show; and my impression is that, if the whole of the large tent, except the side stages, were devoted to groups on the ground, these could be viewed with far more ease, and the general effect would be better.

I now pass to the rock gardens. Here there was an improvement. There were few stones set up on their ends as though they had dropped from the sky. The arrangements were a little more natural than usual, but the thing was much overdone. It is a pity to force plants into bloom specially for this purpose, and it is misleading to those who are not well versed in this branch of horticulture; but, on the whole, there appeared to be some improvement even in this direction.

Taking the exhibition as a whole, the R.H.S. Council have every reason to congratulate themselves on their success. The weather was all that could be desired, the attendance good, and so I hope there will be a handsome balance on the right side.

H. C. PRINSEP.

VIEW IN THE PLEASURE GROUNDS AT SANSAW.

BEAUTY SPOTS IN INDUSTRIAL TOWNS.

It is somewhat surprising that, in spite of our wonderful progress in Nature-study, the average boy or girl, or even adult, who beguiles a few minutes in a greenhouse, finds it difficult to name correctly a dozen plants. Everybody agrees that flowers are among the sweetest things on earth; everybody loves to feast eyes upon them; and most people appreciate their value in brightening and beautifying our home-life.

Unfortunately, we cannot all afford greenhouses, especially with rare varieties and sumptuous blooms. It is, therefore, necessary to encourage local authorities to spend wisely and well in providing flowers for the people. Our schools are forging ahead with the diffusion of plant knowledge; and greenhouses, large and small, might be used more extensively in class teaching. Half an hour in a well-ventilated greenhouse would impart more permanent instruction to a boy or girl than pages of book work or days in the class-room. Adults might be encouraged to prepare their own "houses" at home. The happiest of leisure hours could be spent here, and there would be a constant supply of blooms for the house and table.

People of all grades now take a livelier interest in the culture of flowers. Small greenhouses built with loving hands and hearts, out of pockets with modest purses, now garnish backyards, courtyards, stable-yards, and mill-yards, where nought could once be seen more cheery or elevating than bricks and mortar, or heaps of stone and rubbish. There has been, during the past few years, a most appreciable change in town and country. Garden "cities" and suburbs, cottage-garden competitions, exhibitions of plants, and "beautiful town" societies have wonderfully revived our inborn love of flowers. And the multitude, rather than the privileged few, spend their happiest hours in the garden and the greenhouse.

This remarkable development has touched the municipal life of the nation. The time-honoured call, "Vox populi!" is heard on every hand asking for "flowers, beautiful flowers." But a short while ago the citizens of our large municipal centres knew little, and saw less, of conservatories owned and paid for by themselves. These, if existing at all, were located in a quiet retreat of the public park, where the general public were forbidden to enter. And this ancient notion of "privacy" in conservatories belonging to the public is still preserved in some towns.

Quite recently a company of visitors, including amateur gardeners and naturalists, entered the public park of an important industrial centre, and desired to examine the lovely specimens in the conservatory. Here was an obvious treat, and all hearts rejoiced at the promise of half an hour's real enjoyment. In the ornamental garden the flowers were at their best; all were aglow with brilliant rainbow tints; and the air was fragrant with sweet odour. As we approached the gateway leading to the conservatory, imagine our disappointment on reading this glaring notice: "Private—No admittance past this gate." And, of course, this instruction was as the laws of the Medes and Persians. There could be no entry. The people who had shared in the cost of the plants and flowers must not be allowed to see them. Thus, it unfortunately happens that all over this favoured Isle of Flowers the people have conservatories well tended, and garnished with the prettiest blooms of Flora's treasury, which bud and spread their charming petals to the admiration of hard-working gardeners; but they wither without the eye of the people having once gazed upon them.

What a pity! The eyes of thousands would have been brightened; the hearts of the multitude would have been cheered by the sight of such realms of natural beauty. If the every-day toiler who possesses neither garden nor greenhouse could, even for once in a week, spend half an hour, or a few minutes, in such an atmosphere of charm and fragrance as is to be found in the people's conservatories, a new phase would turn upon his aspirations; new ideas would dawn on his mind; the smoke and din of every-day toil would have a temporary relief, tending to the health and comfort of the man who "pays the bill."

Happily, the movement is growing to "open the people's conservatories to the people." It may not be convenient to open on every day of the week. But at all seasons of the year, where the practice of "opening" is in operation, certain days are set apart and suitable hours fixed, for admission to the town's floral productions. Where necessary, an attendant is in charge, not with any suspicion of maltreatment of plants, but with a view to giving any information which visitors may desire on blooms or plants of special interest. Much useful information among working-men is spread in this informal manner. Saturdays and Sundays are assured as "open days," as these are the only opportunities that mill-workers have of visiting the conservatories. The wonders of Nature and art, which appear to the admiring eyes of the workers on the Sunday, afford cheerful reflections on the six days following. Here is mental food of the highest order, with its suggestions of colour, form, order, sweetness, and cleanliness.

It is often assumed that in our large industrial centres, where the atmosphere on six days of the week is begrimed with dust, smoke, and fumes, the superlative beauty of plant life is impossible. And something may be said in favour of this contention. A vast amount of tree-planting, for instance, has been carried out during the last decade in towns of East Lancashire and the West Riding. And the result in many cases is commiserating. Healthy young trees have been imported by thousands from the Midlands and the South, and planted in selected thoroughfares on "arbor days." Iron fences, six to seven feet high, were erected round the slender stems, and painted a rich green. All then augured well for verdant avenues and rustling foliage. But the wintry gales swept down from the bleak moorlands; the smoke and fumes from the chimney-stacks came along; and those tender twigs, which were born in a balmier atmosphere, could not perform miracles. Growth became impossible, and all that remains is the leafless trunk, with the green iron rails.

But while tree-planting has met with doubtful success in some towns, owing to atmospheric conditions, the people's conservatories, even when surrounded by a forest of chimney-stacks, show wonderful vitality and freshness. It has, indeed, surprised many horticulturists from southern counties that the cotton and woollen centres of Lancashire and Yorkshire are able to produce such "spotless" blooms. The fact is that, under careful supervision of lights and ventilators, smoke rarely enters the conservatories; and the strongest sunlight is mellowed by the denser atmosphere. Hence, in the very core of Cotton Land, with its mills and workshops, foundries and furnaces, there are municipal conservatories of the finest order. There is ample room for more and larger conservatories to be thus devoted to the education and enlightenment of the people.

The possibilities of these glass houses are practically limitless. Their contents range from the hardiest ferns to the most delicate tropical palms. Flowers of every form and colour find here a comfortable habitat. The municipal fund can provide more costly specimens than are possible to the average amateur. In the earlier months of the year the benches are aglow with hyacinth, lily of the valley, narcissus, cyclamen, and cineraria. A stand of poinsettias, interspersed with ferns, mosses, begonias, and camellias, makes a lovely setting at the close of winter. The month of March sees the rich effulgence of brilliant azaleas, tulips, primulas, and dielytras.

The summer months teem with magnificent varieties of begonia, verbena, hippeastrum, gloxinia, and calceolaria. Begonia Gloire de Lorraine makes a charming basket of bloom, admired by all observers. Schizanthuses produce a mass of flowers in July and August, when hydrangeas and passion-flowers are at their best. The autumn months bring forth the lilies dear to the heart of every lover of flowers. The benches are then decorated with luscious specimens of geranium, petunia, fuchsia, and Hydrangea paniculata.

The chrysanthemum season arrives, and flower heads of white, yellow, pink, and chocolate tints reveal the splendid possibilities of the town conservatory. Even "dull November" is neither dark nor dull here, for the harbingers of spring are open to view—narcissus and snowdrops. When Nature outside is held in the grip of winter, there is life, and warmth, and good cheer among the floral gems of the people's greenhouse.

J. H. CRABTREE.

Thinning Vegetable Crops.—Many kinds of vegetables will need immediate attention in respect to thinning, weeding, and hoeing. Onions should not be severely thinned, bulbs of medium size being the more useful and better keepers. Draw the plants with care so as not to disturb those left to mature. Vacant spaces in the rows should be filled by dibbling in spare plants: this operation is best done during showery weather. When the thinning has been completed, and an attack of the grubs of the onion fly is feared, give the beds a good dressing of soot. Carrots, parsnips, spinach, turnips, and beetroots should receive attention as soon as growth is sufficiently advanced for the purpose of thinning.—W. MESSENGER.

BEDDING OUT IN SHADE.

Those who experience difficulty in keeping the shadowed portions of the garden more than neat during the winter months should take full advantage of summer's opportunity for creating bright masses of colour in those usually dull places. The great secret of bedding out in shade is to make such thorough use of bright hues that the limited amount of light and the absence of any sunshine no longer has a depressing effect. There is no reason why stretches of ground under tall trees should not be some of the gayest, and it is beneath the kindly shelter from heat that chairs will be set, or seats most occupied, bringing flower-lovers constantly into the presence of the floral achievements.

The golden calceolaria—in its older amber form and the taller growing lemon-yellow C. Burbidgei or C. amplexicaule—stands out pre-eminently as the bedding plant for simulating sunshine where none can enter. When it is employed in conjunction with crimson and silver foliage, blue of the lobelia, lavender-blue of the ageratum, as so often witnessed, it is bound to part with much of its power to cheer; if massed over a large surface, with Pyrethrum aureum and yellow bedding pansies, the result will far surpass that of the older style. With a wide border of white bedding pansies, too, the calceolaria has a lively appearance.

The terra-cotta brown calceolaria is another most valuable flower if its peculiar merit is not frittered away. When associated with grey, silver, lavender, or white, the rich hue seems to lose all its distinction and serves but to show up those others. To see it at its best it should be accompanied only by beets, which will flourish finely out of the sun, or some flowers of its own bronzy-crimson, as Tom Thumb coreopsis Crimson King, and some dwarf nasturtiums. It should be given an edging of some dull rose flower, such as Tom Thumb nasturtium King Ruby or rose bedding pansies. The warmth of this combination will be welcome to the eye in shadowed beds, for the tints usually seen under trees are cold ones. There are snapdragons, too, that are of immense service, all the maroons, deep reds, and pink varieties. Scarlet flowers, strangely enough, have a less cheerful look, although there are some that will thrive. For example, a perennial mass of scarlet geum, alternated with scarlet snapdragons, with corner clumps of montbretias, will be in flower in the chief months. Temporary scarlet bloomers include pelargoniums, but the soil should be made light with brick rubble and sand if naturally heavy and adhesive, or else the foliage will be produced too lavishly, at the expense of the blossom. Verbenas cannot be recommended; sweet peas bloom late in shadow but make beautiful backgrounds, and the fewer sprays they supply than in sunshine will be of perfect, unbleached colour. Tropæolums can be fairly relied on, though the vermilions need more light and warmth than do the golds and the crimsons, but the miniature type, known as Liliput, will provide a vivid carpet.

A pure white bed with a gold carpet has unique charm, and may be made with Pyrethrum aureum and groups of nicotianas and white single petunias. Of course, permanent plants of suitable nature are exceptionally numerous in white, including columbines, Chrysanthemum maximum, campanulas of the taller species, foxgloves, Jacob's Ladder, galegas, achilleas, early chrysanthemums, and Michaelmas daisies.

Special embellishments for summer use may include painted tubs of bedding plants. Those who wish to practise this method should avoid the common shade of green paint, and obtain the most vivid grass or pea green, which will not look garish in the shade. Brown paint of a ruddy hue is admissible, yet has a decidedly obtrusive effect, calling undesirable attention to the artificial introduction of receptacles. In a strictly ornate garden, by a modern villa, for example, white-enamelled tubs of beets, fuchsias, geraniums, marguerites, coloured nicotianas, and calceolarias will not be out of place, and any shadowed border can be considerably lightened by setting up a white trellis at the back. The Flame Flower, Tropæolum speciosum, should be permanently used for this trellis, but climbing nasturtiums can be added each summer.

Old tree stumps, hollowed out, and stood on end, make satisfactory ornaments under tall trees; scarlet ivy-leaved pelargoniums will do well in them, while golden ivy should be planted at their feet and trained up the wood. Pillars of white-painted gas-piping, with golden ivy alone trained up them, afford height and some beauty in the worst positions. The lower tree branches will often supply arms from which to sling hanging baskets which, if well filled with bedding plants cannot fail to please.

Then by sinking relays of pot plants we can keep up a constant flower show. Drip and draught, those great enemies of bedding subjects, can be endured for many weeks; if the pot beauties are stood out for as many more weeks in sunshine they will recover from any harm they have taken, and their new crop of buds will open perfectly after they are resunk where conditions are adverse. In addition to pelargoniums, marigolds, salvias, petunias, tall lobelias, asters, and stocks may be thus pressed into service. Begonias are unsuitable where there is drip, though when they have started to bloom they will continue to do so without direct sun heat.

A few foliage carpet beds can be recommended as soon as the striking displays of colour have been located; most of the familiar minute silver, white, green, gold, bronze, and crimson-leaved plants will keep in health from May to November in sunless spots.

A trial of some rare and delicate plants in combination should also be made in shadowed beds away from trees; the aspidistras and Primula obconicas of the greenhouse will be benefited by a summer outing; Plumbago capensis, and mimuluses or balsams, will furnish other beds. M. H.

THE GARDENER'S HOUSE AT SANSAW.

FLORISTS' AURICULAS.

Among the flowers dear to the hearts of the old florists the auricula has always held a foremost place, and, despite the fact that modern tastes have become more catholic there are still a goodly number of enthusiastic devotees to the cult of the auricula, to whom perfection of form irresistibly appeals. I have no desire to quarrel with those who claim that, so long as a plant produces a quantity of bright and pretty flowers in the garden, it matters little or nothing whether the individual flower conforms to a certain standard of form, or arrangement of its various colours. What I am really anxious about is that we shall not lose the æsthetic taste and whole-hearted enthusiasm of the old florists, and that the rising generation of gardeners shall be encouraged to acquire the taste for, and admiration of, a flower that possesses the perfect points which, combined with skilful cultivation, used at one time to constitute the sole qualifications for the appearance of auriculas on the show table or their inclusion in the collection of a connoisseur.

It is no credit to anyone simply to state that he sees beauty in every flower. Indeed, to my mind, if that is as far as one goes, he is simply on a level with the avowed lover of music who knows not the work of a master from the mutilation of a novice, or he who considers his cheap prints as good as a work that reveals the soul of an artist. It is only when we are awakened to the glory of perfection, and are quickened to strive after it, that the fullest enjoyment of a pursuit, be it horticulture or any art, is realised. Hence, my appeal to the readers of THE GARDENERS' MAGAZINE, especially the younger of them, to give more than a passing glance to the flowers of the florist.

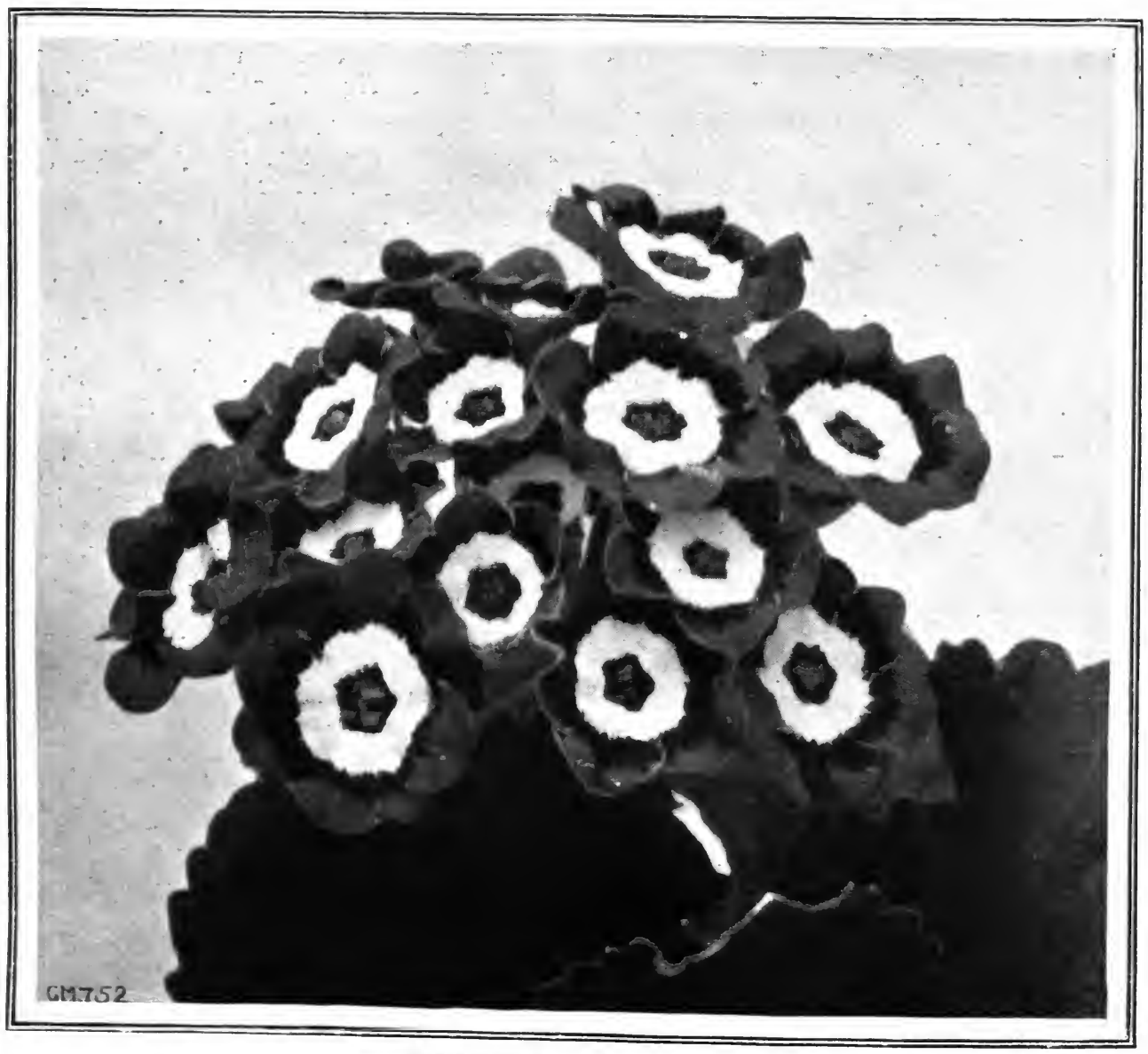
A recent visit to Mr. Jas. Douglas, Edenside, Great Bookham, gave me an opportunity to revel among his peerless collection of both stage and alpine auriculas, and I am constrained to think no true-born gardener could have been in my company without evincing some enthusiasm over the truly delightful display there seen. Whether among the green, grey, or white-edged, the selfs, or the fancies, there were varieties that represent the very finest of their sections, and whilst, of course, conversation from time to time centred on the respective merits of this variety against that, one saw now and again a flower about which all we wished to say was "It's grand!" One such variety was Harrison Weir, a rich crimson self in the show section. It is a lovely flower, showing perfection of form in every division of the pip, and in the symmetrical centre and surrounding band of rich, velvety colour. This variety has won first-class certificates and premier awards that justify its claim to being considered the best of all crimson selfs. George Lightbody is well known among auricula fanciers as the best grey edge, its points consisting of perfect golden tube, sharply defined band of dense white paste, solid black ground, and fine grey edge. Marmion, a Douglas variety, is another grey edge of outstanding merit, and, in addition to the charm of its flowers, it has fine, mealy foliage, a point that should not be lost sight of in a show auricula.

I was very pleased with Prince Charming, which Mr. Douglas himself considers a first-class green edge. It has vigour, size, good outline, and sharply contrasting colours to its credit. Shirley Hibberd, one of the late Mr. Simonite's raising, is also a very good green-edged variety. Heather Bell has an edge as white as can be wished for, and its colour, described as rich violet, appears almost black against the zone of paste and the mealy foliage. Princess May and Wild Swan are two of Mr. Douglas's varieties that may well be included among any set of white edges. Wm. Smith, a grand new green-edged variety raised here, was greatly admired at the recent Chelsea Show.

In the alpine section Mr. Douglas has several new varieties of distinctive merit, Roxburgh being one that quickly arrests attention. Its rich violet-blue throws into fine relief a clean, circular white centre, and the perfectly smooth edge of the pip is finely laced with a lighter blue. Muriel is a gold-centred flower with a fine band of mahogany crimson, and Golden Dustman is another perfectly-formed flower with an edge that could not be improved, while its golden centre and its outer band of crimson shaded with bronze, make it a truly handsome flower. Phyllis Douglas is still about as good as any of the very pretty, blue-laced, white-centred flowers, and if any raiser of seedlings sets up Phyllis as a standard, he will become very exacting when selecting the best from a batch.

Speaking of seedlings, I may say these are to be seen in great quantity at Edenside, and very fine many of them are. It is, however, Mr. Douglas's practice not to name ever so pretty a flower if it has a fault such as uneven edge, defective centre, or weak truss, whilst, of course, a pin-eye is Anathema to any auricula fancier. I have not mentioned a quarter of the varieties of which I took note, but must conclude by saying that the whole collection, although extensive, includes only varieties of unquestioned merit, and I would that many such collections existed in this country, and that high-class auriculas might become general favourites, rather than the special pets of a comparatively narrow circle of enthusiasts.

VISITOR.



AURICULA WM. SMITH.

A very fine green-edged show variety. A.M., R.H.S., May 20. Mr. James Douglas, Great Bookham.

SPIRÆA VEITCHI.

About twelve years ago seeds of this shrubby spiræa were sent to Messrs. J. Veitch and Sons by Mr. E. H. Wilson, who discovered it in Hupeh, when collecting for the Chelsea firm. Mr. Wilson was evidently very greatly impressed by its appearance on its native soil, for he described it as, perhaps, the finest of the Chinese spiræas. In the time which has elapsed since its introduction it has gone a long way towards verifying its collector's words, for it is certainly a beautiful and floriferous shrub.

Amongst the older species, it most closely resembles the Himalayan S. canescens, for it has a similarly graceful habit, with long arching shoots, clothed with small oval leaves. A difference may be observed, however, as the Chinese plant has glabrous leaves, whilst those of S. canescens are hairy. At the same time differences in the serration of the margins may be noticed. The white flowers appear from short, axillary growths towards the end of May and early June, and are produced in heads up to two and a-half inches in diameter.

A mature bush may attain a height of twelve feet, with a considerable spread, and growths six or eight feet long are sometimes formed in a single season. Some idea of the effect of a well-flowered bush may be gathered from the fact that the inflorescences appear from nearly every bud on the upper half of the previous season's growth. As is usual with shrubby spiræas, it must be given really good soil if the best results are expected. Any pruning which is done must be left until after the flowers are over, then some of the older shoots may be removed.

W. D.

AMONG THE ALPINE FLOWERS.

"A garden is a lovesome thing, God wot!
Rose plot,
Fringed pool,
Ferned grot—
The veriest school
Of peace; and yet the fool
Contends that God is not—
Not God! in gardens! when the eve is cool!
Nay, but I have a sign:
'Tis very sure God walks in mine!"

Thomas Edward Brown.

As we wander through the rock garden, either our very own or that of some friend whose garden treasures we enjoy, we find how full of meaning are the words of the poet quoted above. "The veriest school of peace" such a garden is, and we cannot but feel within it that we are elevated in both soul and body by our companionship with the flowers it cherishes and we love so well. Methinks it is a relief to turn from the clamour of the outer world, the din of faction, the striving for wealth, to seek communion with peace in its highest attributes among the flowers. The little placid pool, with its water-lilies, so calm and so lovely on its mirror-like surface; the slopes and knolls covered with the charm of verdure or the glow of bright flowers, all are inexpressibly restful and soul-reviving.

Primula Lissadell Hybrid.

Among the many primulas which came into bloom in May, and have prolonged their flowers until they keep company with the alpines of June, is that fine hybrid, Lissadell Hybrid, the offspring of the hybridisation of P. Cockburniana and C. pulverulenta. Though of the same parentage as P. Unique, it seems to bear out the claim that it is a better and more vigorous plant than Unique. Planted together, and in exactly the same conditions, the Lissadell Hybrid is finer in every way—taller, more sturdy-looking, and giving a greater quantity of bloom on a more robust stem. In a somewhat low, rather moist place, in peat and loam, with a considerable amount of sun, this soft vermilion primula is very beautiful indeed.

Saxifraga Engleri.

There are two Romeos in the field claiming the name of Saxifraga Engleri. They are both in this garden, but I have no hesitation in saying which is the better plant of the two; although, when it comes to a point of deciding which is entitled to bear the name of the great authority on the saxifrages, Professor Engler, applied to them, is entirely a different matter. The nomenclature of the silver saxifrages is a very Serbonian bog, and they are wise who do not venture far into its depths. The two named may be distinguished as S. Engleri of Messrs. Bees, and that of Mr. Reginald Farrer. Of these, I unhesitatingly prefer the former, though I disclaim any desire to say whether it is or is not the true Engleri. As a rock garden plant it is the finer, whether in or out of bloom. A plant that has been here for several years, and has been reduced in size again and again for purposes of propagation, is very fine at present, with its many beautiful, long, silvered leaves in handsome rosettes, and bearing now upwards of a score of handsome plumes of white flowers to a height, some of them, of more than a foot. It is exceedingly pretty at all seasons, and I look upon it as one of the most ornamental of all our silver saxifrages. The other S. Engleri, that of Mr. Farrer, cannot be better described than has been done by that able alpinist, when he says: "My Engleri is very handsome in the leaf, making huge blue-and-silver starry rosettes of narrow leaves. But, as the foliage is like a magnified paradoxa: so also are the dull greenish-yellow flowers that appear sparsely on the rare flower stems."

Geum Heldreichi.

Of the many plants which seed and sow themselves here, none is more acceptable in its way than Geum Heldreichi. Although a good border plant as well, it is very handsome indeed when in the rock garden, and its presence here and there is most acceptable among the lower flowers, giving both brightness and a varied aspect to the scene. My original plant was the fine variety called G. Heldreichi superba, which in colour and in size presents some justification for the magniloquent varietal name of "superba." Self-sown seedlings vary a good deal, and some of these are very beautiful with their varied forms and slightly different shades of colour, but all of orange-scarlet. One nice seedling has the Maltese cross form, which reminds one of some of the lychnises; and, although doubtless coming under the ban of the strict florist, is yet appreciated as it grows by the side of the little artificial rill that leads the water into the water-lily pool. Elsewhere, on slope or crowning low mound, a good many plants of Heldreich's avens help to lend brightness and glow to the garden.

Arenaria purpurascens.

One grows more and more surprised at the absence from even large rock gardens of certain beautiful and characteristic plants. One of the most distinct of the arenarias, or sandworts, is the dainty Arenaria purpurascens, a name which, though fairly suggestive of the colouring of the flowers, yet fails to convey any real impression of the character of the plant in other respects. Picture a little trailing carpet of shining leaves, all spangled in May and June with delightful pale lilac starry flowers, coming in midway in size between those of Arenaria balearica—that gem of gracious free-flowering sandworts—and those of the lovely white A. montana. On a spot beneath the level of the eye,

AURICULA ROXBURGH.

A Beautiful alpine auricula, violet-blue and white, raised by Mr. James Douglas, Great Bookham.

and preferably one from which one can look down upon it from a distance of three feet or so, it is a most charming little plant. Its kindliness in the way of culture is just as great as its beauty. Give it a dry, sunny position, in light soil, and it will give abundant reward.

Other Flowers.

Flowers by the myriad there are in great variety of genera and species. Shrubs, spire-like flowers of many kinds, graceful carpeters or trailers; violas in unending hues and markings, the progeny of years of the cultivation together of many of the race; aubrietias still (one of the best dark ones recalling by its name our old friend, Mr. Peter Barr); golden and white alyssums; charming armerias; spring phloxes, achilleas, artemisias, saxifrages of all sorts and sizes, lychnises—in very truth, a galaxy of grace!—all meet our eyes as we wander among them in this "school of peace," the alpine garden.

S. ARNOTT.

PLANTS IN THE DWELLING-HOUSE.

A common cause of the failure of room plants is that they are kept too wet at the roots, for they are frequently stood in ornamental vases, in which no provision is made for drainage, so that the water stands therein, and the soil becomes so saturated and sour as to cause the roots to perish. Room plants which are growing in pots and then stood in ornamental vases, jardinières, or even in saucers, should, when watered, be taken out of these receptacles and placed in a sink or some spot where the surplus water can readily drain away.

The best way to water room plants is to immerse the pot in a pail, allowing the water to be an inch or so above the rim. When the air bubbles cease from rising the soil will be saturated, and then the pot should be stood to drain before restoring it to its position. After that it may be allowed to stand till water is again needed, when the same process must be gone through. Care must be taken to ascertain whether the water is really required before this is done. Other common causes of the ill-health of room plants are unsuitable soil, ineffective drainage, and pots too large for the plant. When a subject falls into ill-health it is often put into a larger pot, whereas it probably needs one two or three sizes smaller. The spring is just the time to overhaul such room plants as aspidistras, palms, and ferns, and if they need larger pots to shift them into the size required. If, however, as often happens, the roots are in a bad state, and the soil sour, the only chance of recovery is to shake the roots almost, if not quite, clear of the old soil, repot in some good sweet compost, taking care that the pots are quite clean, effectually drained, and not too large. The after watering is also a very important matter, as, of course, until the roots take possession of the new soil, less water will be needed than when the ball of earth is well furnished with healthy roots.

S. W.

Anopterus glandulosa. — The Tasmanian Laurel, as this is popularly termed, is a very pretty evergreen shrub for the greenhouse or conservatory. It forms a freely-branched bush that will flower profusely when from four to six feet in height. The leaves are large, oblong, ovate in shape, and of a rich glossy green tint. The flowers, borne in simple erect terminal racemes, are somewhat saucer-shaped, and in colour white, or nearly so. It blooms during the spring months.—K.

THE ONION CROP.

It has been said that few kitchen garden crops are more liable to disease than onions. In the best-managed fields and gardens, in dry as well as in wet seasons, whole crops of onions are liable to devastation by insect or fungoid attack. The onion fly, for example, is a constant and vicious enemy of the crop. Successive generations of this insect have often ruined small crops of onions in allotments and cottage gardens, and in other places. At first, the plants which are attacked by the fly will turn a yellowish colour, and the first, or longest leaves will subsequently become white. These will become easily detached from the stem, and in time the other leaves will become yellow and decay. The fly causes the bulb to be small and badly shaped, and it will be found to be infested with dirty white maggots, which reduce it to a rotten and useless state. Young plants will be nearly eaten through just above the swelling bulb by the maggots of the fly.

Onion Grub.

As soon as there is any indication of a yellowish or whitish hue amongst the leaves of the plants search should at once be made for the maggot just below the surface of the ground, and, if necessary, the bulbs should be cut open and examined. The flies usually lay their eggs in April or May; about six to eight eggs are laid on the onion plant, upon the neck of the bulb, and sometimes on the lower part of the leaves, generally just above the ground. In about five or seven days maggots are hatched, which burrow down into the gradually forming bulb. Later on, when the bulbs are larger, the number of maggots which feed upon them are increased, and the earth around the plants becomes infested. The insect continues in the larval stage for from thirteen to fifteen days, then the full-fed maggot becomes a pupa inside the brown case, and the fly appears in from ten to twenty days in the summer brood. The first generation of this insect may be seen as early as April 25, and the flies have been noticed through the autumn, and as late as November.

Miss Ormerod, in her investigations into this subject, advised that after the seed is covered the soil should be well trodden and raked over. The tramplings of the feet makes it quite hard, and is considered to do good by preventing the progress of the maggot. Certainly, as far as this advice goes, there is one good result gained, namely, the seedling plants are able to secure a firm roothold at the commencement. On light soil especially, it is always advisable to consolidate the seed bed after sowing onions.

The application of a liberal quantity of soot is beneficial, as far as the eradication of many insect pests is concerned, while in field culture the application of a manurial dressing, such as eight bushels of salt on the ground in the early autumn, before ploughing, and sixty bushels of soot per acre in the spring, when the seed is drilled, or later, as a top-dressing after the plants have been once hoed, would certainly be a useful precaution against insect attacks, apart from the beneficial effects of the manure.

The practice of spraying with paraffin emulsion is also to be recommended. This emulsion may be made by thoroughly mixing together three pints of paraffin and half a pound of soft soap, with one gallon of boiling water. When thoroughly emulsified this should be diluted with about seven or eight gallons of water, when the onion leaves are young and tender, otherwise six gallons of water will suffice, the added water being necessary in order to prevent the emulsion burning the onion leaves. Spraying should be performed early in the season, when the onion plants are quite small, and it is advisable to repeat the process two or three times. Some growers prevent egg laying of the onion fly by earthing up the plants well over the neck. In any case, it is advisable to drop the crop for at least one season on soil where onions have been infested. If this cannot be done, extra deep cultivation and gas lime will be necessary.

Onion Mildew.

As regards the onion mildew, this is too common to need much description. Just at the present time, when exhibition and other bulbs are making generous and free growth, the risk of mildew breaking out is a source of worry to many cultivators. No matter how strong the plant may be, or how rich the soil, this disease makes its appearance unexpectedly on all kinds of soil, and at different stages in the plant's growth. At the onset, small yellowish patches appear scattered over the leaves, and these gradually increase in size, and so give the entire leaf a sickly yellowish appearance. Finally, the whole leaf becomes thickly covered with a grey powder.

One remarkable effect of the mildew is that in its early stages of development the growth of the plant, especially the neck, is rapidly increased. Wherever this abnormal growth appears one may be sure that the disease has gained a hold upon the plant. As regards remedies for the onion mildew, the one most to be recommended is spraying with potassium sulphide, the latter being used at the rate of five ounces to twelve gallons of water. This spray should be used before the plants become badly attacked with the disease. Potassium sulphide, or as it is commonly known, liver of sulphur, has been proved by many growers to be an excellent means of checking onion mildew. It is certainly worth a trial by every grower who is anxious to preserve his crop.

The sulphide must not under any circumstances be exposed to the atmosphere, for it will rapidly decompose or oxydise. Badly infested plants must be at once collected and burned, and a common practice is to apply frequent dustings of powdered quicklime and flowers of sulphur in the proportion of one part of the former to two parts of the latter. These dressings, however, never entirely check the spread of the mildew.

Of course, it is of the greatest importance that every trace of diseased plants must be removed, collected, and burned. It is not sufficient to throw them on to the manure heap, or allow them to rot on the ground, for the disease is almost bound to make its reappearance at another time, for a second form of fungus fruit is produced in the decaying tissues of the leaves. Even if buried for several years in the ground this fungus fruit, if brought to the surface of the soil at any subsequent period, will again germinate, and any onion crop that is then being cultivated in that spot will at once fall a prey to its attacks.

It is certainly doubtful whether any better remedy or means for preventing onion mildew can be found than the spray fluid which we have mentioned above. We have it on the authority of one of the most successful exhibition onion growers in the country that one spraying with potassium sulphide is sufficient to at once destroy the fungus.

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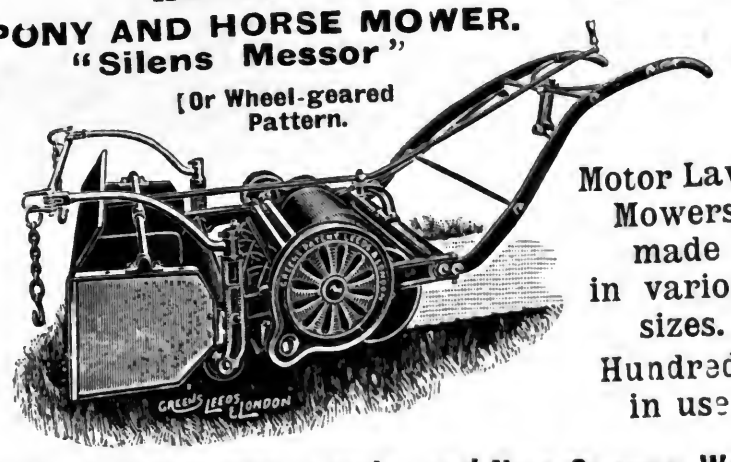

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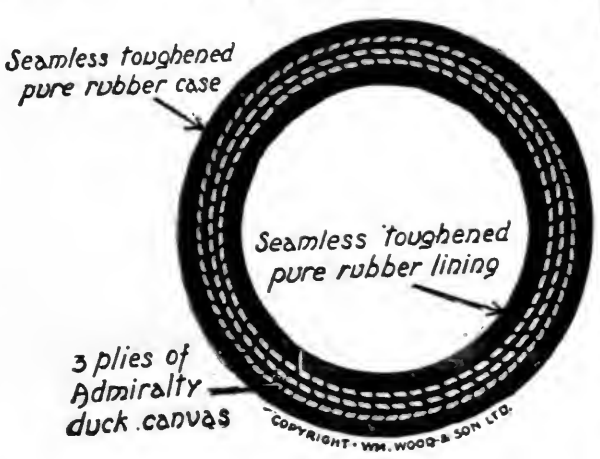
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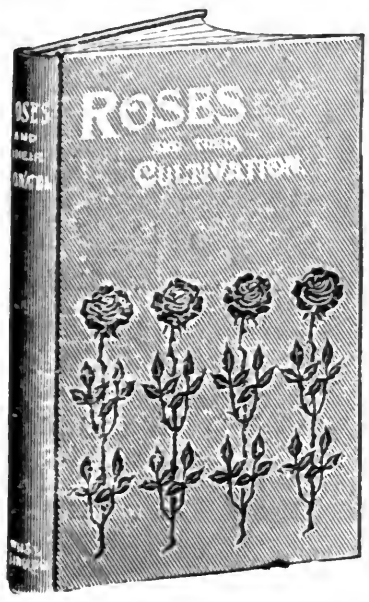

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WORK FOR THE WEEK.

THE ORCHID HOUSES.

GENERAL REMARKS.—The warmer and more seasonable weather has been advantageous to most orchids, although it has caused the rapid fading of most flowers that have been expanded any length of time. With the more favourable conditions, we are enabled to treat the plants in the warmer houses more liberally. Extra damping of the floors and spraying the plants overhead is always desirable when it may be accomplished with any degree of safety. This work will, to some extent, also check the increase of insect pests, but it is desirable to spray the plants in the warmer divisions with some safe insecticide at least once a fortnight, as prevention is at all times better than cure, and if thrips or any other pests of this nature once become established, it not only takes a very long time to get rid of them but also disfigures the plants affected. It is advisable also to close the houses reasonably early in the afternoon, so that full advantage may be obtained from the sun heat. The advantage of a light permanent shading on the cattleya houses and others of the warm section will be appreciated. The less fire heat used the better, and the heating apparatus should only be brought into use to counteract the coolness of the evenings; with a little heat in the pipes we are able to ventilate the houses during the night. This must be done with discretion, and be governed by the prevailing outside conditions. We prefer using the lower ventilators at the leeward side of the houses.

IN THE COOL DIVISIONS a greater amount of shading will be required. It is a mistake to afford odontoglossums too much light during the spring and early summer months, as this has a tendency to give the foliage a bronzy appearance, but it will generally be found that the leaves which turn this colour early in the year generally ripen off quickly, and we find ourselves with plants having an unusual and undesirable number of leafless pseudo-bulbs towards the autumn. Not nearly so many leaves are affected where stronger light is given only during the fall of the year. In the cool divisions also more moisture will be required to keep the atmosphere as cool as possible. It is a good plan to have the blinds let down early when there is a prospect of a warm day; damping also should be done early, and the ventilators freely opened. Damping should also be done again in the middle of the day. The plants may be sprayed overhead in the morning and again in the afternoon when the outside conditions are favourable to rapid condensation. During cool nights a little artificial heat may be needed, but as little as possible should be used.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

REMOVAL TO COOL HOUSES.—With the cool houses and frames relieved of many of their occupants for the summer months, many stove plants may be removed to rather cooler quarters, giving much-needed room to the remainder, and providing a good opportunity for cleaning and rearranging. Such flowering plants as gloxinias, streptocarpus, and saintpaulias may be kept over a much longer season if removed to a cool, shaded house, where ventilation may be gradually increased as the plants become hardened. Remove all flower spikes as the blossoms lose their beauty. The earlier caladiums may also be given cooler treatment, at the same time gradually inuring them to full sunshine.

GLOXINIAS raised from seeds in spring should be ready for shifting into 4½ or 5in. pots, and, with careful treatment, they will be of much value for autumn flowering. Continue to propagate poinsettias and gardenias if a further increase of stock is required. Leaves of saintpaulia inserted now will provide nice plants for flowering from Christmas onward.

ACALYPHA HISPIDA.—Plants raised as recommended for autumn and winter use should receive their final shift. When established, remove the points at a height of twelve inches or so, retaining the three strongest resulting growths. Remove all "tassels" as they appear, and keep well syringed and under genial atmospheric conditions. Older plants grown for summer decorations will be fast produeing their racemes of flowers, and should be removed to a somewhat cooler house, where syringing and heavy damping may be dispensed with.

EUPHORBIA FULGENS (JACQUINÆFLORA).—The earliest rooted plants may be removed to a rather cooler structure, a house or pit that has been used for forcing strawberries usually providing the required conditions. Keep fairly close at first, shading the plants, but admitting light to the house. In a short time the final potting will be necessary. Pots seven inches in diameter will be preferable; pot firmly. Syringe once or twice daily in bright weather. Open the roof ventilators a little in the evening, and increase the ventilation early in the morning. Pot up younger plants as they become ready, and insert the last lot of cuttings by the middle of the month.

AMARYLLIS.—Seedlings raised last year should now be ready for shifting into 6in. pots, in which they are to bloom. Pot firmly in a compost similar to that previously recommended, and grow on in an intermediate house. Those which have flowered should be plunged to the rim of the pot within a brick frame, keeping the lights on only as a protection against rain and at night. They will not require much water, but should by no means be dried off; syringe late in the afternoon, feeding occasionally with the object of obtaining good plump flowering bulbs for next year.—H. PRIME, Hatfield House Gardens.

FRUITS UNDER GLASS.

GUAVAS (PSIDIUM POMIFERUM).—An occasional dish of this fruit makes an agreeable change to the general collection of choice fruits. The shrub can be grown with a fair amount of success, and very little trouble, on the back wall of a vinery. I prefer growing them as cordons planted at about 18 inches apart, and supported by strings. Cuttings may be inserted now and placed in a brisk heat. A fibrous sandy loam with plenty of dry cow manure and a small quantity of old mortar rubble makes an excellent compost in which to grow the plants.

COOL ORCHARD HOUSE.—The shoots of orchard-house trees, having had their points removed at the fifth or sixth leaf, are strengthening rapidly, and sending forth fresh growth which, in turn, must be pinched back to one, two, or three leaves, according to the strength of individual trees. Proceed to thin the fruits of apples and pears as soon as they show signs of swelling. Plums need to be thinned very cautiously, and it is best to defer the thinning of cherries until after stoning is completed. A light surface mulching at this stage will be very beneficial, and save much watering. Damp the paths and between the pots several times during the day. Thoroughly syringe the trees with soft water on bright afternoons, using a little quassia in the water occasionally as a safeguard from aphis. There is no need to completely close the ventilators after this date unless the structure is exposed to strong winds.

EGG PLANTS.—Young plants of Solanum melongena growing in three-inch pots are now ready for their final shift into six or seven-inch pots. Use a light, rich compost, and place the plants in a sunny position. Syringe overhead twice daily, and maintain a temperature of from 65 to 75 degrees. As soon as the fruits have formed, water the plants occasionally with weak liquid farmyard manure. When the fruits are fully coloured gather and send them to the kitchen.

EARLY FRUIT TREES.—Trees in pots which have been cleared of ripe fruit should be placed outside and made secure from strong winds. Assist them to develop plump buds in readiness for another season by taking pains to keep the foliage in a healthy condition. If the trees are in no way gross they may be given stimulants in a weak form about once a week.—F. JORDAN, Warter Priory Gardens.

THE FLOWER GARDEN.

SPRING BEDDING PLANTS.—As the majority of plants used for spring bedding are raised annually from seed, the operation of sowing is an important matter, and it is now essential that it should receive attention. The present will be found a very suitable time for sowing wallflowers, myosotis, pansies, violas, aubrietia, double daisies, etc., which are always in demand for spring displays. Some are advocates of sowing the seed of these about the middle of May, which probably is the right thing to do in cold districts, but, otherwise, if delayed until now, the plants are not so liable to become overgrown, and in the case of wallflowers, leggy, and unable to stand rough, wintry weather. If it is decided upon to sow the seed in the open ground, the soil should be worked into a fine condition to receive it; this done, draw out shallow drills twelve inches apart, and sow the seeds thinly, afterwards covering lightly and keeping the soil moist until germination has taken place. When any difficulty is experienced in raising seedlings in this manner, sowing the seed in frames recently vacated by bedding plants should be resorted to; here they will be more under notice, and can readily be given conditions suitable for germination. Sweet williams and Canterbury bells cannot be classed as spring-flowering plants, but they can be treated advantageously in a similar manner when raising them.

MYOSOTIS DISSITIFLORA, a most desirable early flowering kind, ofttimes proves very uncertain in germinating, and this may be because the seed is a season old; it germinates more freely when sown directly after it has been gathered.

SPRING-FLOWERING SHRUBS.—Many of these have now passed out of flower, and as with but few exceptions they flower on the current season's wood, every encouragement should be given them to produce growth sufficiently matured for flowering another season. It is most marked how some shrubs flower very profusely one season, and sparingly the following; sometimes this is due to climatic conditions, but more often to the constitution of the shrub becoming overtaxed. In this latter case a top-dressing of some rich material and applications of liquid manure will do much to counteract this condition. Rhododendrons and azaleas are frequently affected in this way, and can be greatly assisted by having their flowers removed directly they are over; this entails a great deal of time, and can only be practised in the ordinary way on choice varieties. Many shrubs are liable to become overcrowded, and produce as a result weak and unripened growths; here the old wood must be thinned out directly they have passed out of flower. Such treatment especially recommends itself when dealing with Ceanothus dentatus, deutzias, kerrias, weigelias, shrubby spiræas, etc. Then, again, we have flowering shrubs which, if allowed to grow at will, soon become unsightly, and eventually get broken about and die. Some of these are much improved by

annually shortening back their leading shoots when they have passed out of flower. This lengthens their existence, and adds to their appearance. Brooms and double furze are much benefited by this procedure.—T. B. FIELD, Wych Cross Place Gardens.

THE KITCHEN GARDEN.

CAULIFLOWERS. — Plants that were raised in heat and grown under hand-lights or cold frames will, in the warmer districts, begin now to supply usable heads; the plants should be examined from time to time, and the tips of the leaves bent down, so as to keep the light from the heads. Those which have come to maturity and are not required for immediate use should be cut early in the morning and put in a cool place. The plants raised from seed sown in the open should be set out on a suitable quarter, selecting, if possible, a dull, showery day for the operation. If they are put out during dry weather each plant must be well watered in. The early, close-growing varieties may be planted 15 inches apart, those of the Magnum Bonum type 18 inches apart, and the stronger growing varieties two feet apart each way. Another sowing may be made to provide cauliflowers during October and November.

PEAS.—Further sowings should be made to continue the succession according to demand. Sow in well-prepared trenches, and apply a mulch in good time to soils that dry out quickly. Put sticks to all rows when the plants are 3 to 4 inches high, and if sparrows are troublesome stretch black thread on either side of the row, five or six inches from the ground; this will check their depredations. Gladstone (selected type), Autocrat, Ne Plus Ultra, and Late Queen are of first-rate quality, and suitable for late sowings. The last sowings of the late varieties should be made not later than the middle of June. By sowing one of the early varieties on a sheltered border towards the end of the month the supply may be maintained till mid-October, and, given favourable weather, well into November.

CABBAGE.—The plants for the autumn and winter supplies should have a well-manured plot allotted to them, and, in order to have good supplies from October till early in the New Year, seed should be sown during the early part of June. The seed-beds, when dug or levelled down, should have a dressing of soot, which should be well raked in, and seeds sown broadcast. If the crop is intended to follow potatoes, it will be as well to make the sowing rather later in the month, for if the plants are left too long in the seed-beds they become starved. If the birds are troublesome netting should be placed over the beds till germination has taken place.

MINT AND TARRAGON.—Increase the stock by pulling up young pieces having roots and dibbling them in at a distance of eight inches apart on well-prepared beds. In a few weeks' time a good supply may be obtained, while the roots will be found excellent for forcing another year. Sweet basil, pot marjoram, and other tender herbs should be transplanted when the plants are large enough to handle with safety. A space of one foot between the rows and nine inches from plant to plant in the row will meet the requirements of the smaller growing herbs. — W. MESSENGER, Woolverstone Park Gardens.

Raspberries. — Reduce the young growths springing up from the base of the old stools to the required number for taking the place of those now fruiting, and for stock if necessary. The young growths, if carefully pulled up and planted at once in a somewhat shaded position, watered, and kept clean, will grow into very useful canes by the end of the season. I have repeatedly increased our stock in this way with good results. Raspberries growing on shallow land, and producing good crops, will benefit greatly by a little feeding and mulching of the roots. Keep the land free from weeds and net the fruit early.—H. MARKHAM.

DAHLIAS FOR CUT FLOWERS.

Although some professional gardeners have discarded dahlias altogether, or nearly so, amateurs have continued to cultivate them. There are abundant signs of a general revival of dahlia cultivation, and as many nurserymen possess splendid collections of these plants, it is obvious that there has always been a demand for them.

Single Dahlias.

Cut flowers for vases, especially the tall trumpet vases, are always wanted, and, in the autumn, suitable blossoms are none too plentiful. Single-flowered and other dahlias can be cut with long stems and many branches, all bearing flowers, and only a few are required to furnish the largest vase.

Twenty years ago there were not as many varieties of singles as at the present time, but there were sufficient to induce a number of good gardeners to cultivate them extensively solely, or mainly, for the supply of cut flowers in the months of September, October, and November. The plants were duly protected from frosts during the two last-named months, as I will briefly show.

In a nobleman's garden in the north it was my duty to attend to a fine batch of singles under a very able head gardener. The plants were exceedingly well grown and cared for, and the results fully justified the trouble taken. Splendid plants are easily raised from seeds sown at the end of February. The young stock should be grown on freely, but not coddled in any way, until they are ready to plant out in the second week in June.

There are various positions in which they may be grown, but I will confine my notes to the treatment of the plants grown for the production of cut blooms.

If such were planted singly, or in very small groups, in different parts of the garden, much difficulty and trouble would be encountered in the days of frost, when some covering is absolutely essential. One good batch of plants, grown in a convenient part of the garden, should be secured, then protection from frosts will be easy by simply nailing some laths on upright stakes one foot above the blooms, to bear canvas, scrim, or mats, as the case may be.

It is certainly not wise to plant dahlias in a poor soil, for it must be remembered that a wealth of blossom is wanted; time in which the plants are to make their growth is, indeed, short, and poor soils will not induce a moderately vigorous growth. The ground should be trenched two feet deep, a moderate quantity of well-rotted manure put in, and more, of littery nature, spread on the surface. The surface mulchings should be repeated if necessary, and stimulants may be given when required. Give the plants ample space to grow in, but do not waste it, as, of course, in respect to covering against frost, none must be wasted.

One dozen good varieties are Darkness, crimson-maroon; Fugi San, orange-yellow; Kitty, rosy-mauve; Masterpiece, dark purple, tipped white; Mikado, scarlet centre, yellow margin; Yellow Satin, pale yellow; Yellow Queen; Snowdrop, white; Princess of Wales, pink; Miss Morland, crimson-scarlet; Tennyson, dark crimson; and Columbine, clear rose.

Pompon Dahlias.

Of course, all sections may be grown for the supply of cut flowers, but I will only refer further, in these notes, to the pompons, which bear such a profusion of blooms, and which are so suitable for cutting with long stems to fill vases in contrast to the singles. The same kind of treatment will do for them, and so I will simply name a few good varieties possessing fairly distinct colours, as these show to the best advantage in the artificial light in dwelling-rooms. Bacchus, bright scarlet; George Brinckman, pure white; Cheerfulness, old gold, tipped crimson; Buttercup, golden yellow; Arthur West, deep crimson; Guiding Star, a very fine pure white; Little Prince, crimson and white; Peacemaker, snowy-white; Rosebud, white edged rosy-pink; Sunset, bright orange; Tommy Keith, red, tipped white; and Hedwig, chestnut and gold; the flowers of this variety look charming mixed with autumn foliage. GEO. GARNER.

THE WINTER HELIOTROPE.

This plant, whose botanical name is Tussilago fragrans, is related to the common coltsfoot (Tussilago farfara), and therefore, like all the coltsfoots, is a bad master, though a good servant. In this respect it resembles the bindweed, which, though very ornamental in the garden when in flower, has such a spreading habit that it can only be planted with safety in spots where it has no opportunity of making its way underground into choice borders or beds.

It is almost impossible to eradicate the Winter Heliotrope when once firmly established in congenial soil, and a colony has been known to be dug out twice to the depth of 2ft., which still occupies its original site, but in most gardens there are out-of-the-way corners where it may be planted without becoming a pest.

Here there is a deep depression in a corner between a wall and a high bank, which has apparently been for generations the receptable of all manner of rubbish, broken crockery, bottles, slates, tiles, and such-like, to a depth of several feet. Over this about a foot of soil was spread, and some roots of winter heliotrope begged from a neighbour, who was only too glad to get rid of it. Now, in the depth of winter a couple of dozen or so sweetly-scented flower-heads may be picked, which with the handsome heart-shaped leaves form an attractive and perfumed decoration in the house. A dry bank, where little else will grow may be profitably devoted to this plant.

It is said to be a native of Italy, but has, even if not a native of this country, become thoroughly naturalised here. Its flowers differ from those of the common coltsfoot in being borne in dense clusters of many flower-heads ranging in colour from lavender-white to purple, whereas the yellow blooms of Tussilago farfara are borne singly, and are daisylike in form. The blossoms have a delicate nutty or vanilla-like perfume, and are borne at a time when few other flowers, except those of the Algerian irises and Christmas roses, are available for indoor decoration from the open garden.

WYNDHAM FITZHERBERT.

Salvias.—The brilliantly-coloured Salvias splendens grandiflora and Pride of Zurich may now be placed out of doors. The flower spikes must be pinched out, and they should receive their final potting. During the summer months the pots should be plunged in ashes. This will save much labour, as they will not need so much attention in regard to watering. If red spider attacks the leaves, dip them in an insecticide, or lay them on their sides and syringe them, but syringing with clear water morning and evening will do much to keep them clear from this pest.—E. HARRISS.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

Although coming so close after the great Chelsea Show, the meeting held at the Royal Horticultural Hall on June 3 was a good one, and the show of first-class order. Every bit of available space was filled, and, taken as a whole, the groups were well arranged and the plants and flowers in excellent condition. In a few cases the error of overcrowding was observable. Orchids, carnations, roses, pelargoniums, fuchsias, alpine and border flowers, and sweet peas and antirrhinums were the principal features. The attendance was not very large owing to the large number of society functions that were being held in town the same day.

ORCHID COMMITTEE.

A beautiful exhibit of orchids, admirably staged over maidenhair ferns, by Mr. Geo. E. Day, gardener to H. S. Goodson, Esq., Fairlawn, West Hill, Putney, proved a great attraction, and, indeed, it was a fine effort from a private collection within the metropolitan area. Odontoglossums were especially numerous, and included such good things as O. Snowflake, O. crispum Battle of Waterloo, O. c. Fredericki, O. amabile roseum, O. Lambeauianum, O. St. Luce, and O. Goodsonæ. Cattleya Mossiæ, C. M. Reineckiana, C. Dusseldorfi var. Undine, Lælio-cattleya Canhamiana, L.-c. Lady Wigan, Cymbidium Lowianum, miltonias, and some odontiodas were other subjects well represented. Messrs. Hartland and Sons, Cork, contributed a few orchids, and also showed Diananthe cœrulea, a curious Chinese hardy alpine plant.

Oncidium serratum was well shown by Messrs. Hassall and Co., Southgate, together with Miltonia vexillaria Cobbiana carrying two spikes, some bright odontiodas, and good forms of Cattleya Mossiæ. Conspicuous in the exhibit from Messrs. Stuart Low and Co., Enfield, were Renanthera Imschootiana, Miltonia Hyeana with three spikes, Cattleya Mossiæ Reineckiana, L.-c. Eudora, and the beautiful mauve Brasso-Cattleya Veitchi.

From Sir Trevor Lawrence's collection at Burford Lodge, Dorking, Mr. White brought Lælio-cattleya Canhamiana Burford var., with broad white sepals and petals; the graceful white and purple Odontoglossum Lairessei (A.M.), the quaint little Epidendrum organense, a lowly plant with greenish flowers; and a fine example of Oncidium Cleaesianum with brown and purple flowers. Two interesting hybrids came from Mons. H. Graire, St. Fuscien, Sains; these were Odontoglossum Saturne and O. Neptune var. St. Fuscien, the latter a bright red-blotched hybrid between O. nebulosum and O. crispum (A.M.).

Lælio-cattleya The Freak, shown by Mr. Duncan, gardener to C. J. Lucas, Esq., Warnham Court, Horsham, was a source of great interest, as its parents were L. purpurata and C. citrina; it has creamy sepals and petals, and a purplish lip, and the fragrance of C. citrina (Certificate of Appreciation). Mr. J. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone, sent up a good plant of the bright Odontoglossum Jasper, and Sir Jeremiah Colman (gardener, Mr. J. Collier), Gatton Park, Reigate, exhibited the interesting Catasetum Cliftoni and C. Colmanæ. Dendrobium Thorntoni, Veitch's var., with clear yellow flowers, occupied a central position in a group set up by Messrs. J. Cypher and Sons, Cheltenham; Miltonia Bleuana, Oncidium pulchellum, and Thunia Veitchi were other good things.

Mr. E. H. Davidson, Orchid Dene, Twyford, exhibited a few good orchids, but his Odontoglossum Aireworth Orchid Dene var., red-brown with purple margins and white-tipped lip, was the finest feature, and it secured an A.M. Cattleya Mossiæ Golden Ray, from the same grower, had yellow colouring towards the apex of each petal—an attempt at peloria. Messrs. Charlesworth and Co., Haywards Heath, had a small display of orchids, but had grand plants of Miltonia vexillaria Empress Augusta Victoria, Odontioda Bradshawiæ, Odontoglossum Dora, and Lælio-cattleya Fascinator.

Two grand spikes of Cœlogyne pandurata, its green and black flowers always attractive, were contributed by Messrs. Armstrong and Brown, Hayward's Heath, and with these were Odontoglossum Leonides magnificum with yellow and brown flowers, a fine spike of Cymbidium Lowianum concolor, Odontioda Vuylstekeæ, O. Rosefieldense, and some good examples of Lælio-cattleya Canhamiana. Lælio-cattleya Canhamiana and L.-c. C. Walter Gott were beautifully shown by Messrs. Sander and Sons, St. Albans, and these were associated with miltonias in variety, odontoglossums, odontiodas, the brilliant Renanthera Imschootiana, some beautiful varieties of Lælio-cattleya Fascinator, and Brassia verrucosa with nine spikes.

FLORAL COMMITTEE.

The beautiful sweet peas exhibited by Messrs. Dobbie and Co., Edinburgh, proved very attractive, especially the varieties Inspector, Melba, Thomas Stevenson, and Lavender George Herbert. Equally beautiful and attractive were the antirrhinums from the same firm, and the sheaves of lovely spikes of Cottage Maid, Amber Queen, Queen of the North, white; Maize Queen, Dobbie's White Beauty, purest white; Brilliant, deep rose; and Moonlight, apricot-yellow and pink, were all very charming. Phloxes from Messrs. Gunn and Sons, Olton, were capital for such an early date, and of Elizabeth Campbell and Selma there were grand spikes. Messrs. W. and J. Brown, Stamford, exhibited the crimson hybrid Dianthus Atkinsoni, and some good forms of Heuchera sanguinea. Irises of the germanica type were largely shown by Mr. C. W. Chantler, Cockmannings Nurseries, St. Mary Cray, but many of the blooms suffered from the heat.

Irises and lupins were the chief features of the display from Messrs. Barr and Sons, Covent Garden. The former were particularly good, especially the spikes of Ophir, Nellie, Moerheimi, Enchantress, the deep Taplow Purple, Eastern Queen, and the dainty Rosy Gem. Messrs. W. Artindale and Son, Sheffield, presented fine bunches of Mdme. Munier, Yvonne Cayeux, White Aster, and other pyrethrums, with Oriental poppies, lupins, and Incarvillea Delavayi, but their flowers were crowded together.

Oriental poppies made a rare blaze of colour as shown by Mr. Amos Perry, Enfield, and some of the best varieties were Marie Studholme, salmon-pink; Crimped Beauty, salmon-orange; Menelik, deep scarlet; Perry's White, and Perry's Unique (A.M.), vivid scarlet, with black blotches and deeply laciniate segments. Messrs. G. and A. Clark, Dover, rather spoiled their exhibit by crowding the flowers; Pentstemon heterophyllus, Iris sibirica Snow Queen, Verbascum Ivanhoe, and Geum Mrs. Bradshaw were a few of the more important subjects shown.

Messrs. Kelway and Son, Langport, presented a glorious selection of both single and double pyrethrums, and some lovely lupins and pæonies, but their new yellow Pæony named L'Esperance, a hybrid between P. lutea and a P. Moutan variety, was the great attraction. This was very like P. La Lorraine in its colouring, but had only three rows of petals, whereas La Lorraine is quite double. In L'Esperance the yellow shade is, perhaps, a trifle brighter, and the crimson petal bases are, of course, more prominent, while the crimson, yellow-tipped stamens form a fine centre (A.M.). At so late a date it was a surprise to find Messrs. R. H. Bath, Wisbech, showing some capital tulips, all Darwin varieties, the flowers of fine colour, form, and substance. The same firm contributed a score of bunches of sweet peas, and among these the delicate pink Lancashire was very pretty.

Messrs. Sutton and Sons, Reading, arranged a long stretch of their improved aquilegias. The flowers were displayed in colour blocks; the pink shades contrasted well with the blues, which adjoined the crimson and gold type. These long-spurred columbines are exceedingly graceful, and showed a marked improvement on the old type.

M. Drummond, Esq., Cadland, Southampton (gardener, Mr. Lewis Smith), showed a goodly batch of excellent long-spurred aquilegias.

Mr. James Box, Hayward's Heath, Sussex, had the most attractively arranged hardy flower exhibit in the hall. Besides a great variety of irises, pyrethrums, and aquilegias there were the more uncommon Anemone sulphurea, Thermopsis montana, and Pæonia alba grandiflora, in which the golden stamens contrast charmingly with the pure white petals. H. J. Talbot, Esq., Little Gaddesden House, Berkhamsted (gardener, Mr. E. Pinnook), showed the exceedingly vigorous pink-flowered stock named Nice Beauty.

Messrs. Whitelegg and Page, Chislehurst, by placing them next to the type, illustrated the greater value of such improved varieties of Heuchera sanguinea as Queen of Roses, Prince of Wales, and sanguinea superba. Lupins and Habranthus pratense were also well shown. Mesrs. Bakers, Wolverhampton, staged lupins, Oriental poppies, good batches of Primula Bulleyana, P. Lissadell hybrid, and other border flowers.

Messrs. T. S. Ware, Lim., Feltham, included several vases of excellent antirrhinums in their exhibit of hardy border and rock garden plants. Amongst the last-named we noted Linaria pallida and Geranium cinerium album as being especially good. Messrs. Wm. Fells and Son, Hitchin, made a speciality of herbaceous pyrethrums and hardy primula species. One end of the tabling contained a few very desirable alpines.

Messrs. R. Wallace and Co., Colchester, showed a large quantity of German irises. Pentstemon Wahersis is a very useful blue-flowered herbaceous plant, and the erect inflorescences were displayed to advantage. Other uncommon subjects exhibited were Calochortus Lyoni, Nectaroscordum siculum, and Allium albo-pilosum. Mr. G. Reuthe, Keston, Kent, included several desirable half-hardy rhododendrons in his display of shrubs and herbaceous plants. Amongst the former the sprays of Embothrium coccinea provided brilliant colouring.

Messrs. G. Bunyard and Co., Maidstone, gave the place of honour to a group of very

fine irises. Besides many varieties of the German iris there were vases of the moisture-loving I. sibirica sanguinea. Oriental poppies and herbaceous pyrethrums were also shown in quantity. Mr. Maurice Prichard, Christchurch, Hampshire, specialised the beautiful blue-flowered Wahlenbergia vincæfolia, which received an Award of Merit last year. Other plants of more than average interest were Primula Bulleyana, Onosma taurica, and Dianthus Beauté Lyonnaise.

Mr. Clarence Elliott, Stevenage, arranged a pleasing little rockery at the end of one of the tables, and planted broad breadths of such plants as Myosotis rupicola, Campanula Steveni, and Oxalis enneaphylla rosea. The Misses Hopkins, The Mere Gardens, Shepperton-on-Thames, built a rockery, and embellished it with appropriate plants. Messrs. Thompson and Charman, Adelphi, London, filled a table in the annexe with alpines and herbaceous plants attractively arranged in cork-faced boxes.

Mr. J. D. Webster, Chichester, showed many good Spanish irises, Richardia Pentlandi, Gladiolus Blushing Bride, and a collection of carnation blooms. Messrs. S. Bide and Sons, Farnham, Surrey, showed vases of such fragrant sweet peas as Melba, Bertha Massey, Clara Curtis, Thomas Stevenson, and Queen of Norway.

Messrs. H. Cannell and Sons, Swanley, filled a corner of the hall with polyantha roses in pots. The tall plants of such varieties as Carmine Pillar, Minnehaha, Lady Godiva, were set off by an outer row of dwarf examples of Flower of Fairfield, Maman Lavavasseur, and Jessie. Messrs. H. Cannell and Sons, Swanley, also well filled a table in an annexe with splendid plants of bronzy cannas, and trusses of zonal and fancy pelargoniums.

Messrs. H. B. May and Sons, Upper Edmonton, contributed a selection of their well-known stove and greenhouse ferns. Although this exhibit was not comparable in point of size with that at Chelsea, the standard of quality was quite as high. Messrs. Carter Page and Co., London Wall, London, contributed a selection of zonal pelargonium trusses, and cactus and pæony-flowered dahlias.

Mr. A. H. Gwillim, Sidcup, Kent, showed many pot plants of especially good gloxinias and double-flowered tuberous begonias, as well as cut flowers of aquilegias and other border plants.

A large and effective group of roses was arranged opposite the entrance by Messrs. B. R. Cant and Sons, Colchester. The plants were large ones in pots, and finely flowered, and the leading varieties were Hiawatha, White Dorothy, Excelsa, Blush Rambler, a grand mass of lovely blossoms; Dorothy Perkins, Sweet Pea, a new white rambler, and the attractive American Pillar, with large, single, carmine blooms. Some interesting roses from Messrs. Paul and Son, Cheshunt, included R. sericea pteracantha with big crimson spines; R. spinosissima, R. rubrifolia, and the double yellow R. lutea.

Messrs. G. and W. H. Burch, Peterborough, showed excellent cut roses, chiefly arranged in exhibition boxes. Mrs. Foley Hobbs, Duchess of Normandy, Claudius, British Queen, and Mrs. H. H. Welch, are the names of a few of the varieties shown.

Malmaison carnations were freely exhibited with perpetual varieties by Messrs. Stuart Low and Co., Enfield, and of the former there were good specimens of Lady Coventry, Calypso, Princess of Wales, the favourite Old Blush, Cleopatra, Baldwin, and the dark crimson Maggie Hodgson. A small, bright display of carnations from Mr. Chas. Blick, Hayes, contained good flowers of Elizabeth Shiffner, John Ruskin, Solfaterre, King George, and other fine varieties.

Mr. H. Burnett, Guernsey, again showed many excellent cut carnation blooms, which were characterised by large size, good form, and distinct colourings. Messrs. Wm. Cutbush and Son, Highgate, flanked a small collection of liliums and hardy cypripediums with large quantities of excellent cut carnations and polyantha roses in pots. The latter included the bright-flowered Erna Teschendorff.

Ten pairs of rafter-trained fuchsias were set up over one of the gangways by Messrs. Jas. Veitch and Sons, Chelsea, and in this way the pendant flowers were seen to advantage. Under these were compact nemesias in selected colours, Blue Gem being one of the best. Spanish irises, the deep blue Exacum macranthum, and a fine strain of gloxinias were other contributions from this firm. In another part of the hall the Messrs. Veitch arranged a number of very floriferous standard fuchsias over a groundwork of Calceolaria Clibrani and pteris ferns. At the entrance of the hall a small batch of canna J. B. Van der Schoot well illustrated the decorative value of this excellent yellow variety. Adjoining the fuchsias there were groups of improved anchusas fronted by such interesting primulas as P. Excelsior, P. Cockburniana, P. Littoniana, P. capitatum, and P. pulverulenta Mrs. R. V. Berkeley.

Mr. W. J. Godfrey, Exmouth, showed some pink, grey, and mahogany-shaded Oriental poppies, some old-fashioned scented-leaved pelargoniums, and some good show pelargoniums, notably Beauty of Exmouth, Black Prince, Ettie, Sandringham, and Constance. A towering, semi-circular group of schizanthus, which was contributed by A. G. Waley, Esq., Stone House, Reigate, Surrey (gardener, Mr. M. A. Dobson), was composed of splendidly grown plants. Messrs. John Peed and Son, West Norwood, displayed a praiseworthy strain of erect-flowered gloxinias.

Messrs. Thomas Rochford and Sons, Turnford Hall, Broxbourne, staged decorative specimens of the silvery-tipped Araucaria excelsa Silver Star, a variety which received an Award of Merit in 1909.

Rhododendrons, Japanese maples, Fabiana imbricata, Solanum crispum, and Olearia Gunniana were a few of the more prominent shrubs staged by Messrs. J. Cheal and Sons, Crawley. Lupins, irises, verbascums, Thalictrum dipterocarpum, and pink spiræas were all well shown by Messrs. G. Jackman and Son, Woking. The lovely and fragrant Wistaria brachybotrys alba was delightfully shown by Messrs. J. Piper and Sons, Barnes, the bushes smothered with long racemes of white flowers. W. multijuga was also exhibited, and there were Japanese maples under the wistarias. In the latter firm's exhibit of alpines, etc., Dianthus E. T. Anderton, D. Napoleon III., D. Salmonea, Wahlenbergia vincæfolia, a graceful bellflower, and Primula Bulleyana were the most conspicuous plants.

Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, exhibited some Chinese shrubs; these were Viburnum Lupehense, with loose, flattish clusters of fragrant, white flowers; Salix magnifica, with leaves four to six inches long, and from two to four inches wide, probably the largest-leaved willow known; and Ribes longiracemosum, with pendulous racemes, twelve to eighteen inches long, carrying red-brown and green flowers.

AWARDS.

No First Class Certificate was awarded on this occasion.

Award of Merit. — To Papaver Perry's Unique, from Mr. Amos Perry, Enfield; to Stachys corsica, from Messrs. R. Wallace and Co., Colchester; to Pæonia L'Esperance, from Messrs. Kelway and Son, Langport; to Primula Excelsior, from Messrs. James Veitch and Sons, Chelsea; to Salix magnifica, from the Hon. Vicary Gibbs (gardener, Mr. E. Beckett, V.M.H.), Aldenham House, Elstree; to Potentilla Boule de Feu, from Mr. A. Hemsley, Crawley; to Iris gracillipes, from the Wargrave Hardy Plant Farm, The Arcade, Liverpool Street, E.C.; to Delphinium Mrs. F. Brewster, from Mr. R. C. Notcutt, Woodbridge; to Odontoglossum Aireworth Orchid Dene var., from Mr. E. H. Davidson, Twyford; to Odontoglossum Neptune St. Fuscien, from Mons. H. Graire, St. Fuscien, Sains, France; to Odontoglossum Lairessei, from Sir Trevor Lawrence, Bart., Burford Lodge, Dorking.

Certificate of Appreciation.—To Lælio-cattleya The Freak (L. purpurata × C. citrina), from C. J. Lucas, Esq. (gardener, Mr. Duncan), Warnham Court, Horsham.

MEDALS.

Gold.—To H. S. Goodson, Esq. (gardener, Mr. G. E. Day), Fairlawn, Putney, for orchids.

Silver-gilt Flora.—To Messrs. Dobbie and Co., Edinburgh, for sweet peas and azaleas; to Messrs. Jas. Veitch and Sons, Chelsea, for fuchsias, gloxinias, etc.

Silver-gilt Banksian.—To Messrs. H. Cannell and Sons, Swanley, for cannas and pelargoniums.

Silver Flora.—To Messrs. G. Bunyard and Co., Maidstone, for hardy flowers; to Mr. H. Burnett, Guernsey, for carnations; to Messrs. B. R. Cant and Sons, Colchester, for roses; to Messrs. J. Kelway and Son, Langport, Somerset, for pæonies and pyrethrums; to A. G. Waley, Esq., Reigate, for schizanthuses; to Mr. Webster, Chichester, for carnations; to Messrs. Sander and Sons, St. Albans, for orchids; and to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids.

Silver Banksian.—To Messrs. R. H. Bath, Lim., Wisbech, for tulips and sweet peas; to Mr. Jas. Box, Lindfield, for hardy flowers; to Messrs. G. and W. H. Burch, Peterborough, for roses; to Messrs. G. and A. Clark, Dover, for hardy flowers; to Messrs. Wm. Cutbush and Son, Highgate, for roses, etc.; to Messrs. Gunn and Sons, Olton, for phloxes; to Messrs. Stuart Low and Co., Enfield, for carnations; to Messrs. H. B. May and Sons, Edmonton, for ferns; to Mr. Amos Perry, Enfield, for poppies, etc.; to Mr. G. Reuthe, Keston, for hardy plants; to Mr. L. R. Russell, Richmond, for ivies, etc.; to Messrs. R. Wallace and Co., Colchester, for hardy plants; to Mr. C. Blick, Hayes, for carnations; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Mr. E. H. Davidson, Orchid Dene, Twyford, for orchids; to Messrs. Charlesworth and Co., Hayward's Heath, for orchids; to Messrs. Hassall and Co., Southgate, for orchids; and to Messrs. James Carter and Co., Raynes Park, for collection of lettuces.

Bronze Flora.—To Messrs. Barr and Sons, Covent Garden, for irises and lupins; to Mr. W. J. Godfrey, Exmouth, for pelargoniums, etc.; to Mr. L. Gwillim, for gloxinias; to Messrs. J. Piper and Sons, Barnes, for wistarias; to Mr. Maurice Prichard, Christchurch, for hardy flowers; to Messrs. T. S. Ware, Lim., Feltham, for hardy flowers; and to M. Drummond, Esq., Southampton, for aquilegias.

Bronze Banksian.—To Messrs. W. B. Hartland and Co., Cork, for orchids.

Kew Guild.

The Kew Guild annual meeting and dinner was held at the Holborn Restaurant during the evening of Wednesday, May 21. The Royal Horticultural Society's Spring Show always brings many old Kewites to London, and those who are home from the Colonies and other countries far away generally find their way to the same exhibition, hence this annual gathering is well attended. Mr. A. C. Hill, the assistant director at Kew, who is also chairman of the Guild Committee, presided over the annual meeting. New rules were submitted and adopted with minor amendments. These chiefly refer to the retirement of a third of the committee annually, the retiring members not being eligible for immediate re-election; to the investment annually of two-thirds of the life subscriptions received; to the holding of the annual meeting and dinner in London towards the end of May; and to the proposed institution of a benevolent fund for the help of distressed members.

Mr. Wm. Goldring, the President for the ensuing year, presided at the dinner, at which there were nearly a hundred present, including Mr. E. Brown from Uganda, and Mr. MacMillan from Ceylon, members of the Kew staff, and Kewites from all parts of the United Kingdom.

The Chairman proposed "Prosperity to the Kew Guild" after the usual loyal toasts, and he spoke very highly of the fine work accomplished at home and abroad by Kew men whom he had met with in his journeyings. He urged the young men at Kew and all Kewites residing in and around London, to make the most of the opportunities Kew affords for study; he added that, whatever success he had achieved as a landscape gardener was due to his long and close association with Kew, and the varied scenes and wide range of cultivated plants Kew contained. Mr. E. Brown and Mr. MacMillan responded, and each paid tribute to the influence of Kew and the skill of Kewites abroad. Mr. Brown pointed out that there was room for considerable improvement in the Colonies, because very often a college-trained man was given a position that a practical man, such as one trained at Kew, should and could properly fill.

An excellent musical programme was provided, and a quarter of an hour's interval gave old friends an opportunity of a handshake and a chat. "The President" was proposed by Mr. Chas. H. Curtis, who referred to Mr. Goldring's work at home, in India, and in America, and to the honour the Guild received from the success of any one of its members. Musical honours were accorded, and the President suitably replied. "Auld Lang Syne" brought the proceedings to a close at a fairly early hour.

The Perpetual Carnation Society.

The date fixed for the annual dinner of the Perpetual Carnation Society — Wednesday, May 21—was, to be paradoxical, well chosen, but unfortunate. It was well chosen, because probably a larger number of the members and friends of the society were in town that evening than would have been possible to get together on any other date, but it was unfortunate that the Kew Guild dinner, also held at the Holborn Restaurant on the same evening, had prior claim to the attendance of a good many who would otherwise have readily enjoyed and added to the enjoyment of the excellent dinner and delightful entertainment over which Mr. J. S. Brunton ably presided. It must not be supposed that the clashing caused anything approaching unhappy results, for a company of fifty-six persons sat down at the well-spread and beautifully decorated tables, every one of whim evidently throughly enjoyed the whole proceedings. Among the company present were a number of ladies, and several visitors from a distance, a few coming even from France.

The loyal toasts were proposed by the Chairman, who also responded to that of "The Perpetual-flowering Carnation Society," which Mr. D. Ingamells proposed in a brief but well-chosen speech. Mr. Brunton, in the course of his reply, remarked that the society is making steady progress, its membership now numbering nearly 500, and extending to almost every country in Europe, as well as to South Africa.

To Mr. C. Engelmann fell the privilege of proposing the health of the chairman, which he did in eloquent and entertaining language, the whole company approving in no uncertain manner.

Broughty Ferry Horticultural Association.

The ordinary monthly meeting was held under the presidency of Mr. James Bethel in the Y.M.C.A. Hall on the 20th inst. The lecturer for the evening was Mr. James Robertson, head gardener, Letham Grange, Arbroath, who had for his subject "The Cultivation of Stone Fruits." Taking apricots, cherries, nectarines, peaches, and plums, the lecturer proceeded to describe the best methods of cultivating them in their best varieties in the open as wall trees, and in the case of cherries and plums as standards and bushes. He afterwards dealt with them as indoor subjects in permanent houses and improvised orchard houses, where they were usually grown in pots and tubs. He pointed out the necessity in all cases of having lime in the soil, and the feeding of the trees with phosphates, nitrates, and potash. With reference to training, the lecturer generally condemned the free growing system usually recognised as fan-trained or bushes as pot trees, his idea being that better results were obtained from cordons in each case. Stating the case for peaches and nectarines in a permanent border, the odds were against the fan-trained tree occupying so much space with the fruits all ripe within a few days, and then, when it was desired to plant a new tree the old one had to be cleared out. A prolonged discussion ensued, and on the call of the president the lecturer was cordially thanked. The monthly award was made to Mr. D. K. Meston, The Lodge Gardens, for a well-flowered Anthurium Scherzerianum Wardi.

Royal Scottish Arboricultural Society.

The first excursion for the season of the members of the Aberdeen branch of this society took place recently, when Drum Castle and woods, some seven or eight miles from Aberdeen, were visited. The day was beautifully fine, and the whole valley of the Dee was bathed in sunshine.

Drum Castle is the home of Mr. A. F. Irvine, the present chairman of the branch, and that gentleman met the members at Drum Station, and accompanied them in their tour. The party was the largest the branch had ever had at an excursion, and included Sir John Gladstone, of Fasque; Sir John Fleming, of Dalmuinzie; Mr. Sydney J. Gammell, of Drumtochty; Mr. M. V. Hay, of Scaton; Mr. A. M. Ogston, of Ardoe, and many other landed proprietors, factors, and foresters for forty miles round. Apologies were received from Sir Thomas Burnett, Bart., of Leys; Sir John Macpherson-Grant, of Ballindalloch; Mr. Nicol, of Ballogie, and many other leading gentlemen and foresters.

When all were marshalled, each with his sprig of Scots pine denoting membership of the society, Mr. Irvine led the way to a very fine wood of Scots pine about 50 years of age. Here the skill and management brought to bear on the wood were much admired. From thence the party proceeded to a wood of similar trees, planted from 80 to 100 years ago. Here some grand old specimens were found, and the foresters held some animated conversations over what they saw. Younger woods, varying from 12 to 36 years old, were then inspected, when an adjournment was made to the Castle, where luncheon was served. Here Mr. Irvine welcomed his guests, and expressed the great pleasure it gave him to see such a large gathering.

Luncheon over, the foresters proceeded to inspect the gardens adjoining the Castle, where some magnificent trees were seen, including oak, Spanish chestnut, ash, and elm —all of large size. The most remarkable trees seen during this part of the tour were two holly trees, one on each side of the Castle entrance, which are supposed to be the largest in this or any other country.

The party then proceeded to visit the old Forest of Drum. William de Irvine, first of his line to hold the lands of Drum, received them as a reward for his services from Robert the Bruce in 1323, and during the 590 years which have passed since William entered into possession, the old forest of Drum has remained, practically speaking, in its primeval and virginal state. The privilege of inspecting this wonderful link with other days was greatly appreciated by the visitors. Extending to some 400 acres, many capital specimens were seen of gnarled oaks, old Scots pine, etc., all naturally grown. The visitors were delighted with their experiences in the fine old wood. The Castle was then visited, and the famous old tower—erected generations before the Irvines came into possession—proved an object of great interest.

A meeting of the branch was then held, Mr. Irvine presiding. Since their last meeting, the Chairman said, the branch had lost a very prominent and highly-respected member in the death of Mr. A. M. Gordon, of Newton, the first president of the branch, and who gave it its first send-off. He moved that they record in their transactions the deep sense of the loss sustained by the death of Mr. Gordon, and that an excerpt of the minutes be sent to Mrs. Gordon and family. This was unanimously agreed to. Mr. R. J. Nicol, younger, of Ballogie, was admitted a member of the branch. The Secretary intimated that, through the kindness of the Seafield trustees, the branch would make an excursion to the famous Cullen woods on August 9.

Mr. Gammell, of Drumtochty, proposed a vote of thanks to Mr. Irvine for the great kindness and hospitality he had shown them that day. Needless to say, the response was hearty in the extreme, and cheers were cordially given for the president and Mrs. Irvine. The party then wended their way to the station, all delighted with the experiences they had undergone.

Reading Gardeners' Association.

Fortune favoured the members of this society on Wednesday last, when, by kind permission of the Right Hon. the Earl and Countess of Carnarvon, the beautiful grounds and gardens at Highclere Castle, near Newbury, were visited.

A large muster of members assembled at the G.W.R. station and journeyed to Newbury by the 10.33 train. Newbury was reached at 11.15, outlying members having been picked up at intermediate stations. Brakes conveyed the visitors to Highclere by way of Wash Common, and an exceedingly pleasant drive was enjoyed. On reaching the outskirts of the park the party was met by the head gardener, Mr. Blake, and conducted by him round the lakes, the banks of which are clothed with a profusion of rhododendrons and azaleas in most varied colouring. A walk of a mile and a-half through lovely woodland drives brought the party to a large marquee erected on the outskirts of the park, where, by the kindness of the vice-president, an excellent luncheon was in readiness.

Here the party was joined by the President, the Vice-President, Mr. W. Pole Routh, and Mr. Arthur Sutton, who had motored over. The President proposed the loyal toast, which was heartily received, and a verse of the National Anthem was sung.

Mr. Arthur Sutton then proposed the health of the Earl and Countess of Carnarvon, requesting their representative, Mr. Blake, to convey to them the sincere thanks of the company for their kindness in permitting a visit to their lovely demesne. Mr. Blake having responded,

The Chairman proposed the health of the Vice-president, expressing the thanks of the party for his kind entertainment. This was received with applause. Mr. Leonard Sutton, in reply, expressed the pleasure it gave him to be with the members that day. In conclusion, he gave the toast of the President, thanking him for affording the members the pleasure of his company on yet another annual excursion.

Luncheon concluded, the party was driven to the gardens and then conducted by Mr. Blake through the glass houses and walled garden. A fine crop of melons in one of the houses was specially noticed. From the gardens the tour was continued past the noble mansion to the delightful lawns and pleasure grounds, where lovely beds of rhododendrons and azaleas, just at the zenith of their beauty, made a really dazzling colour effect, one bed of rhododendrons—Pink Pearl—being particularly charming. The magnificent cedars (for which Highclere is celebrated) and other giant trees also proved a great attraction to the visitors.

At 4.15 the party repaired to a large marquee on the lawn in front of the mansion, where, by the kindness of the Countess of Carnarvon, tea was served, and this kindly thought of her ladyship was very greatly appreciated. Reading was reached at 7.30 after a most enjoyable, instructive, and successful outing.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

MILDEW ON CUCUMBERS.—J. T. M., Leighton Buzzard: I shall be very glad if you will tell me the cause of and cure for mildew on cucumbers. I have mildew very badly in my plants; insecticides have been used, but with no effect.—The cucumber mildew is oftentimes very destructive, and it is a difficult matter to say just how the disease obtains a footing. Some error in cultivation lays the plant open to attack; a dry atmosphere followed by very moist conditions is an error often overlooked; cucumbers should always enjoy warmth and moisture in soil and atmosphere. A low temperature and superabundant atmospheric moisture is also very weakening, and predisposes a plant to various evils. Remove the leaves that are very badly attacked and burn them, and spray the plants with a weak Bordeaux mixture, every care being taken to moisten the under and upper surfaces of every leaf.

MALFORMED CALCEOLARIA BLOOMS.—J. T. M., Leighton Buzzard: Can you tell me the cause of malformation in the calceolaria blooms enclosed? Some have a scalded appearance, others fail to open or inflate properly, while others are perfect.—Lack of shading at an early hour during the recent spell of brilliant sunshine, and possibly also a lack of ventilation at night, are responsible for the scalding of some of the flowers, while the malformation appears to be due to feeding with strong liquid manures, the latter killing many of the root hairs, the supply of moisture needed by the foliage and flowers being thereby reduced very considerably.

WINTER GREEN STUFFS.—M. C., Hadleigh: I am an amateur with a rather large garden, and rather pride myself upon the supplies of vegetables I maintain. At present we lack rain, and the winter green stuffs of all kinds are ready to move, but as yet their permanent quarters are not available. Would pricking off be a satisfactory method at such a trying period?—We hope you have had a share of the rain that fell last week, and took advantage of it to transplant your Brussels sprouts, kales, etc., about six inches apart. In the absence of rain soak the seed beds with clear water, and draw drills three inches deep in positions where transplanting can be done. Thoroughly soak the drills with water, and, as soon as the soil is workable, lift the seedlings carefully and transplant them in the drills. Follow this with a good watering to settle the soil about the roots, and then draw the loose soil up to the plants so that the moisture given may not evaporate too quickly. We are strong believers in the transplanting of seedling green stuffs once or twice before they are put in their permanent quarters.

HEN AND CHICKEN DAISY.—J. H. D., Caerphilly: I enclose a daisy picked from a local garden. Could you kindly tell me what such a growth is called? It does not appear to me to be fasciation. Any comment or explanation will be greatly appreciated.—You are right in assuming that the peculiar formation of the daisy head is not due to fasciation. The descriptive term used to characterise the production of numerous small heads of bloom around the ordinary flower-head is proliferation; the popular title of such a quaint production is Hen and Chicken daisy.

ABOBRA VIRIDIFLORA.—C. O., Aylesbury: A tuberous-rooted plant labelled Abobra viridiflora has been given me, and I shall be glad if you will tell me how it should be managed.—Abobra viridiflora is a Cucurbit, and one that should be cultivated in the same manner as a dahlia, except that it is a climber, and should have an arch or an arbour to climb over. It loves sunshine, has elegant foliage, and, under certain circumstances, bears bright scarlet fruits. There are male and female plants, and it is necessary to plant these near each other to ensure the fertilisation of the female flowers, and the consequent formation of fruits. Find out later on whether yours is a male or female plant, and then endeavour to obtain the complementary plant for another season. Lift and store the tubers as for dahlias, and propagate from cuttings in the same way, or raise from seeds if these can be obtained. Abobra viridiflora is a South American plant.

ROSA HUGONIS.—S. J., Dorcester: I have an idea you figured Rosa Hugonis some time ago, and shall be very pleased if you will kindly give me the reference to the figure, and state whether this species is of garden value as distinct from botanical interest.—Rosa Hugonis was figured in our issue of March 28, 1909, p. 243. This free-flowering species was raised at Kew from seeds collected in Western China by Father Hugh Scallan, who sent them to the British Museum, from whence they came to Kew. In habit, spines, and flower structure, R. Hugonis shows its close affinity to R. spinosissima, a British species. The flowers are light yellow, two inches across, and produced in great profusion all over the bush during the month of June. From this you will gather that R. Hugonis is a good garden plant.

NAMES OF PLANTS.

D. B., Wellingborough.—1, probably a form of Odontoglossum Hyeanum; 2, O. Lambeauianum; 3, O. ardentissimum; 4, Oncidium bracteatum.

J. T. M., Leighton Buzzard.—1, A sedum, species not recognised, send when in flower; 2, Anthericum biliago; 3, Saxifraga sarmentosa—the popular Mother of Thousands.

F. H. D., Exmouth.—The specimen sent is a leaf of Tolmiea Menziesi, an interesting member of the Order Saxifrageæ. It is specially interesting because of the frequent development of a bud, and subsequent plantlet, at the point of junction between petiole and leaf-blade.

A SCHEME FOR HORTICULTURAL EDUCATION.

In presenting the following syllabus, suggested as suitable for a course of instruction in elementary horticulture, the Horticultural Education Association desire to point out the importance of giving attention to principles, for it is upon the proper application of these that success depends. Principles hold true for all places, whereas the common mode of teaching horticulture leads to a knowledge of methods applicable only to the localities in which it has been acquired. It is believed that the best results will follow when a thorough knowledge of principles has been instilled by practical work in the classroom, and a large measure of technical skill in horticultural practice acquired in the garden.

There is no need to go into the byeways of physical, chemical, or botanical studies, and an elementary course can include only those points that have a direct bearing upon horticultural practice. Every care must be exercised by those engaged in horticultural teaching to see that the practical bearing of the various scientific studies is emphasised, and that the principles involved in the technical exercises undertaken are apprehended by the pupils.

It is unlikely that any scheme for the technical instruction of young gardeners could be adopted in its entirety for every district and class; it would need adapting to local conditions, to the special requirements of the particular class of students, to the facilities which can be made for carrying out the scheme, and to the composition of the teaching staff, but it is believed that the scheme outlined herewith may be made the basis for a course in horticulture suitable for young horticulturists, and a valuable introduction to their craft.

The scheme is dealt with under the following heads: (1) Centres; (2) Length of Courses; (3) Syllabus (A, principles; B, operations).

(1) CENTRES.—It is desirable that special horticultural courses should be provided in each county or group of counties, as is the case with agricultural courses in Farm Institutes. The Farm Institute is suggested as a possible centre, but it is regarded as essential that a special garden of not less than five acres, with fruit, vegetables, and flowers, should be established.

(2) LENGTH OF COURSES.—Short courses of, say, three months, either continuous, or from six to thirteen weeks, divided into two or more periods, should be provided first; and the most promising students should be awarded scholarships providing for longer periods of instruction in approved institutions.

(3) SYLLABUS:—

A.—Principles.

(1) Life histories of typical plants. (2) Study of organs concerned in nutrition; (a) functions of roots, absorption of water and earth salts; (b) functions of stems, movement of sap, etc.; (c) functions of leaves, photosynthesis and transpiration. (3) Influence of external conditions on plant form; various growth forms assumed by plants under varying conditions; and the natural distribution of plants. (4) Various processes of nutrition under special conditions (e.g., parasitic, symbiotic, carnivorous and saprophytic plants).

(5) Study of flowers, and processes leading to seed production. (6) Study of typical fruits, and methods of seed distribution. (7) Study of structure of seeds; germination, respiration, seed testing. (8) Vegetative methods of propagation. (9) Storage of food and uses of storage organs in propagation, etc. (10) Study of buds of trees, etc., arrangement and development. (11) Special physiology of pruning. (12) Physiology of grafting and budding. (13) Elementary classification of plants. (14) Methods of obtaining and fixing new varieties; Mendel's theory.

(15) Study of typical soils, their origin and formation. (16) Water and air in soils. (17) The life in the soil, formation of nitrates. (18) Principles of manuring. (19) Symptoms and treatment of diseases, including the study of insects and fungi.

B.—Operations.

(1) Garden planning. (2) Tillage operations—draining, digging, trenching, hoeing, etc. (3) Manuring—time and methods of application, farmyard manures, chemical manures. (4) Sowing operations—preparation of seed beds and seed sowing. (5) Vegetable culture — arrangement and cropping of kitchen garden, forcing of common crops, rotation of crops. (6) Fruit culture—hardy fruits, planting, pruning, spraying, budding and grafting; fruits under glass. (7) Cultivation of flowering and foliage plants—uses in gardens, propagation, planting.

(8) Grading, packing, storing, and marketing garden produce. (9) Cultivation of ornamental shrubs and trees—their uses, propagation, pruning, etc. (10) Plant structures—management, furnishing, heating, watering, ventilation, etc. (11) Propagation of plants by various methods. (12) Hybridisation—pollination, selection.

WALTER P. WRIGHT,
Hon. Secretary,
Horticultural Education Association.

NEW BOOKS.

CLAY'S SUCCESSFUL GARDENING.

By Professional, Amateur, and Market Growers. (Clay and Son, Stratford, E.; and Simpkin, Marshall, Hamilton, Kent, and Co., London, E.C.) Price 1s. net.

The inclusion of "successful" in the three words which form the title of this excellent handbook of practical horticulture is singularly appropriate. Not only have the large body of contributors to its pages set forth with remarkable clearness and great ability the course of procedure by which the highest degree of success can be achieved in the cultivation of the several classes of plants, flowers, fruits, and vegetables that have a place in the garden, but the book itself is one of the greatest successes in gardening literature of recent times. The edition now before us is the fifth, and the several issues have followed each other in such rapid succession that it comes somewhat of a surprise to find how short, comparatively speaking, has been the period since the first edition made its appearance on our table.

Although it may not be easy to bring about such splendid results as those obtained by Messrs. Clay and Sons in publishing their handbook, it is not difficult to understand in some degree how it is that they have succeeded so well. At the inception they were careful to include in the contents matters of the greatest importance in the economy of the garden, and having prepared the list of contents, they proceeded to obtain the co-operation of writers of the highest eminence in the several branches of practical horticulture. Hence it was that the matters dealt with appealed to all who were more or less interested in gardening, and a brisk demand quickly followed the issue from the press. In the preparation of the subsequent editions additional subjects were introduced, and the aid of other writers, also of eminence, obtained, and the previous chapters thoroughly revised by their respective authors. Consequently each edition was for all practical purposes new and thoroughly up-to-date, and therefore possessed the freshness characteristic of a quite new book.

The list of writers is somewhat formidable, and probably to no other single volume on gardening have so many horticulturists of the first class contributed. In a careful survey of the 331 pages we find Mr. George Gordon, V.M.H., dealing with the "Garden under Glass"; Mr. T. W. Sanders, F.L.S., writing on "The Gay Garden"; Mr. J. Harrison Dick on "Small Suburban Gardens"; Mr. F. W. Harvey on "Hardy Herbaceous Plants"; Mr. W. A. Cook on "Beautiful Evergreen Shrubs"; and Mr. H. Hemsley on "Rock Gardens." The writers on special classes of flowers include Mr. H. Cowley, Mr. E. H. Jenkins, Mr. Horace J. Wright, Mr. H. A. Smith, Mr. T. Stevenson, and Mr. E. F. Hawes. The principal writers on fruits and vegetables are Mr. J. Hudson, V.M.H., Mr. E. Beckett, V.M.H., and Mr. W. Iggulden. Mr. J. Wright deals with the exhibition of garden produce, Mr. C. H. Curtis with garden pests, and Mr. J. Frazer, F.L.S., with market culture.

The book contains numerous illustrations, including several examples of colour printing, and is a marvellous shilling's worth.

A POPULAR DICTIONARY OF BOTANICAL NAMES AND TERMS.

By George F. Zimmer, F.R.H.S. (George Routledge and Sons, London.) Price 2s. 6d.

This dictionary is primarily intended for the use of lovers and students of plant life in garden, field, and woodland, and, as a considerable proportion of botanical names and terms are somewhat perplexing to those who have not soae acquaintance with Latin, it should prove useful both to those engaged in the study of botany and the cultivation of plants. One of the greatest difficulties the student of botany experiences in connection with his studies has arisen from the multitudinous terms associated with botanical science, a fact that was recognised by Professor Earle many years since. "Why," he asked, "should we allow a pile of heterogeneous names stand as a barrier between our people and the fairest gate of knowledge?" He then proceeded to state that, "These strange names are all but barren of interest in themselves; what interest they possess springs wholly out of the objects they represent."

In this dictionary an endeavour has been made to render these "strange words" more interesting by giving their equivalents in the English language; and so successful has Mr. Zimmer been, that with its aid those who are interested in plants, whether cultivated or wild, will be able to readily obtain the English equivalents of the botanical terms they may meet with. The book is one that should be included in all garden libraries, and have constant reference made to it.

BEGINNER'S GUIDE TO FRUIT GROWING.

By F. A. Waugh. (Kegan, Trench, Trubner, and Co., London.)

This book has been written for the guidance of those who have had but little experience in the cultivation of the various fruits grown in American gardens and orchards. Professor Waugh is one of the leading authorities on fruits and fruit culture in America, and, as the book is remarkable for clearness of statement and is freely illustrated, it should prove most useful to those who are commencing the cultivation of fruits in Canada and the United States of America.

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OBITUARY.

MR. ALFRED AUSTIN.

It is with regret we have to record the death, on Monday, June 2, of Mr. Alfred Austin, the Poet Laureate. Mr. Austin had just passed his 78th birthday, and he died at his home, Swinford Old Manor, near Ashford, in Kent. It is not for us to deal with Mr. Austin's career as a lawyer, journalist, special correspondent, and poet, but for his wide knowledge of country and garden life, his love of horticulture, and his charming book entitled "The Garden that I Love," his memory will long be kept green by all garden lovers. This book was the most widely known, and also the most popular of the late Poet Laureate's works, and in it he discourses in a most delightful manner upon things concerning his own garden at Swinford, the garden he made, in which he lived for the greater part of 45 years, and where he passed away. Mr. Austin was intensely patriotic, and a frequent and able lecturer upon national subjects and upon country and garden life.

MARKETS.

COVENT GARDEN.

Flowers.

Tulips are over, and only a few double white narcissi remain to remind us of spring. The recent bright weather has been rather hard on flowers, such as roses, which are plentiful. Carnations and lily of the valley are in good demand, and so are irises and sweet peas.

		s. d.		s. d.
Anemones	per doz. bun.	1 0	to	2 0
Arums	per doz.	2 0		4 0
Adiantum cuneatum	per doz. bun.	3 0		4 0
Asparagus plumosus	per doz. bun.	8 0		16 0
,, Sprengeri	per doz. bun.	8 0		12 0
Carnations	per doz.	1 6		2 6
,,	per doz. bun.	10 0		15 0
,, Malmaison	per doz.	4 0		6 0
Cattleyas	per doz.	9 0		12 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz.	2 0		3 0
Eucharis	per doz.	2 0		4 0
French fern	per doz. bun.	2 6		4 0
Gardenias	per doz.	1 0		2 0
Iris, Spanish	per doz. bun.	9 0		12 0
Lilac	per bun.	1 0		2 0
Lilium auratum	per bun.	2 0		4 0
,, speciosum	per doz.	1 6		2 6
,, longiflorum	per bun.	1 6		2 0
Lily of the Valley	per doz. bun.	6 0		15 0
Margnerites	per doz. bun.	1 0		2 0
Narcissi, double white	per doz. bun.	2 0		3 0
Odontoglossums	per doz. blms.	2 0		4 0
Paeonies	per doz. bun.	4 0		6 0
Pelargoniums	per doz. bun.	4 0		8 0
Roses	per doz.	1 6		4 6
Smilax	per doz. trails	2 0		3 0
Spiræa	per doz. bun.	2 6		6 0
Sweet Peas	per doz. bun.	3 0		8 0

Fruits.

American, Canadian, and Cape fruits are now over, but fine supplies come from Australia and Tasmania. French cherries, home-grown peaches, nectarines, and strawberries meet a ready sale, and are plentiful and good.

		s. d.		s. d.
Apples, Australian	per box	10 0	to	15 0
,, Tasmanian	per box	10 0		15 0
Apricots	per box	1 0		3 0
Bananas, Canary	per bun.	7 0		12 0
,, Jamaica	per bun.	3 0		5 6
Cobnuts	per doz. lbs.	4 6		6 0
Cocoanuts	per 100	18 0		23 0
Cranberries	per case	8 0		9 6
Dates	per doz. boxes	2 9		3 6
Gooseberries	per peck	4 0		5 0
Grape Fruits	per case	12 0		22 0
Grapes, English (new)	per lb.	2 6		8 0
,, Australian	per case	25 0		30 0
,, Cape	per box	10 0		12 0
Lemons	per case	9 0		22 0
Mangoes	per doz.	6 0		8 0
Melons	each	1 0		2 0
Nectarines	per doz.	6 0		24 0
Oranges	per case	12 0		32 0
,, Jaffa	per case	7 0		9 0
Peaches	per doz.	6 0		24 0
Pears, Cape	per box	4 0		8 0
,, Tasmanian	per case	10 0		12 0
Pineapples	each	2 6		4 0

LONDON POTATO MARKETS.

Business is good, and with fair supplies for the season.

		s. d.		s. d.
Kents	per ton	90 0	to	95 0
Lincoln	per ton	80 0		90 0
Scotch	per ton	80 0		95 0
Dunbars	per ton	120 0		125 0
Canaries, New	per cwt.	13 0		14 6
Jersey, New	per cwt.	15 0		16 0
St. Malo, New	per cwt.	14 0		14 6

METEOROLOGICAL OBSERVATIONS

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. MAY 25 TO MAY 31.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 25—Sunday	13 54	67	62	78	48
,, 26—Monday	13 18	74	65	80	49
,, 27—Tuesday	10 42	71	65	79	51
,, 28—Wednesday	11 12	69	61	77	50
,, 29—Thursday	2 48	69	62	77	54
,, 30—Friday	12 33	69	66	75	57
,, 31—Saturday	7 24	55	51	61	49
	(total)				
Means	71 54	68	62	75	51

DATE. 1913. MAY 25 TO MAY 31.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
May 25—Sunday	--	59	55	52	35
,, 26—Monday	—	61	56	52	38
,, 27—Tuesday	—	62	57	53	39
,, 28—Wednesday	—	62	58	54	36
,, 29—Thursday	0·61	62	58	54	46
,, 30—Friday	—	62	58	54	45
,, 31—Saturday	—	62	59	55	38
	(total)				
Means	0·61	61	57	53	39

Thunderstorm, Thursday night, May 29.

CATALOGUES RECEIVED.

JAMES STREDWICK AND SONS, SILVERHILL PARK, ST. LEONARDS.—Eight large illustrations of new dahlias adorn the pages of this new catalogue. The first twenty-three varieties described were raised by the firm, and include cactus, garden cactus, pompon cactus, and collarette kinds.

J. CHEAL AND SONS, LIM., CRAWLEY.—A concise, admirably descriptive, and illustrated catalogue of dahlias, bedding plants, chrysanthemums, and other subjects for present planting.

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, June 9.—United Horticultural Benefit and Provident Society.

Epsom Horticultural Society, Rose Show, June 30, at Woodcote Grove; Summer Show, August 4, at Epsom College.
Wolverhampton Floral Fete, July 8, 9, and 10, at West Park.
Ealing Horticultural Society, July 9.
Weybridge Horticultural Society, July 10, at Barham Lodge, Oatlands Drive.
Edgware Horticultural Society, July 12.
Dulwich Summer Show, July 17, at St. Barnabas Parish Hall; Chrysanthemum Show, November 12 and 13, at the Baths, Goose Green.
Ulverston Rose and Sweet Pea Show, July 18.
Birmingham Horticultural Society, July 18 and 19, in Handsworth Park.
Haywards Heath Flower Show, July 23, in Victoria Park; the twenty-fifth exhibition.
Tunbridge Wells Flower Show, July 23 and 24.
St. Quintin Horticultural Society, July 24, in the Gun Club grounds Wood Lane, W.
City of London Rose Show, July 26, at Cannon Street Hotel.
Worth Horticultural Society, July 30.

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No. 6 (1¼ x 20), 14/6
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13 BRONZE & SILVER MEDALS & AWARDS.

VOL. LVI.—No. 3,111. SATURDAY, JUNE 14, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Position of Horticulture.

It is still the boast of agriculturists that they represent the most important industry in the kingdom; and, though we do not wish to dispute the point, we would put forth a plea for that cult which we and our readers are pleased to call our own. It may be well to remember that time was when agriculture predominated to the extent of monopoly, for horticulture as a commercial industry could hardly be said to exist, except in the neighbourhood of London and other large centres of population, where a few market gardens provided the supply of fruit and vegetables for the people who had no facilities for growing their own. But a change has taken place, and, while very few new farms have been created, and the methods of farming have changed without any marked progress being made, horticulture has advanced by leaps and bounds, and every year more capital and more land are devoted to it. No longer are Britain's vegetables, fruits, and flowers grown on the fringes of her big towns; for the horticulturist, assisted by cheaper and quicker transit, has pushed his way further and further into the country, and has changed the face of Nature. By way of illustrating our point, let us state a few cases. The other day we travelled through a large tract of country on the borders of Worcestershire and Gloucestershire, where every ridged and furrowed field indicated that it once grew corn. Then that order changed, for many of the fields were laid down to grass, and as many more laid themselves down, and eventually became pasture. Now a further change has taken place, and on acre after acre of this land there waves in the summer and autumn, not ripening corn, but the graceful foliage of the edible asparagus. So the gardener is supplanting the farmer, and big things have grown from small beginnings, for most of the asparagus growers were of the labouring class to begin with, and, starting in a small way on their allotments and gardens, they gradually expanded, and took in more and more of the land that once produced corn. What is very much to the point is that these growers can afford to pay more for the land than the farmer could; and a small holder who has just taken five acres of arable land to put down to "grass" pays £4 an acre, whereas no farmer who had ever held it paid half that sum. And how has the change affected this district? Apparently for the better, for building is going on, which is a good sign; and there is none of that air of stagnation so characteristic of localities devoted purely to agriculture. In fact, wherever the fruit grower or market gardener steps in, there is more money, more employment, more activity, and more independence. In the Evesham Vale, where gardening has taken the place of farming, where more is paid for the land than ever before in its history, and where more is got out of it by intensive culture, an air of thriving prosperity prevails which was unknown before the old order changed, and the spade took the place of the plough. The same kind of thing may be noticed in other places. Think of the strawberry fields in Hampshire, in the Cheddar Vale in Somerset, in Kent, and other parts that are naturally suitable for this fruit. What do we find? Even farmers are changing with the times, putting down their land to the fruit that has paid their neighbours, and, in short, are giving up, to some extent, the industry of their forebears, and becoming horticulturists. More and more of this kind of thing is being done, and in many districts farmers are cultivating vegetables because they pay; and the only man who complains is the bona-fide market gardener near to the town, who has to pay a higher rent and heavier taxes. In stating these facts, we do not wish to infer that agriculture is a dying industry, and horticulture is taking its place, but what we do contend is that Great Britain is becoming less an agricultural country and more a horticultural one. It is not unlikely that the old order will change even more with the creation of small holdings; for, whereas it is obvious that the occupier of a few acres cannot make a living by working on the lines of the farmer, he has a chance by adopting the more intensive methods of the gardener. It would be interesting to know how many acres of land that was once agricultural are now covered with glass, but the figures must be very considerable; and it would be still more interesting to discover how much more labour is employed on such land than was the case when it was in the occupation of the farmer. It would almost appear as though the farmer must go out when the gardener comes in. In view of these changes, how does commercial horticulture stand with the State? It is true we have now a horticultural branch of the Board of Agriculture, but what the new branch will do for the industry remains to be seen. Up to now, however, there has been a tendency in high places to treat horticulture as subservient to the sister craft, and for no other reason but that it has always been the case. While there are members in the House of Commons who make it their special mission to watch the interests of agriculture, can the same be said of the industry we represent? We think not; and in this respect, as well as in others, there should be a change in the order of things, for the more horticulture advances the more necessary does it become that the industry should be directly represented in Parliament.

REV. A. BRIDGE.

Rev. A. Bridge.—Among the many clergymen who take a keen interest in horticulture, and make a special hobby of some particular flower, the Rev. A. Bridge, of Worth Rectory, Three Bridges, Sussex, must be given a prominent place. Although most flowers that can be grown out of doors either all or part of the year receive his attention, it is the dahlia that appeals to him most effectively, for it has captured his affection so surely that there is no more loyal devotee of this flower than he is. Not only does he grow dahlias largely and well, but he is a keen exhibitor, who

finds pleasure in the mild excitement of a close competition at the Crystal Palace or elsewhere. The Rev. A. Bridge is a vice-president of the National Dahlia Society, and at present the only clergyman to be found among the officers of that body. Remembering how well the clergy have supported and interested themselves in the cult of the rose, it is to be hoped that the Rev. A. Bridge will not long be left in such "splendid isolation," either as a grower and exhibitor of dahlias, or as an officer of the National Dahlia Society, for he has set an excellent example to his brethren, and the cult of the dahlia is extending every day.

A Plea for Florists' Tulips.—Under date of June 1, Mr. James Bentley, of Stakehill House, Castleton, Manchester, wrote: "To-day is Tulip Sunday. There have been tulips on the dining-table at Stakehill, as there have been for the last fifty years or more, but there was nobody to look at them who understood them except myself. I look at the flowers and think of past days, when Dr. Hardy, the Rev. F. D. Horner, Samuel Barlow, Samuel Cooper, James Thurston, E. S. Dodwell, Shirley Hibberd, James Douglas, Thomas Moore, John Wood, Henry Travis, Daniel Woolley, William Kitchen, William Bentley, William Lea, Luke Ashmole, David Jackson, and scores of other men who were working on the flower, used to visit Stakehill at tulip time. These men are all dead, and to-day nobody came. Yesterday, May 31, we held the Northern Show at Middleton, and, although the price of admission was only threepence, ten people paid to see it! Poor tulip! When one thinks that for hundreds of years men have spent their lives improving the flower, bringing it to the present state of perfection (and a more magnificent flower does not grow than an English florists' tulip), and one realises that there are not thirty men in the whole world who understand its qualities, one begins to despair. Fifty or sixty years ago they were grown all over the country, and shown at more than a hundred places; now they are only grown in very few, and only shown in three places. Is our flower doomed to go out, like the English ranunculus, or will some miracle at the eleventh hour save us?"

Evolution of Plants.—The Rev. Professor G. Henslow, M.A., V.M.H., will lecture before the Royal Horticultural Society at 3 p.m. on June 17, and his subject will be "The Evolution of Plants and the Directivity of Life, as shown by Vegetative Structures."

Gardeners' Royal Benevolent Institution.—On behalf of this excellent charity the following invitation for the annual festival dinner, to be held at the Hotel Metropole on Wednesday, June 25, has been issued to the leading horticulturists of the United Kingdom by Leopold de Rothschild, Esq., who is to preside on that occasion: "Dear Sir,—I am to have the pleasure of presiding at the anniversary festival dinner in aid of the funds of the Gardeners' Royal Benevolent Institution, at the Hotel Metropole, London, on June 25, and venture to ask for the kind assistance of all lovers of flowers and gardening. Since its formation, seventy-five years ago, this national horticultural fund has distributed more than £140,000 amongst necessitous horticulturists and their widows, and is now affording permanent aid to 258 persons, at an annual cost of over £4,500. Besides, temporary assistance is given from separate funds in well-authenticated cases of urgent distress. For paying the permanent allowances there is only £950 of assured income, and consequently £3,500 has to be made up yearly. Therefore I shall feel greatly favoured if you will give me the pleasure of your company on June 25, and your generous aid towards the carrying on of this good work.—I remain, dear Sir, yours very truly, LEOPOLD DE ROTHSCHILD."

Mr. J. C. Vaughan, founder of the first American trade paper, "The American Florist," is visiting Europe this season, and expects to reach Liverpool by the ss. Victorian on June 13. It is twenty-one years since Mr. Vaughan last came over. He is a seedsman and nurseryman of high repute, with businesses in Chicago and New York. He is chairman of the National Council of Horticulture, and was closely identified with the horticultural features of the St. Louis exhibitions. Many British horticulturists will welcome this opportunity of making Mr. Vaughan's acquaintance.

Movable Glass Structures.—Following the house dinner of the Horticultural Club, to be held at the Hotel Windsor on Tuesday, June 17, at 6.30 p.m., Mr. Arthur Pullen Burry will deliver a lecture entitled "The Efficient Movement of Large Glass Structures and its Economic Value as Applied to Intensive Culture." The lecture will be illustrated with lantern slides. The date of the Horticultural Club's summer outing has been fixed for July 16.

Old English Garden at Battersea Park.—An Old English garden that has been in course of construction for some time at Battersea Park is now completed and open to the public. There is an Old English garden in each of four other parks under the control of the London County Council—viz., at Brockwell Park, Golder's Hill, Peckham Rye Park, and Ravenscourt Park.

Chelsea Show Awards.—The Rev. W. Wilks writes us that the following amendments were made by the Council of the Royal Horticultural Society in their lists of awards given at the Chelsea Show: Silver-gilt cup, in lieu of silver cup, to Sir Jeremiah Colman, for orchids; a silver Banksian medal, in lieu of a bronze Banksian medal, to Messrs. Cooper, Pegler, and Co., for spraying apparatus. The Council also gave a Highly Commended award to Messrs. Barford and Perkins' motor-roller, at their meeting on June 3, under the trial of horticultural sundries.

The Use of High Explosives in Tillage.—On the 3rd inst. a party of agriculturists, horticulturists, and foresters visited the nurseries of Messrs. Dicksons and Co., Craigmillar, Edinburgh, in order to witness some experiments with high explosives in breaking up hard subsoils. The substances used were gelignite and polarite. In the first experiment polarite cartridges were inserted at a depth of 2½ft., and 5ft. apart; and in the second, ordinary gelignite charges were inserted at a depth of 3¼ft., and 6ft. apart; and all were fired by means of safety fuses. So far as the operation of blasting went, everything passed off successfully; but it was soon apparent that tough clay, of which the subsoil in this case consisted, was not easily shattered by this means, and that to do it effectively the charges would require to be placed much more closely than at 5ft. intervals, which, however, would make the cost prohibitive. At the close of the operations, Mr. Massie, of Messrs. Dicksons and Co., expressed the hope that the experiments had proved both interesting and instructive, but he could scarcely agree with those who claimed that the application of explosives to tillage had gone beyond the experimental stage. The operations were carried out by Messrs. Nobel, and were under the personal direction of Mr. Stewart.

National Chrysanthemum Society's Outing.—The annual outing of this society will take place on Monday, July 21, when, by kind permission of Mr. Frank Crisp, a visit will be paid to Friar Park, Henley-on-Thames. The party will start from Paddington at 8.50 a.m., leave Reading, walk from thence to Caversham, where a steam launch will be waiting to take the members and friends to Henley. The return journey will commence at 5 p.m., and the charge for the outing, including fares, luncheons, and tea, is 10s. 6d. Tickets may be obtained from the secretary, Mr. R. A. Witty, 72, Savernake Road, Gospel Oak, N.W.

City of London Rose Society.—The date of this society's exhibition is June 26, and not July 26, as previously stated in our columns.

Fitzgerald Park, one of the most beautiful of the open spaces belonging to the Corporation of Cork, has undergone considerable alterations of late, and now that the deciduous trees and shrubs are in full leaf, the improvements that have been made can be readily appreciated. The vistas afford many delightful views, and the charming lakes, studded with islets and furnished with water lilies and other moisture-loving plants, which have superseded the fish-ponds, form a feature of much interest and highly attractive.

Prizes for Orchids at Manchester.—In connection with the Manchester and North of England Orchid Society an interesting series of competitions has been arranged for the ensuing season. We are glad to notice that the skill of the grower is to be adequately recognised, and five special prizes will be awarded for general excellence, for cypripediums, for odontoglossums, and for cattleyas, and these are being provided by Messrs. R. Ashworth, J. J. Bolton, E. H. Davidson, and J. Evans, and Messrs. Charlesworth and Co. Prizes for groups and arrangement are offered by Messrs. Sander and Sons and Messrs. J. Cypher and Sons, and the Botanic Society of Manchester is adding one of its medals. Full particulars of these competitions may be obtained from the Secretary, Mr. E. Arthur, Pine Villas, Mollington Road, Blackburn.

Regent's Park Enclosures.—Protests have recently been raised in several quarters against the enclosure of certain parts of Regent's Park, and particularly against the lease of certain parts of the land to private persons in earlier years. Following on these protests a public demonstration was held in Regent's Park a few days ago, at which the chief speakers were Dr. Fletcher Little and Mr. V. H. Rutherford, the latter asserting that the park would be one-third larger than it is at present if the buildings around it were removed. The following resolution was carried unanimously: "That in the opinion of this meeting all open spaces to which the public have access should be kept open or restored, both on the grounds of public policy and from the necessities of national health and recreation. That this meeting further declares that it is in violation of a pledge given by a former First Commissioner of Works (Mr. Hanbury) that any building should be allowed to be erected in Regent's Park without

Parliamentary sanction, and urges that a Parliamentary Committee of public inquiry should report on the powers, advised by the Government, as to the disposal of these areas of Regent's Park, and that an address should be presented to the Prime Minister, and that he be asked to receive a deputation."

Summer Bedding in Paris.—Paris is notable among cities for its boulevards, its fine trees, its beautiful parks, and open spaces, and for the brightness of the summer displays in many of the latter. In the gardens of the Tuileries special attention is paid to summer bedding, and our readers who may be including Paris in their holiday trip to the Continent should not omit to visit these famous gardens. Tender plants are very largely used, and the accompanying illustration will serve to indicate the bold manner in which variegated and green-leaved pelargoniums, coleuses, brilliant cannas, heliotropes, etc., are grouped in the very large beds and borders, with standard pelargoniums, heliotropes, etc., rising above the rest, and forming by no means the least pleasing feature of a splendid arrangement of summer flowers.

Window Gardens. — For many years we have advocated a wider cultivation of plants in window boxes, especially in towns, because window gardens add so greatly to the beauty of a street and town, and also because of the refining influence plants and flowers exert upon those who cultivate and love them. We think of Chicago as a town where everything is subservient to moneymaking, therefore it is good to read from a booklet just issued by the Chicago Association of Commerce that: "The use of flower boxes has a favourable effect upon one's trade and one's employees. Progressive manufacturers in Chicago and elsewhere have found that more and better work can be secured from employees when the windows of the working rooms are filled with growing plants. What is true of manufacturers is true of all other lines of business. Those who have tried the plan find that they cannot afford to be without the growing plants. Flower boxes exert an influence both from the inside and from the outside. In other cities tenants in offices too high to be seen from the streets have maintained flower boxes for the influence they seem to have upon their employees and their clients. In a mechanical age, when surrounded on every side by things artificial, the use of growing plants is the one touch of Nature that brings us back to real things."

Horticultural Exhibition at Berne in 1914.—Switzerland is to have a great national exhibition, at Berne, in 1914, from May 15 to October 15. Horticulture is to receive considerable attention, and will form a section under the care of Mr. A. Schenk, curator of the Botanic Garden, Berne. There will be a permanent horticultural exhibition, consisting of ornamental trees and shrubs, fruit trees, hardy plants, plans, books, tools, etc., and special displays will be arranged for each month. Market gardening, floral art, plans and models, and horticultural and botanical literature are classes for which special provision has been made, and many prizes are offered. The Swiss, German Swiss, and French Swiss horticultural societies are combining to make the exhibition a success, and Mr. J. Warren, Altenbergrain, Berne, is the general secretary, from whom full particulars can be obtained.

St. Peter's Square, Hammersmith.—The London County Council have adopted the proposal of the Parks and Open Spaces Committee that £4,000 be contributed towards the acquisition of St. Peter's Square, Hammersmith, as an open space for the use of the public. It appears, however, that the L.C.C. holds £4,000 in trust for Hammersmith from the sale of a portion of Ravenscourt Park, and the Hammersmith authorities consider this £4,000 is not a contribution, consequently a deadlock seems possible. St. Peter's Square is a little over one and three-quarter acres in extent, and it is understood that all interests in the property can be acquired for about £7,500. If the Hammersmith Borough Council and the L.C.C. cannot agree in this matter, the opportunity of providing another much-needed open space for London will speedily disappear.

To Combat Cucumber Diseases the Essex Education Committee have decided to make a substantial annual grant for the equipment and maintenance of a scientific experimental station, where fungoid, insect, and bacterial troubles will be investigated. In the Lee Valley, where cucumbers are so largely grown, this decision has met with warm approval, because soil sickness, eelworm, and other troubles are pressing hard upon many growers. Soil sterilisation will probably be one of the subjects to receive early attention.

Paper Pulp from Bamboos.—A vastly interesting report upon experiments made in Lower Burmah and the West Coast of the Indian Peninsular, for the purpose of proving the quality and cost of paper pulp for bamboos, has been issued as a part of the Indian Forest Records by Mr. R. S. Pearson, I.F.S. Four species of bamboos were considered, i.e., Bambusa arundinacea, B. polymorpha, Cephalostachyan per-gracile and Melocanna bambusoides. The most useful species appears to be Bambusa polymorpha, and the report itself is printed upon paper made from the pulp of this plant. Those interested in the paper pulp industry should secure this report.

VIEW IN THE GARDEN OF THE TUILERIES, PARIS.

DAHLIAS IN THE FLOWER GARDEN.

It is surely a healthy sign of the times that we now find practically all the dahlia specialists including in their catalogues the various types of dahlias recommended specially for use in the garden. Hitherto, many firms have confined themselves almost exclusively to the show, fancy, and cactus sections, and principally to those varieties possessing strong claims for exhibition purposes. Judging this from the commercial point of view, i.e., that there can be no supply without the demand, we may take it that the public are awaking to the value of dahlias for garden decoration.

Herbaceous Borders.

Firstly, it may be taken for granted that there is no garden of reasonable dimensions which does not possess a herbaceous border or borders. Strictly defined, such borders would have no claims to consideration in this article, but it is the exception rather than the rule to find them devoted entirely to the plants to which they are dedicated.

Few people have any desire to wholly confine the borders to hardy plants, but rather prefer the introduction of other suitable subjects for keeping up a display.

Rich as we are in herbaceous plants, to my mind many of the newer types of dahlias supply a long-felt want. Take, for instance, a very large border, with a bold arrangement. Good suitable plants, from 5ft. to 8ft. high, are none too plentiful for the background. There may be plenty of yellow in the helianthus, rudbeckias, etc., but where do we get the pinks, crimsons, whites, and the delicate shades of apricot and salmon which we find in the pæony-flowered dahlia? I do not advise the striped varieties for the borders, preferring to keep to selfs and delicate shades. Judiciously planted with regard to numbers, colour and height, they will give just that character which many borders often lack.

Few borders will need more than three plants in a group, and in most instances, one or two will be sufficient, for it must not be forgotten that it is easy to overdo it with these bold subjects and unbalance the whole.

A few good varieties which grow to 5ft. and upwards are Lady Norman and Mrs. A. Mackellar, terra-cotta; Baronne de Grancy and Mrs. T. A. Weston, white; Holman Hunt, crimson; Liberty, scarlet; King Leopold, lemon-yellow; and Queen Emma, pink. If these are considered too large for borders of average width, a few lovely varieties of about 4ft. in height are: Mrs. Kerr, pale pink; Turner and Mrs. Copeland, pink; Connie Humphreys, white, with pale yellow centre; Peru, crimson; Warrior, ox-blood red; and Colonel Cody, terra-cotta. These could also be planted in very bold borders if required, bringing them more to the front.

In the section classed as "decorative," there is a host of good things, but, on the whole, they are not so graceful as the pæony type, but if space can be found the lovely Delice and Loveliness, pinks; Princess Juliana, the purest of white, which holds its flowers perfectly erect on 18in. to 2ft. stems; Grand Duke Alexis, white, with a faint tinge of lilac, and each floret curiously rolled; and Brentwood Yellow should be planted; they grow from 2½ft. to 4ft. high.

Two varieties which should be grown in the large or the small garden are Glare of the Garden and Orange Glare of the Garden. Their habit is ideal, and when at their best nothing could be more graceful than the way the flowers are disposed, strongly reminding one of a perfectly arranged vase of cut flowers. The flowers are medium to small and the plants grow 2½ft. tall.

Though I consider the pæony dahlias best for borders of good size, I have also a strong liking for the collarettes, but do not advocate their being mixed in the same borders as the first-named. For the amateur and the small garden they are not surpassed, for being less bold they are more in keeping with the surroundings, and take less room. They range in height from 2½ft. to 4ft. The varieties are now numerous; a few of the best are: Holyrood, Maurice Revoire, Souv. de Bernardeau, Souv. de Chabanne, Antwerpia, Albert Maumene, Queen Mary, Queen Bess, and Grandpapa Charmet.

For planting in the very front of a border of any size the dwarf bedding cactus dahlias can be highly recommended, and a few masses of about six plants each will give delightful patches of colour. They can either be planted in groups of one variety, or they can be blended into three groups as follows: Shades of yellow, Perkeo, Citronenvogel, Goldperle, and Zwergsonne, pink and white—Amanda and Edelweiss; shades of red and orange—Quelle, John Mortensen, Faunkonig, and Gluchant.

Beds and Borders.

Few will perhaps be able to devote a garden entirely to dahlias, but, if space can be found for beds, groups, or borders, this will be the best way of showing their true beauty. This method leaves us at liberty to use any of the types. Bold beds of pæony-flowered or decorative varieties, holding from twenty to thirty plants, will create a dazzling mass of colour, but the smaller grower need not be alarmed if unable to find this space. Let him try a mass of, say, a dozen plants of medium growth. I predict that he will not be disappointed with the result. If a circular bed, it may be filled with King Leopold (a tall yellow for centre), grouped around with Turner, Mrs. Kerr, Colonel Cody, and Connie Humphreys; this would give a display of delicate colours. A bed of dark hues, relieved if necessary with yellow or white, may be composed of Holman Hunt (centre), Peru, Warrior, Lullingstone, Countess of Lonsdale, with Cæsar and Baronne de Grancy, yellow and white. Endless examples and selections might be made, but these must suffice.

Really beautiful beds or borders may be made with the collarette dahlias, and here, if one keeps the bluish and purple shades as found in Mme. Poirier, Dr. Gerard, Vilmorin, Andreaux, and a few others, apart from the rest, no serious colour clashings will ensue.

A type of recent introduction, known as the Stars, as well as many of the singles, make very pretty beds, as do the charming little Pompons.

The dwarf bedding cactus dahlias may be utilised in a quite formal bedding scheme, and will be found a great acquisition for this purpose. Their habit can be relied upon, as the plants rarely exceed 20in. in height, and every flower stands most gracefully above the foliage. They should be planted 2ft. apart. Little Othello, a dwarf single, with scarlet flowers, and very dark foliage, if carpeted with a grey plant such as Leucophyton Browni, would at once arrest attention. Barlow's Bedder may also be used with every success.

Possibly the reason one does not see dahlias more used for bedding is that they are considered too late blooming, and here one has to again reiterate the value of large, healthy plants for putting out at the end of May or the early part of June, according to locality and circumstances.

Duffryn Gardens. ARTHUR J. COBB.

THE EARLY POTATO CROP IN SCOTLAND.

The almost tropical temperature prevailing recently has had a most beneficial effect upon the potato crops growing along the sea coasts of the counties of Ayr and Wigtown. This, acting upon a soil well moistened with frequent rains, should assist the tubering process, and greatly help forward the crops, which until recently were considered somewhat backward for the season of the year.

Freedom from damage by frost has been one of the main features of the season, and now that all danger from this source is over, it is anticipated that a bountiful crop will in due time be forthcoming. As a rule, lifting the crops, upon the most highly-favoured land, commences about June 25, a little earlier or later according to the kindliness or otherwise of the weather.

How the plants thrive, or even exist at all, in some of the exposed positions upon which they are planted is, indeed, a mystery. One large field planted in this way which I have passed frequently during the past six weeks rises abruptly from the seashore, where not an atom of shelter from the fierce Atlantic gales is available, is now presenting to the eye as pleasing a picture of fresh, healthy foliage as one could wish to see. Moreover, the season has been noted for gales, some of which were of great severity, and at times the potato tops were so much laid over by the blast that one might be pardoned for thinking that great damage would thereby accrue. Such, however, does not necessarily follow, and in the course of a few hours, when calm is again restored, the tops uplift their heads, apparently none the worse.

With the genial weather now prevailing growers are making efforts in every way possible to assist and forward the crops, anticipating probably handsome prices in due course. It is peculiar that the home-grown potato should have such a hold upon the consumer, who pays a bigger price for the commodity a month hence than what very similar examples, but of foreign growth, can be procured for at the present time in any fairly large town or market. High quality in either case is not an outstanding feature, sound, well-stored examples from last year's crop being, to my taste at least, very much superior. The latter, by the way, after being very reasonable in price, have risen rapidly in value within the last few weeks, and this will go on, as, judging by the ridges or clamps in some of the chief potato-growing districts, stocks are fast vanishing. This, of course, is a good augury for the early-potato men, who anticipate highly remunerative prices for their wares.

JAMES DAY.

SAPONARIAS OR SOAPWORTS.

The Soapwort family comprises several very useful, as well as beautiful, rock and border plants. During the months of May and June the numerous flowers produced by the various varieties of S. ocymoides form lovely sheets of colour, quite obscuring the foliage with a wealth of bloom. About a dozen species are natives of Europe, while others extend into Asia Minor and Syria as well. Many of them are in cultivation, and grown in suitable situations they make very attractive plants. All are very impatient of sour, stagnant soil, and are very subject to damp in winter. But, given a sunny ledge, and planted in deep, well-drained soil, they may be grown with success, and form beautiful masses of flower in early summer.

Most of the different species produce seeds, by which means they may be increased, but the hybrids like S. Boissieri and S. Wienmanni require to be propagated by means of cuttings in July. They root freely in sandy soil, when kept in a close frame. Perhaps the best-known species is the popular biennial S. calabrica, which is used so much in gardens for early spring display. This, sown in the early autumn, produces nice little plants, which come into flower early in May. Most of the perennials are essentially rock plants, and, grown in this way, display themselves to advantage. Species like S. ocymoides make ideal wall plants, providing the roots can penetrate into the soil behind the wall. A few of the best in cultivation are:

S. bellidifolia, a native of Central and Southern Europe, and always found in dry stony places. It forms tufts of leaves in rosettes, and produces flowering stems six inches or more in length. The pale yellowish flowers are borne in dense heads. A form of this sent out under the name of S. Sundermanni, in 1902, has larger pale yellow flowers, and rather larger leaves.

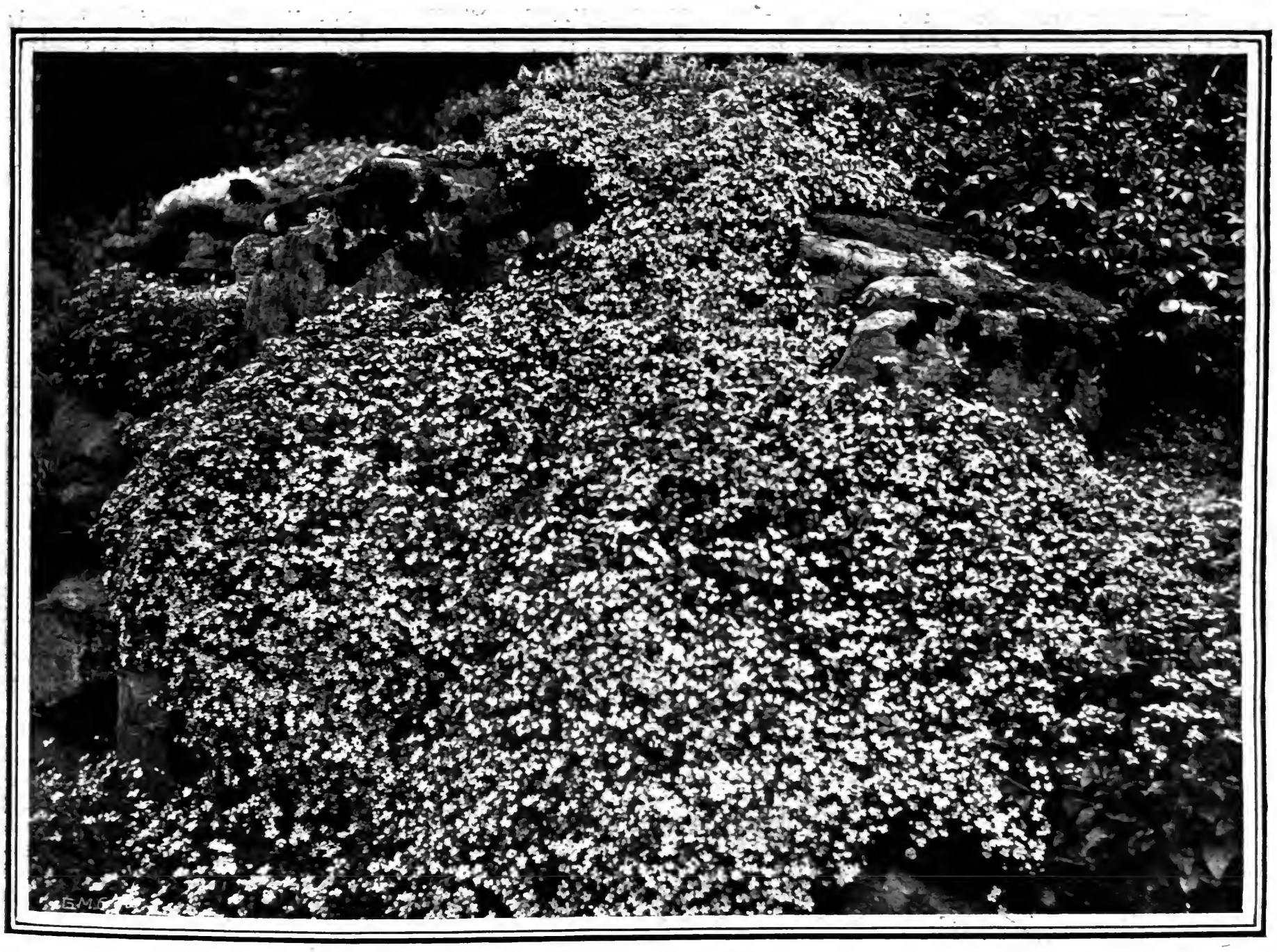
S. Boissieri is a garden hybrid between S. cæspitosa and S. ocymoides. In habit it is nearer to the latter parent, but is more compact in growth and very free branching. At the present time, early in June, it is a mass of rosy pink, the flowers being borne in rather loose clusters. It is a beautiful plant for an open sunny position, planted so that the branching stems can hang down over the face of a stone.

S. cæspitosa comes from the Pyrenees, and is of close tufted habit, bearing umbels of rose-coloured flowers. It is not an easy plant to move when of any size, as it takes some time to get over the shift. Young plants, however, take hold readily when placed in thoroughly well-drained soil of a stony nature. A form, or hybrid, of this species has been sent out under the name of S. Weinmanni, with paler-coloured flowers. It is of a hardier nature than S. cæspitosa, with narrower foliage, and is far more free-flowering. Some plants on a stony slope, facing south-east, have stood here for many years, and always flower very freely, commencing early in May and lasting well into June.

S. lutea is one of the dwarfer kinds, only two inches or so high, with tufts of narrow leaves, and heads of yellow flowers. It is found over most of the western Alps, always in very poor, stony soil. It is less effective than the others, and very liable to damp off in winter. It is more adapted for growing in pans for the alpine house, and kept during winter in the shelter of a cold frame.

S. ocymoides, the well-known Rock Soapwort, is of trailing habit with numerous branching stems, and masses of rosy-pink flowers. It is one of the most useful plants for the rock garden, where it can be displayed to advantage, forming a curtain of colour depending from a rocky ledge. In cultivation there are several colour forms of this plant, while it varies very much in habit. The variety alba is a pure white form of great beauty. It does best in a half-shady position. The variety floribunda, as its name implies, is very free-flowering, while the form called splendens has beautiful, bright, rosy-crimson flowers. The variegated form is also an attractive plant.

S. officinalis, the Common Soapwort, is a useful border and wild garden plant of free habit. It is such a rampant grower that care must be taken not to introduce it where it may become a nuisance. Its sweetly-scented pale-rose-coloured flowers are produced in heads on stems about two



SAPONARIA OCYMOIDES AT MULLABODEN.

A beautiful alpine plant producing an abundance of rosy-pink flowers.

feet high. The double-flowered form is a very attractive plant, valuable for dry banks of a stony nature.

S. pulvinaris is a neat plant from Asia Minor, forming compact little tufts of narrow foliage close to the ground. The small flowers, of a bright rose-pink, are freely produced on much-branched stems, only an inch or two long. It is a plant for a rocky fissure, where it will be dry in the winter. This species is also known as S. libanotica, which is evidently the Lebanon form of it, but cannot be readily distinguished from S. pulvinaris.

Kew. W. IRVING.

A PLEA FOR GREY-FOLIAGED PLANTS.

In these days, when hardy plants are so deservedly popular for the adornment of flower gardens, it is a little surprising that subjects having grey or silvery foliage are not more extensively employed for rockeries, beds, and borders, especially when one considers what a wealth of material is available, and how easy the majority of our hardy grey-foliaged plants are to grow

The glaring colours of geraniums, calceolarias, and other bedding plants do not appeal to everybody, but there is something about the soft colours associated with grey and silvery-foliaged plants that is particularly pleasing. Take, for instance, the soft grey foliage of the old lavender in the winter, or at any time of the year for the matter of that; or the bluey-grey of the southernwoods from the early spring till late autumn. Could anything be more charming?

As I write I have in mind a charming effect obtained by planting Nepeta Mussini and N. violacea just at the back of Artemisia pedemontana and A. Villarsi, the pretty soft blue flowers of the "Cat Mint" mingling with the grey foliage of the artemisias making a pleasing sight, as they do when they are left to grow in their own natural way. Even a dry bank can be made use of for grey-foliaged plants, and white pinks and carnations, with a groundwork of Veronica incana, make up a bed which is very pretty from June to September. The flower stems of the carnations should be neatly tied to stakes made from galvanised wire of about No. 8 gauge, which has had the newness taken off by being weathered somewhat. The stakes then are hardly visible, but if galvanised spiral stakes are used no tying is necessary. If the weather is fairly fine the flower stems of the veronica need no supports. These are two instances among many in which grey plants can be used to make a long and pleasing effect.

Many plants with grey foliage are splendid for growing on walls, where they often thrive better than in the open border. The alyssum, for instance, has proved to be much more lasting and perennial on the wall than in the border, and the same may be said of the rock pinks, which are better on a wall, and safe from the ravages of slugs.

Cerastiums are splendid for wall gardening, and are mostly evergreen. C. alpinum is a great favourite with many, looking, as it does, so sweetly pretty growing out of the wall, the small grey leaves being covered with long silky hairs, which are very beautiful all the year through. C. Biebersteini and C. tomentosum are both very effective, having larger leaves and flowers than C. alpinum, and flowering over a longer period. The grey-foliaged helianthemums are splendid for sunny walls, as also are Santolina incana and S. chamæcyparissus. Lavender must not be passed over, and, like all other plants for growing on a wall, is best planted as the wall is being built. Artemisias in var., anthemis, and Cerastium grandiflora are good deciduous plants with grey foliage. The following is by no means a full list of grey or silvery-foliaged (not variegated) plants, but I can recommend it.

Acæna glauca is a very effective species of the New Zealand Bur, about four inches high, with bluey-grey, small foliage, which is attractive. The plant is most useful between the paving-stones of rock gardens and as a groundwork for taller subjects in a border. Achillea ægyptica has handsomely-cut silvery foliage. The plant is about two feet high, and produces bright yellow flowers from June to September. A. argentea is a very nice plant of a shrubby habit, the edges of the leaves being prettily crimped. It is neat growing, and looks like a silvery rosette. The pure white flowers last from July to September. A. clavennæ, the silvery-leaved Yarrow, is a fine plant for the water garden, having a beautiful hoary appearance, with white flowers in compact heads. It is about nine inches high, and blooms from May to September. A. tomentosa is an evergreen species with woolly foliage close to the ground; the flowers are yellow on stems about one foot high, and last from June to September. This and the other Yarrows are good plants for the rockery, and like a sunny position.

Alyssum argenteum produces yellow flowers from May to July, and is one foot in height. It is a gem, with lovely silvery foliage, and flowers very freely. A. saxatile compactum (Gold Dust) is an old favourite that has bright yellow flowers from April to June, and again later if the old flower stems are removed as soon as the first flowers pass. A double form of this plant flowers very freely. A. s. Lemon Queen is a variety with pale lemon flowers, and is very effective on a wall. A. prostratum is a strong-growing species, and probably the best to plant in the border. A. spinosum must not be forgotten, as it forms a dainty little bush, with silvery-grey foliage, and white flowers on stiff stems, which afterwards form spines. There is also a rose-coloured variety of A. spinosum, which flowers in June and July, and both grow about nine inches to one foot in height.

Androsace foliosa is a very pretty species with broad grey foliage. It is a strong grower, bearing umbels of rosy-lilac flowers from May to September, and grows about nine inches in height. A. lanuginosa and A. sarmentosa are of a trailing habit, with silvery-grey foliage in rosettes, and long stems bearing rose-pink flowers from May to September; six inches high. They are easily propagated by covering the trailing growths with soil.

Antennaria candida (tomentosa) forms dense carpets of white foliage. It is most useful for covering mounds, for edgings of beds, or the rock garden. Its height is three inches, and its curious whitish flowers are produced in June and July. A. dioica minor has very small white foliage, and grows only one inch high, with pink flowers in June. A. margaritacea is a taller species with white, woolly leaves. It is fine for a sunny border. The small white flowers, when dried, are useful for decorations indoors in winter. The plant flowers from June to September, and is 18 inches high.

Anthemis aizoon makes a charming plant for a rock garden, wall, or border. It has very pretty silvery foliage, and heads of white flowers in July and August; height eight inches. A. Biebersteini has divided silvery foliage, and fairly large deep yellow flowers on slender stems in June and July: one foot. A. macedonica also has divided silvery foliage, but with large white flowers lasting from July to October; eight inches.

Artemisia abrotanum is the "Old Man" of cottage gardens, where it is a great favourite, often being used by the cottagers in a cut state to form the greenery in nosegays of flowers for presentation to friends. It has sweetly-scented grey foliage, and grows freely in the open border about two and a half feet high. A. arborea grows four to six feet high, and retains most of its soft-coloured foliage in sheltered places through the winter, and is a very effective shrub. A. argentea is a beautiful species having divided foliage and pale yellow flowers; it delights in a warm place, with rather poor, sandy soil. A. maritima is a British species, with branching habit and divided, downy foliage.

H. PRENTICE.

Hartpury House Gardens.

(To be continued.)

GLOXINIAS.

One of the best-grown batches of plants of gloxinias I have ever seen was kept in a cold frame during the weeks just before and after midsummer. In fact, I might say the plants were grown almost in the open air, for the lights were taken off both night and day, except in showery weather.

The plants I refer to were in a nursery, and I do not think much consideration was given them during their early stages of growth, and they were simply placed in the frames because of lack of room in the houses. But when those responsible for the management saw how good the plants were becoming space was soon found in the houses, and, from time to time, the best specimens were removed so that they might finish their flowering under proper protection, or be sold to admiring customers.

I have myself for years given the gloxinias rather cool greenhouse treatment, while, at the same time, a number of plants have been kept in a stove temperature. Those specimens in the greenhouse always possess the largest and richest-coloured flowers, and, moreover, last in a fresh condition for a long time. The leaves are not large, but very thick and leathery, and of good colour. The leaves of the plants in the stove are larger, but thinner—lacking substance—and the flowers paler, and they damped or dropped off much sooner.

Cultivators who have not had much experience with these plants, and, furthermore, only possess cool, or very moderately heated houses, need not hesitate to grow a batch of plants. Those I refer to in the frames in the nursery were fully exposed to the sunshine, but never scorched, as they had plenty of air.

Gloxinias thrive in a light compost which contains a fair quantity of dried cow manure, if such compost be made firm by hard pressure with the fingers. As the roots are so fine and thread-like strong doses of manure must not be given, but weak ones, frequently applied, after the plants are well rooted, and the flower buds appear, will do much good. Excessive watering in the early stages of growth prevents healthy root action, and checks general progress.

G. B.

NEW PLANTS AND FLOWERS.

PÆONIA L'ESPERANCE.

A beautiful new tree pæony, obtained by crossing Pæonia lutea with a variety of P. Montan. This is the second hybrid from these parents, and it produces a large and beautiful flower with three rows of light sulphur-yellow petals, each with a crimson base, surrounding a large cluster of deep crimson, yellow-tipped filaments. This is practically a single variety, whereas the first-comer, La Lorraine, was double. L'Esperance is a fine addition to the tree pæony group, and should, in due course, become popular where these fine flowering shrubs are successfully cultivated. A.M., R.H.S., June 3. Messrs. J. Kelway and Son, Langport, Somerset.

ODONTOGLOSSUM AIREWORTH, ORCHID DENE VARIETY.

This very handsome orchid was figured on p. 411 of our issue for June 7. In form and colouring it is particularly attractive. The flowers are of fine size, rich red-brown, with rosy-purple margins, the lip being white with numerous bright red spots at the base. A.M., R.H.S., June 3. Mr. E. H. Davidson, Orchid Dene, Twyford.

ODONTOGLOSSUM LAIRESSEI.

A neat and beautiful hybrid, derived from O. Cervantesi and O. Edwardi. The plant bore a branching spike about a foot high, carrying flowers about 1½in. across the upper half of each segment white, and the basal half deep wine-purple. A.M., R.H.S., June 3. Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, Surrey.

ODONTOGLOSSUM NEPTUNE ST. FUSCIEN.

A dwarf plant, with bright and attractive flowers, the colours being white, with blotches and spots of very bright and light red-brown. The species concerned in this hybrid are O. crispum and O. nebulosum. A.M., R.H.S., June 3. Mons. H. Graire, St. Fuscien, Amiens.

PRIMULA EXCELSIOR.

A particularly attractive hardy primula, and one that promises to become a great garden favourite, as it is of robust growth, perennial character, and bears tiered spikes of glowing orange-scarlet or vermilion flowers. The parents are P. Unique and P. Cockburniana, and from this cross hundreds of plants were raised, though only one, P. Excelsior, was deemed of sufficient merit to be perpetuated. The original plant was exhibited at the Temple Show of 1911. The flowers are of good size and very effective, and a flowering plant is about 15 or 18 inches high. A.M., R.H.S., June 3. Messrs. Jas. Veitch and Sons, Chelsea.

SALIX MAGNIFICA.

In this very distinct new Chinese willow we have a plant that promises to be a very acceptable addition to our hardy trees. The specimen shown was about 4ft. high, and carried neither flowers or fruits, but its leafage attracted the attention of arboriculturists. The largest leaves were fully six inches long and over three inches broad; deep green, with a faint glaucous tint above, and pale green beneath, firm in substance, and suggesting a magnolia rather than a willow. The purplish leaf-stalks are an additional attraction. A.M., R.H.S., June 3. Hon. Vicary Gibbs (gardener, Mr. E. Beckett, V.M.H.), Aldenham House, Elstree.

PAPAVER PERRY'S UNIQUE.

This striking Oriental poppy is of medium size and brilliant scarlet colouring, with a blackish blotch at the base of each segment. But the great attraction is the deep cutting or fringing of these segments, and this attraction will ensure for the variety a fair share of popularity as a border plant. A.M., R.H.S., June 3. Mr. Amos Perry, Enfield.

IRIS GRACILLIPES.

A neat little species that has long been in

PÆONIA L'ESPERANCE.

A hybrid between P. lutea and P. Moutan. Flowers pale sulphur-yellow, with crimson bases to the segments, and crimson filaments. A.M., R.H.S., June 3. Messrs. J. Kelway and Son, Langport.

cultivation, but is not commonly grown. It has grassy, green foliage, and lilac-mauve, white-crested flowers of modest dimensions. A suitable plant for a favoured position in the rock garden. A.M., R.H.S., June 3. Wargrave Hardy Plant Nursery, The Arcade, Liverpool Street, E.C.

POTENTILLA BOULE DE FEU.

A pretty plant, with an abundance of neat trifoliate leaves, clothed with silvery, silky hairs. The flowers are deep rich crimson, borne on slender branching stems, rather less than a foot high. The parentage is given as P. argyrophylla and P. atrosanguinea. A.M., R.H.S., June 3. Mr. A. Hemsley, Crawley.

DELPHINIUM MRS. F. BREWSTER.

This is a noble variety, producing very large spikes of widely-expanded semi-double flowers. The spikes are not so dense as in some varieties, but this will be regarded by many as an added attraction. The colour is soft lavender-blue, and the largest flowers are two inches broad. A.M., R.H.S., June 3. Mr. R. C. Notcutt, Woodbridge.

STACHYS CORSICA.

Though in no sense a showy subject, this lowly and characteristic Corsican species of Wound Wort will appeal strongly to lovers of alpine and rock gardening. The growths are quite prostrate, clothed with roundish-ovate leaves, and studded freely with white, flesh-tinted flowers that are fairly large for so small a plant. A.M., R.H.S., June 3. Messrs. R. Wallace and Co., Colchester.

HELIOTROPE THE SPEAKER.

This very fine heliotrope makes a grand pot plant, and is already becoming popular with the market growers. The large heads of bloom are rich heliotrope, each flower having a white eye. A.M., R.H.S., May 14. Mr. Philip Ladds, Swanley Junction.

ROSE MISS FLORA MITTEN.

We have previously described this perpetual-flowering, strong-growing rambling rose, and now figure it. The flowers are a lovely shade of soft pink, and have a central cluster of golden stamens; they are three and a-half inches across, and borne in goodly clusters. Rose Brunoni and R. canina are the parents of this useful new rose. A.M., R.H.S., May 14. Mr. J. Elliott, Hassocks.

MAGNOLIA SALICIFOLIA.

The willow-leaved magnolia hails from Japan, has greenish-white flowers that have a close resemblance to those of M. stellata, but in growth the species becomes a slender deciduous tree of elegant outline. It grows from 15ft. to 20ft. high, is quite hardy, and grows well in sandy peat and loam. Bot. Mag., t. 8483.

HELIOTROPE THE SPEAKER.

A fine, fragrant variety, with large heads of rich heliotrope, white-centred flowers. A.M., R.H.S., May 14. Mr. Philip Ladds, Swanley Junction.

Arum Lilies.—When the flowering season is past these plants may be placed outdoors in an exposed situation. There are two methods of treatment after flowering. One is to plant out in a well-prepared piece of ground in the garden, and the other is to give them a resting period by gradually withholding water from them, and keeping them dry for a few weeks during the summer. I think the former method is most suitable for plants which are required to produce flowers very early in the season.—E. HARRISS.

WISTARIAS.

The ordinary Wistaria chinensis has been a familiar feature of our English gardens for so long a period that it may seem at first sight that nothing further need be said in its favour, but, while admitting the good value of W. chinensis for all purposes to which wistarias may be put, I wish especially to emphasise the splendid effect produced by the lesser-known forms which go to make up this splendid family.

W. multijuga is far in advance of W. chinensis, and its long racemes of mauve-violet-hued blossoms are indeed charming when hanging from the open roof of the garden tea house. The drooping trails of blossom are often a yard in length, and the reader can well imagine the glorious beauty of a series of such wistaria trails when well flowered.

There are several forms of W. multijuga, splendid varieties which are worthy of a place in any garden. W. m. alba is a fine white variety, a delightful contrast to the type, and an exceedingly good grower. W. m. fragrantissima is a more highly-perfumed counterpart of the preceding white, being practically identical, save for its heavy, odorous perfume of the bean fields, which makes it one of the grandest subjects for the fragrant garden. W. m. rosea, the pale pink variety, is deserving of notice, and its rarity in Japan, added to the fact that it is almost unknown in English gardens gives it a special interest to those who are on the look-out for novelties. With us it seems as free in growth as the other forms, and we are hoping to make a noteworthy feature of this fine wistaria.

A double form of W. multijuga has made its appearance in our collection, and both the spikes and the individual blossoms are extremely good. The flowers are like large Parma violets, the form and colouring being delightfully similar. The double form of W. chinensis is more common, but even this is little known by the average horticulturist.

In conclusion I must note W. brachybotrys, a fine white wistaria of great merit. The blossoms of this form are very large, but the spikes are much shorter than in W. multijuga. What it lacks in length of the racemes, it makes up in breadth and importance, and the reader may take it for granted that W. brachybotrys is one of the most imposing of all wistarias for decorative purposes.

Of the wistarias with variegated foliage there is, in my opinion, no need to speak, for the variegation does not make for extra beauty. Spring planting is quite successful, and in good, well-worked soil one should experience little difficulty in making the cult of the wistaria a perfect success. P. S. HAYWARD.

ARAUCARIA EXCELSA SILVER STAR.

This araucaria, which has been before the public for two or three years, now seems to have caught on in popular favour. It is an improved form of the old Araucaria excelsa alba spica, and is characterised by the young growths being pure white, which gives it a distinct and striking appearance. In a group of foliage greenhouse plants its tone of colour is very noticeable. There is a variety (elegantissima aurea) whose young shoots are yellowish, but it has not the strikingly characteristic appearance of the variety Silver Star. As Araucaria excelsa is a native of Norfolk Island, these varieties are, of course, only fitted for growing in the greenhouse. T.

TENDER CLIMBERS IN THE SOUTH-WEST.

The best of half-hardy flowering climbers is, without doubt, Solanum jasminoides, whose attractive qualities are widely recognised in Devon and Cornwall, where it is largely grown by rich and poor alike. Its white flower-clusters are extremely beautiful, and were these borne merely for the space of a month or six weeks would entitle the plant to a foremost place amongst climbers. As a matter of fact the solanum enjoys the most extended blooming period of any flowering climber, commencing to expand its blossoms towards the end of April and early days of May, flowering in ever-increasing profusion through the summer months, and reaching the zenith of its display in September, when it forms a veritable sheet of snowy blossoms, while it often retains a portion of its flowers until Christmas or later in open seasons.

The Lapageria succeeds admirably on a north or north-west wall in the open in South Devon and Cornwall, and long trails of waxy-petalled tubular blossoms, white and red, may often be cut as late as November. The white-flowered Physianthus albens also grows freely in some localities, spreading over a wall or sheltered cliff face.

Stauntonia latifolia, although bearing somewhat inconspicuous flowers among its leathery leaves, is valuable on account of the exquisite fragrance emitted by its clustering blooms in the early spring. One neighbouring house is covered to the roof with this stauntonia, and in its flowering season the perfume from its blossoms fills the surrounding air with sweet odour. In the autumn the long, sausage-shaped seed pods, dull crimson in hue, are freely produced. Tacsonia mollissima, a native of Quito, is fairly hardy in Southern Cornwall, where it makes rampant growth, and bears countless long-tubed, pink flowers.

The newly-introduced Polygonum Baldschuanicum is quite hardy, and a plant of great decorative merit, making rapid growth, and being admirably adapted for covering rough trelliswork or old trees, which it will clothe with abundant leafage that for many weeks is shrouded in a wealth of delicate milk-white flower clusters. Akebia quinata is a perennial flowering climber, bearing sweetly-scented flowers of maroon hue.

In specially-sheltered sites in the South-West three beautiful flowering climbers may be grown on warm south walls. The first of these is Plumbago capensis, which bears pale blue flowers. A plant of this growing at the foot of a towering cliff, by which it is protected on the north and east, has passed through several winters without any artificial sheltering, and in the early autumn is a sheet of palest blue. The second is Mandevilla suaveolens, from Buenos Ayres, a handsome greenhouse climber, bearing large white blossoms, deliciously perfumed, in great profusion. In a few spots this grows and flowers well in the open. The third is the ivy-leaved pelargonium, which, in the south-west, is largely used as a wall climber, as may be seen from illustrations that have appeared in these pages. It usually proves sufficiently hardy to withstand the effects of any but an exceptionally severe winter, and sometimes attains a height of over twenty feet. The best variety for use as a wall climber is Madame Crousse, whose pale shell-pink blossoms are most effective when spreading a mantle of tender colour over an expanse of wall.

Abutilon vexillarium, although not strictly speaking a climber, may be grown against a wall with its main growths trained in, when its arching flower-laden shoots bend outwards gracefully, studded along their length with their crimson and yellow blooms, which are borne in quantity throughout the whole summer and autumn, and well into the winter months.

The Flame Nasturtium (Tropæolum speciosum), a native of Chili, is without a rival in the brilliance of its vermilion flower trails. It is, however, seen to better advantage in the north than in the south of England. It is specially adapted for draping yews and other dark-leaved evergreens with its vivid flowers. The New Zealand Clematis indivisa lobata is, when in full flower, one of the loveliest plants it is possible to imagine. It grows well in the open in Devon and Cornwall, and when a forty-feet length of wall is entirely covered with its large white flowers the effect is indescribably beautiful.

This note is far from exhausting the list of charming half-hardy flowering climbers and other plants that may be utilised for beautifying wall and trellis in the warmer districts of our islands, but sufficient have been mentioned to give an idea of the scope afforded by this branch of gardening in the south-west.

WYNDHAM FITZHERBERT.

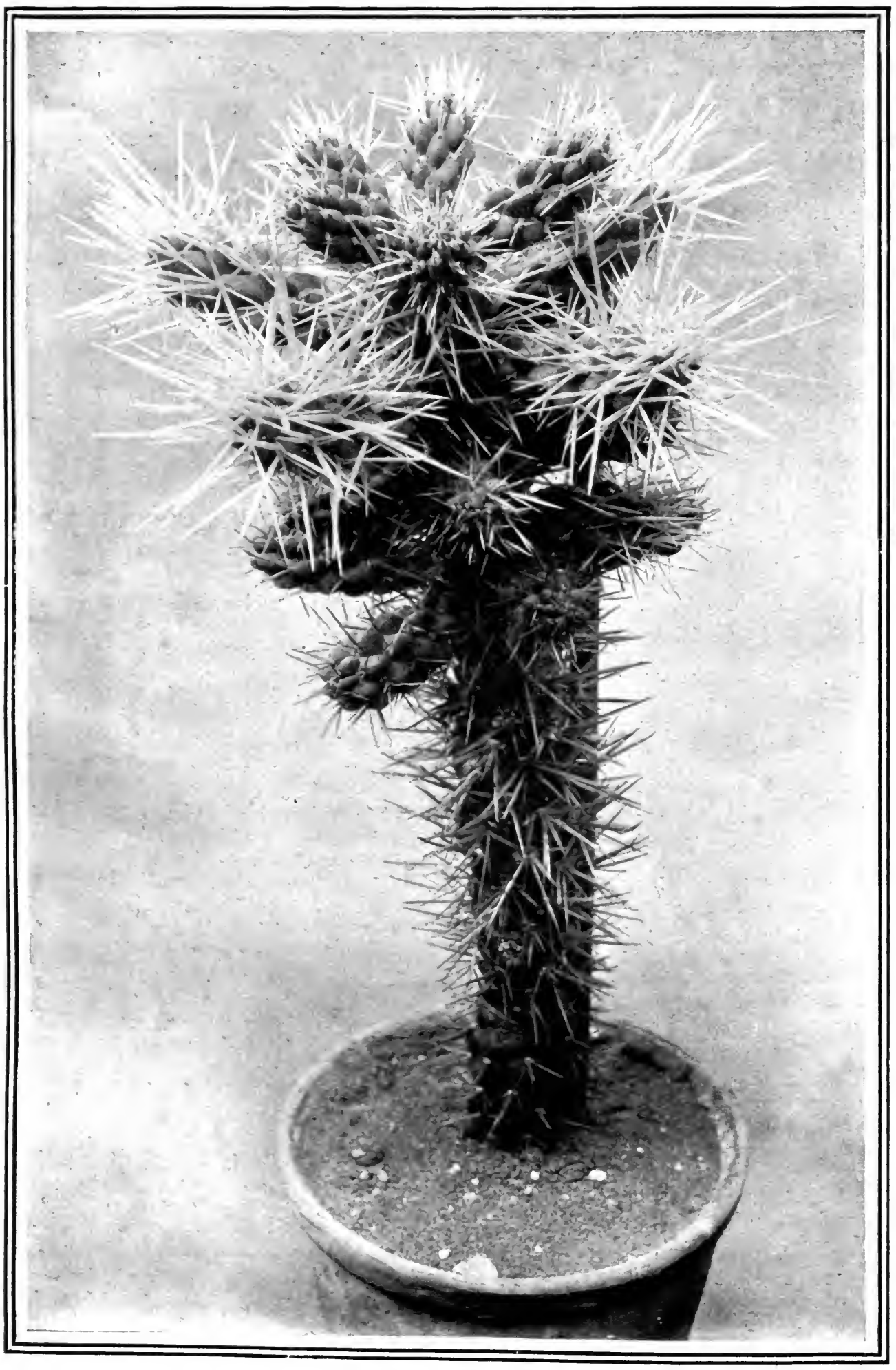
Kingswear.

ROSE MISS FLORA MITTEN.

A perpetual-flowering rambler, with large clusters of beautiful soft pink flowers. A hybrid between R. Brunoni and R. canina. A.M., R.H.S., May 14. Mr. J. Elliott, Hassocks.

SUCCULENT PLANTS FOR AMATEURS.

In a note of this kind it would be impossible to deal fully with all the numerous families of plants having representatives amongst the succulents. It will suffice if I deal with a few of the principal genera, noting a few of the species in each which, from their easy culture, beauty, and interest, may lead others to take up their culture. In passing I may say that many of the plants in the following notes are suitable for culture, either as greenhouse plants, or for growing in a warm, sunny cottage window.



OPUNTIA TUNICATA.
An interesting Mexican species with white spines.

Opuntias.

The genus opuntia is a very large one, containing upwards of 200 species. Most of them have large ovate, elliptic, or terete, fleshy and very spiny stems, sometimes pear-shaped in general outline, and often extremely leaf-like in appearance. The flowers are usually borne on the margins of the lobes or stems, and vary in colour from yellow to orange, red, or purple. Many of the species produce edible fruits, and are esteemed as a delicacy in many tropical countries. Most of the species are extremely tenacious of life, and resist fire, drought, and wet periods to an extraordinary extent. They have been introduced into many tropical and sub-tropical countries, and have spread so rapidly as to become a pest, large sums of money having been spent in trying to exterminate them. They readily thrive under cultivation, and flower freely when quite small. A few of the dwarfer kinds for general cultivation would include O. basilaris, O. tuna, O. Emaryi, O. microdasys, O. tunicata, O. Scheeri, O. mesacantha, O. polyantha, O. fulgida, O. ursina, O. clavarioides, and O. crinifera.

Cereus.

The genus Cereus is variable in habit, some species, such as C. grandiflorus, C. rostratus, C. inermis, C. triangularis, C. nycticalus, and C. Macdonaldiæ, are long twisting or trailing climbers, others are dwarf and gouty, such as C. aggregatus, C. mojavensis, C. Fendleri, and C. viridiflorus; others, again, are of large growth. C. giganteus reaches an enormous size, sometimes as much as fifty or sixty feet high, with thick, fleshy stems one to three feet in diameter, and it is without doubt the giant of the order. A desirable species is C. speciosissimus, with rich scarlet flowers, and of very easy culture and thriving well as a window plant. A fine companion plant is the newer C. amœcaensis, similar in habit, and with large pure white flowers. The Rat's-tail Cactus (Cereus flagelliformis) is one of the best window plants I know, and should be hung up in a pan or basket, and the long pendulous growth allowed to hang down in a natural manner.

Sempervivum.

A few of the shrubby species of this genus, mostly natives of the Canary Islands, are often met with in amateurs' collections. The flowers are borne on large terminal panicles, and are distinctly handsome. They are all readily propagated from either seeds or cuttings. A few of the best are the following: S. holochrysum, S. Haworthii, S. arboreum, S. cuneatum, S. decorum, S. urbicum, S. Paivæ, and the distinct S. tabuliforme.

Phyllocactus.

The phyllocactus are favourite plants with amateurs. They are of very easy culture, and thrive well in an ordinary light window. Numerous very beautiful hybrids have been raised, having a considerable range of colours in the flowers, which are all large and strikingly handsome. The hybrids are such a great improvement on the parent species that it is advisable to grow these in their place. A few fine hybrids are the following: P. albus grandiflorus, a fine pure white; P. Anna Brunow, bright rose; P. Conway's Giant, large-flowering scarlet; P. grandiflorus, red, a large flower; P. Nankin, orange-yellow; P. Ernesti, bright red; P. delicatus, light pink; P. Marcus, rose, shaded with salmon; P. Pytho, orange-scarlet. The small-flowered P. phyllanthoides, a Mexican species, with light rose-coloured flowers, and extremely floriferous habit, is well worth growing

Rhipsalis.

The rhipsalis, or mistletoe cacti, are small-flowered plants, scarcely succulent in habit, but usually grown with them in the same house. They do not like to become dry at the roots for any length of time, and beyond keeping them only

slightly drier during the winter months, they require no decided period of rest. A few of the species are pretty, especially when covered with numbers of their small white flowers, and these are often followed by clusters of creamy-white fruits, having a close resemblance to the common mistletoe when in fruit. The following species are recommended: R. tetragona, R. gracilis, R. Casytha, R. mesembryanthoides, R. funalis, R. crispata, and R. salicornioides.

Epiphyllum.

Making up a genus of about half a dozen species of warm greenhouse or stove shrubs, the epiphyllums are all of dwarf or trailing habit, and devoid of spines. They are of rather slow growth, and are on that account usually grafted upon some quick-growing stock, such as Pereskia aculeata.

E. truncatum, the type of which is bright red, has a large number of very beautiful garden forms in a considerable range of colours, from almost pure white to deep violet and red. P. Russellianum has rich rose-coloured flowers; P. Gaertneri has brilliant scarlet flowers; P. delicatum, a recently-introduced species, has branches deeply lobed at the apex, and delicate pink or rose-coloured flowers. They thrive best if placed in a moist stove during the growing period, afterwards removing them to a warm greenhouse, in a temperature of 50 or 55 degrees F., to ripen their growths. The flowers are pendulous, and borne on the ends of the branches. C. P. RAFFILL.

(To be continued.)

BEGONIA MRS. PETER BLAIR.

Among the many fine begonias exhibited at the great Chelsea Show by Messrs. Blackmore and Langdon, scarcely one attracted so much attention as the variety Mrs. Peter Blair. For size, purity of its whiteness, sturdy habit, and good form it is hard to beat, while its refined symmetry is such that the most conservative florists could find no fault with it. In form the blooms combine the substance and regularity of a camellia with the depth and grace of a fine rose. Mrs. Peter Blair is certainly one of the best of many fine tuberous-rooted begonias introduced by Messrs. Blackmore and Langdon, Twerton-on-Avon, Bath.

BEGONIA MRS. PETER BLAIR.

A very fine white variety exhibited by Messrs. Blackmore and Langdon at the Chelsea Show.

VALUE OF LIQUID MANURE.

There is still much to learn, in the cultivation of both farm and market garden crops, about the uses and the value of liquid manure. Cultivators, as a rule, appreciate its value, and sometimes they use it carelessly, with results that are the reverse of satisfactory. A liquid manure which consists of the drainings from manure heaps, the urine of cows, horses, sheep, and pigs, etc., is always more rapid in its action than a solid manure or an undissolved one, and it often happens that a considerable amount of injury may be done by applying the liquid indiscriminately to grass or field and garden crops, without first diluting it.

Constituents.

There is a large percentage of soluble plant food constituents in the drainings of the farmyard. The liquid excrement of cows, for example, contains on the average, 0.8 per cent. of nitrogen, 0.7 per cent. of phosphoric acid, and 0.6 per cent. of potash. Compared with ordinary dung, which includes the straw and litter, and contains only 0.34 per cent. of nitrogen, 0.18 per cent. of phosphoric acid, and 0.4 per cent. of potash, this liquid manure is therefore worth about double as much, and special note must be taken of the fact that it contains twice as much nitrogen as dung. In fact, the ammoniacal properties of liquid manure from the farmyard are very considerable, but, unfortunately, they are very often allowed to go to waste by careless storage and application. Turning to other animals besides the cow, we find that the urine of horses and sheep is much richer in nitrogen and about equal in potash, while in the case of the horse and the pig, it is poorer in nitrogen but richer in phosphoric acid. Evidently, therefore, the liquid manure which consists of the mixed urine of different classes of stocks—horses, cattle, sheep, and pigs—is much more valuable as a fertilising material than the liquid manure produced by the cow alone. Moreover, the value of the liquid is much greater than the value of the solid manure, as far as nitrogen content is concerned especially, because it is possible to apply the former to the ground directly it is obtained. On the other hand, it is practically impossible to get solid dung under the ground before it has lost some proportion of its original ammoniacal value. Exposure to the weather ruins farmyard manure just as much as it does liquid manure; the urea—which is the most valuable constituent in either manure—quickly changes into carbonate of ammonia, which is easily lost in the atmosphere. Therefore, it will pay cultivators to keep manure heaps under cover, and to preserve the liquid drainings from the yard in a covered tank, where they will not lose their ammoniacal properties so quickly.

Preservation of Liquid Manure.

It is therefore easy to understand that the drainings from a heap of manure which is fully exposed to rain are very much weaker as a fertilising material than those from a heap which is carefully preserved under a covered yard. If the ground is moist, this weak liquid manure may be applied quite safely in an undiluted condition, but the drainings from a covered yard must needs be diluted with from four to six times their bulk of water. On some farms all the liquid manure is drained into a specially constructed iron tank sunk in the ground; or a pit is dug and lined with chalk. Pumps are required for pumping out the liquid into the carts, but the chief difficulty experienced here is that the pumps so often become choked.

For Garden Crops.

It is probable that liquid manure can be put to the most profitable use as a stimulant for various garden crops. Farmers use it largely as a dressing for meadows and pasture land, and sometimes it is applied to mangel crops. A very safe and perfectly effective liquid manure for the garden can be prepared by diluting the liquid excrement from the cow stalls; or a sufficient quantity of good dung may be placed in a barrel of water and left there to soak, until the water eventually assumes a dark, rich brown colour. This is a very simple method of preparing a good liquid manure that possesses none of the caustic properties so commonly associated with many of the chemical and more highly concentrated fertilisers. If sheep or fowl manure is used for this purpose, it will be advisable to steep smaller quantities of the dung in water, as these manures are much richer than cow dung. In the majority of gardens, but particularly in rural districts, there are usually large quantities of house sewage to dispose of. This is very powerful in its action, and few people seem to care about using it. However, the liquid, if properly diluted, is very valuable indeed as a stimulant for fruit trees or for grass.

How to Use Liquid Manure.

It should not, under any circumstances, however, be applied to trees or plants when the soil surrounding them is dry, nor at a time or a season of the year when the roots have not commenced active growth; in the former case it will have the effect of burning up the young roots, and in the latter case it will make the soil exceedingly sour, which will be injurious to the roots when they do commence to grow. The best time to apply liquid manure to ground in which stone fruits are growing is when the ground is moist with rain, and just after the fruit is set; a second watering may be given about a fortnight afterwards before the fruit stones, and if the season is a very dry one a third application will prove beneficial. In very retentive soils, a single watering with liquid manure will usually prove ample. It is not recommended that sewage water should be used for vegetable crops, or for any other garden crops except apples and pears, stone fruits, and all varieties of bush fruits.

Special Liquid Manures.

There are many different varieties of proprietary chemical liquid manures on the market, and the grower can even make a special manure of his own by steeping a small portion of an artificial fertiliser in a tub or a can of water. Care must be taken in the latter case, however, not to give an overdose of the chemical manure, for the results may be very injurious indeed. Sulphate of ammonia or nitrate of soda may be used for the purpose, a suitable liquid manure being made up by steeping, say, ½lb. of either fertiliser in twelve gallons of water; or it is perhaps a safer plan to use a similar quantity of guano instead of the artificials. Another very good plan is to place a bag of soot in a barrel of rain water, packing the soot loosely in the bag, so that the water may easily reach it. This makes a splendid liquid manure for all classes of vegetable crops. Even market gardeners are turning special attention to the use of liquid manures, as well as farmers, chiefly because the supplies of good manure are becoming so scarce owing to the spread of motor power in place of our old friend the horse. It is advised, however, that for use in commercial establishments it is profitable to "cook" all liquid manures, and, therefore, all the yard drainings, etc., should be placed in a tank fitted with steam pipes, so that live steam can be blown into the mixture. Liquid manure may very easily be the means of carrying disease to tomatoes, cucumbers, vines, and other market garden crops, if this precaution is not adopted, and there is no need for us to enlarge on the dangers of eelworm infestation in the houses, or of the virulent diseases set up by the resting spores of fungi which may be harboured in the liquid manure.

J. C. NEWSHAM.

PICEA BREWERIANA.

This is one of the rarest of all spruces, and it has only been in cultivation for a few years. Even now it is grown in very few gardens, and probably the best specimen in Europe is one which may be seen growing in a bed of heaths near the Pagoda at Kew. Even in its native country it is rare, for it has a very local distribution, occurring only on the mountains of the California-Oregon dividing line, the Siskiyon Mountains affording the greatest number of trees. A good account of the tree and its distribution is given by Jepson in his "Silva of California." He there says that it varies a good deal in height, for mature specimens are met with from 20 to 95ft. high, with a trunk diameter of from 6in. to 3½ft. A peculiarity of the tree is its pendant branchlets, which are said to hang down 2 to 4ft. Young specimens do not, however, exhibit much of this character.

The narrow, flattish leaves have a greyish hue. They are about half an inch long and surround the branches. Native cones are 3 to 5in. long, and about 1½in. diameter, but no cones have been produced as yet in this country, the Kew specimen previously alluded to being barely 4½ft. high. Jepson says that the species was originally collected by Mr. Thomas Howell, the pioneer botanist of Oregon, but subsequently it has been recorded by several botanists. Nathaniel Low Britton, in his "North American Trees," refers to it as the rarest and probably most beautiful of the American spruces. He also says that its wood is of good quality, but, owing to the rarity of the tree and its inaccessibility, it has not been applied to any economic purpose.

W. D.

Veronica Hulkeana.—This New Zealand species of veronica is widely removed both from the many garden forms of V. speciosa, as well as those strange-looking species, some of which mimic tiny conifers. Veronica Hulkeana is a loose-growing bush with a profusion of lavender-coloured flowers borne in May and June.—T.

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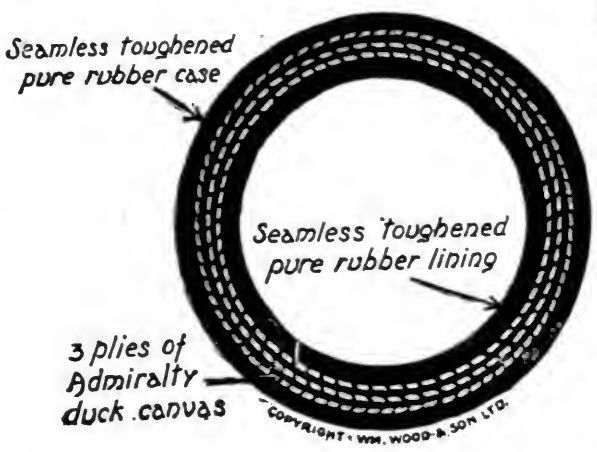
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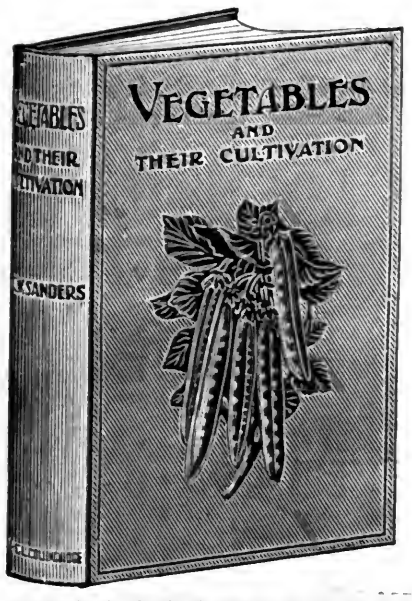

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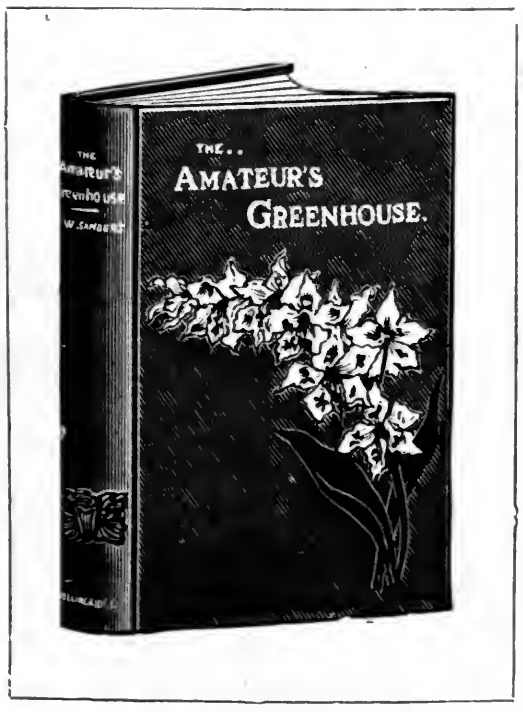

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CHRYSANTHEMUMS.

One is often reminded that the best results are obtained from chrysanthemums that are grown on steadily right through the season; and, no doubt, such plants do yield the best blooms. But it is a fact that these plants make more rapid progress after the middle of July than before that date, even when they are not specially fed. It is during the latter part of the summer and the early part of autumn that the bad effects of a too-rich compost, loosely worked in the pots, are to be seen, especially so when the latter part of the season proves to be wet and sunless.

A moderately rich compost, well balanced as regards organic and concentrated manures, made fairly firm, cannot be excelled for use at the final potting. If a rather poor, but porous, compost be used, due feeding will make up for any deficiency of richness. But a too-rich soil may cause the cultivator much trouble. Again, certain varieties require larger pots and richer soils than others; but the inexperienced grower cannot do wrong if he uses smaller pots for the weakly-growing varieties and the larger ones for the strong growers. Example: The weakest do well in 8in. pots, the medium growers in 9½in. pots, and the stronger in 10in. and 11in. ones.

Summer Arrangements.

The wise cultivator will not grow five hundred plants if he has only room for four hundred. I refer to the summer quarters, of course. But it is also necessary to think about the available space under glass which will be needed in the autumn, as undue crowding there will undoubtedly help to undo the good work of the summer time. Plenty of space should be allowed between the plants now. When grown in blocks the rows should run north and south. So arranged, a large collection can be readily attended to as regards watering and feeding; but single rows, placed at the sides of broad paths, generally do well. If the path be a narrow one, a single row on one side will be sufficient. When grown in blocks a space corresponding with the average height of the plants should be left between each row.

Earthworms will always find their way into the pots when the latter are placed on ashes, even when the layer of ashes is a thick one. Slates, tiles, and boards may be used. I prefer boards—failing them, tiles—as pots placed on slates often get waterlogged, because the slates are not as porous as tiles or boards. Old boards with fungus growing on them must not be used.

Supporting Bush or Specimen Plants.

These may also be grown in rows, but they will need ample open space between them. One strand of wire fixed over each row, so that a single stake in each pot can be made secure to it, will be very beneficial, and prevent loss when the strong gales come. But it is just as well to make sure, and, in addition, drive in three short, stout pegs round each pot, so that, when driven in, the top of the stake will rest just below the rim of the pot. When the shoots develop—as they do fast in August and September—the plants become top-heavy, and are easily blown over.

The Leaf-mining Maggot.

I never saw plants attacked worse than they were last year. Mrs. A. T. Miller, I think, suffered the most, but many other varieties were sadly disfigured and much crippled. The pests are not quite as active—or, rather, numerous—this year; but cultivators should very carefully examine their plants, and, when found, crush the maggots with thumb and finger. If regularly attended to in this respect, none of the leaves will be materially damaged, whereas neglect would mean the loss of many basal leaves, and they certainly cannot be spared.

Geo. Garner.

HUMOURING NATURE.

It may be said, in one sense, that there are two main systems in garden practice, with a great gulf between them. Few people adopt either the one or the other exclusively, and not many more probably are conscious that they are adopting either. We see an instance of one in the case of the man with leisure, or money, or both at command, so that he is able to make his conditions suit any subjects which he wishes to grow. Thus, if he wishes to grow orchids brought home from tropical forests, he can go to great labour and expense to provide an approximation to the climatic conditions to which they have been accustomed; while, at the other extreme, if he wishes to grow plants from the high Alps, which in their native habitat are only free from snow for three or four months of the year, he will, in most cases, have to make no small preparation to give these hardy plants the rooting medium in which alone they will live, and even then, perhaps, the majority of the plants he buys at no little cost will succumb to the dryness of the summer or the dampness of the winter. Similarly with water or marsh plants, peat-loving plants, and so on. It all means much labour, as well as expense.

Between these two extremes are many more or less hardy plants which will not grow in the garden for which they have been purchased unless the soil, and sometimes other conditions as well, are first made to their liking, after which they only do moderately well, and then often after a good deal of care and attention has been bestowed upon them.

The other system is simplicity itself when the necessary knowledge has once been obtained, though this, it must be admitted, is often a matter of some considerable time. The essence of it is the finding out of the plants, bulbs, shrubs, etc., for which our conditions are perfectly suited, and growing these, and nothing else. The worst garden that ever was will grow some things well if it is properly cultivated. If the mountain cannot come to Mahomet, the latter must go to the mountain, and if we are not prepared to make such costly preparations for subjects which need it we must grow others, perhaps no less beautiful, which will grow well with the conditions we are able to give them, and with no further outlay in time and money than that necessary to provide what is generally understood by the term good cultivation.

There is an immense amount of pleasure and interest in this form of gardening, with the fascination which comes of drawing from an inexhaustible source, for we shall never discover all the subjects for which our conditions are best adapted, however long we may experiment; and however well certain plants thrive, it will still seem that we may grow them better another year. It is this which gives such a zest to gardening, while the rewards for the outlay are so much greater in this than in the first system described. The time spent in unsuccessful attempts to grow Aquilegia glandulosa or Tropæolum speciosum, if we are placed in the South of England, would produce splendid results with subjects no less beautiful, but prepared to revel in what we provide for them.

Though this latter system is recommended for those with moderate leisure and means, it is not to be supposed for a moment that any thoroughgoing gardener will be content to follow it exclusively, however good the results may be. We all have some plants which are such favourites with us that it will take a long time to convince us that we cannot even grow them properly, or only after a great deal of preparation, and even then, perhaps, only in certain favourable seasons. That, however, does not make the system of no value for us, for in economising our resources in this way in our general garden work we shall have so much the more to devote to the one or two subjects we feel we must grow, and it may easily be that, in devoting all our means for this kind of gardening to one or two things, instead of pottering about with dozens of subjects that will only do even passably well after a deal of care, we may succeed where we should otherwise fail.

The true gardener will find just as much delight in obeying and humouring Nature as in fighting and overcoming her, and will, at the same time, have a consciousness that his resources, in the way of time and money, have been employed to the best advantage.

Alger Petts.

JUGLANS CORDIFORMIS.

There are several interesting points about this Japanese walnut, for it has very large ornamental leaves; its racemes of male flowers sometimes exceed 12in. in length, and its fruits are produced in racemes. A description of the tree occurs in "The Trees of Great Britain and Ireland," by Messrs. Elwes and Henry, whilst an earlier one may be found in Shirasawa's work. It has been in cultivation for a number of years, and fruit-bearing trees are to be found in England. Mature trees in Japan attain a height of 50ft., with a girth of 6ft.

The leaves are often 1½ to 2ft. long, and are made up of from 11 to 13 oblong leaflets, which are covered with a soft, downy pubescence. The male catkins are composed of greenish flowers, and are from 9 to 15in. long. The female catkins are 5 or 6in. in length, and bear from five to twelve flowers. All may not set, but from four to six fruits have been observed on one catkin. The nuts are smaller than those of the ordinary walnut, and are heart-shaped. They are quite as wholesome as the nuts of Juglans regia, and are said to be a regular article of trade in Japan. Like the common walnut, the young growths of this are subject to injury by late frosts in spring, but so far as winter frosts go it is quite as hardy as the commoner tree. In Japan it is recorded as growing along the banks of rivers and being rare on the drier soils of the hilly regions.

W. D.

Blue-flowered Hydrangeas.—Hydrangeas with blue flowers are very much in favour at the present time, and numerous examples of different shades were to be seen at the Chelsea Show. The age of experimenting seems to be past, and there are now two preparations on the market, both of which have yielded satisfactory results. The presence of lime in the soil is very much against the production of the desired blue colour.—S. W.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEEDLING ODONTOGLOSSUMS. — The seedlings of the various kinds of odontoglossums and the bigeneric hybrids derived from the intercrossing of cochlodas, miltonias, oncidiums, etc., are interesting plants to deal with from the grower's point of view, and when they have so far advanced that the rooting stage is reached in most cases they make rapid progress. The secondary hybrids are even more vigorous than the primary crosses; certainly the seeds germinate more freely and usually more rapidly. If we look for rapid development of growth, the young plants require a good deal of attention, not only in potting, but in freedom from insect pests and slugs. I have on previous occasions advised the pricking off of seedlings as soon as the first leaf has developed, but there are cases where the potting compost has become infested with the maggots of a fly, which not only destroy the seed bed, but also feed on the tender, green, swelling seedlings, and usually attack the larger ones first, leaving nothing but the outer husks of the globular development. Where this is observed it is advisable to remove the seedlings to prepared surfaces in small pots, and, if carefully attended, most of the plants will grow away.

POTTING.—The seedlings that were put into store pans in the late summer and autumn of last year will have made considerable advance, and may now be potted singly in small pots. Too much pot room should be avoided in the early stages, but in dealing with more advanced seedlings, say, eighteen months to two years old (which is about the time of the completion of the first pseudo-bulb), more liberal treatment may be afforded. The pots used should in all cases be clean and well drained; we place a small layer of crocks in the bottom and a liberal amount of chopped bracken roots over this, and up to rather more than one-third the depth of the pots. The compost used must be varied in coarseness according to the size of the plants. In the early stages we find loose potting favourable, and use a compost made by adding plenty of sand and finely broken crocks. We use two parts fibrous peat to one of finely-chopped sphagnum and broken oak or beech leaves. The small plants potted now should make sufficient progress to require potting again towards the end of September, so that if a good compost is selected for early pottings, the plants may be placed in larger receptacles without disturbing the old compost. Carefully shade all freshly potted odontoglossums, and in dry, warm weather spray them overhead two or three times a day should evaporation be rapid. The floors and stages about the plants should also be frequently damped.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

PRIMULAS.—These must be kept in a light, airy structure until they are ready for their final potting. They may then be placed in cold frames and plunged in ashes. Their chief requirements will be careful watering (especially when they have been repotted), careful airing, and shelter from bright sunshine. A pinch of seed may be sown for a later batch of plants. Another sowing of calceolarias and cinerarias may also be made.

BOUVARDIAS.—Although these may be successfully grown in pots during the summer months, perhaps the better method is to plant them out of doors in a well-prepared border. The ground should have been prepared some considerable time previous to planting, and should be liberally enriched with well-rotted manure or leaf-mould. The plants should be put out about 18in. apart, and if the weather be hot at the time of planting they must be shaded during the hottest part of the day until they have become established. Syringe them vigorously morning and evening, and keep them well supplied with water. The young growth must be pinched once or twice during the growing season to encourage a bushy habit. Plants in pots must be placed in cold frames during the summer, and they will appreciate being plunged in ashes.

CLIMBING ROSES.—These must receive timely attention to the thinning and regulating of young growth, which is very active at the present time. Neglect in this matter now will cause the shoots to grow into a confused mass, and will generally weaken the trees. Use the syringe or hose freely during hot weather, and keep the roots well supplied with water. If the roots have not already been mulched with manure this should be done now. They must also have one or two good soakings with liquid manure during the growing season. Plenty of air must be admitted to the house always, and the trees must be well exposed to the sun. A light fumigating with a nicotine compound occasionally will keep them free from aphis.

POT ROSES.—All roses growing in pots should now be placed out of doors, and partially plunged in ashes. The pots being now full of roots, copious supplies of water are needed, and this must be supplemented occasionally by liquid manure and soot water. The foliage must be vigorously washed with the syringe or hose twice a day, and to keep them free from insect pests an insecticide should be used once a week. The plants must be placed in a position well exposed to the sun, so that the young growth may become thoroughly matured by the end of the season. —E. HARRISS, Lockinge Gardens.

HARDY FRUITS.

STRAWBERRIES.—The earliest of these will now be fast colouring, and should be netted. First see that the beds are free from weeds and runners, and the trusses resting on some clean, sweet material. If the roots are in need of water, let this be given freely, so that the soil is made thoroughly moist to a good depth. Lay down traps at intervals along the rows where mice are troublesome. Later varieties, which are heavily cropped and growing on shallow land will need every attention in very dry weather, otherwise the crop will be shortened; when applying moisture let the soil be thoroughly soaked, as one good watering will do much to increase the size and flavour of the fruit, and lengthen the supply.

PEACHES AND NECTARINES.—Keep pace with the thinning and regulating of the young shoots, leaving no more than are necessary for covering wall space and for fruiting next season. The crop this season (with us) is very light, attributable in a great measure to the trees having but little rest during the autumn and winter, and a long spell of cold weather during the time the trees were in flower. Blister was never more troublesome; by frequent hand-picking of the infected parts, and the constant use of the syringe, the foliage is now in a much better state, and the growth more active. Reduce the number of fruits where thickly set and keep the roots well watered.

RASPBERRIES.—The roots of these are mostly near the surface, so that good top-dressings of fresh suitable compost, spread over and about the roots, will do much to encourage sturdy, fruitful canes, following with heavy dressings of well-decayed manure and copious supplies of liquid manure. If the soil is deep and good, and the growth strong, less mulching and feeding will be necessary; attend well to the autumn fruiting kinds, and do not allow overcrowding with weak, unsuitable growths.

AMERICAN BLIGHT.—Apple trees sometimes become badly infested with this pest, and if allowed to increase, the whole of the main branches, etc., are soon covered. I find paraffin emulsion a most efficient insecticide to use if applied according to the directions given on the tins. Nicotine emulsion is also most deadly to all insects, and may be used with safety. Ordinary paraffin and soft soap, well mixed, at the rate of a wineglassful of paraffin to a gallon of water, in which a couple of ounces of soft soap has been dissolved, when well brushed into the infested parts, answers the purpose very well. —H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

LEEKS.—Plants from the March sowing will now be ready for transplanting. It is usual to plant leeks in trenches rather shallower than those made for the early celery, a four-inch layer of well-rotted manure being laid at the bottom, and covered with a similarly thick layer of soil; the trenches, when ready for planting, being about six inches deep. Allow a space of three feet between the trenches, and a space of nine to ten inches between the plants in the trench; when planting press the soil moderately firm around them, and give a good watering. Where the blanching process is not carried out by means of brown paper collars it should be gradually accomplished as growth proceeds, by drawing the earth up to the plants; this will blanch the plants, but not so satisfactorily as will be the case if paper collars are used. In gardens where labour is limited, a piece of rich ground should be made level, a deep drill drawn with the hoe, and with a thick dibber make holes seven or eight inches deep. The plants should be carefully lifted and dropped into these holes, and as much soil afforded as will cover the roots. Use the hoe often when growth has begun, so as to work the soil into the holes, being careful not to bury the leaves.

ONIONS.—Those who are desirous of producing exhibition specimens will now have to pay special attention to them. Being a moisture-loving plant, abundance of water is required during spells of drought. This is best given towards evening time. Liquid manure from the farmyard tank, applied at frequent intervals, and well washed into the soil, is a safe and excellent stimulant. On soils deficient in potash a dressing of sulphate of potash at the rate of two ounces to the square yard, will prove beneficial as a substitute for liquid manure. Nitrate of soda or sulphate of ammonia may be used at the rate of one ounce per square yard. A second dressing may be given after a fortnight's interval. Each dressing should be well watered in unless the weather is showery. A good dressing of soot once a fortnight may also be applied with advantage, but should not be used at the same time as the nitrate of soda or sulphate of ammonia. The surface soil should be constantly stirred with the hoe to ensure a fine tilth and keep down weeds. The plants should now be finally thinned from sowings made in the open. Should there be any signs of the onion fly do not thin too severely. For ordinary purposes large onions are not desired, and the excessive use of stimulants is therefore unnecessary. Two or three applications during the growing season will be all that is required. If the plants are attacked by mildew spray with a solution of sulphide of potassium, half an ounce to a gallon of water. The solution will better adhere to the plants if the sulphide is added to water in which a good-sized piece of soap has been previously dissolved. A sowing should now be made of the silver-skinned variety for pickling purposes. The plot of ground should be made firm; manure is unnecessary, the object being to obtain small, firm specimens. They may be sown thickly in rows, or broadcast.—W. MESSENGER, Woolverstone Park Gardens.

THE GREEN LEAF.

In the course of an admirable lantern lecture delivered before the North of England Horticultural Society, at Leeds, last month, Professor J. H. Priestley, B.Sc., told his audience that recent years have seen several attempts made to utilise the sun's rays directly for the production of steam power, but it is not always realised that every green leaf represents a successful attempt to harness the sun's rays in the service of manufacture, and with the energy so obtained the leaf is busy in daylight building up foods such as sugar and starch. We therefore indirectly utilise the sun's rays every time we eat a green leaf, and so add this stored energy to our own supply.

The sugar-beet industry, for instance, is an attempt, by the aid of the beet leaf, to utilise the sun's rays to build up sugar for our use, and if in this country we are to compete with the tropical factory, which places its sugar-making agent, the sugar-cane leaf, under the more ardent tropical sunlight, then it will probably only be done by careful attention to subsidiary industries, such as for instance the commercial culture of yeast, which group themselves around the chief product, the sugar-beet.

It can easily be seen that the flat green leaf, as it spreads itself out into the sunlight, is an effective trap for its rays, and by means of pigments it absorbs and utilises the red and blue rays. These, and perhaps especially the red, can easily be shown by experiment to be of great utility to the plant.

Another possibility is thus opened up. During the darker months of the year, a darkness often enhanced by fog and mist in this damp island, could not something be done by means of artificial light to encourage the growth, especially of our indoor plants?

Siemens tried this many years ago, and recently Miss Dudgeon, at Dumfries, has obtained interesting results along these lines. Using the Cooper-Hewitt lamp, with its bluish light, she has obtained astonishing growth in many plants. They often showed a tendency to run too much to foliage, but this winter she has been able to check this largely by the use of a light giving a greater proportion of red rays.

This light, thus utilised by the plant, is turned to account in its task of building up sugars and starch within the plant, substances which are subsequently used in many ways within its tissues.

The great use of sugar to the plant lies in the fact that all the energy that went to its making can be obtained from it again if it be more broken down, and by doing this in the process of respiration, the plant can set free heat, as is shown often in the warm temperature of a flower bud or of germinating seeds.

This energy thus stored in the plant, in the products that it makes with the aid of sunlight, is utilised by us in many ways. Industrial Leeds is now living and working with the energy stored up by past generations of plants, and retained for us in the seams of coal beneath our feet.

We also at our meal tables, either directly as vegetarians, or more indirectly, though we may think more appetisingly, through the medium of a vegetarian animal, are drawing upon these stores of prisoned sunlight.

Nidularium Meyendorfi.—Like many other bromeliads, the long strap-shaped leaves of this species, arranged in a regular vasiform manner, go to form a decidedly ornamental plant. Just now it is in flower, and in this stage is very attractive. It is not, however, the flowers themselves, but their surroundings which form the principal feature. The flowers are borne in a cluster in the centre of the crown, but, being so short, very little is seen of them. The central leaves, however, which are shorter than those borne around the outside, acquire during the flowering period a bright scarlet colour, which renders a good example of this Nidularium a bright and attractive occupant of the stove.—K.

ORCHIDS: THEIR POPULARITY AND CULTURE.

(Continued from page 365.)

Taking into consideration the nature and general character of orchids, especially the epiphytal species, one does not wonder that to master the essentials of their successful cultivation a longer time is required than is the case of other plants. By this I mean that growers fail to recognise the treatment necessary to enable them to keep their plants in a thriving state for an indefintie period. It does not require more than an ordinary acquaintance with orchids to see by the character of their growth that Nature has made a special provision for their continual existence. In the bulbous kinds, such as cattleyas, lælias, dendrobiums, odontoglossums, oncidiums, lycastes, and others, the roots which nourish the plant are confined to the newly-made pseudo-bulbs, while the roots of the old back bulbs die after a lapse of time, but the better the cultivation the slower the decay. The advancing growth, however, suffers in no way by the death of these roots, providing the old pseudo-bulbs are removed, for if allowed to remain they have to be supported by the newer growth, which naturally very seriously hinders the young bulb's formation and maturation. It is in this renewing of the tenure of life that orchids differ from other plants. The removing of the old pseudo-bulbs should be done during the process of repotting, cutting them away from the last three or four leading ones; any that are removed from rare and valuable kinds, will, providing the eyes are sound, eventually start into growth, and, in due time, valuable stock is secured from material which, had it been allowed to remain, would only have been detrimental to the parent plant.

In the bulbless kinds, vandas, aerides, angreæcums, saccolabiums, and phalænopsis, for example, the natural provision for their existence is equally apparent; the lower part of the stems, after the leaves and roots they produced are decayed, dies gradually upwards, but the upper part is quite independent of the dead portion below, which has simply to be removed to enable the plant and its source of nourishment to be again brought into contact. This renewal of its existence is a peculiarity of this type of plant. In evidence of this I may say there are at the present time plants of vanda, aerides, and other distichous-leaved kinds in the Westonbirt collection that have been growing there for over fifty years.

It is impossible to lay down any rules as the best for the culture of orchids. The plants are often found thriving under such very opposite treatment, and as one cannot be certain that the conditions and surroundings are in all cases precisely similar, much more can be done by suggestion than by definite advice. I will, however, venture to say that observation and common sense are very important factors if combined with a system of culture the nearest approach to Nature, which must be the best, and will most probably lead to satisfactory results in the growing and flowering of these plants. The cause of failure, in not a few instances that come under my notice, is traceable to keeping too high a temperature. Nothing is more injurious to the plants, and many would be far better in cooler quarters than are often allowed. A very important matter is to see that a lower temperature is kept at night than in the day, for nothing is more injurious to plant life than high temperature at night, nor is anything more contrary to natural conditions. So sensitive are all plants, and especially orchids, to atmospheric influence, that no matter how well they are treated in other ways, they cannot long continue in a satisfactory condition of cultivation unless a proper atmosphere is maintained about them. Orchids, with few exceptions, do not mind, but thoroughly enjoy, sun heat, if moisture and air are abundant, so long as they can obtain cool night air for recuperation after the heat of the day. The state of the atmosphere is without doubt of equal, if not more, importance, than the potting compost for the plants to root in—a condition that not only applies to orchids but to the majority of other plants. Light is the very life of most plants, but it is less under our control than any other factor. Possibly in no other cultural detail are orchids, and many other plants, so liable to be mismanaged as in respect to shading, and I would urge all young growers to make a special point of grasping the full value of this most essential element, light, for it is of the greatest importance, and nearly all plants pine for it in our dull, sunless winters, of which the recent one is a melancholy example.

Influence of Light.

The great influence that light has upon orchids will be seen in the plants grown in it, for not only are these more free-flowering, but the enduring properties of the blooms are greatly increased, frequently to the extent of lasting twice as long as others grown under more or less dense shade; moreover, the plants are hardier, so to speak, that is, they are not so susceptible to the effects of slight errors of treatment in other ways.

In the case of those kinds that need a high temperature, with the ever-accompanying moist conditions of the atmosphere, it is not always possible to give them air as freely as when growing naturally, but it is possible to a considerable extent to make up for this deficiency by giving the plants as much light as they will safely bear; for, with plants under glass, light has a similar correcting influence over deficiency of air to that which the presence of plenty of air has over an insufficiency of light. I suppose there are few engaged in orchid cultivation today who have not noticed during the past season the healthy vigour and growth of nearly all orchids that benefit by heat and sunshine—sure evidence of how very beneficial was the hot weather of 1911, when during that rare and ideal summer we enjoyed in this country so many months of brilliant sunshine. I fear the season of 1912 will not give us such satisfactory results.

I will not suggest that orchids, except just a few, will bear full exposure to light, but the aim should be to control it in keeping with the plants' requirements. Shading should be employed to break or diffuse the sun's rays, instead of totally obscuring them, as is so often the rule. Light, more than heat, is, in my opinion, most necessary to harden the tissues and to give to the foliage that robust and finished appearance so pleasant to the eye of all good cultivators.

Another important requisite in the culture of all orchids is full and free ventilation, not only during the daytime but also by night, when it can be managed without creating a draught. It needs only to be considered that the greater portion of orchids are epiphytes, growing, in their natural conditions, on the branches of trees and, in many cases, isolated positions on hill sides, to convince anyone that they are subject, in their native home, to a circulation of air, therefore under cultivation they should be supplied with abundance of this very important element, in fact, it is absolutely necessary, for as it is with light so it is with air. If there is any shortage in the supply of either of these factors the whole substance of the plants, leaves, bulbs, and roots, are deficient in the solidity indispensable to keep up a healthy existence. Judicious use, therefore, of the ventilators of the houses is always important at all season of the year.

To freely ventilate the houses on hot, sunny days, and to admit air only by a chink on dull days and by night is, to my mind, a most absurd practice. This close-shutting system, especially at night, with a view to keeping up a desired temperature, produces on plant life an amount of mischief difficult to calculate. I never could see the reason why ventilation, if so beneficial during the day time, should not be equally so during the night. Fresh air all night, with reasonable temperature, must be more conducive to

health and vigour than anything approaching a stuffy atmosphere. The proper atmosphere of an orchid house is one in which the air is constantly changing, keeping the temperature in accordance with the occupants of the house, with sufficient moisture in the air to create a buoyant feeling, so that heat, air, and moisture, to use a familiar expression, "go hand in hand."

Speaking of moisture brings me to a very important matter, and that is the watering of orchids. There is no more important operation connected with their culture, and none oftener mismanaged. Who will say this does not apply to the cultivation of all plants in pots under glass? Even the most experienced practitioner needs all his wits about him if the work is to be done with dispatch. In watering a mixed house of orchids this is especially the case, even when all are in full growth, allowance always being necessary for the condition and quantity of compost about the roots, and the comparative vigour of the plants. The majority of the terrestrial kinds require proportionately more water at the roots than the epiphytal kinds, as they do not possess in a like degree the power of drawing supplies from the atmosphere. This is an interesting faculty which is being considered more and more by growers of the present century. The ability of epiphytal kinds to take up little or much moisture is mainly determined by the amount of air they receive, and also by the light and description of house in which they are grown. Light and air naturally enable any plant to take up more moisture by means of its roots, and these organs of nutrition must be in a suitable medium. Any great excess of moisture will cause young roots in course of formation to die prematurely, and oftentimes result in the death of the older ones. Rain water is preferable for all plants as being purest and most natural, and orchids should receive no other, especially epiphytes, for in their natural state they can never experience the effect of any other kind.

With regard to the roots of orchids, and compost for same, most orchids, when growing naturally, have their roots in a great measure exposed to the air on trees and rocks to which they cling, with the head of the plant extending to the light. Generally decomposed vegetable matter has accumulated within reach of the roots. It is obvious, therefore, that if the roots of such epiphytes are potted in a compost which is at all adhesive, they will very soon perish; at the same time, loosely-potted plants do not grow so strongly as when a more or less substantial material is employed, and firmer potting practised. English peat of the best quality for epiphytal orchids is now almost unobtainable in large quantities. From the early 'nineties there has been an increasing scarcity of this material, but it is only about ten years since osmunda fibre from America and polypodium fibre from the Continent have been proved to be satisfactory substitutes. These materials have gradually found favour, and are now extensively used as a rooting medium for orchids. The early experiments, which led up to its extensive use, were carried out at Westonbirt.

Other necessary materials employed in the potting of orchids are good fibrous peat, fresh sphagnum moss, clean crocks, charcoal, and coarse silver sand. Some good turfy loam of a not too sandy description is required for strong-growing plants, such as cypripediums, calanthes, cymbidiums, phaius, pleiones, and other kinds. The process of potting orchids is not difficult, and cultivators should make it a golden rule never to pot a plant until the roots show signs of activity. When repotting is done just before new roots actually do appear, the compost is fresh and sweet for them, and they seldom fail to take advantage of it. There is no special season for potting orchids, but the observant cultivator watches his plants, affording them fresh food when they need it. Teak-wood baskets, perforated pots and pans, and common garden pots of the usual pattern, are all used as receptacles. Of the three I prefer the latter for the majority of orchids, and shallow teak-wood baskets for phalænopsis and small-growing epiphytes.

One main point is to secure perfect drainage—a point some are apt to overlook, but the fact is, the more water a plant requires the more perfect drainage should be given, otherwise the compost soon becomes stagnant and sour. Over-potting should at all times be avoided, and the rooting material employed should be worked in amongst the roots, pressing it firmly about them, for, as I have already remarked, loosely-potted orchids never thrive well, and loose compost retains too much water. Experience teaches me that it is not the quantity of water afforded a plant which influences it for good or ill, but the amount actually absorbed and retained by the compost, and that the healthiest orchids are those that require water most often; hence the compost should be firm, and on a well-drained base.

Another matter in connection with the cultivation of orchids, and one in which some growers, beginners especially, are liable to make mistakes is the treatment during the resting period. This term "rest" is, I fear, often misunderstood. It does not imply a periodical shrivelling of the plant by withholding water and lowering the temperature, but more of what I may term a compromise as regards temperature and atmospheric condition. The resting period of most orchids is more or less during the winter, a time of year when the temperature is lower and evaporation is not so rapid, and it is then that the plants require less atmospheric moisture and water at the roots. It is principally on this point that a considerable amount of knowledge and experience is required to adapt the varying conditions to meet the needs of the different plants. For example, the distichous-leaved section require more frequent watering during their inactive period than any pseudo-bulbous kinds, vandas, phalænopsis, and similar kinds requiring sufficient moisture in the rooting material to keep the foliage plump and firm. Orchids which are overdried during winter will often lose many of their leaves when the sap begins to circulate freely in the spring. On the other hand, too much moisture when the roots are inactive leads to damping, spot, and other attendant evils. The impression existing in the minds of some growers that a severe drying of cattleyas, lælias, dendrobiums, and other pseudo-bulbous kinds is necessary to induce them to flower is a great mistake. Those orchids that require to be kept dry at the roots during their season of rest benefit to a large extent from the conditions under which they have been grown. If cultivated on common-sense principles, with as much light and air as they require, the leaves and pseudo-bulbs are solid and stout in texture, especially those which are evergreen, and the plants are very much better able to bear a lengthened period of drought without shrivelling.

While there is no royal road to success in orchid culture, other than the long and certain one of observation and practical experience, orchids can be grown, and successfully, by the born gardener who is a good cultivator of ordinary greenhouse plants, if he takes to them and really studies their wants, and, since so many of the most showy and useful kinds are sold so cheaply, a large measure of quiet enjoyment can be derived from these interesting plants without extravagant expenditure.

In conclusion, I will remark that the one matter which has, more than any other, revolutionised orchid culture is the art of hybridising and raising seedling orchids. The important part of orchidology has created an entirely new interest, and fanciers are no longer dependent on importations of plants from foreign countries. At the present day seedling orchids are raised freely, and these home-raised plants, more often than not, are more easily cultivated than imported plants, naturally so because they are acclimatised from birth. This combination of circumstances could scarcely fail to make for advancement, and it is to these, together with the reduction in price of orchids, and last, but not least, to the intelligence and sagacity of our practical growers on whom lay, in the past, the responsibility of cultivating rare and costly collections that the wonderful progress is due, and which has exploded for ever the idea that England is, as Sir Joseph Hooker once observed, "the grave of tropical orchids."

THE REPRODUCTION OF MUSANGA SMITHI.

One of the most striking features of tree life on the West Coast of Africa is the rapidity with which abandoned clearings are covered by the Umbrella tree or Corkwood (Musanga Smithi, P. Beauv.). This is commented on by all travellers, and it is brought to one's notice more especially by the long stretches of hillside covered with this tree which are to be found along the railway round mining centres, and, in fact, wherever any land, which has been stripped of its original forest covering, is left to itself for a few months.

The general appearance of these pure stands of Umbrella tree is that of a young open wood, the trees being all of an even height of about 30ft. Although there may be many acres of such forest, one never sees amongst them any flowers or signs of flowering trees. For these it is necessary to go into the original uncut "bush," and there occasionally an old tree may be found, much larger than those in the open, generally solitary or with a very few of its own kind, and, if it is flowering, in the majority of cases it is found to bear male flowers only.

This fact suggested that a closer examination of the pure stretches of forest composed of this tree should be made, with a view to ascertain the method by which its area is so effectively and so rapidly extended. The stands examined were those at Amokokrom and Boundary Post in the Western Province of Gold Coast Colony.

It was then noticed that the trees towards the outside and exposed parts of the forest put forth adventitious roots from all parts of the stem up to a height of about 10ft. from the ground. Sometimes these roots came away from the stem at a right angle, and after growing out horizontally for about a foot, inclined slightly downwards until they reached the soil. On reaching the soil a shoot was sent up from the end of the root and a new tree was thus formed at some little distance from its parent. In other cases, the adventitious roots inclined downwards at once from their point of origin, in this case striking the soil in the immediate vicinity of the parent tree.

Often the roots were noticed to have been broken in mid air, when in some cases they simply forked, the two rootlets continuing downwards to the soil and forming two new trees; or in other cases a shoot was sent up and a root down from the point of injury, thus starting a new tree in mid air. There seems little doubt, therefore, that these pure stands are extended effectually by vegetative reproduction, at least within the zone of the moist Evergreen Forest, and in consequence the formation of flowers and fruit has fallen into desuetude.—T. F. CHIPP, in the "Kew Bulletin."

Leptospermum scoparium Nicholli. — This distinct variety of the Australian and New Zealand Manuka, which has rich ruby crimson-coloured flowers, instead of the normal white or whitish ones, is now stocked by those nurserymen who make a speciality of rare hardy or half-hardy shrubs. In the favoured parts of the country where it can be grown out of doors, it will undoubtedly form a handsome specimen, while in less favoured districts it will prove of considerable value for the decoration of the greenhouse or conservatory. This leptospermum will be remembered as gaining the cup awarded at the International Show last year for the best new plant.—W.

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EXHIBITIONS AND MEETINGS.

Edinburgh Royal Botanic Garden Guild.

The first annual general meeting of the above society was held in the Lecture Hall, Royal Botanic Garden, Edinburgh, on Wednesday, June 4. Mr. W. W. Smith, M.A., assistant keeper, occupied the chair. The Chairman stated it gave him great pleasure to see so many past lecturers and past employees supporting the Guild movement. It was in February a suggestion was put forward with the idea of linking past and present members of the staff together. A provisional committee was formed, and its work had been the drafting of rules at present in the hands of all past members whose addresses were known. Various matters regarding the Guild had been discussed and recommended, the result being that the present meeting had been called to approve of the work done, and, if possible, to form a Guild.

Mr. R. L. Harrow, the Curator, before making the final proposal, said that getting in touch with old members would prove to be of the greatest help to the present members of the staff. He was sure that the past and present members would appreciate the efforts of the Guild to bring them together. He had great pleasure in moving that the meeting agree to form a Guild, and he hoped the Guild would always continue to prosper. Mr. W. Smith, superintendent of Holyrood Palace Gardens, seconded the motion, and stated the advantages to be obtained, and wished the effort all possible success. The motion, being submitted to the meeting, was carried unanimously. Mr. B. Kemp, M.A., B.Sc., proposed the rules, as submitted to the meeting, be accepted; this was seconded and approved by the members present.

The following gentlemen were elected: President, Professor I. B. Balfour, F.R.S., Regius Keeper; vice-presidents, Mr. W. W. Smith, M.A., assistant keeper, and Mr. W. Smith, superintendent Holyrood Palace Gardens. Committee—Messrs. R. L. Harrow, L. B. Stewart, C. Dyker, T. Waite, G. Fallow, H. Ellwood, all members of the present staff; A. Veitch, India; W. Waite, America; Alex. McPherson, Uganda; G. Berry, Chief Horticultural Inspector, Board of Agriculture, London; D. Armstrong, Kirknewton House, Midlothian; and W. Davidson, Forester, Panmure Estate, Forfarshire, all past members of the staff.

Mr. L. B. Stewart proposed Mr. H. F. Tagg for the honorary post of editor, and said the first number of the journal, he was certain, would be a success under his guidance. Mr. B. Kemp, M.A., B.Sc., seconded, and the motion was carried with applause. Mr. Samuel Stewart, assistant head gardener, was elected to the post of treasurer, and Mr. W. H. Morland was elected secretary.

The meeting decided that the annual general meeting and dinner should be held in November, about the same time as the Royal Scottish Horticultural Society's Chrysanthemum Show, this being a period when past members would be in the neighbourhood. It was also agreed to hold two or three lectures annually for members, to be given by those who were home from foreign lands, and others who had subjects of interest, the same to be published in the journal.

Mr. R. L. Harrow proposed a hearty vote of thanks to the chairman, which was carried with applause.

Dundee Horticultural Association.

Mr. Wm. Christeson presided at the ordinary monthly meeting on June 6, when Mr. Alexander Duncan, gardener to the St. Andrew's Provincial Committee for the Training of Teachers, at Mains, near Dundee, gave a lecture on "School Gardens and Their Effect upon Horticulture."

After tracing the origin and source of this innovation to France and Germany, and referring to the rapid growth of the movement in this country since 1892, the lecturer proceeded to give an account of the methods, theoretical and practical, which found favour in the gardens where he had charge. By the aid of blackboard sketches and diagrams he showed the general methods of cropping which were adopted for 1st, 2nd, and special course students, who had each their own plot of ground and kit of tools for practical work, and concerning which they received lectures, while the results were tabulated after periodical examinations. The principals of manuring and cropping were taught as well as how to bud, graft, prune, and plant. A lengthy and animated discussion ensued, after which the lecturer was cordially thanked.

A Cultural Certificate was awarded to Mr. Jas. Staward, St. Fort Gardens, for a collection of twelve vases of sweet peas in distinct varieties.

Scottish Horticultural Association.

The monthly meeting of this association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on the 3rd inst. Mr. King, the President, was in the chair, and there was an attendance of 56 members.

A paper on "Soil Knowledge" was read by Mr. James K. Brown, Dunnikier Gardens, Kirkcaldy. The author pointed out that humus cannot directly serve as plant food, but that the quantity of it in the soil is an indication of its fertility. The products of the decomposition of humus, however, are highly important to the plant, and its physical properties cannot be overlooked. The work of preparing the food material of the plant is entirely performed by living organisms (bacteria). As a result of their activity carbonic acid gas, which is harmful, is formed, and therefore pure air must be provided in the soil by proper working. A fertile soil is not merely made up of so many independent chemical substances; its fertility depends on the presence of these organisms, and a soil which is devoid of germ life is infertile.

The exhibits were—12 varieties of May-flowering and Darwin tulips, from Mr. R. H. Cockburn, Gartmore Gardens, Perthshire; Lobelia and Fortin's variety of lily of the valley, from Mr. James Bruce, Davidson's Mains; and some of the newer varieties of Viola cornuta, from Messrs. Todd and Co., Edinburgh. Mr. Bruce was awarded a Cultural Certificate for the lily of the valley exhibited by him.

At the meeting on July 1 the selected papers in the essay competition for juniors are to be read.

The Chairman made fitting reference to the death of Mr. John Methven, who was president of the association in 1884, and also to that of Mr. John Anderson, who was an office-bearer in the association for many years, and the secretary was instructed to send letters of condolence to their respective relatives.

East Anglian Horticultural Club.

At the May meeting of this club Mr. F. J. Endersby, gardener to J. H. Carney, Esq., Keswick Hall, Norfolk, read a most practical and well-worded paper upon "Forcing." Although only touching upon the floral side of the subject one felt throughout the reading of the paper that the essayist was master of the whole practice of accelerating plant growth. Admitting that the trade cultivator produces extra good examples of forced material, Mr. Endersby said that the private grower, with his mixed plants and mixed houses, need not be dismayed, for with a little extra trouble many apparent difficulties could be overcome. One first of all should become acquainted with the native habits of any plant which is to be forced, and conditions as near as possible to its natural ones obtained. In forcing any plant it was a mistake to rush it into a high temperature, a gradual development being much better. Numerous subjects, such as bulbs, flowering trees and shrubs, and roses were especially dealt with. The paper was followed by a good discussion.

At the meeting the exhibition tables presented a very bright appearance. Messrs. Daniels Bros., Lim., Norwich, sent up a fine array of forced lilies and other plants appropriate to the subject of the paper. Messrs. A. J. and C. Allen, Norwich, displayed nice vases of roses. Mr. J. W. Chapman, gardener to Baroness Berners, Ashwellthorpe, proved by an exhibit how successful he is with the gloriously-coloured Fortune's Yellow rose. Mr. T. Notley, gardener to E. G. Buxton, Esq., Catton Hall, had a fine example of Cœlogyne Dayana.

At this meeting special prizes were offered for the largest number of queen wasps, and as the result 210 insects were brought by members. This means a reduction in these troublesome pests of many thousands in the summer and autumn months.

Bristol Gardeners' Association.

This society has commenced its seventeenth year's work. At the first meeting of the new season Mr. Baston presided over a very large attendance, and a most instructive lecture was given by Mr. J. C. House on "Alpine Plants." The lecturer said that in making a rockery the chief thing was to have good drainage and provide plenty of moisture, to secure the right kinds of plants for the various positions, and not to have a great show of stones. Some plants needed a lot of attention or they would ramble over others and spoil their beauty. Drip should be avoided or it would soon spoil some of the choicer plants.

The prizes given by Mr. Barnard for a bundle of asparagus were won by Messrs. Taylor and Binfield in the order given.

Mulching.—Trees growing on light, shallow land quickly suffer from drought at the roots, so that it is prudent to apply mulches early, affording water copiously after the mulch has been put on, but this advice, where labour and water is scarce, cannot at times be so well attended to as the fruit grower would like, and the trees in consequence fail to produce a sturdy, fruitful growth.—H. Markham.

OBITUARY.

MR. AMOS PERRY.

After being in failing health for some time past, Mr. Amos Perry, of the Hardy Plant Farms, Enfield, passed away during the morning of Tuesday, June 10, at the age of 72 years. His passing removes from the horticultural world a man whose record as a cultivator, raiser, introducer, and distributor of hardy plants stands very high indeed. Mr. Perry started his business life as a pupil teacher, but, finding horticulture more to his liking, he entered service with Messrs. G. Wingfield and Son, of Gloucester. From thence he came to the nursery of Mr. T. S. Ware, at Hale, Tottenham, where his father was foreman, and where the hardy plants presently came under his own care. He was a great showman, and few could discourse so eloquently upon new introductions and their merits. In 1894 Mr. Perry commenced business on his own account at Winchmore Hill, but as his business developed, and his two sons became associated with him, a larger place, with wider opportunities, was sought and found at Enfield, where thirty acres in an excellent position are now devoted entirely to hardy flowers. Quite a number of popular hardy flowers have been introduced into cultivation through the energy and enterprise of Mr. Amos Perry, and the records of the Royal Horticultural Society show that many of his introductions have secured the awards of that body. Perry's White and Perry's Unique poppies are recent introductions, the latter securing an Award of Merit a fortnight ago. Not a few of the finer irises have been put into commerce by Mr. Perry, who secured numerous hybrids raised by the late Sir Michael Foster. Phlox canadensis Perry's variety, Lithospermum prostratum Heavenly Blue, Achillea ptarmica Perry's White, Heuchera sanguinea Nancy Perry, and such beautiful hybrids from Iris pallida as Wm. Marshall, Sir Trevor Lawrence, and Sir Dighton Probyn occur to mind as a few plants with which Mr. Perry's name will long be associated. Mr. Perry's glorious displays of delphiniums at Holland Park and Olympia, and his exhibits of hardy aquatics are also delightful memories.

Two or three years ago Mr. Perry met with an accident, and was thrown heavily from the little pony trap that was his favourite means of conveyance about Enfield. Although he recovered, he was not subsequently able to take the leading part in the conduct of the business, this falling to Mr. Amos Perry, jun., who, with his brother, will continue to carry on the nursery work. Mr. Amos Perry had a unique personality, a wide knowledge of the histories and needs of hardy plants, and an abiding faith in the great future of hardy plant culture. He took his courage in both hands, and, building upon that faith, he lived to see his business become one of the foremost of its kind in the United Kingdom.

MR. GEORGE McKINLAY.

We learn with regret of the death of Mr. George McKinlay, who for many years was head gardener at Wrest Park, Bedfordshire. Mr. McKinlay took a great interest in hardy fruit culture, and usually exhibited apples and pears at the Royal Caledonian Horticultural Society's autumn exhibitions. He was also a master of the art of summer bedding, and Wrest Park, during the residence of the American Ambassador, afforded him ample scope in this direction. Mr. McKinlay had many friends, and was widely known both north and south of the Tweed.

Lettuce. — Small sowings should be made at frequent intervals, and the resulting plants put out as soon as they are fit to handle. The celery ridges form an ideal position for the purpose. Water should be applied freely to induce quick, tender growth.—W. MESSENGER.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

EXCRESCENCES ON VINE LEAVES.—B. H., Peebles. I enclose some vine leaves for your inspection, and you will see they have minute greenish excrescences on the undersides. Kindly tell me the cause of this trouble and how to cure it. We had a little red spider present in the vinery, but have disposed of it by sulphuring the pipes. Only one vine, a Black Hamburgh, shows the peculiarity referred to.—Some local cause has operated to produce the roughness on the undersides of the vine leaves. Possibly ventilation is not so effective where this particular vine is as in other parts of the house. Some of the leaf cells are ruptured, and the probable cause is the sudden action of bright sunshine while the leaves and atmosphere were heavily charged with moisture, and following a period of dull, cool weather. A sudden and severe restriction of lateral growth will sometimes produce somewhat similar results. A discreet use of fire heat, coupled with extra care in ventilation, will probably put matters right.

THE JUDAS TREE.—F. R. O., Guildford: The Judas Tree (Circis Siliquastrum) does very well in my garden, and I am occasionally asked by my friends for a young plant from it. As it seems to be a particularly good variety, I should like to know how best to propagate it, and any help you can afford me in this connection I shall be grateful for.—The Judas Tree is generally propagated from seeds sown in gentle heat in early spring. Layering is sometimes practised. From seed-sowing the young plants take three or four years to arrive at flowering size, but it is always a good plan to put them in their permanent quarters when they are a couple of years old, because the Judas Tree does not take kindly to transplantation. Place the seeds singly in small pots, harden off the seedlings before they become drawn and weak, pot them early, and give cold frame protection for the first winter, or, at any rate, plunge the pots in ashes in a sheltered place for that season.

WORKING HOURS FOR GARDENERS.—A. C., Norwood: I shall be glad if you will let me know whether the Royal Horticultural Society has fixed a schedule of working hours for its own employees and for the garden employees of the Fellows of the Society.—No doubt there is a schedule of working hours followed by the Society's employees at Wisley, and we imagine such arrangements are in the hands of Mr. S. T. Wright, the superintendent of the gardens. We are not aware, however, that the Society has fixed the working hours for the garden employees of its Fellows.

GEUMS FOR THE ROCK GARDEN.—F. C., Plymouth: At the great Chelsea show of last month I noticed that geums were freely used by many of the exhibitors who arranged rock gardens, but it seemed to me that with one accord they used kinds or varieties which were too strong in growth for the rock garden though very beautiful and suitable for the flower border. It occurs to me that there may be several species suitable for a modest rock garden and if you will name a few of these, just adding the colour of the flowers, you will greatly oblige several of your readers in Plymouth. We shall keep our eyes open for the species you name.—A few dwarf geums suitable for a small rock garden are: G. coccineum, scarlet, rather rare; G. macrophyllum, rich yellow; G. montanum, yellow; G. reptans, soft yellow; G. rhaeticum, bright yellow; and G. triflorum, white and purple.

R.H.S. SCHEDULES. — F. F., Normanton: Please tell me whether the Royal Horticultural Society issues a schedule of the classes arranged for its various exhibitions, or are exhibits of all kinds welcomed?—Each year the Royal Horticultural Society

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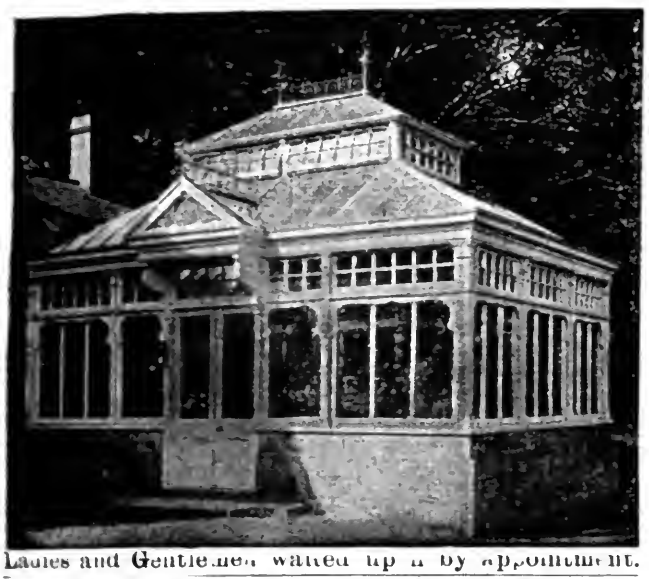

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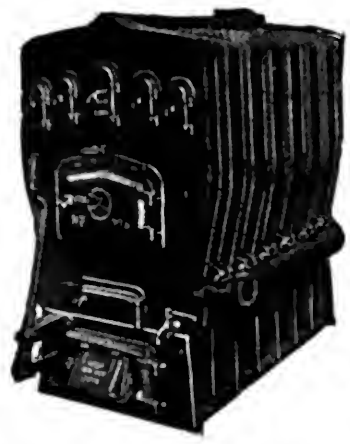

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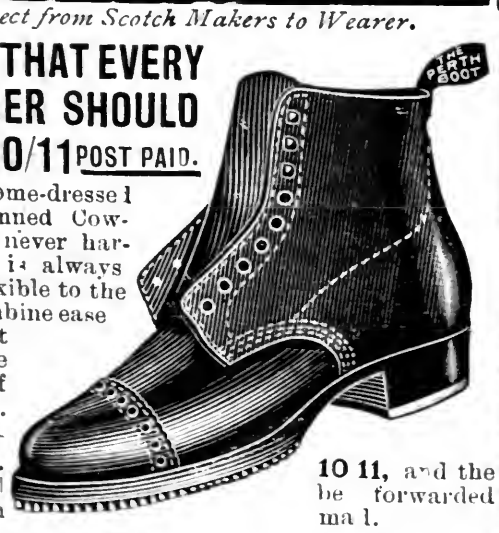

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issues a "Book of Special Schedules," in which the classes arranged for the Daffodil, Tulip, Chelsea, Holland House, Dahlia, Vegetable, and Fruit Exhibitions are set out. In the case of exhibitions held by special floricultural societies, the schedules must be obtained from the respective secretaries of these societies, but the "Book of Schedules" referred to can be obtained from the Secretary, Royal Horticultural Society, Vincent Square, Westminster, London, S.W.

AMERICAN GOOSEBERRY MILDEW.—L. E., Surrey: Kindly tell me how to proceed in the case of a supposed attack of American gooseberry mildew.—The Board of Agriculture advises all gooseberry growers to examine their bushes carefully, and should any sign of disease be found, to spray their bushes with a solution of liver of sulphur (one pound to 32 gallons of water). A leaflet describing the disease and giving directions for dealing with it can be obtained from the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W., gratis and post free. Letters so addressed need not be stamped. Growers are reminded that by Article 3 of the American Gooseberry Mildew Order of 1911 they are required to report the presence of this disease on their premises to the Board or the Clerk of the Local Authority for the district either directly or through an inspector, and that the failure to report is punishable by a fine.

BOOKS ON GARDENING. — H. B., Peebles: We have referred the matter to our publisher, who will send you a booklet containing prices, sizes, etc., of books dealing with a wide range of horticultural subjects.

NAMES OF PLANTS.

N. D., Cheltenham.—1, Azalea viscosa; 2, Genista saggitalis; 3, Veronica pinguifolia.

M. E. C., Derby.—1, Allium neapolitanum; 2, Dianthus cæsius; 3, Saxifraga cochlearis.

P. L. A., Horsham.—1, Stachys grandiflora; 2, Kalmia latifolia; 3, Leycesteria formosa; 4, Cassiope hynoides.

S. S. D., Upway.—1, Primula sikkimensis; 2, Saxifraga longifolia; 3, Chrysogonum virginianum; 4, Inula Helenium; 5, Platanus orientalis.

G. B., Old Colwyn.—1, Heuchera sanguinea; 2, Cypressus lusitanica; 3, probably Pinus Laricio; 4, Linaria cymbalaria; 5, Sedum acre; 6, Leycesteria formosa.

TRADE NOTE.

There are some articles which, while not coming strictly under the designation of garden implements, yet contribute in no small part to the decorative effectiveness of the garden, so that it may be said no garden is complete without them. In this class may be included the "Eureka" Lawn Sand and Weed Killer, manufactured by Messrs. Tomlinson and Hayward, Lim., Lincoln. One or two applications of the weed killer to paths and walks will not only rid these of present weeds, but ensure the absence of the unwelcome intruders for some time to come. The lawn sand is equally effective in clearing plantains, dandelions, buttercups, daisies, etc., from lawns, and strengthening and improving the growth and quality of the grass. While a "studied disorder" is, under proper conditions, very charming, there can be no doubt that the disfiguring effects of weeds on paths, and weed patches on the lawn, are calculated to mar the most carefully thought-out scheme in the garden, hence the need for removing them promptly.

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. JUNE 1 TO JUNE 7.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m	deg.	deg.	deg.	deg.
June 1—Sunday	4 42	60	53	64	40
,, 2—Monday	14 6	61	54	68	44
,, 3—Tuesday	13 24	64	58	74	42
,, 4—Wednesday	6 36	66	60	69	47
,, 5—Thursday	7 54	64	58	66	51
,, 6—Friday	6 48	52	51	61	49
,, 7—Saturday	8 30	54	54	67	48
	(total)				
Means	56 0	60	55	67	46

DATE. 1913. JUNE 1 TO JUNE 7.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
June 1—Sunday	trace	60	58	55	26
,, 2—Monday	—	59	58	55	29
,, 3 Tuesday	—	60	58	55	29
,, 4—Wednesday	—	61	58	55	35
,, 5—Thursday	0·09	61	58	55	36
,, 6 -Friday	0·09	60	58	55	41
,, 7 - Saturday	0·01	58	57	55	38
	(total)				
Means	0·19	60	58	55	33

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

TUESDAY, June 17.—Royal Horticultural Society; committee meet at 12 o'clock; lecture at 3 p.m. on "The Culture of Plants and the Directivity of Life as shown by Vegetative Structures," by the Rev. Professor G. Henslow, M.A., V.M.H.; Scientific Committee at 4 o'clock.

Exhibition of Gladiolus at the Royal Horticultural Hall.

Meeting to consider the appointment of officers for the Agricultural and Horticultural Branch of the Imperial Business Association, at the Royal Horticultural Hall, Westminster, at 5 o'clock.

WEDNESDAY, June 18.—York Floral Fête and Gala; three days.

Cricket match at Clarence Park, St. Albans, between Messrs. Sander and Sons' and Messrs. Protheroe and Morris' teams; play commences at 12 noon.

THURSDAY, June 19.—Linnean Society meets.

CATALOGUES RECEIVED.

ALLWOOD BROTHERS, WIVELSFIELD.—An illustrated and descriptive list of perpetual carnations.

C. F. VAN DER SLUYS, RAMEE, GUERNSEY.—A useful list of perpetual carnations, with helpful cultural hints.

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Indusia.

To such of our readers as have not made a particular study of fern structure the term "Indusia" may be a puzzle, but it simply indicates those little skin-like protective covers for the heaps of spores at the back of the fronds, or such modifications of the frond margins themselves as are formed to serve the same purpose. Thus in our native genera we see the Lastrea or Nephrodium family bearing kidney-shaped indusia attached to the frond by a short stalk, or, rather, elevation, of the frond material at their indentation. Underneath these the spore heaps are concealed in the young state, but as the capsules grow and mature the cover is lifted and pushed aside, so that when ripe for shedding they are exposed, hiding the cover more or less. In the Polystichum family the arrangement is similar, but the indusium is quite round, and is attached by a central stalk, or elevation. By this difference it is easy to determine the genus of any fertile frond with certainty, independently of other particular characters. In the Spleenworts the spore heaps are linear, and protected by a long thin indusium springing from one side, while in the Hartstongue, which is closely allied to them, similar lines are always in pairs, each one of the pair having its indusium on the outside edge, the two indusia edges meeting along the centre when the spores are young, their subsequent development pushing the two indusia apart, and eventually hiding them entirely beneath the long sausage-shaped heap with which we are familiar. In Pteris aquilina, the Common Bracken, we see an example of marginal indusia, formed by the modified edges of the frond divisions. The spore heaps here form continuous lines along the edges, which are folded backwards over them, while in the Maidenhair family (Adiantum) they are similarly arranged, and protected, but the lines are broken up into short segments by the indentations of the edges of the pinnules. In Blechnum spicant, or the Hard Fern, the spore heaps are in uninterrupted lines parallel with the midribs of the pinnæ, and protected by an indusium just within the margin of the much narrowed and lengthened and erect fertile fronds, which also characterise this genus, the barren fronds being much wider and lax in growth, forming a rosette. In Lomaria, with which it is often confounded, even by the botanists, who have determined the genus by the difference, there is no independent indusium, and it is the reversed marginal edge which forms an indusium, instead, as in the Pteris family, from which, however, it is differentiated by the same difference in the character of its barren and fertile fronds, as we see in Blechnum. In the Parsley Fern (Allosorus crispus) we have also differentiated barren and fertile fronds, but on different lines, both being of like habits of growth, but the barren are more foliose and decompound than the fertile. In the Bladder Ferns (Cystopteris) the indusia are dome shaped, like little bladders, whence both the scientific and the popular names. In the Adder's Tongue and Moonwort the spores are borne on quite specialised fertile fronds, formed of comparatively large spore capsules, in the first case compacted into a spike, which, springing from the centre of a plain frond, like a plantain leaf, gives the adder's-tongue resemblance, and, consequently, both its names; and, in the second, resembling a small bunch of grapes, whence the scientific name, while the popular one, the Moonwort, is derived from the crescent form of the barren pinnæ. In these last we have practically no indusia proper, and the same remark applies to the Royal Fern (Osmunda), of which the upper part of the frond is contracted into a cluster of spore capsules, the resemblance of which to faded spiræa clusters has led, of course erroneously, to the name of the Flowering Fern. The Filmy Ferns, the Hymenophyllums, and Trichomanes radicans, bear their spores without indusia proper. This, in the former family, is replaced by a cup-like projection, in which the spore capsules are sheltered, and, in the latter family, also a similar, but smaller, receptacle is produced, but the capsules are arranged on a spike, which projects considerably, and has given the popular name of the Bristle Fern. Finally, we must refer to the Polypodies, which have neither indusia or any pretence at a substitute, since the spore heaps are produced simply in unprotected round heaps on the frond backs; this is the characteristic of a very large genus, embracing very many and very varied specific forms. Our native members of the genus fall into two very distinct categories, P. vulgare having thick, fleshy, creepy rhizomes, large spore heaps, and much larger spores than usual, while these are both of a brilliant orange colour; the others, the Oak, Beech, and Limestone Polypodies, on the other hand, have their stringy rootstocks and tiny heaps of almost black spores. They are also quite deciduous, while P. vulgare is quite evergreen.

MR. F. WILLIAMS,
President of the East Anglian Horticultural Club.

Mr. F. Williams, whose portrait we have the pleasure of giving in this issue, is the president of the East Anglian Horticultural Club, and one of the leading

gardeners in the district of which the city of Norwich is the centre. For some years past he has occupied the position of head gardener at "The Cottage," Old Catton, Norwich, the residence of Louis Tillett, Esq., and here he has done such excellent work as affords ample proof of his cultural skill and administrative ability. He has done something more than this; he has gained the respect of the large body of horticulturists who pursue their avocations in this important centre of gardening, and of this we have evidence in the fact that he occupies a position that is the highest to which he could attain among those engaged in pursuits similar to his own. That it is an honour to preside over the East Anglian Horticultural Club there can be no question, for as we have previously stated, it is one of the most important of the horticultural asociations in the United Kingdom. It has an exceptionally large membership, and an influence that has no superior. As a proof of this it is only necessary to refer to the spirit with which the members have on several occasions entered into the competition for the valuable challenge cup that for some years past has been offered at the Royal Horticultural Society's autumn fruit show, as the premier award in the class for collections of fruit shown by gardeners' associations. The other day the members of the club paid a visit to the gardens under the charge of Mr. Williams, and derived much pleasure from the many objects of interest that came under their notice, and the high keeping evident on all sides.

Conference on Saxifrages.—The Rev. W. Wilks writes: "The President and Council of the Royal Horticultural Society have decided to hold a Conference on Saxifrages (not Sedums or Sempervivums) in the spring or early summer of 1915. Fuller particulars will be issued in due course, but notice is given thus early in order that those interested in this family of plants may have time to prepare material. The Council will be pleased to hear from anyone willing to contribute a paper at the conference, or to take part in any way. Notice 1915, not 1914."

Lupins at Hampton Court.—This season Mr. W. J. Marlow, the superintendent of the Hampton Court Gardens, has used with remarkable success the beautiful pink lupin Moerheimi in beautifying the flower garden between the spring and summer seasons. Grown in spacious beds, the flower spikes have attained a high degree of development and produce a rich effect.

The Strawberry Crop is somewhat later this season than for several years past, but, judging from the immense quantities of large, finely-coloured fruit that are being sent to the London and other markets, afford ample evidence that the yield in the earlier districts is abundant and the quality high. The greater proportion of the strawberries now being marketed are being sent from the strawberry-growing districts of South Hants, and fully justify the expectations of those engaged in the industry that the crop would be the best that has been obtained during the past six years. With fine, warm weather, the fruit is reaching the most distant markets in the best possible condition, and meeting with a brisk demand, which, it need hardly be said, ensures remunerative returns. Notwithstanding the excessive drought of 1911, and the cold, wet weather experienced in 1912, the Hampshire growers appear to have suffered but little from unfavourable climatic conditions of late years, for this season there is a considerable addition to the plantations in full bearing Those engaged in the strawberry industry in Hampshire have at length recognised the importance of co-operation in the disposal of the fruit, and have adopted what is known as a "clearance scheme," to which upwards of 200 growers belong. By means of this scheme the grower is informed day by day of the price obtained for his fruit, and advised as to the markets in which the demand is the most brisk.

London Daffodil Show of 1914.—We understand that the Royal Horticultural Society's Daffodil Show of 1914 will be held on April 21 and 22.

Rose Miss Flora Mitten.—With reference to the beautiful new climbing rose which, under the name of Miss Flora Mitten, received an Award of Merit at the meeting of the Royal Horticultural Society on May 14, and was illustrated in our issue of June 14, Miss Flora Mitten, of Hurstpierpoint, Hassocks, writes: "My attention has been called to an illustration in the current issue of THE GARDENERS' MAGAZINE of my father's rose, under the name of Miss Flora Mitten. The origin as given is incorrect. It was raised by my father about ten years ago with several others. Two out of the number were good, and after his death, were named by his family William Mitten No. 1 and 2 respectively, in remembrance. They were hybrids of Rosa rugosa and Rosa Brunoni (Rosa canina is ridiculous. The one illustrated is the one known to us as William Mitten No. 2. The alteration of the name has given considerable annoyance and is quite unwarranted. I may say that the No. 1 is equally good." Our statement with regard to the parentage of the rose was based on the information given by the exhibitor.

Flowers at the International Horse Show.—The ever-increasing popularity and attractiveness of flowers are shown in various ways, but especially in the extensive use of plants and flowers in connection with various exhibitions. At Olympia, Addison Road, London, it has been the custom to use flowering and foliage plants freely at the extremely popular horse show, and this year the custom is maintained under the direction of Mr. Fortescue. All round the boxes old-fashioned red roses are trained over trellis-work, and they are capital imitations of the real blooms. All around the arena long beds alternate with small ones, the former filled with soft yellow coleuses, Raspail Improved pelargoniums, marguerites, and pink hydrangeas, with rambling roses at the ends, and standards of golden euonymuses and Acer negundo variegata rising above the rest of the flowers. The smaller beds contain very fine blue hydrangeas. The floral promenade below the seats form a great attraction, with its palms, asparagus, ferns, acers, and various flowering plants. About 250 baskets of plumose nephrolepis being hung from points of vantage, and liliums, hydrangeas, dracænas, etc., cluster round the Royal Box. Some idea of the extent of the floral attractions at Olympia from June 19 to July 1 may be gathered from the statement that the plants used include 6,000 coleus, 12,000 pelargoniums, 1,000 Acer negundo variegata, 100 golden euonymus, 800 blue hydrangeas, 4,000 pink hydrangeas, 500 Lilium longiflorum, 5,000 marguerites, 2,000 rambling roses, 1,500 Asparagus Sprengeri, 350 bay trees and 500 palms of varying height. Four thousand tons of soil had to be brought to form the arena, and covered with 30 tons of tan, while for the beds of flowers a further 500 loads of soil were needed. In short, Olympia has been converted into a beautiful garden where horses and horsemanship are exhibited. It may be added that there are grass borders to the beds, and hidden lights are so arranged that they shine upon the flowers, and thus render them as attractive by night as by day.

Royal Botanic Society.—In the House of Commons the other day Mr. MacCallum Scott asked the President of the Board of Agriculture whether he was aware that the area occupied by the Royal Botanic Society in Regent's Park was nearly as large as that occupied by the Zoological Gardens; what area of the Botanic Society's premises was occupied by lawns, buildings, and scientific cultivation respectively; and whether any conditions were inserted in the lease as to the objects to which the site was to be devoted, and as to the granting of facilities of access to members of the public. In reply Mr. Runciman stated that the area occupied at the Royal Botanic Society, Regent's Park, is little more than half that used by the Zoological Gardens. He was not able to say what area of the Botanic Society's premises is occupied by lawns, buildings, and scientific cultivation respectively. The lessees are under a covenant which was quoted in an answer to a similar question on May 28 last. Mr. MacCallum Scott also asked the President of the Board of Agriculture whether he was aware that the programme of the Royal Botanic Society for the months of May and June contained four dog shows, followed by dinners, and two fêtes, but only two events that could be possibly described as of a botanic or scientific nature? and in reply Mr. Runciman stated that nothing in the programme of the society goes outside the engagement that have been entered into or is contrary to the covenants that have been made.

Forestry in England.—In the course of his presidential address at the annual meeting of the English Forestry Association, Lord Clinton said forestry would not become a really popular pursuit unless it was clearly shown that it could be made profitable. More timber was used per head of the population now than ever before, and there must be something wrong when a crop could be planted and reaped without any adequate return to the cultivator. With the English soil and climate we could grow timber as good as, or better than, any country in the world, but too frequently the price obtained for it was little more than the cost of production. The association had the work of organisation in hand, and were reviving an old industry in Sussex for the conversion of ash and chestnut poles into helves, etc., which, it was hoped, would result in considerable trade in that district. The association were also inquiring into the possibilities of new markets.

Manual Work in Rural Schools.—During recent years a material change has been effected in the views on teaching in our rural schools, and universal opinion judges it to be for the better. The several education authorities are constantly endeavouring to broaden the practical utility of manual work in rural schools, and to that end there will be a conference in the education tent at the Royal Agricultural Society's Show at Bristol at 2.30 on Saturday, July 5. Mr. W. Francis Rankine, Badshot Lea, Farnham, Surrey, will read the opening paper, entitled "Manual Work of Various Kinds in their Relation to Rural Schools." The conference has been promoted by the Education Committees of Gloucestershire and Somersetshire, and it is anticipated that it will be attended by many school teachers and representatives of education authorities.

ROYAL HORTICULTURAL SOCIETY'S EXHIBITION,

JUNE 17.

The exhibition on this occasion was hardly up to the standard of the past few shows, though there was plenty to be seen. No doubt Ascot week would account in some measure for this, also the fact that the York gala was being held the day after. In the great heat of the hall, however, those who did attend fully appreciated the extra room thus afforded.

HARDY PLANTS AND FLOWERS.

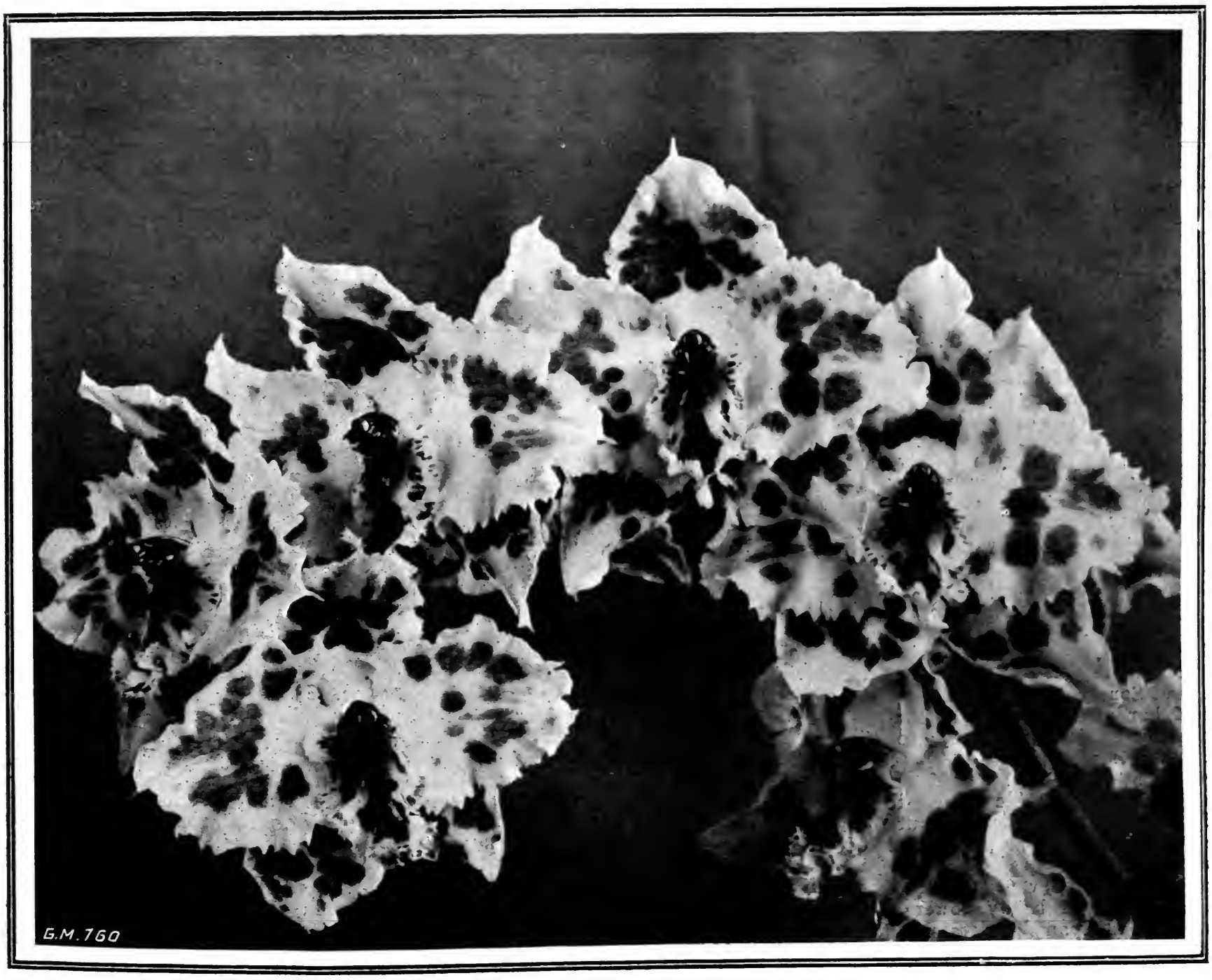
A welcome change was the exhibit of banks of English and Spanish irises, phloxes in variety, papavers, pæonies, pyrethrums, and a good colection of ixias.

From Mr. L. R. Russell, Richmond Nurseries, Richmond, came a bank of variegated foliage plants, such as Hedera arborea variegata, H. dentata variegata, very fine, and Dimorphanthus mandschuricus variegatus.

A table of delphiniums from Messrs. J. Piper and Sons, Bayswater, embraced a really good collection, but they suffered from the heat considerably.

cial mention is necessary for Papaver Perry's White, which was most conspicuous in the other varieties, while the Guildford Hardy Plant Company, Guildford, also displayed hardy plants most effectively. Here again, pæonies, dephiniums, and similar subjects were the leading features.

From Messrs. W. Fells and Co., Hitchin, Herts, came a well-grown collection of Primula Bulleyana, which gave a good idea of the effect such a breadth would produce in favourable surroundings. The Wargrave



ODONTOGLOSSUM CRISPUM THE BARONESS.

Flowers large, the colour white, tinted rose, and marked with purple-red blotches. A.M.. R.H.S., June 17. Baron Bruno Schröder.

Messrs. J. Cheal and Sons, Lim., Crawley, inasmuch as they had introduced a fine collection of ornamental foliage with their hardy flowers. Quercus nigra was beautifully coloured and clean. Kalmias were also much in evidence, while other notable subjects were Solanum crispum, Rosa rubrafolia, Buddleia globosa, and Rhododendron myrtifolium.

A fine table of pæonies and delphiniums came from Messrs. Kelway and Son, Langport, Somerset. Although the day was so trying for cut flowers, the pæonies stood it very well. The chief varieties were Jas. Kelway, Conference, Purple Cup, Artist, A. G. Vanderbilt, and Lady of the West.

Mr. Jas. Box, Lindfield Nurseries, Hayward's Heath, occupied a corner of the hall with hardy flowers. These were composed of huge columns of delphiniums in variety, Lupinus arborea Golden Spire, Linaria dalmatica, very fine, while clustered below were

Messrs. G. and A. Clark, Lim., Dover, also had a table of hardy flowers, in which were noted some fine patches of campanulas, irises, and papavers, while a plant of Verbena chamirdifolia was an object of interest with its crimson flowers and long straggling growth.

Mr. Profittlich, Twickenham, staged some well-developed astilbes with rose and pink tinted inflorescens, the most conspicuous varieties being Monte Rosa, America, Britannia, and Hollandia.

A bright and attractive display of hardy flowers was that staged by Mr. M. Prichard, Christchurch, Hants, a group of Lavatera Olbia being most conspicuous, while the delphinums were fine in size and colour.

Mr. Amos Perry, Hardy Plant Farm, Enfield, had a particularly bright exhibit of hardy flowers, which were arranged with much taste. Delphiniums were a great feature, as were also the campanulas. Spe-

Plant Farm were also well to the fore with a collection of hardy flowers arranged in a natural manner; again, the hardy primulas were a conspicuous feature. Salvia Grahami was also to be seen, as well as Linaria dalmatica speciosa.

Messrs. Reamsbottom and Co., Geashill, King's Co., Ireland, sent over a very bright and effective display of their St. Brigid anemones, which were undoubtedly very fine, and the colours well arranged. Messrs. Whitelegg and Page, Chislehurst, also staged hardy flowers in variety, the pæonies and delphiniums being the leading lines. They also exhibited some fine examples of their Newberry, while beyond an attractive rock garden was displayed.

English irises, as arranged by Messrs. Jas. Carter and Co., Raynes Park, S.W., formed a fine feature. They were arranged in fine bold masses, and were most effective, the most striking varieties being Mont Blanc,

Othello, Lorenzo, de Medices, Gladstone, Laura, and L'Adorable. Messrs. R. H. Bath, Lim., Wisbech, had a fine display of delphiniums and pæonies arranged on the floor of the hall. Some of the best were Princess Mathilda, L'Esperance, La Rosiere, Mont Blanc, Eismonda, and Victor Hugo. Messrs. Paul and Son, Cheshunt, also arranged a group of hardy flowers, which was formed chiefly with pæonies, backed with Verbascum Olympicum, while the front was rich with heucheras.

Mr. Fred Smith, Woodbridge, Suffolk, also arranged a group of hardy flowers, which were bright and attractive, his bold groups of Eremuri Elwesianus, gaillardias, campanulas, and heucheras were charming; while Messrs. T. S. Ware, Lim., Feltham, also displayed hardy flowers in great force. Here again the chief features were the pæonies, delphiniums, gaillardias, and heucheras.

The Wargrave Plant Farm, Lim., 10, The Arcade, Liverpool Street, E.C., were represented by a fine exhibit of gaillardias, papavers, irises, anchusas in variety, and pæonies, while the plants of Nepeta Mussini were in very fine colour. Mr. R. C. Notcutt, The Nurseries, Woodbridge, also staged hardy flowers in fine bold masses. A few of the chief features were Dictamnus fraxinella, erigerons, gaillardias, delphiniums, and Geum Mrs. Bradshaw.

Hardy flowers were well staged by Messrs. G. Bunyard and Co., Lim., Maidstone, the delphiniums being especially good. A few of the most prominent varieties were Lorenzo, Perry's Favourite, Mrs. Creighton, Cymbeline,' Queen Mary, and Nerissa. The pæonies were large and bright, and the irises of high merit.

In the annexe Messrs. Bees Lim., Liverpool, staged a collection of hardy flowers, which included some charming primulas, such as P. Beesiana, P. Orange Bees, P. capitata, and Bees' variety of Trollius patulus, a beautiful form with large rich yellow flowers, introduced by the firm from Thibet. There were also some lupins with new shades of colour.

Messrs. Brown, Peterborough, staged a miscellaneous display, chiefly hardy flowers, the exception being well-grown plants of Heliotrope Lord Roberts. A fine group of Lilium Szovitzianum at once arrested attention, as did also L. umbellatum. The gaillardias were also in fine variety; while Messrs. J. Peed and Son, West Norwood, arranged a bank of hardy flowers edged with sedums, saxifragas, and similar subjects, also a few nymphæas in a tray.

Mr. Henry Newman, 16 and 18, Woodford Road, Watford, had a nice table of Pink Challenger. The colour is attractive, but rather variable, being pink with slight chocolate marking at the base.

Messrs. Barr and Sons, Covent Garden, had an extensive exhibit of hardy flowers. The bright hues of the Spanish irises produced a striking effect, while the early-flowering gladioli could not be overlooked. The ixias, too, were well developed, while amongst other subjects were noted a large collection of irises.

Messrs. H. J. Jones, Lim., Lewisham, staged some remarkably well-grown plants of Campanula calycanthema, arranged with ferns and abutilons; the strain is a good one, exhibiting a wide range of colours. The hardy flower exhibit of Messrs. Wallace and Co., Colchester, was most interesting, the large group of Eremurus Warei being perhaps the chief feature, though one could not overlook the excellent collection of ixias, pæonies, liliums, and irises.

GREENHOUSE PLANTS.

Messrs. Jas. Veitch and Sons, Lim., Chelsea, occupied a table with a variety of plants. Cannas were quite a feature, some of the most striking were Duke Ernst, Gaekwar of Baroda, and Hesperitte. Primulas were arranged in groups, and included P. capitata and P. pulverulenta Mrs. R. V. Berkeley, while Rosa Moyesi was most striking with its charming single flowers. Pæonies and delphiniums were also staged in quantity.

Messrs. H. Cannell and Sons, Eynsford, Kent, presented a bright exhibit of cut zonal pelargoniums, while Mr. H. Burnett, Guernsey, had a bright exhibit of perpetual-flowering carnations, in which Marmion, Mrs. C. F. Raphael, Wodenothe, and Calypso were to be seen in fine form.

Messrs. H. J. Jones, Lim., Ryecroft, Lewisham, had a splendid group of zonal pelargoniums, arranged on the floor of the annexe. A few of the most striking were Mrs. T. F. Bunting, Scarlet Gem, Mab. Stirling, A. Lovett, Mrs. Tom White, A. Hemsley, and Charley Buller.

Messrs. H. B. May and Sons, Lim., Upper Edmonton, staged a delightful group of hardy ferns on the floor of the hall. The background was occupied chiefly with osmundas in variety, while large specimens of polystichums were grouped together naturally, the front being formed with a large variety of scolopendriums, the whole forming a pleasing group.

CARNATIONS.

The border carnation advent is evidently at hand, for Mr. Jas. Douglas, Edenside, Great Bookham, staged some splendid border varieties in vases and bamboo stands, the most conspicuous being Mrs. Elliott Douglas, yellow; Annie Laurie, pale pink; Fujiama, a glowing scarlet; Amy Robsart, white; and Elizabeth Shiffner, also some interesting vases of border pinks.

Mr. Charles Blick, The Warren Nurseries, Hayes, Kent, produced some fine vases of carnations of the border type, such as Scarlet Gem, Captain Scott, Madge Blick, and Shirmisher, while the new white variety King George attracted much attention.

Messrs. S. Low and Co., Bush Hill Park, filled a corner of the hall with carnations and roses. These were arranged in masses, and were consequently most effective. The carnations included groups of Malmaisons, with other sections; while the roses included fine examples of Rayon d'Or, Lady Hillingdon, Dean Hole, A. R. Goodwin, and Lady Pirrie.

ROSES.

Messrs. B. R. Cant and Sons, Colchester, occupied an entire table with an exhibit of roses, the background being formed with fine climbing and weeping varieties, all of which were in splendid condition, the best being Hiawatha, Delight, Excelsa, White Dorothy, and Dorothy Perkins, all being perfect specimens; while in the vases and stands were noted Rayon d'Or, Rose du Barri, Maharajah, Betty, A. R. Goodwin, and Lady Waterlow.

Mr. W. Easlea, Danecroft Nursery, Eastwood, Essex, had a small exhibit of roses, chiefly the newer kinds, for there were to be seen Excellence, M. S. Metizler, pure white, with the name abbreviated; Sunburst, in fine colour; Madame Ruau, a Pernetiana hybrid; Cherry Page, a bright rose, semi-double, that should make a grand garden rose.

Messrs. Hobbies, Lim., Dereham, Norfolk, exhibited some good stands of roses, the best being Pink Pearl, Eureka, and Lady Bird, a nice hybrid tea; the flowers were white, pale pink in the centre, with a yellow base to the petals.

From Mr. E. J. Hicks, Twyford, Berks, came a beautiful hybrid tea rose under the name of Mrs. George Norwood. The blooms are of large size and a deep rose-pink hue.

GLADIOLI.

The early-flowering gladioli classes were merely an apology rather than a show, for there were not more than three exhibitors. Messrs. B. Hoogstraten, Sassenheim, Holland, being placed first in class 1 with Queen of Whites, a tall-growing variety, white, with a suspicion of pink in the petals. Messrs. P. van Deursen, Sassenheim, was second with America, which was not up to its standard value.

For six varieties of early-flowering kinds Mr. R. Velthuys, Hillegom, appeared the only exhibitor, and he staged the following varieties: Colvillei rosea, Ne Plus Ultra, C. alba, C. rosea, and General Scott, but hardly up to Covent Garden form at the present time.

ORCHIDS.

The orchids were not numerous on this occasion; no doubt some of the exhibitors were going north, consequently the exhibits were fewer than usual, and the groups small. Mr. Sidney W. Flory, Twickenham, staged a small but attractive group, in which were noted some fine plants of Cattleya Mendelli, Lælio-cattleya C. G. Roebling, L.-c. Canhameana, and odontoglossums, all tastefully arranged with ferns and moss.

Messrs. Hassell and Co., Southgate, N., had a nice group, in which Brasso-cattleya Helen was conspicuous with its quaint colouring; B.-c. Phœbe also arrested attention with its bright apricot colour and crimson lip; while a number of well-flowered examples of Cattleya Mossiæ were to be seen, including a fine white variety.

From Baron Bruno Schröder, The Dell, Egham, came some well-grown plants of Odontoglossum crispum The Baroness, a fine bold variety, Cattleya gigas, Marga, C. gigas delicata, and a fine plant of C. Gaskelliana Fairy Queen.

Messrs. Charlesworth and Co., Haywards Heath, also contributed a group in which were noted Oncidioda Bella, a most distinct hybrid, with some well-flowered plants of Miltonias and odontiodas.

Mr. J. Gurney Fowler, Glebelands, South Woodford (gardener, Mr. J. Davis), sent a beautifully grown plant of Odontioda Cooksoniæ Fowler's var., which secured a Cultural Commendation. This, however, was awarded the F.C.C. last season. The same exhibitor also staged a lycaste assumed to be a natural hybrid. Sir T. Lawrence, Bart., Burford, Dorking (grower, Mr. J. White), exhibited with other plants Dendrobium Victoria Regina, with its remarkable colouring. Messrs. S. Low and Co., Bush Hill Park, N., contributed a small group, which included some well-flowered specimens of Cattleya Warneri, C. Charlesworthi, Brasso-cattleya Jessopi, also miltonias in fine condition, with some well-marked odontoglossums; while Mr. H. S. Goodson, Fairlawn, Putney, staged a group of odontoglossums, which contained some charming hybrids with well-blotched flowers.

FRUIT AND VEGETABLES.

The exhibits of vegetables were few in number, but the collection staged by Messrs. Jas. Veitch and Sons, Lim., Chelsea, was comprehensive and of a high order of merit, and formed a distinct and important feature. The arrangements, too, could hardly be excelled, the groups (one could hardly describe them as dishes) of Carrots Early Nantes and Parisian Forcing were models; and the same terms are just as applicable to the cauliflowers, beet, celery, spinach, cucumbers, peas, beans, marrows, etc., while tomatoes in variety, radishes, and lettuces were very fine.

Messrs. Dobbie and Co. Edinburgh, presented a collection of cabbages that certainly had not suffered from the drought, for they were as green and tender-looking as one could desire. Some of the most distinct in type were Winningstadt, Early Offenheim, Little Pixie, Early Harbinger, Wheeler's Imperial, Mein's No. 1, Early York, and McEwan's Early. From Mr. S. Mortimer, Rowledge, Farnham, came a nice box of cucumbers, named Continuity; they were straight, with a very short shoulder, and good in colour, while Mr. A. E. Course, Fairfield Road, Biggleswade, sent some very fine bundles of asparagus.

AWARDS.

Gold Medal to Messrs. Jas. Veitch and Sons, for collection of vegetables.

Silver-gilt Flora Medal to Messrs. B. R. Cant and Sons, Colchester, for roses.

Silver-gilt Banksian Medals to Mr. L. R. Russell, Richmond, for trees and shrubs; to Messrs. H. B. May and Sons, Lim., Upper Edmonton, for ferns.

Silver Flora Medals to Messrs. R. H. Bath, Lim., Wisbech, for pæonies, etc.; Mr. J. Box, Lindfield, for hardy plants; Messrs.

(Continued on page 466.)

FLOWER BORDERS IN THE KITCHEN GARDEN.

Year by year one finds the old custom of growing flowers in the kitchen garden extending, and it certainly is a custom worthy of every encouragement, because the flower borders entice the owners and their friends into that part of the garden where the gardener has to exercise his highest skill and forethought to secure ample and varied produce for the table all the year through. A gardener may be complimented upon the success of the rose beds, the summer bedding, the rock garden, or the conservatory, but it is usually left for his brother gardeners to congratulate him upon his crop of peas, beds of onions, breadths of Brussels sprouts, etc. For the reason that more interest will be taken in the crops of vegetables and small fruits, it is eminently desirable that, so far as circumstances permit, more flowers should be grown in the kitchen garden.

Such borders have a further value, for from them flowers may be cut for house decoration, to the very great relief of the flower garden proper, and the flower borders in the pleasure grounds.

On several occasions illustrations of flowers in the kitchen garden have appeared in these pages, but none has presented a more beautiful picture than that accompanying these notes. This represents a walk in the kitchen garden at St. Peter's Court, Broadstairs. The photograph was taken on May 26, and represents a walk about a hundred and fifty yards long, with borders on either side. A fine old walnut tree overshadows a part of the walk, and a large rose arch serves still further to break up the straightness of the line, and lend distance to the view. Espalier fruit trees separate the flowers from the vegetable crops.

The subjects used for edging are garden pinks, dianthuses, saxifrages, rock roses, thrift, arabis, etc., while the borders proper are gay with all kinds of plants, which grow vigorously in a chalky soil. Irises are a great success, and even varieties of I. sibirica grow and flower freely. Of Iris pallida and its varieties and hybrids there are splendid clumps, while day lilies, alstrœmerias, delphiniums, aquilegias, campanulas, geums, pyrethrums, lupins, and the stately eremuri all occur as large, handsome groups. Pains have been taken to select only those kinds of flowers which have proved first-rate in this soil and situation, and this selection, coupled with no mean cultural skill, have resulted in borders that are the pride of the owner, A. J. Richardson, Esq., and reflect the highest credit upon Mr. H. Ball, the gardener.

As already noticed, one border is bounded by espalier fruit trees; the other is backed by old apple and pear trees, which, in addition to beautiful blossoms in spring, and crops of fruit in autumn, also support climbing roses.

St. Peter's Court, Broadstairs, is a preparatory school for young gentlemen, conducted by Messrs. Richardson and Ridgeway, and is famous in this connection because the younger members of our Royal Family, Prince Henry and Prince George, receive instruction there. C.

FLOWER BORDERS IN THE KITCHEN GARDEN AT ST. PETER'S COURT, BROADSTAIRS.

A VIOLA BED.

Few flowers have ever attained such abounding popularity in so short a time as the viola or tufted pansy, for only a few years ago, comparatively, it was regarded by the average amateur as a rather indifferent pansy. Recently a northern nurseryman informed me that the viola was quite ousting the pansy—using the names in the popular sense—in the south, where he sold hundreds of the former to dozens of the latter, but that in the north the pansy was still holding its own. The climate of the north is better suited to the pansy, which suffers miserably in a moderately fine summer in the south, while the viola can stand a good deal of dry weather considering what a moisture-loving plant it is. Its rapidly-attained popularity is doubtless due to the improvement in the size and quality of the flower, and in the habit of growth of the plant, in which directions the violas of twenty years ago left a good deal to be desired.

Without detracting from the value of the viola for edgings and for surfacing beds and borders, it may be said that it is never so effective as when grown in a large,

well-prepared bed entirely given up to it. If plants are raised from cuttings early in the summer, so that they are nice compact tufts of dark green growth when planted out in October, they will flower a little in the autumn, and keep growing through the winter when the weather is open, producing the first fine blossoms by the middle of April in a normal season. Some recommend planting them in their flowering positions in the spring, which thus remain as brown fallow all through the winter instead of nicely planted beds of vigorous plants, but violas suffer a good deal in a dry spring in such circumstances, while the growth in any case is less vigorous than from autumn planting, and consequently the flowers smaller. It has been urged that there is danger of loss by frost in the open. This may happen sometimes in cold positions with some varieties, but I have not lost any from a cold, damp winter in Essex, not even in the winter of 1908-9, when we had two frosts of 30 and 27 deg. respectively, the latter as late as March. If we should have such a winter as February, 1895, the last really severe winter we had, then there might be loss, but such a winter is so rare that we may risk it.

Of all the combinations of colours in violas that I have seen nothing has, in my opinion, surpassed or even equalled that formed by the three varieties, Redbraes Yellow, Councillor Waters, claret, or crimson-purple; and Maggie Mott, bluish-lilac or lilac-mauve. The first-named is of splendid habit, perhaps as good as any variety; the second is very good, and the third rather slender in growth, but forming a mass of flowers. If a very bright contrast is wanted, the yellows will be put next to the dark, otherwise Maggie Mott should be put between them. There is only one drawback, which can be mentioned to that otherwise perfect viola, Redbraes Yellow, and that is, the fading flowers remain standing up straight instead of falling down and being hidden amongst the growth as is the way with most varieties. It is not a serious disadvantage, but the appearance of a bed is certainly improved if the dead blossoms are occasionally picked or cut off. It is also very short in the stalk for picking until the season becomes advanced. The other two are perfect in this respect.

Some like a white to go with the yellow, purple, and mauve, and for this purpose Snowflake can scarcely be improved upon for size of flowers and continuity of flowering, the same plants remaining in bloom with me last year from the middle of April to the middle of November, when the bed was cleared. It is, however, less compact in growth than the other three, though very sturdy. There is one disadvantage in the addition of a white viola, and that is, the effect of the others is killed by it, especially in the gathering dusk of the evening.

Everyone must have observed the deepened colour of yellow flowers when exposed to the setting sun, and perhaps it is scarcely less noticeable for a little while after the sun has set. This should be borne in mind when planting, and if there is any choice of positions plant the yellow one so that it faces the sky somewhere between north and west. During a wonderful series of clear evenings we had in May, 1909—the sunniest month on record up to that time—a large patch of Redbraes Yellow was a joy to look at in the coming of the evening twilight. Truly

> The world is so full of such beautiful things;
> We all ought to be as happy as kings.

ALGER PETTS.

AMONG THE ALPINE FLOWERS.

> "Now scythes are whetted and roses blow,
> Spring, carolling, said, 'It is time to go,'
> And though we called to her, 'Stay! O stay!'
> She smiled through a rainbow, and passed away."
>
> "In Veronica's Garden."

With the passing of the writer of the above lines—a real lover of flowers, whatever his failings as a Poet Laureate—the spring has sped its way, and we are into summer, with all its wealth of blossom, when shrubbery and border alike are seeking to dim the radiance of the alpine flowers and to eclipse their beauty in our eyes. Yet this is impossible to the earnest lover of these unassuming flowers, for they also have charms of the highest kind. There are among them many "gems of purest ray serene," which stand the closest inspection, and compared to which many popular flowers look garish, and lacking in their innate grace and charm. To the Queen of Flowers, the rose, we all bow in adoration, but the alpines of June also command our worship. They are full of grace and beauty still, and many are of striking effect as well, and hardly brook rivals among their sisters of the border or the parterre. Come with me and see.

Cytisus Andreanus prostratus.

This is a plant which has surely a future before it as a rock garden trailing shrub. What Cytisus kewensis is in the early season so Andre's prostrate broom should be in late May and June. When it comes more frequently before the alpinist in visiting other gardens, he will not be disposed to be without this grand shrub if he is possessed of sufficient space. When it reaches some size a mass of its gold and crimson or brown flowers trailing over some large rock will be a sight worth remembering, while for the smaller garden it may be clipped back annually immediately after flowering, and will be all the better for this Spartan treatment. Though only recognised by an award recently, it has been in cultivation for some time, and it is now several years since Mr. C. H. Curtis, of THE GARDENERS' MAGAZINE, drew my attention to it as a standard in an exhibit at a Temple Show. His usual acumen as regards good and new plants had not deserted him then, and now we shall acclaim C. Andreanus prostratus as a first-class rockery shrub.

Tanakea radicans.

A striking contrast to the wealth of colouring of M. Andre's broom is afforded by the white plumes of Tanakea radicans, raised a few inches above the leathery leaves. When it first opens one feels somewhat disappointed with the inflorescence of this native of Japan. The spikes and the individual flowers look insignificant, and one is inclined to have but a modified admiration for the rooting tanakea. But as the weeks go on it improves. The plumes become whiter and more feathery; they grow taller and look more graceful; and then we come to see that this ally of the saxifrages—for such it is—may be classed among the good alpines which increase in our favour.

It is hardy, and its liking for a cool, shady, and rather moist spot in the rock garden will commend it to many who have some difficulty in securing good things for such a place. It is easily increased by division when once established, and may be ranked among the many modest beauties which become more and more favourites as we become better able to appreciate their points of simple charm. To read a botanical description of Tanakea radicans is hopeless if we want to attain any idea of its appearance. It may be said briefly to resemble in flower a miniature white spiræa or astilbe some six inches high, or a little more, but with rather lanceolate, entire, leathery leaves. A peaty soil suits it best, and it is quite at home among the stones of the shaded part of the rock garden.

Dianthus sylvestris.

Not many people seem to grow Dianthus sylvestris, and this is, in all probability, because it is often a failure in gardens, and is written down as one of the "miffy" plants which should be avoided. It may be good fortune, rather than any skill in planting it, but here it is quite a success on a flat terrace on a dry part of the rock garden, and well mulched about with whinstone chips. With these about it, in a soil of sandy loam, light and well drained, this little pink has assumed some considerable proportions for a dianthus of its character. Its tuft of slender green grassy leaves is the picture of health, while there are raised some six inches above it, on slender yet sturdy stalks, several of the pretty solitary or twin rose-coloured flowers. There are choicer things among the pinks—for sylvestris cannot hope to vie with Dianthus alpinus or Dianthus neglectus, but we have surely room enough for more than two or three pinks, and this so-called wood pink, which, paradoxically, does not care for shade, may well have some consideration

Hyacinthus amethystinus.

Not yet over, but almost so, are the drooping flowers of the little bulbous plant called Hyacinthus amethystinus, whose colouring appears to have been truly derived from the bluest of the skies above, and which is so charming in nooks of the rock garden not too high up, but preferably near the level of the eye, so that the grace of the pendant flowers may be the better observed. It is a cheap and charming bulb for which room might well be found in rock gardens, where it would be a boon during the late May and early June seasons.

Other Flowers.

There are masses of saponarias of various shades. There are veronicas with sheets of blue; gypsophilas, either trailing over the stones or forming low carpets, dotted with white, prettily veined flowers, as in G. cerastioides; bright geraniums, erodiums, androsaces, drabas, aubrietas still, primulas such as farinosa, bulleyana, cockburniana, and others of the race. There are heucheras, gay and glowing helianthemums, thrifts, dwarf and tall geums, potentillas, saxifrages—in very truth a wealth of flowers commanding our admiration and compelling our praise.

S. ARNOTT.

Scutellarias.—Several of the warm-house scutellarias are valuable decorative plants, their flowers being bright and showy, and borne over a lengthened period. The best known is the Mexican Scutellaria mociniana, with terminal clusters of tubular-shaped flowers, scarlet, with a yellow mouth. Other showy species are S. costaricana, which bears a considerable resemblance to C. mociana, except that the flowers are borne in small axillary clusters as well as in the terminal one. In S. scarlatina the flowers, that are small, are very freely borne in short dense spikes. They are light scarlet in colour. In habit somewhat like the last is S. violacea, whose flowers, however, are of a pleasing shade of violet. All are readily propagated from cuttings, and of simple cultural requirements.—S. W.

LYCHNISES.

Among the members of the Rose Campion family there are several ornamental annual and perennial plants. Some are of great value for the herbaceous border like L. chalcedonica, with its dense corymbs of scarlet flowers, and L. viscaria, with rosy flowers, while others, like L. alpina and L. Lagascæ, are only at home in the rock garden. In colour the different species range from scarlet to pure white, with intermediate shades. Those of the Agrostemma section, to which L. coronaria belongs, are among the earliest of plants to grow, and are excellent either for the herbaceous border or for the wild garden and open shrubberies. In such positions they may be naturalised, and will come up freely, producing an effective display year after year. As nearly all the members of this family produce seeds freely they are readily increased by this means. There are about twenty species in cultivation, some of the best of which are the following.

L. alpina.

A pretty little alpine plant, more suitable for the select portion of the rock garden. It forms a tuft of dark green shining leaves and produces a stem some few inches high, bearing a head of closely-crowded pink flowers. There is a variety of it which is known as L. alpina lapponica, and has much paler pink flowers. It should be grown in very gritty soil that does not get too dry.

L. chalcedonica.

This is a well-known and valuable plant of great beauty which grows into great tufts, and reaches a height of three feet or more. Groups of this plant in the herbaceous borders, with its intense scarlet flowers, are very effective. Of it there are several desirable forms, some with white flowers, and others of intermediate shades of colour, while there are also double white and scarlet varieties. Known as the Jerusalem Cross, it is of very free habit, and a good stock may soon be obtained by dividing the stools in autumn or spring.

Lychnis, or Agrostemma coronaria.

With its rosy-crimson flowers and hoary leaves, L. coronaria is a handsome plant for the wild garden. It grows from two to three feet high, with freely-branched stems, and, once established, may be relied upon to come up in quantity every year. There are several varieties of it, of which oculata has white flowers with rose-coloured centres, and Walkeri has vivid blood-red flowers.

L. fulgens.

This handsome Siberian plant has been grown in gardens now for nearly a century. It reaches a height of about twelve inches, and produces large vemilion-coloured flowers in the early summer. As a border plant, and grown in groups, it is very decorative. Like many of the other members of this family it is very variable, and the strain known as L. Haageana are only varieties of it. In the latter we have mixed shades of colour ranging from crimson, rose, scarlet, and pink, to white.

L. Lagascæ.

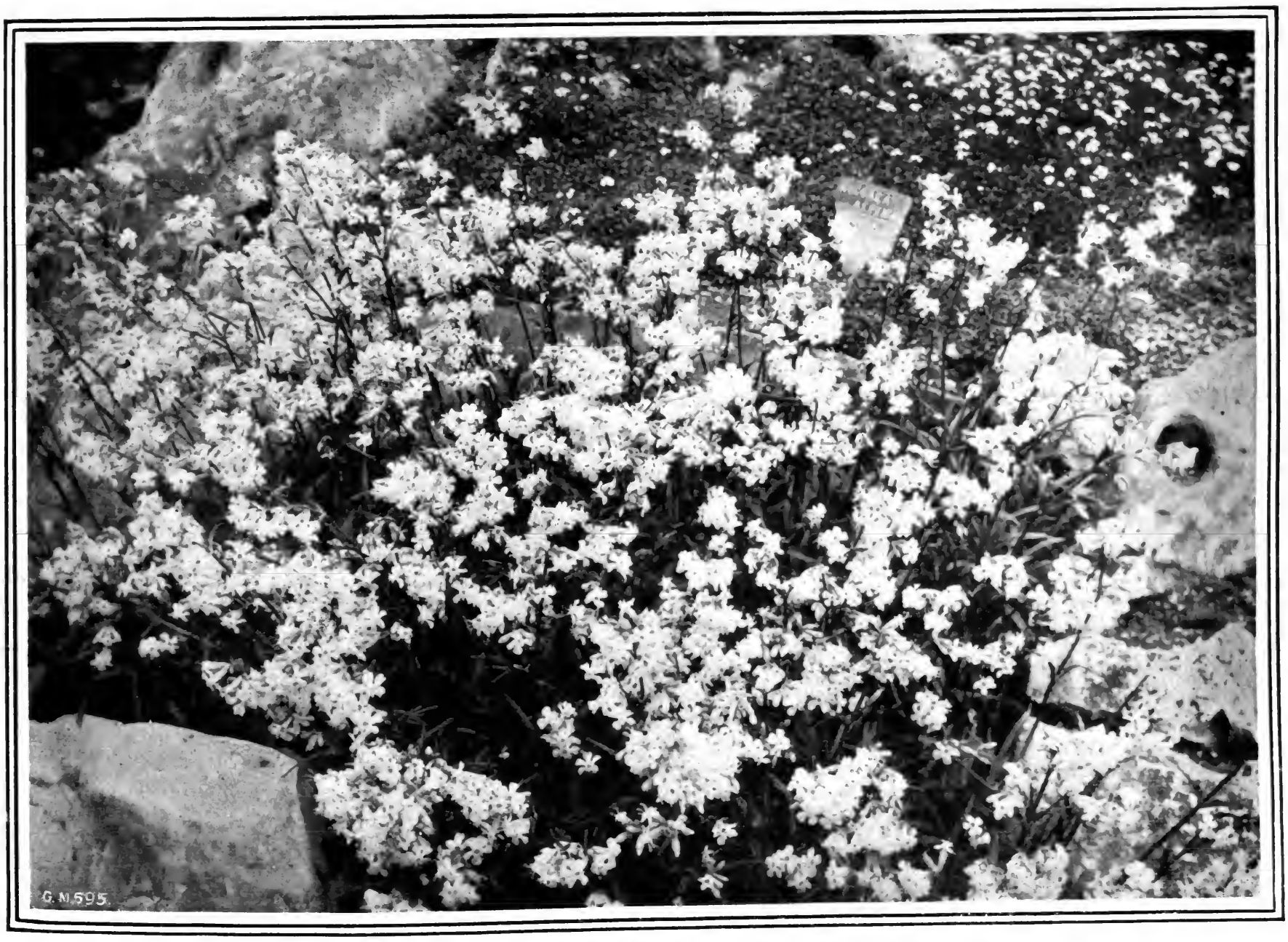
This is one of the most charming of rock plants, growing into a low tuft, covered with small rose-coloured flowers, having a white centre. It is a native of the Pyrenees, and flowers during the whole of the summer.

L. viscaria.

The German Catchfly is a dwarf-growing plant, forming tufts of long leaves from which are produced numerous stems bearing heads of rose-coloured flowers. For the rock garden or front of the herbaceous border there is no more useful plant, as it is such a vigorous grower and so free flowering. It produces itself freely from seeds in any suitable situation, self-sown seedlings spring up round about the old plants. L. v. var. alba, which is here illustrated, is a white-flowered variety of great beauty.

W. I.

Kew.



LYCHNIS VISCARIA ALBA IN THE ROCK GARDEN AT KEW.

MYOSOTIS DISSITIFLORA.

This beautiful early-flowering forget-me-not is one of the best of all for the flower garden, especially as a groundwork for spring bulbs. Both blue and white varieties of it have been raised, and most of them, as well as the species, may be raised from seed if provision is made for replacing the small percentage of rogues that will reveal themselves as soon as they begin to flower, or even before, and as this is so early in the year, often in February, replacing can be effected without damaging the appearance of a bed. Seeds should be sown early in the summer, the earlier in June the better, on a nursery bed of well-prepared soil. The seedlings may be thinned out sufficiently, and left to grow into good plants for moving in October, or they can be pricked out in rows in damp weather.

Owing to its compact habit of growth and profusion of bloom this myosotis makes a capital pot plant, and if potted up in the autumn it can be had in flower from Christmas onwards. Though it is of such great value for carpeting beds of bulbs, its most effective use is when massed together, either on the rock garden or in conjunction with yellow violas or dwarf golden wall-flowers.

A.

A PLEA FOR GREY-FOLIAGED PLANTS.

(Continued from page 434.)

Asperula suberosa is a lovely plant for a sunny rockery, its grey, woolly foliage and pink flowers making it a special favourite. I saw it was much admired at the Royal International Exhibition in 1912. It grows about six inches in height, and flowers from June to August. Alpine auriculas are useful and valuable plants for a "grey border," or the rock garden, in May or June. Bahia lanata is an ornamental herbaceous plant decidedly useful for naturalising; it has silvery foliage, and produces small but numerous yellow flowers in May and June, and grows about 18 inches high.

Carnations cannot possibly be left out of a "grey garden" arrangement, and should be planted like pinks, in large clumps of one variety, to obtain the best effect. There is an enormous choice of border varieties, but the few I here mention are good and of vigorous growth. White—Trojan, Vergilia, Duchess of Rothesay, Albion, and Mrs. Muir, the latter for its quantity of bloom and neat growth. Pink—Duchess of Fife, Lady Hermione (salmon-pink), Miss Willmott, Mrs. Nicholson, Queen of Scots, and Elizabeth Schiffner, a splendid self of rich deep pink and of very vigorous growth.

Cerastiums are well adapted for edging borders, carpeting walls, or any place in the rock garden, often thriving where other plants fail. C. alpinum is a great favourite of mine. It is a lovely plant for the rockery, the pure white flowers being charming in June and July. C. Biebersteini has both larger leaves and flowers, and lasts longer than C. alpinum. It is a grand plant for edging borders, growing over any stones, walls, mounds, or out of the wall, and is often used in bedding designs. The flowers are white, and last from May to August. C. tomentosum is the well-known "Snow in Summer." C. grandiflorum is a deciduous species, with large white flowers and hoary leaves. It grows nine inches high, and is in bloom from May to July. Convolvulus althæoides has shining silvery leaves on trailing stems, with fairly large pink flowers, which appear from June to September. C. incana is a prostrate species having silvery leaves. It is splendid for the rockery, its white flowers being highly attractive.

Erodium Sibthorpi, a rather scarce species of the "Heron's Bill," has silvery foliage and lilac flowers which last from June to September; six inches in height. E. guttatum is a good plant for a sunny spot in the rockery, growing only six inches in height, and having lovely silky-white foliage, and flowers veined beautifully with violet. E. olympicum was to be seen at the international show, and when better known will be largely grown. It is adapted for the rock garden, and produces pale pink flowers very freely

Eryngium giganteum is, I think, admissible to the grey garden; for a tall plant this "Ivory Thistle" gives a charming effect if planted in a sunny place, where it thrives well, growing in a very rigid fashion, and forming a bush. The stems are shining white, the leaves and flower bracts partaking more or less of the same glistening hue; it is seen at its best from July to September, and grows three to four feet in height. E. maritimum is a dwarfer kind, being the true Sea Holly; the leaves, stems, and flowers are of a greyish-white, and if grown in a large mass in front of E. giganteum makes it a handsome group. It is a British species growing about 18 inches in height.

Festuca glauca is an ornamental grass, and very useful for edging, as it grows in tufts, and is of a bluish-grey hue; six inches high. F. punctoria is a grand grass with effective foliage. Geranium argenteum, like almost all the Crane's Bills, is a beautiful rock or border plant, and delights in sunshine. It has silvery-grey foliage, and bears rose-coloured flowers from April to August. It was much admired at the International Exhibition. G. cinerium, and its white form album, are pretty silvery-leaved plants for the front of a sunny border. The type has rose-coloured flowers veined with purple.

Lavendula spica is the old-fashioned English lavender, which still keeps prime favourite owing to its well-known fragrance. There is a white form of L. spica which is quite as fragrant but not so much grown as the type. Lavender certainly does better in an open sunny position than in the shade, where it tends to grow very weakly and flowers very irregularly. Lavender is suitable nearly anywhere in the garden where the position is open. A bed I have in mind, which was very effective last July, was one of lavender, with Polyantha rose Phyllis growing out of the centre of the bed, the bright carmine-pink or the rose showing through the soft grey flowers of the lavender, and giving a charming effect. Another simple bed was a newly-planted one of lavender with Nigella Miss Jekyll. The cornflower blue of the Love-in-the-Mist on its fairly long stems was very pretty. Old Dutch lavender is a dwarf kind, barely reaching a foot in height, but it has pretty, blue flowers. L. atropurpurea is, as its name suggests, a rich purple-flowering variety, about nine inches high.

Lupinus argentea is a shrubby plant I saw at the Royal International Exhibition, but have not yet grown. Nepeta Mussini has short greyish leaves, but the plant is of a neat habit, and gives quantities of light blue flowers, which bees are fond of. N. violacea has light, glaucous foliage, with flowers of a violet colour from June to November. Both these Cat Mints are suitable plants for the top of a wall, rockery, or border.

Pinks are most useful for a grey border, rockery, or wall, as they retain their lovely foliage all the year through. They are easy to grow, thriving in any garden soil. The time when they need attention the most is just as they are showing the flower buds, and if the weather is then dry they should be given copious waterings till they are opening their blooms. Attention given thus will be well repaid by the better quality and quantity of bloom. Pinks are easily increased by pipings (growths three inches long, cut off below a joint), inserted in sandy soil in a cold frame or in the open border, making them very firm, and shading from strong sunshine until rooted. This should be done in early July, and by September all will be ready to be planted in their permanent quarters after well preparing the site. A good plan is to pot up some of the pinks, putting three plants into a seven-inch pot, and leaving them outside for a time, afterwards removing them to the greenhouse, where they will flower in the early months of the year. Afterwards, if planted out in the border, they will, if well watered, give another grand lot of flowers in the late summer. Mrs. Sinkins, Her Majesty, fimbriata alba, and Albino are all good white pinks, and very fragrant.

Ranunculus amplexicaulis is one of the most delightful alpines for the spring, having pretty bluey-grey foliage and numerous spikes of white flowers with conspicuous yellow stamens; it flowers from April to June, and grows about one foot in height. Salvia argentea, with its large silvery leaves, makes a handsome and showy plant for the border, and flowers the second year from seed. The leaves are nearly one foot long, the plant itself reaching the height of about three feet, and bearing large flowers, which are pinkish-white, in June and July.

Santolina chamæcyparissus, the Common Lavender Cotton, is a very old evergreen plant, which grows to the height of two feet, and has very pretty, small, silvery-grey leaves and yellow Tansy-like flowers. S. c. incana is quite a dainty little bush, which has the same pretty foliage, and is fine for the rock garden and borders, where it is the most effective if planted in fairly large clumps; grows one foot high, and flowers from July to September. Stachys lanata, a most useful plant for many purposes; it has soft, white, woolly leaves, commonly called Lambs' Ears, and has reddish-purple flowers on woolly stems in July and August.

Veronica incana is a beautiful and most useful plant; in fact, one of the best of this series. The pretty grey foliage, which it partly retains all the year, makes it most effective for bedding designs, and also for the rock garden or the border. It has stems about one foot long, and carries flowers of a lovely blue colour from the end of June to August. Veronica pectinata, and its form rosea, are more suitable for the rockery than elsewhere, owing to their creeping habit; both plants flower from May to July.

H. PRENTICE.

Hartpury House Gardens.

CLERODENDRON SPLENDENS.

This climbing species of clerodendron, which was introduced from Sierra Leone in 1839, has been before now noted in THE GARDENERS' MAGAZINE. It, however, at the present time forms such a fine feature of plant stoves, in which it is well grown as to merit a few words in its favour. The flowers are borne in large corymbose panicles, and are of a rich scarlet or scarlet-crimson colour. It is of much value as a rafter plant, for not being of a particularly vigorous habit of growth, is well adapted for training in this way. Another desirable feature is that a succession of its showy blossoms is maintained for a long time. Another species that is also very beautiful is Clerodendron Thomsonæ, more often met with as C. Balfouri. This latter is better known than C. splendens, and bears panicles of bright crimson flowers. The calyces are large and inflated, and pure white, thus contrasting markedly with the corolla. These two clerodendrons are certainly among the finest of stove climbers.

W.

GARDENS OF ROSES.

Poets generally give most praise to spring, but in the gardens where roses are cultivated for effect, surely the middle of summer is, as it should be, the fairest season? There is a lavish charm now that bulbous blossoms and full-blooming hawthorns, laburnums and lilacs could not quite produce, a luscious feast of colour and scent that no chill east winds may spoil. No longer

"The purple iris hangs his head,
On his lean stalk and so declines;
The spider spins his silver thread
Between the bells of columbines."

but the rambling roses are flinging tumultuous sprays hither and thither, fighting for precedence, the standards spread canopies on every hand, and the bushes annex more and more space. Soon we shall have reached the time when—

"From brazen sunflower's orb and fringe,
The burning burnish dulls and dies.
Sad Autumn sets a sullen tinge
Upon the scornful pæonies,"

but while the rose months are with us, let them be revelled in to the utmost.

The care of a garden of roses may be described as different, from first to last, to the care of exhibition specimens. It is a pity to cut trees nearly to the ground each year, since a huge generously-bearing bush is so noble an ornament; it is folly to disbud scientifically when the show is desired for weeks together. One secret of garden perfecting is not to allow a single bough to be hidden among its neighbours, nor one bud to open where its loveliness is semi-hidden. A little attention in the way of giving sticks, tying out the branches, and supporting individual flowers, by loops of green twine, to the wood of the tree, will ensure a magnificent display. This is especially advisable with the heavy-headed roses, such as Mildred Grant, J. B. Clark, and occasionally La France, which, after their cups become rain-filled, do not lift them again. Probably it is from espalier-trained roses, set in four-foot borders on either side of a grass path, then flanked beyond by gravel or paved walks, that the greatest beauty is gained; the trees can be seen from all aspects, and there is no overcrowding of foliage, while the blooms naturally jut out towards liberty, and unclose their petals deliberately, not hastened by any wind-shaking of their stems.

No rose-lover will need to be reminded that not a dead bloom should be permitted to remain until the petals drop, unless seed is being sought after. One object of this daily work of faded-flower removal will be he maintenance of sightly soil over the beds or borders. If carpet plants are not grown the hoe should be used so zealously that a caked surface is as undiscoverable as a weed.

A controversy will always be waged as to the benefit or harm derived from growing other plants with rose trees. Probably in cold, damp localities the practice is not good, but where heavy soil is combined with the scorching sun-heat, that quickly bakes it into a crust, where cold winds, possibly sea-gales, are followed or accompanied by that same scorching sunshine, experiments prove that all the roses whose roots are covered over by dwarf plants make far better foliage and give more and finer blooms than those which stand alone in their glory. The mossy saxifrage is an ideal plant for the purpose. The spring blossom is not over when the roses come in June, when it fades it can be rapidly clipped off by the shears, and then the green clusters regain the emerald excellence that they lost when red stems and snowy, or rosy-crimson, florescence eclipsed them. Aubrietias, arabises, and Alyssum saxatile compactum will be less costly than mossy saxifrages for general use.

Among standards and old-established bushes of hybrid perpetuals, and robust hybrid teas, Iceland poppies, though tall, do no harm, and lovely displays are gained by using the orange with white, the lemon with crimson, and the white with pink roses. Summer seed-scatterings will bring up Iceland poppies by the thousand, to provide carpets of mature value next year. The small Alpine poppies are useful among less tall or less hardy trees. Viola cornuta is a more suitable plant for most rose borders than the bedding viola, though the latter can be employed freely under standards and climbers. Seed is offered separately of V. cornuta, pale violet; alba, nearly white; Mauve Queen, reddish-violet; and the pinky-lilac Rose Queen.

The simplest wooden seats, made of old grey wood, look best in the rampant, semi-wild rose garden. A number should be kept to locate at the various positions from which the chef-d'œuvres of the rose cultivator can be best witnessed. M. H.

SAINTPAULIA IONANTHA.

This beautiful warm house plant is very finely grown by Mr. H. Prime, gardener to the Marquis of Salisbury, Hatfield House, Hatfield, who has exhibited groups on several occasions in London. The present illustration shows one pan, green painted, and with the drainage holes closed up, as used for house decoration, and filled with seven plants. Each plant is in a 48-sized pot, like the single specimen standing by the side of the pan. Those in the pan are not turned out of their pots, and no moss or ferns are needed to hide the pots owing to the freedom with which the plants grow and flower. Such pans are a mass of deep blue bloom, with a setting of neat green leaves.

SAINTPAULIA IONANTHA.

A beautiful blue-flowered plant, successfully grown and largely used for house decoration at Hatfield House.

The photograph from which the illustration was reproduced was taken on May 25, and is ample evidence of the value of Saintpaulia ionantha for house decoration when well grown. Mr. Prime has carefully selected his stock of this species, and has been careful to propagate only from the finest forms. The plants represented were raised from leaf-cuttings inserted last September.

GEUM COCCINEUM MRS. BRADSHAW.

As vigorous as the proverbial weed, with a brilliancy of colour that rivals the Oriental poppy, yet without their ephemeral character, Geum coccineum Mrs. Bradshaw is a plant of outstanding merit in the border during June.

Few border subjects have sprung into greater prominence in so short a time, and the number that merits such distinction is none too large. A striking feature of this fine subject is the ease with which it may be propagated, and by different methods of cultivation its season may be prolonged almost indefinitely. It comes true from seeds, and if these are sown in January and the seedlings grown in pots, using a rich, light soil, strong flowering plants may be had in July and August, to succeed those grown in the open border. Seeds sown in February, and the seedlings transplanted into boxes, and thence to a well-prepared position out of doors, will give plants that will flower during the autumn and right up to the period when frost occurs.

Not only is this geum a first-rate subject for massing, as it fills out well, and produces a thicket-like effect with its slender stems and large semi-double flowers, but it is also a splendid subject for indoor decoration, the colour lighting up well with dark-coloured decorations and dark wood panelling, and where a touch of colour is desirable to dispel the sense of heaviness associated with old-world furniture. Geum Mrs. Bradshaw appears to be really orange-scarlet in colour, although viewed in the border the effect is that of a crimson flower, this being most noticeable on dull days and in the evening, when the light is less glaring; the fire in the flowers is then subdued.

THOS. SMITH.

Coombe Court Gardens.

Mignonette.—This is appreciated at all times of the year for its delightful scent. For flowering in late autumn seeds may be sown now in 5in. pots. A suitable compost is one chiefly composed of loam and leaf-soil, with a sprinkling of finely-crushed lime rubble. The pots may be stood in a cold frame and shaded until the seedlings are through the soil.—E. HARRISS.

HARDY CLIMBING PLANTS.

Roses are good climbers. Carmine Pillar is a beautiful single climbing rose, with flowers of a true crimson-scarlet tint that entirely lacks the unpleasant magenta pre-

old ruined trees with a veil of ivory-white, starry blossoms. The new pink variety rubens furnishes a pretty contrast. Other good species are the yellow-flowered C. gra-

ever, without doubt, Solanum jasminoides, whose attractive qualities are widely recognised in the south-west, where it is largely grown by rich and poor alike.

Few flowering climbers useful for open-air gardening can surpass the honeysuckle It lends itself to wild gardening, and if allowed to ramble at will forms charming pictures. Rough cliff faces and ruined walls are rendered lovely and odorous by a veil of flowering honeysuckle. Tall firs may be seen with their columnar trunks swathed, sometimes to a height of thirty

NEW H.T. ROSE LADY PLYMOUTH.

Light yellow, with sulphur and cream-pink shading. Gold Medal, N.R.S., May 1. Messrs. Alex. Dickson and Sons, Newtownards. (See page 460.)

sent in Crimson Rambler. Reine Olga de Wurtemburg is another fine climber extremely rapid in growth, often making shoots twelve feet and more in length, and bearing large semi-double flowers of a rich crimson.

As regards the clematis family, the spring-flowering C. montana is one of the most ornamental of the whole race, admirable alike for clothing walls, fences and pergolas, and for garlanding evergreens or

veolens, a rapid grower, whose feathery seed-clusters are as decorative in the autumn as those of the well-known Traveller's Joy (C. vitalba) of our hedgerows, and C. balearica or calycina, which, in the south-west, produces its white, purple-spotted blooms as early as February, and quickly covers a large space, clambering over evergreens, and reaching the eaves of a house in a very short time. The best of the half-hardy flowering climbers is, how-

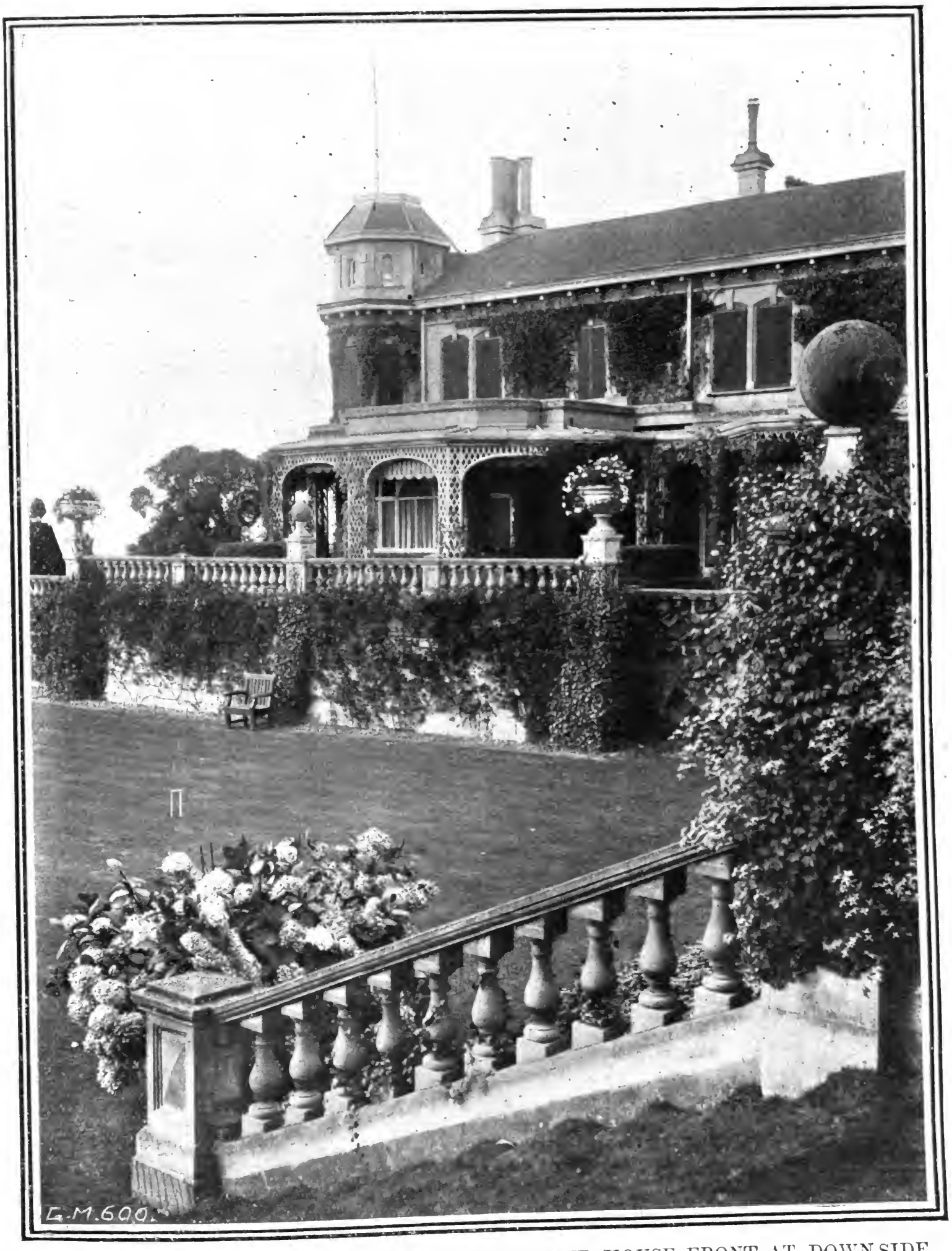
feet, with this climber. Clambering with other plants of like habit over arbours, pergolas, arches, and trellises, it is an object of graceful informality, and along the borders of winding wood walks, and over the top of straggling hedgerows it throws a mantle of delicate beauty.

The common jasmine is another invaluable climber much used for covering cottage porches, whence it distils the perfume of its countless snowy blossoms for the

enjoyment of every wayfarer; while in the winter its yellow-flowered relative, J. nudiflorum, lights the dim landscape with its golden blossoms, but never seen to such good effect as when associated with the crimson berries of Cotoneaster microphylla.

The passion flower, and its white variety Constance Elliot, are naturally popular, their flowering season being succeeded by an almost equally attractive one of fruit-bearing, when the orange globes hang like fairy lanterns amid the dark foliage. The wistaria, with its long lavender flower-fringe and delicious scent, is deservedly esteemed, and few climbers can excel it for covering a pergola. The large-flowered clematises are valuable for training over arches, and the seldom-seen scarlet clematis (C. coccinea) makes a pretty picture on a low wall. Bignonia (Tecoma) radicans is a most effective climber, with flowers of a bright orange-scarlet. Polygonum baldschuanicum is quite hardy and a plant of great decorative merit, making rapid growth, and being admirably adapted for covering rough trellis-work, which it clothes with abundant leafage that for many weeks is shrouded with a wealth of delicate, milk-white flower clusters. Akebia quinata is a perennial-flowering climber, bearing sweetly-scented flowers of maroon hue.

Actinidia chinensis, a recent introduction, is a hardy plant, with large, rounded, corrugated leaves, about six inches across, and yellow flowers. Another species (A. arguta) is a very handsome climber, covered in the summer with countless clusters of white flowers with black-tipped stamens. It is a rare climber, and is not mentioned in Nicholson's "Dictionary of Gardening." Menispermum canadense, called the Moonseed in its native land, is seldom met with, but is a very graceful climber, with long, slender, twining stems and delicately thin leaves. The flowers, which are white, are not particularly conspicuous, being generally hidden by the leaves, which also conceal the black, grape-like fruit, which ripens in September. Periploca græca can scarcely be termed showy, yet when profusely laden with bloom it is very pretty. It is a free-growing, deciduous climber with firm leaves four inches in length. The flowers are about an inch across and of a purplish-crimson colour. They are borne in clusters of about a dozen, and are often so numerous that the entire plant is a mass of blossoms.



CLIMBING PLANTS ON THE TERRACE WALLS AND HOUSE FRONT AT DOWNSIDE, LEATHERHEAD.

WYNDHAM FITZHERBERT.

Littonia modesta.—This South African member of the lily family is nearly related to the gloriosas, and, like them, it supports its slender climbing stems by means of tendrils at the ends of the leaves. The flowers are drooping, bell-shaped, and of a bright orange-yellow colour.—K.

CLEANLINESS IN GARDENS.

Some time ago our Editor kindly found space for some notes written by me, under the heading of "Necessity of Thought," and upon reflection it has occurred to me what a vast difference it makes with regard to results obtained by those engaged in gardening if they act under the influence of intelligent thought in dealing with the subjects under their care that are affected by insect, weed, or other pests. It is obvious to all of us, even to the most inexperienced, that immense advantages are derived from keeping garden crops, plants, and other similar subjects quite clean. It is equally evident that a considerable amount of mischief and loss arises from uncleanliness, and surprising how much seeming negligence and lack of enterprise is to be found in connection with these matters.

The reason for this unsatisfactory state of things should naturally be best known to those responsible for its existence; but in some cases it may be correctly attributed to a deficiency of requisite labour, or of other resources, in others to want of method in management. In most cases, however, there can be no question that precautions could be taken, or remedies be found, that would do much towards preventing, or at least mitigating, the evils that ensue from these unfavourable conditions.

Preventive Measures.

In taking measures in this direction, undoubtedly the best thing to do is to act upon the principle of "prevention being better than cure," and I will endeavour to refer to some means of carrying this into practice, by which injury may be lessened at but little cost.

From this standpoint we may first consider hardy fruits, which, taking them collectively, are most susceptible to attacks of noxious insects. What a common occurrence it is—to give a few instances—to observe plums with their leaves crumpled or curled up by aphis, or badly injured by caterpillars, gooseberries defoliated by like means, apples infested with woolly aphis, pear crops ruined by the midge, and those of the strawberry by slugs. Anyone at all conversant with the habits of these and similar creatures, would not, of course, pronounce a practitioner incapable, or charge him with neglect, because of his trees being slightly damaged by any of these things. To do so would be unreasonable; but it is a very different thing to find these pests left undisturbed to multiply and work irretrievable damage, as in some cases appears to be done. It is not my intention to now state remedies—the most efficient of them are well-known—for dealing with these pests. I wish rather to strongly urge the painstaking use of them during the trees' dormant season, and again as a destructive agent as early as possible after remedial measures are found to be necessary. Only by perseverance in this way can fruit trees be kept clean with a minimum of labour or other expense. Apart from attention being paid to the trees, the utility of keeping their surroundings clean should not be overlooked; prunings, leaves, old shreds, etc., should be cleared away and burned.

Still greater facilities for the serviceable use of these inexpensive accessories are to be found in the glass department, for here structures of all descriptions can, when empty, have the whole of their interior and exterior surfaces saturated with them, and they may also be forced into available crevices, or poured upon spar, plunging material, and suchlike surfaces with infinite benefit, especially where either mealy bug, spiders, cockroaches, crickets, woodlice, weevils, ants, slugs, etc., abound.

Importance of Quarantine.

Of other vital matters specially associated with this department there is that of guarding against the introduction of destructive vermin or fungoid diseases. It is a simple affair to unwittingly initiate serious trouble by this means, that even such disastrous evils as the Eucharis mite, gooseberry mildew, or the greatly to be dreaded phylloxera, the eradication of which, from some gardens, has given rise to much perplexity and expense, might unthinkingly in this way be imported. Therefore trees, plants, cuttings, etc., received from distrusted sources should upon arrival be thoroughly examined, and, if necessary, either cleansed, destroyed, or, at any rate for a time, isolated.

A gardener, well known and in the front rank, regularly adopts this precaution, with the result that mealy bug even is not to be found in the establishment—which is a large one—over which he has control. This reminds me of cases of mealy bug having gained the mastery to a degree that in one of them vines were uprooted, the borders cleared away, and the houses purified; and in another, creepers and other stove plants growing in borders were removed and burned. The taking of stringent measures of this description may appear to be extreme, nevertheless it is under some circumstances by far the most discreet step to take. Frequently affected subjects are preserved for no useful purpose, and become incumbrances and propagating grounds for vermin.

Fungoid diseases of some kinds are so active in development that disastrous consequences follow from very brief times of neglect, while others, though less active, are equally destructive if left unchecked, and for these reasons close watch should be kept for their appearance, and remedies be at hand for their suppression. Favourable atmospheric conditions readily promote their attacks, and I recollect a collection of fine plants of calanthes having to be burned from this cause. Again, how quickly attacks of mildew upon vines, for instance, originate in this way. Then attacks of finger-and-toe may be simply brought about by diseased roots, conveyed from the rubbish yard or manure heap, being dug in the land; and in a similar way these remarks apply to the potato disease. Quicklime dug in, and well mixed with the soil, is an excellent purifier of land contaminated by fungoid diseases, while gas-lime is an equally efficient destroyer of slugs.

Weeds.

Reference may be now made to weeds, which in a garden are not only in themselves evidence of uncleanliness, but they cause much mischief by harbouring other kinds. By far the best way of dealing with weeds that are found amongst crops is to destroy them by hoeing, or by otherwise uprooting them when they are young seedlings. This can be most thoroughly done during spells of sunny, dry, windy weather. By early suppression they do not impoverish the soil or crowd up cultivated crops. Walks are easily kept free from weeds by the employment of poisonous fluids. Under any condition weeds should not be permitted to seed, or their roots to ramify, as in the former case, such free seed-bearing kinds as groundsel, charlock, fat-hen, and in the latter such as couch grass, bearbind, or coltsfoot, cause endless trouble in eradicating them. Much trouble may likewise be caused from seeds, roots, etc., being conveyed, such as the seeds from hay in manure, seeds in mulching material, seeds and roots in refuse from the rubbish-yard, etc. By these and similar means the seeds of weeds may be unconsciously distributed wholesale. Many are the instances of this that have come under observation. For example, a farmer friend of mine made use of roadside trimmings as litter in a cattle-yard, carted the manure from the yard to a field, and was rewarded by a plentiful crop of thistles and docks; and in another case a gardener (myself) used mowings from lawns as a mulching in order to prevent the fruit of gooseberries from being soil splashed, and reaped a thick crop of daisies. With a view to avoid this unsatisfactory sort of thing, all refuse, such as stems of vegetables, prunings and leaves of trees or bushes, weeds, etc., should be subjected to a smothered fire before being made use of, so that seeds, roots of woods, spores of fungi, destructive insects, mites, eelworm, and slugs, etc., which it may contain, are exterminated.

THOS. COOMBER, V.M.H.

ROSE LADY PLYMOUTH.

Among the new roses which rose lovers will look for eagerly this season, the variety Lady Plymouth will certainly occupy a high place. Its debut has been of the most satisfactory character, for at the National Rose Society's Spring Show at Westminster on May 1 it secured a Gold Medal for its raisers, Messrs. Alex. Dickson and Sons, Newtownards, Ireland. It is a showy hybrid tea rose, delicately scented, and with large, shapely flowers of considerable substance. The colour is soft, light yellow, with sulphur tinting in the half-opened flowers, and a creamy pink shading in the fully expanded blooms. It has done so well under glass that great things may be expected of it from the open, and certainly it is a rose to be looked for and made a note of at the coming exhibitions.

CLERODENDRON TRICHOTOMUM.

This is the best known of the three or four species of clerodendron which may be grown out of doors in this country, and it is certainly a shrub that should be given a position in every garden where even small collections of trees and shrubs are formed in the south and west counties, for it is ornamental in foliage, flowers well during the latter part of the summer, and is conspicuous by reason of its richly-coloured foliage in autumn. A native of China and Japan, it forms a wide-spreading bush ten to fifteen feet high.

The leaves are heart-shaped and often eight inches long and five inches wide, with long, slender stalks. The fragrant flowers appear in flattened heads six inches or more across during August and September. They have reddish calyx lobes and white petals. After the fall of the petals the calyx remains and continues to develop in size and richness of colouring until the bluish or violet fruits are ripe. Towards the middle of September the leaves turn to a rich claret colour, which is retained until they fall about the end of October. C. trichotomum thrives in well-drained but moderately moist, loamy soil, and requires a fair amount of sun. Propagation is most easily effected by root cuttings. Sections of root, the thickness of a lead pencil, are cut about four inches long and inserted in pots or boxes of sandy soil in a warm greenhouse during early spring. As soon as young shoots and roots have formed, they are planted in nursery quarters until large enough for permanent planting.

W. D.

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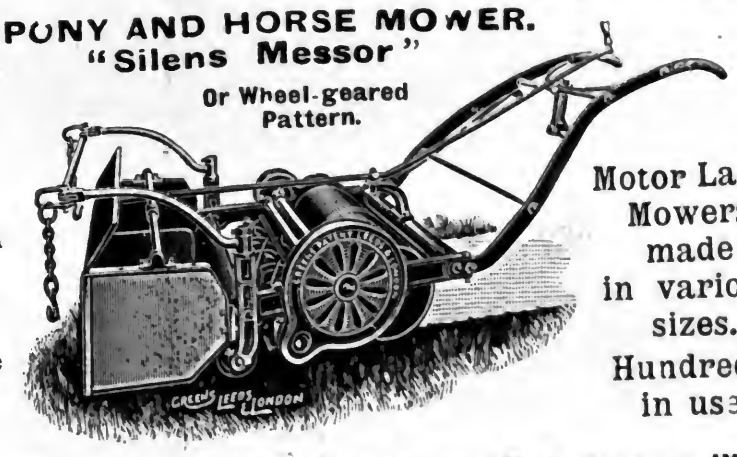

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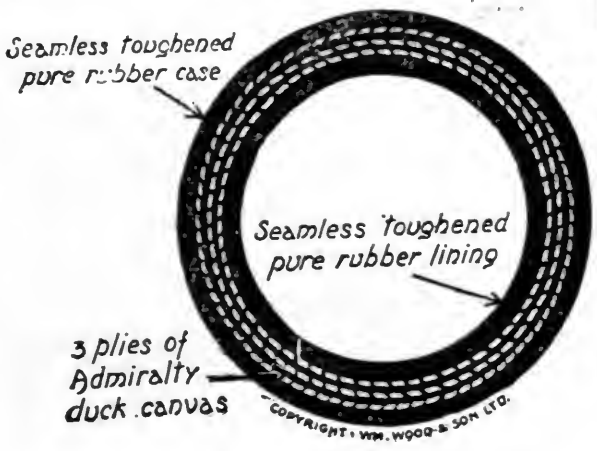
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SPECIMEN PAGE.

tion, front of shrubberies. Plant, Nov. to Feb. Propagate by seeds sown ¼ in. deep outdoors in March, or in boxes of light soil in temp. 55° in Feb.; cuttings inserted in sandy soil under bell-glass in Oct.; layering in Oct. C. alnifolia suitable for forcing to flower in winter.

SPECIES CULTIVATED: C. alnifolia (Sweet Pepper Bush), white, Sept., 4 ft., Florida; alnifolia Michauxii, 4 ft.; alnifolia paniculata, 4 ft.; acuminata (White Alder), white, Sept., 10 ft.; arborea, white, Sept., 8 ft., Madeira; canescens, white, Aug., 8 ft., China.

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CULTURE: Compost, two parts loam, one part leaf-mould & silver sand. Position, pots or beds in greenhouse. Pot or plant, March. Prune in April, shortening young shoots to within 2 in. of their base. Water freely March to Sept., moderately afterwards. Syringe foliage daily April to Aug. Temp., Oct. to March 45° to 50°; March to Oct. 55° to 65°. C. puniceus succeeds outdoors against warm walls in Devonshire. Propagate by seeds sown ¼ in. deep in well-drained pot of light soil in temp. 75° in March; cuttings of shoots inserted in sandy soil in temp. 75° to 85° in March or April.

SPECIES CULTIVATED: C. Dampieri, scarlet, April, 3 ft., Australia; puniceus magnificus, crimson, May, 6 ft., New Zealand.

Cliff Brake Fern.—See Pellæa.

Climbing Dahlia (Hidalgoa Wercklei).—See Hidalgoa.

Climbing Fern (Lygodium scandens).—See Lygodium.

Climbing Fumitory (Adlumia cirrhosa).—See Adlumia.

Climbing Groundsel (Senecio mikanoides).—See Senecio.

Climbing Hydrangea (Schizophragma hydrangeoides).—See Schizophragma.

Climbing Snake's-tongue Fern (Lygodium scandens).—See Lygodium.

Clintonia.—Ord. Liliaceæ. Hardy herbaceous perennials. First introduced 1788.

CULTURE: Soil, sandy peat. Position, moist shady border. Plant, Oct. or March. Propagate by division of roots in March or April.

SPECIES CULTIVATED: C. andrewsiana, rose, April, 2 ft., California; borealis, yellow, May, 1 ft., N. America; umbellata (Syn. Smilacina umbellata), white, May, 9 in., N. America; uniflora (Syn. Smilacina uniflora), white, July, 6 in., California.

Clitoria (Butterfly Pea). — Ord. Leguminosæ. Stove evergreen flowering climbers. First introduced 1739.

CULTURE: Compost, equal parts peat, leaf-mould, loam, & silver sand. Position, pots, tubs, or beds in light plant stove. Pot or plant, March. Water freely April to Sept., moderately afterwards. Temp., Oct. to March 55° to 65°; March to Oct. 70° to 80°. Propagate by seeds sown ¼ in. deep in light soil in temp. 75° in March; cuttings of side shoots inserted in sandy peat in temp. 80° at any time.

SPECIES CULTIVATED: C. ternatea, blue, July, 4 ft., E. Indies; ternatea alba, white, May; ternatea cærulea, blue, May; ternatea major, brown, Aug.

Clivia (Caffre Lily).—Ord. Amaryllidaceæ. Greenhouse evergreen flowering plants. Fleshy-rooted. Formerly known by the generic name of Imantophyllum. First introduced 1823.

CULTURE: Compost, two-thirds good loam, one-third decayed manure & sand. Position, sunny, close to glass in greenhouse. Pot, Feb. Water freely March to Sept. 65° to 75°. Propagate by seeds sown in light soil in temp. 75° in March; division of roots at potting time.

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FRUIT TREES THAT FAIL.

Thousands of fruit trees are propagated in nurseries and distributed every year for the purpose of planting. It would be interesting to know what percentage of the trees which are sent out year by year flourish and come to maturity, and how many fail, but it is obvious that the proportion of the latter is by no means a small one, and a big item of the nurseryman's business is that of replacing the failures, not through any fault of his, or immediately after planting, but some years later, when the trees really ought to have arrived at a state of fruit bearing. If every tree sent out from nurseries during, say, the last twenty years, had thrived, this would probably have made a difference to the demand just now, so from the point of view of the nurseryman it may be rather a good thing that fruit trees fail, however disappointing this may be to the individual who buys and plants them.

If you want to get some idea, though it may only be a vague one, of the number of fruit trees that fail, and the reasons why, you want to journey, as I have done, through the orchard lands in the West Country, where standard apples and pears are grown on grass, and where an orchard is an essential part of practically every farmstead. You may wander along main roads, look over orchard hedges, and see trees, some planted only a few years, and others longer, that are certainly not dead, neither are they living, as we apply the term to fruit trees, but they are merely existing, and it does not require the eye of an expert to see that their fate must eventually be the wood pile. It is only fair to say that the majority of these trees are not under the care of gardeners, but farmers and small occupiers, and the fact also remains that the dismal failures represent so much money value, and that money actually thrown away, apart from the labour and the loss of valuable time.

The custom in the West is for the landlord to find the trees, while the tenant plants and looks after them, and when both parties do their share the orchards smile, but where one or the other fails in his duty you see decrepit orchards, composed of a few old trees that have defied the hand of Father Time, or young trees which, through the neglect of the tenant, have come to nothing. It is discouraging to a farmer who realises the value of his orchard, and takes a pride in it, when his landlord will not provide him with young trees, and it is equally disappointing in other cases for landlords to spend money on trees, and then see them go to rack and ruin because the tenant will not take the trouble to look after them. There are faults on both sides, but if fruit is to be grown successfully in orchards the orchard must be treated seriously as an essential part of the farm, and receive the same cultural care as that given to a root or corn crop.

And why do so many trees fail? There are several reasons, and the following are a few of them. As a matter of choice one would, of course, plant young trees on fresh soil, but it has to be remembered that many old orchards are conveniently situated close to the homestead, and it is highly essential that they should be kept up. That they can be is proved by the examples of many orchards made young again by replacing old trees with young ones, but it is obvious that young trees planted in old orchards are handicapped, and the reason why so many fail is because they are merely stuck in the ground, and left to look after themselves, instead of being given that bit of nursing treatment after planting which would help to establish and get them into growth. A cartload of fresh soil to plant the tree in, a mulching of manure, and cultivation round the stem are amongst the things that help the young tree in the old orchard, as well as the exercise of care in not planting the young specimen directly under the spreading branches of an old veteran.

Want of judgment and knowledge in the selection of varieties for orchard planting is another of the reasons why so many trees fail. There are many good-looking and good-quality apples that are absolutely unsuitable for orchard planting because they are not vigorous enough in constitution, and they fail to make the stems and branches and growth that are desirable in an orchard tree. Will it grow? is the question that a person ought to ask when advised to plant any variety of apple in his orchard, and his decision ought to be based on this more than anything. As a case in point, take Lane's Prince Albert, one of the best apples in cultivation, but unsuitable for a grass orchard, because it does not make growth enough, and fails to develop into a large tree. Dozens of people have planted Lane's in their orchards purely on the reputation of the apple as a garden or plantation variety, and have lived to see their trees ten years later, but not much bigger in the head then than when they were planted. Is it to be wondered at that thousands of apples of the type of Bramley's Seedling and Newton Wonder are being planted in orchards, considering that they are as good as anything can be in the way of varieties, the trees make fine specimens in a few years, and they will grow if any apple will?

The craze for cheapness is responsible for more failures, and trees with stems no thicker than your finger are planted in orchards because they do not cost much, but they are dear in the end when you count the percentage of the failures. I am no advocate of planting old trees that have spent many years in a nursery, and have been cut back time after time, but the young, vigorous tree with a straight stout stem and a well-balanced head is the cheapest even if it costs more at the outset, and the wise planter is the man who goes to the nursery and selects his own stocks.

The neglect in early pruning signs the death warrant of scores of young standard trees, and, after all the advice that has been given, many farmers plant their young trees just as they come from the nursery, and never think of pruning them. What happens? The next year fruit buds form along the main shoots, perhaps a few apples are obtained, and the farmer thinks he is getting on well, but it is at the expense of the growth and shape of the tree, and it is stunted, and fails, because it has begun wrong. The first business of the standard tree is to grow, and it should be cut back for that purpose. I am entering on no discussion as to whether the young tree is better cut back at planting time, or later, but I contend that if every orchard standard were left a year after planting, and then had its leading shoots cut back to one-third their original length, we should see less failures than we do, for the tree would begin to grow, and fruit bearing would naturally follow.

After all that has been written about the advantages of not allowing the turf to grow up to the stems of newly-planted trees for a few years, and the experiments that have proved the point beyond dispute, scores of planters are careless about it; they stick in their trees, and lay back the turves over their roots in defiance of everything and everybody, whereas if they would only bury the turf under the roots of the tree when planting, and keep the soil cultivated round the stems for a couple of feet from the latter by means of occasional hoeing, they would see for themselves the advantages of doing it, and fewer failures would have to be recorded. A good start is what the standard tree wants, and when once it is established it will look after itself.

Lastly, hundreds of orchard trees fail through sheer inexcusable neglect after they are planted, and for this reason alone I should not like to say how many pounds in hard cash have been absolutely thrown away in West Country orchards without anyone being one penny the better, except the nurseryman who supplied the trees, and he would rather see them grow and flourish. It is no good going to the expense of buying a good tree for an orchard unless one is prepared to stake it properly and protect it against stock. The staking and protection may cost more than the tree, but it is essential if stock has access to the orchard, and to stint this item is false economy. The trees also want attention afterwards in the way of tying and guarding, and when one sees, as I have, dozens of promising trees simply ruined through being damaged by horses and cattle, and all for the want of a little timely attention, one is justified in speaking strongly on the point. In fact, the trees that fail for one of the reasons explained above form an appreciable percentage of the yearly plantings in grass orchards, even in districts that Nature has adapted for apple culture, and the pity of it is that responsibility for the failures rests, perhaps, in the majority of cases, with the grower, either through his lack of judgment, or careless treatment of the young trees.

H.

SCENTED-LEAVED PELARGONIUMS.

Those of us who are growing old can recall many instances of plants that have, after a period of comparative neglect, rapidly become popular, and remained so for a long time. Signs are not wanting that the old-fashioned scented-leaved pelargoniums are once again coming to the fore, and collections of them have been freely shown of late. On May 14 one of the long tables at the Horticultural Hall was filled with a selection of these good old plants, some four or five of each kind being shown. Again, at the Chelsea Show, three fine groups were exhibited, one of them consisting of no fewer them 140 different kinds. They, as well as those at the hall, proved very attractive to the numerous visitors.

From trade sources I learn that there is a continually increasing demand for scented-leaved pelargoniums, so that everything points to their once again becoming popular. Being of easy propagation and culture, and with foliage attractive throughout the year, these pelargoniums have much to commend them, especially as the flowers of many are very pretty, and they can all be successfully grown in an ordinary greenhouse. A few examples of the old-fashioned fancy pelargoniums shown at Chelsea served to show that the members of this section have not quite dropped out of cultivation, though some of us thought they were quite lost.

W.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SOBRALIAS.—The different species and hybrids will be flowering now, and although they cannot be regarded as among the most serviceable of orchids, owing principally to their flowers being so short-lived, yet, where large specimen plants are grown for conservatory decorations, they are particularly useful. It is somewhat fortunate also that some of the finest varieties are those which last the longest in perfection. Sobralia xantholeuca and the pure white S. macrantha alba are two of the best. At this season of the year the plants are not only producing their flowers, but the young growths advance rapidly. In most cases specimens that have reached flowering strength rapidly fill their pots with roots, and they require a liberal supply of moisture. Where they are at all root-bound a weak application of liquid manure about once a fortnight will assist them. Where the atmosphere is at all dry, the foliage becomes infested with red-spider, but if kept well syringed, and occasionally sprayed with some safe insecticide, these pests may be effectually held in check.

REPOTTING AND DIVISION may take place when the plants have done flowering. The receptacle used should be large enough for two or three years' growth. The drainage must be free and ample. The potting compost should consist of fibrous loam, with charcoal, broken crocks, and sand added. The mixture should be made firm about the roots, and, if a layer of sphagnum moss is placed over the surface of the compost it will add to the appearance of the plants.

CATTLEYAS.—Many of the species and hybrids that have recently been in flower will require repotting. O. Skinneri, for instance, which has been flowering from growths developed last year, will have its roots in an active state, and while this is a species which should not be disturbed more frequently than is absolutely necessary, and repotting should be done while the roots are thus active. C. Mossiæ is not benefited by too frequent potting, and it is often more profitable to permit a plant to remain root-bound and resort to top-dressing, rather than run the risk of disturbance, which generally ends in breaking the plants into smaller pieces in the endeavour to rid them of old, leafless pseudo-bulbs. All freshly-potted plants must be carefully protected by shading them from strong light; they will also be benefited if sprayed overhead once or twice a day, and by keeping the atmosphere moist and close about the plants.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

GESNERAS FOR WINTER FLOWERING.—These should now be removed from their resting quarters, turned from the pots, and have the old soil carefully broken up, so that the strongest tubers may be selected for repotting. A compost such as is used for gloxinias will be found suitable; place them singly, crown uppermost, in large 60's, just covering with soil, and pressing moderately firm with the fingers. If the soil is in good condition, no water beyond an occasional syringing will be necessary until growth commences. An intermediate house, where moist conditions are maintained, will be suitable.

IXORAS.—Those propagated from cuttings in spring should be kept growing fast, be pinched occasionally to ensure bushiness, and transferred to larger pots before becoming pot-bound. Older plants now approaching the flowering stage may be gradually given cooler conditions. Before the flowers are open, it is well to give them a thorough cleaning with a fairly strong insecticide, care, of course, being taken to preserve the younger foliage and flower spikes from damage.

GARDENIAS.—Young plants will require the same kind of treatment, soil, and conditions as the ixoras, and, given careful attention, will provide a succession to the older plants, which will shortly be producing a quantity of flowers. As soon as the flower buds can be seen, all superfluous and weakly growths should be removed. Occasional feeding with soot water, diluted liquid manure or a top-dressing containing a little artificial manure, will be repaid by the production of much finer flowers. Gardenias are subject to attacks of scale and mealy bug, and it is necessary to pay attention to cleaning, particularly just before the flowering period.

EDGING PLANTS.—To maintain a finished appearance in the plant houses small edging plants, such as fittonias, Panicum variegatum, selaginellas in variety, etc., should be propagated at intervals, so that older stock may be dispensed with as soon as it begins to look untidy.—H. PRIME, Hatfield House Gardens.

FRUITS UNDER GLASS.

VINES.—The present is an anxious time for those in charge of an extensive range of vines, in order to keep every detail within bounds. The earliest grapes will be ripe, whilst others may possibly be causing some anxiety as to finish. As the grapes approach ripeness they will require cool treatment, liberal ventilation, and less moisture; but, with the whole of the summer before us, the floors, etc., must be damped when the weather is favourable to a free circulation of fresh air.

IN SUCCESSION HOUSES, which include different varieties, grapes will now be swelling freely, and the vines must have copious supplies of tepid liquid manure and other stimulants. As the days become more settled ventilation will become less difficult, and the maximum should be approached gradually by slight additions at short intervals as the temperature rises, while reduction must be followed gradually as the temperature falls. A steady artificial heat being nearly always necessary, the fires should be started early, so that the temperature may go down steadily to 70 degrees, and fall to 65 degrees in the morning. Examine the largest bunches for the last time after stoning is completed, as large-berried varieties, such as Gros Colmars, are very deceptive when finished. Do not pinch the laterals too closely, but the strongest will require pinching and regulating in order to maintain a free circulation of fresh air between the foliage and the glass.

MUSCATS.—These require similar treatment, but the temperature may range 5 degrees higher than is good for Black Hamburghs, although Gros Colmar enjoys the same high temperature. The latest Muscats will now be swelling freely; pay careful attention to the roots, and afford liberal feedings of warm diluted liquids and other stimulants, and by so doing keep the roots in a healthy and active condition. Meantime provide a brisk temperature with plenty of fresh air and atmospheric moisture, and the grapes will quickly respond to such treatment. Lady Downes and other late grapes require exactly the same management in regard to heat, fresh air, and moisture.

STRAWBERRIES.—It is always a relief to get the last batch of pot strawberries out of the houses, but no sooner is this done than preparations become necessary for next season's stock. Success depends upon having the plants in their fruiting pots as early possible in order to secure large, plump crowns for forcing, without which good results cannot be expected. Any of the usual methods for securing runners may be adopted with good results. Many successful growers layer direct into 5-inch pots; this method has the advantage of saving a considerable amount of labour in potting and watering, but unless great care is taken in watering the soil is in some danger of being soured. Whichever method is employed runners intended for very early forcing should be potted into 5-inch pots and the main lot into 6-inch pots by the middle of July.—F. JORDAN, Warter Priory Gardens.

THE FLOWER GARDEN.

EAST LOTHIAN AND BROMPTON STOCKS.—These are most desirable for late spring flowering, and well repay any attention bestowed upon them. In well-drained soils they will stand all but the severest winters with comparatively few losses, but in heavy, cold ground they are not so reliable in this respect, and the safest plan then is to pot them early in the autumn into five-inch pots, and protect them in frames from heavy rains and hard frosts until March, when they can be transferred to the open borders with safety. The Brompton stocks possess a hardier constitution than the East Lothians, and will sometimes stand the winter in the open where the latter fail. To have good plants either for potting or planting out in the autumn, the seeds should be sown now in the open in well-prepared soil, and the seedlings, when large enough, must be transplanted, allowing them ample room in which to develop into sturdy plants.

HARDY PRIMULAS.—Under this heading we must include polyanthuses, auriculas, and primroses, with the various primula species familiar in the rock and wild garden. Varied alike in form and character, they embrace some of the most delightful of spring flowering plants. Their propagation is brought about either from seeds or division. The former method is the one usually adopted, but as some kinds show such a diversity of forms when raised from seed, it becomes necessary, in order to retain a true stock, to adopt the latter method. The seeds of some primulas lie dormant in the soil for months before germinating, and for that reason it is always advisable to keep the pans containing the seed for a long period before turning them out; while, on the other hand, some come very quickly into growth. If not sown immediately after it has been harvested, primula seeds soon lose their vitality, especially when exposed to the air, hence the cause of some failures when sowing seeds out of packets; so the golden rule is to sow all kinds as early as possible. Shallow pans, well drained and filled with light sandy soil, are very suitable for this purpose; the pans containing the seed should be placed in a cold frame having a north aspect, and be kept in a moist condition.

PINKS. — The usual method of raising young plants of pinks from cuttings is very commendable, and preparations should now be made for inserting them. A cold frame containing light sandy soil is a most suitable place in which to put them, as here they can be kept close and shaded during bright weather until they have taken root. When taking the cuttings select the young growths and pull them off the old stem at the heel, cut away some of the lower leaves, and they are then ready for dibbling in.—T. B. FIELD, Wych Cross Place Gardens.

Ruellia formosa.—Several of the ruellias are very showy flowering plants, and, like many other acanthads, are of easy culture. This species forms a bushy specimen from eighteen inches to two feet in height, of a rather upright habit of growth. The flowers, which have a tube about 1½ inches long, and nearly the same across the expanded mouth, are of a bright scarlet colour. Under favourable conditions a succession of flowers is maintained during spring and early summer.—K.

YORK FLORAL FETE AND GALA.

York, the city of many attractions, is very proud this week because its great annual flower show, held on June 18, 19, and 20, in Botham Park, has been a very great success. A large portion of the great tent used for the Royal International Horticultural Exhibition at Chelsea in 1912, and at the Chelsea Show held in May of this year, was used at York in place of several large marquees, and its use met with general approval from exhibitors and from visitors. The airiness of the structure and the wider spaces for promenading were greatly appreciated, for, though the opening day was a hot one, an extended inspection of the vast number of exhibits was by no means an uncomfortable proceeding, notwithstanding the splendid attendance of stalwart men and beautiful women, beautifully dressed in the lightest and gayest of summer costumes.

We have never seen such a big array of trade exhibits at York as on this occasion, and, on the whole, the quality of these displays was good. We believe we have seen keener contests in many of the competitive classes than this year, and, in some respects, better material than was displayed this week; but roses have seldom been so extensively shown, and sweet peas were a fine feature. Orchids were good and plentiful, and the large specimen plants from Cheltenham were practically a necessity in this great tent. Hardy flowers were gloriously beautiful, though their arrangement might have been improved. The organisation of the show was excellent, and once again we acknowledge the courtesy extended by Mr. Arey, the secretary, Mr. T. G. Hodgson, and Mr. E. Bushell.

DECORATIVE GROUP CLASSES.

A keen interest always attaches to the competition in the principal group class, where a space of 300 square feet is allowed, and the premier award is £20, the whole amount offered in prizes being £70. This year there were five competitors, and first prize fell to Mr. J. Donoghue, gardener to T. Pickersgill, Esq., Bardon Hill, Weetwood, Leeds, who once more staged a beautiful exhibit. Tall and graceful palms, with Dorothy Perkins, Crimson Rambler, and Hiawatha roses formed a light background for tall, finely-grown crotons, perfectly coloured, set over a groundwork of moss, marantas, dwarf crotons, caladiums, bertolonias, and bromeliads. Here and there specimen cattleyas, miltonias, phalænopsis, and odontoglossums lent further colour and importance to the group. It was interesting to notice that Mr. Donoghue had almost entirely dispensed with the use of ferns in his groundwork and margin.

To Mr. W. A. Holmes, Chesterfield, was awarded the second prize; he had a fine lot of crotons, but his flowering plants were confined to a few roses and lilies in the background. Messrs. R. Simpson and Son, 30, Brook Street, Selby, were placed third for a rather heavy exhibit, in which tuberous begonias were the leading flowering subjects. Mr. Councillor T. M. Petch, Bridlington, came fourth; and Mr. F. H. Ward, Scarcroft Nursery, York, was awarded the fifth prize.

For a smaller group, 200 sq. feet of space allowed, Mr. W. A. Holmes, Chesterfield, secured the leading award with a pleasing arrangement of crotons, oncidiums, roses, liliums, and Statice Suworowi. Second prize fell to Mr. J. Donoghue, whose arrangement here was a trifle heavy; while third prize was taken by Messrs. R. Simpson and Son, Selby. On the whole we thought the two great group classes were scarcely up to the high-water mark of excellence achieved in some seasons, but this criticism must not be taken to suggest that the displays were poor.

HARDY FLOWER DISPLAYS.

The £15 first prize for a rock and water garden exhibit, arranged on a space 30ft. by 12ft., was won by Messrs. Jas. Backhouse and Sons, Lim., York, with a display consisting of bold rockwork, a background of bamboos, purple beech, and Acer negundo variegata, and a narrow lily-studded pool just behind a rocky foreground. There was a cool effect about this exhibit which was delightful. Among the rocks were colonies of Campanula Portenschlagiana, Primula Bulleyana, P. pulverulenta, Orchis foliosa, cistuses, edelweiss, thrift, saxifrages, dianthuses in variety, and Ramondia pyrenaica, with small ferns in a shady corner, and alpine conifers occupying points of vantage.

Messrs. W. Artindale and Sons, Sheffield, came second, and, though theirs was a good exhibit, the plants were a trifle crowded. Primula Bulleyana and P. sikkimensis, Iris Hermione, pæonies, and white thrift were among the most imposing subjects. The third award was made in favour of Mr. S. Pickering, Rosslyn Street, Clifton, York, and running water here added to the attractions of spiræas, astilbes, dianthuses, alpine phloxes, saxifrages, etc., backed by acers, bamboos, and hydrangeas, and a rustic bridge.

The classes for hardy flowers together formed one of the most pleasing and most brilliant sections of the great show. The chief class was for a display of hardy flowers arranged in a natural manner on a space of 300 sq. ft. There were three competitors for the prizes of £15, £10, and £5 respectively. First prize was awarded to Messrs. Harkness and Sons, Bedale, Yorks, who had a low, rather flat display, and, though it was brilliant in the extreme, and the flowers were excellent, the disposal of the flowers was too close and regular to be natural. However, we are, in these classes, getting steadily nearer to the ideal method of displaying hardy flowers. The Messrs. Harkness had a beautiful lot of Oriental poppies, Spanish

HARDY FLOWERS AT YORK FLORAL FETE AND GALA.

Messrs. Harkness and Sons' first prize collection on the left; Messrs. Gibson and Co.'s second prize collection on the right; and Messrs. G. Massey and Sons' third prize collection in the centre.

irises, liliums, Eremurus robustus, verbascums, pink and white lupins, pyrethrums, and early gladioli.

Messrs. W. Artindale and Sons, Sheffield, were awarded second position, and their design was a border separated from a front bed by a narrow path, the whole encircled by a hedge of cupressus. Pæonies, eremuri, Incarvillea Delavayi, irises, Geum Mrs. Bradshaw, Verbascum Caledonia, and Gillenia trifoliata were the principal flowers used. Third prize was awarded to Messrs. J. Backhouse and Sons, Lim., York, whose design was very similar to that of the Messrs. Artindale, except that the whole was raised above the general level, and the path was made of small flat stones.

CUT FLOWERS.

Very fine was the bank of hardy flowers made up by the three competitors in the class for a collection staged on a space 15ft. by 6ft. This was an open class, and Messrs. Harkness and Sons, Bedale, were placed first with a very beautiful collection, in which great sheaves of Verbascum Caledonia, V. Ivanhoe, Lupinus polyphyllus delicata, Papaver Mrs. Perry, P. Perry's Unique, Anchusa italica Dropmore, Iceland poppies, liliums, and delphiniums gave glorious pieces of colouring. Mesrs. Gibson and Co., Leeming Bar, came second with a very pleasing contribution, wherein poppies, pyrethrums, and gaillardias stood out prominently. Messrs. George Massey and Sons, Spalding, came third, and the great feature of their group consisted of superb flowers of Mons. Chas. Leveque, Canarie, and Duchess de Nemours pæonies, staged in some quantity.

The best two dozen bunches of hardy flowers came from Messrs. George Longster and Sons, Malton, Yorks; Nepeta violacea, Geum Mrs. Bradshaw, Spiræa Queen Alexandra, and Verbascum densifolium were especially good; this is the third year in succession Messrs. Longster and Sons have won this leading award. Messrs. Harkness and Sons second, and Mr. J. D. Hutchison, Crown Square, Kirby Moorside, third. For a dozen bunches, Mr. Wm. Hutchinson, Kirby Moorside, scored, with Mr. Arthur Sunley, Lumby Lane, South Milford, second.

Messrs. S. Bide and Sons, Farnham, were placed first for eighteen bunches of sweet peas, distinct, arranged on tiered tabling 12ft. by 3ft.; the leading varieties were Barbara, Mrs. Stewart, Champion, The Abbot, Thos. Stevenson, May Campbell, Queen of Norway, and Clara Curtis; Messrs. E. W. King and Co., Coggeshall, a very close second, and Miss Hemus, Upton-on-Severn, third.

GROUPS OF ROSES.

The premier award for a collection of pot roses was won by Mr. Wm. Todd, of York, whose group was admirably staged, and contained a good assortment of leading varieties such as Capt. Hayward, Hiawatha, Dorothy Perkins on arches, Lyon Rose, Mdme. Abel Chatenay, and a margin of neat polyantha varieties. Mr. W. Longstaffe came second with a group consisting chiefly of rambling roses and weeping standards, with a few tea and H.T. varieties and polyanthas in the front. Third prize fell to Mr. C. F. Poole, whose background plants were poorly flowered. The best group of twenty pots of roses came from Mr. W. Todd, who again staged a pleasing set, and well arranged his plants of Hiawatha, Dorothy Perkins, and Frau Karl Druschki, but his edging of palms and ferns was a trifle incongruous; Mr. W. Longstaffe came second, and Mr. Harry Pybus, Monckton Moor, third.

The best decorative table of roses, a space 6ft. by 4ft. allowed, was arranged by Messrs. W. and J. Brown, Stamford, who set up their flowers in tall stands, and showed beautiful flowers of Liberty, Irish Elegance, and the single pillar variety Mrs. Rosalie Wrinch, of silvery rose colouring. Second prize was awarded to Mr. George Prince, Longworth, Berks, whose vases of Juliet, General McArthur, and Mdme. Melanie Soupert were very fine. Mr. Henry Drew, Longworth, third.

CUT ROSES.

There were four contestants in the leading class for seventy-two cut roses, and the fight for first place was a close one. Messrs. D. Prior and Sons, Colchester, led, winning the £7 award with a fine clean lot of blooms, though some of them were a bit thin owing to the recent dry weather. Of Hardegg, Maman Cochet, Ethel Malcolm, Mrs. J. Laing, Bessie Brown, Marechal Niel, and Mrs. David McKee there were fine examples. Messrs. B. Cant and Sons, Colchester, came second, and their set was notable for the excellence of its light coloured flowers; Messrs. R. Harkness and Co., Hitchin, third; and Messrs. Frank Cant and Co., Colchester, fourth.

Messrs. J. Burrell and Co., Cambridge, annexed the premier award for four dozen roses, and they set up fine flowers of Lyon Rose, Comtesse de Nadaillac, Mrs. Herbert Hawksworth, Mdme. Jules Gravereaux, and Maréchal Niel; Messrs. D. Prior and Sons, second; Messrs. R. Harkness and Co., third; and Messrs. Frank Cant and Co., Colchester, fourth. Messrs. J. Burrell and Co. were to the front again in the class for two dozen blooms, and were followed by Mr. George Prince and Messrs. D. Prior and Sons. For eighteen blooms the awards fell in due order to Messrs. J. Burrell and Co., Messrs. D. Prior and Sons, and Messrs. W. and J. Brown.

ORCHIDS.

Messrs. Jas. Cypher and Sons, Cheltenham, won the leading prize for a display of orchids, and the arrangement was very light, bright, and elegant. At the sides, cattleyas, lælio-cattleyas, and brasso-cattleyas were massed with miltonias and sobralias, while high in the centre odontoglossums and thunias rose above graceful sprays of golden oncidiums, odontiodas, and Renanthera Imschootiana.

The best dozen orchids were those shown by Messrs. J. Cypher and Sons, Cheltenham, and among their finest specimens we noted Lælio-cattleya Aphrodite, with sixteen flowers; Miltonia vexillaria Cobbiana, Cattleya gigas, C. Gaskelliana, Epidendrum prismatocarpum, and Thunia Marshalliana. Second prize was won by Mr. J. Barker, gardener to W. P. Burkinshaw, Esq., West Hill, Hessle, with Cœlogyne pandurata, and Miltonia vexillaria Cobbiana in good form; Mr. Davidson, third. The Messrs. Cypher led for six orchids, and presented a fine Lælia tenebrosa and a good Oncidium Marshallianum in their set. Mr. Barker was again second, and his Lælio-cattleya Lady Miller, with twenty-two orange-salmon flowers, was very fine in this class; Mr. E. H. Davidson, Twyford, Berks, third.

Mr. Barker had the best specimen orchid, an example of Cattleya Mossiæ alba with seven beautiful blooms. The best three orchids came from Mr. E. H. Davidson, who staged Lælio-cattleya Canhamiana, Cattleya Mendeli Twyford Gem, and Odontoglossum Dora. In the amateurs' class for six orchids Mr. Barker had things all his own way, and his Miltonia Bleuana was a very pretty variety. Mrs. M. Furness, Monk Fryston, and W. Matheson, Esq., Horsforth, were also prize-winners in the orchid classes.

PLANTS.

In the plant classes Messrs. Jas. Cypher and Sons, Cheltenham, won the chief awards, scoring for a collection of stove and greenhouse plants with fine ixoras, anthuriums, bougainvilleas, statice, etc.; for a specimen flowering plant with a giant Clerodendron Balfouri; for three fine foliage plants with palms and a brilliant Croton Montefontainense, 6ft. high; for three stove and greenhouse plants, with Ixora Williamsi, Clerodendron Balfouri, and Franciscea eximea; and for six ornamental foliage plants, with fine palms and big crotons.

Messrs. John Waterer and Sons, Bagshot, won the first prize for a group of rhododendrons arranged on a space of 200 sq. ft. Theirs was a triangular arrangement, with a few standard red Japanese maples above the rhododendrons and an edging of veronicas and green moss. The rhododendrons were up to Bagshot form, notwithstanding the late date, and we noticed fine examples of Gomer Waterer, Lady Clancarty, Beauty of Bagshot, Mrs. Mendel, Lady Hillingdon, Lady Annette de Trafford, and Warrior.

Mr. J. Donoghue was awarded the first prize for a group of carnations; he showed malmaison varieties chiefly, and these were scarcely at their best, many of the flowers needing several more days in which to expand; Mr. W. Longstaffe, Garth Terrace, York, second.

Pelargoniums were fairly well shown, but the specimens were only shadows of the giants to be seen at York a score of years ago. So doth fashion change. Mr. Henry Pybus, Monkton Moor, led for a dozen zonal varieties with large, freely-flowered specimens, his Mrs. Newdigate and Mrs. Kelly being the best plants; Mr. J. W. Clarke, Clifton, York, came second with smaller plants that carried somewhat better flowers; Mr. J. Lumley, South Milford, third. For six specimens Mr. Pybus was again to the fore, Mr. Clarke and Mr. Lumley following in the order given.

Mr. J. Clarke beat Mr. Pybus for three specimen pelargoniums, and showed pretty plants of Beauty, Lady Sheffield, and Empress of India; Mr. Lumley third. Mr. J. W. Clarke scored for half a dozen double-flowered specimens, his varieties being R. D. Sayers, F. V. Raspail, Royal Star, Ernest Louth, King of Denmark, and Mdme. Thibaut; Mr. H. Pybus second; and Colonel Petre, Burton Lodge, York, third.

A curious class was one for a collection of plants and cut flowers, arranged for effect upon a table space of 12ft. by 6ft. Here Messrs. J. Cypher and Sons, scored with a light arrangement of orchids, crotons, liliums, ferns, and palms, all tastefully disposed; Mr. W. A. Holmes, West End Nurseries, Chesterfield, second with crotons, carnations, ixoras, etc.

Messrs. Blackmore and Langdon were to the front for a large group of begonias, and the splendid plants exhibited and the beautiful varieties staged commanded general attention and received unstinted admiration both for the quality and disposition of the flowers. In the other begonia classes Mr. Skill, gardener to S. Leetham, Esq., Elm Bank, York; and Mr. T. Winn, Garth Terrace, Burton Lane, York; and Mr. T. Douthwaite, gardener to Miss Barstow, Garrow Hill, York, were the leading prizewinners. Mrs. Ferrier, Fulford Croft, York, won first prize in the class for a group of begonias, with a good exhibit of double and single and frilled varieties; Captain E. Walker was placed second, and Mr. T. Winn was third.

There were five gloxinia groups, and first prize in this class fell to Mr. W. Walls, gardener to Mrs. Craven, Moorby, York, for very fine plants, well arranged with ferns, etc. Mr. F. Deane, gardener to Joseph Rowntree, Esq., Clifton Lodge, York, came second with a rather closely-packed group of well-grown plants; Mr. H. W. Clark, gardener to Captain Walker, York, third.

Calceolarias made a brave show, and the best group of these gorgeous plants was staged by Mr. G. Shill, Elm Bank Gardens; Captain Walker second, and Mr. J. Rowntree third.

There were four groups of show pelargoniums, and Mr. Keighley, gardener to H. E. Leitham, Esq., J.P., Sheriff of York, Aldersyde, York, won the leading honours with a bright display; second place fell to Messrs. W. J. Godfrey and Son, Exmouth; and third to Messrs. Seagrave and Co., Sheffield.

FRUIT.

Fruit was not a large display. The best collection of six dishes came from Mr. J. E. Hathaway, gardener to J. Brennard, Esq., Baldersby Park, Thirsk, who showed Muscat of Alexandria and Black Hamburgh grapes, Brown Turkey figs, Royal George peaches, Violette Hative nectarines, and Jordan's No. 2 melon; second prize was won by Mr. J. C. McPherson, gardener to Lord Londesborough, Market Weighton. The order of

merit was reversed in the class for four dishes of dessert fruit, the same competitors changing positions.

Mr. W. H. Cooke, gardener to Lord Belper, Kingston Hall, Derby, led for a dish of peaches with fine specimens of Hale's Early; Mr. G. E. Thomas, gardener to the Marquis of Ripon, Studley Royal, Ripon, second, with Royal George. For nectarines, Mr. C. Lawton, gardener to Colonel Harrison Broadley, M.P., Welton House, Welton, led with Lord Napier in grand style; Messrs. Thos. Rovers and Son, Sawbridgeworth, second.

Mr. W. H. Dodson, gardener to H. J. Hope Barton, Esq., Stapleton Park, Pontefract, had the best black grapes, winning with small but finely-berried clusters of Black Hamburgh; Mr. F. W. Johnson, Boston Spa, second. Mr. F. Larner, gardener to Chas. Thelluson, Esq., Bradsworth Hall, Doncaster, scored for white grapes with Chasselas Napoleon in good form; Mr. Thos. Grix, gardener to J. M. Dawson, Esq., Brook Hall, Tadcaster, second, with Buckland

A good rockwork exhibit came from Messrs. Kent and Brydon, Darlington. The arrangement of the stone, and disposal of suitable plants in the niches and pockets betokened skilful handling. The same firm showed ornamental trees and shrubs, and some good hydrangeas and other flowering subjects. Quite an attractive bit of rockwork was arranged by Messrs. S. Broadhead and Son, Wooldale Nurseries, Thongsbridge, Huddersfield. The stone was old weather-beaten limestone, and in between the strata were growing dianthuses, saxifrages, Gypsophila cerastioides, and a varied collection of suitable alpines and miniature shrubs.

Perpetual carnations were splendidly shown by Messrs. Young and Co., Hatherley, Cheltenham. Scarlet Glow, Mrs. Raphael, Empire Day, and Mikado were all good, and a large sheaf of Cecilia in the centre of the stand received general praise, its fine yellow flowers being so clean and fresh-looking. Mr. A. F. Dutton, Iver, Bucks, also showed perpetual carnations in good form, using the

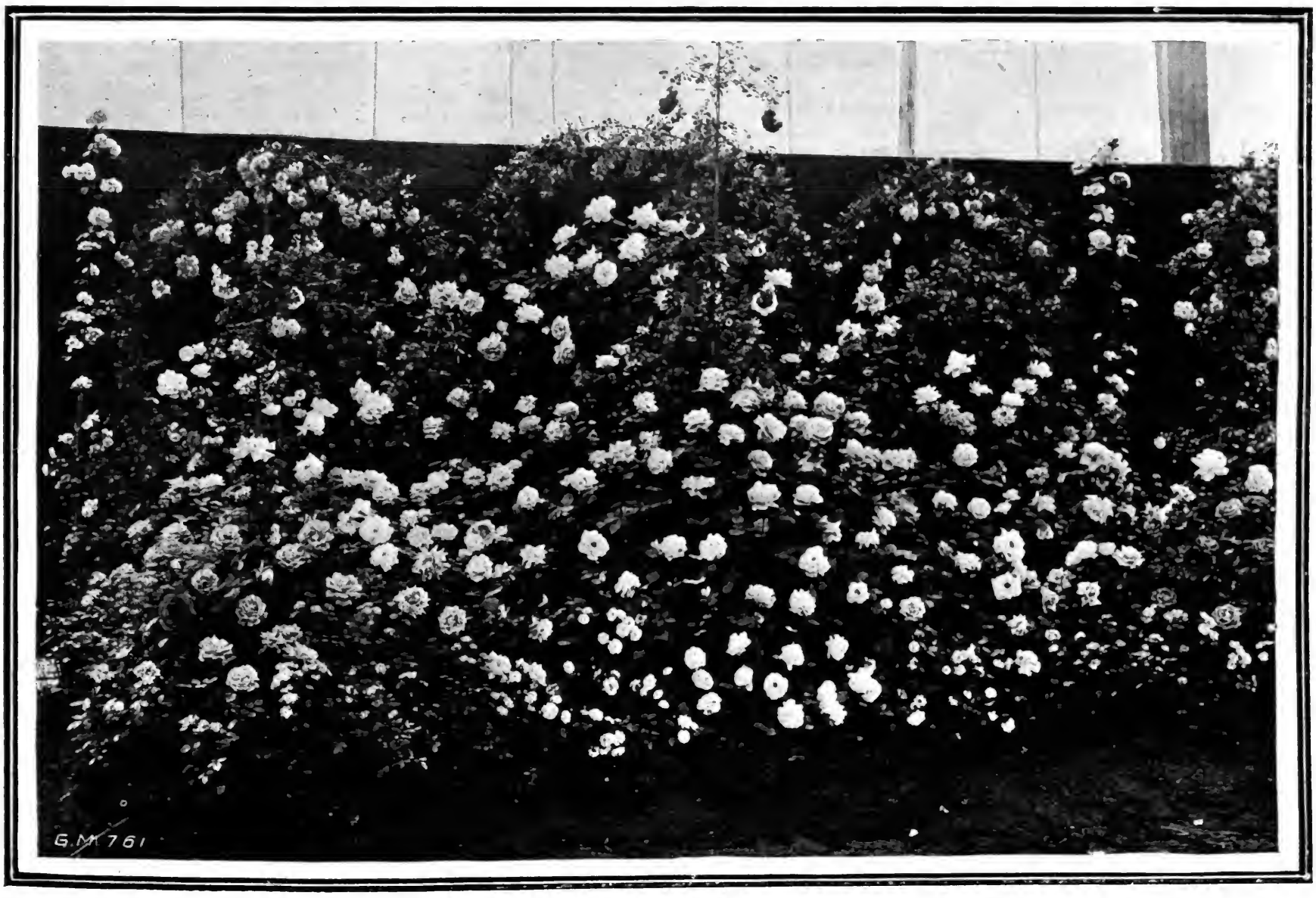
of horticulture, and on the pests and diseases that attack plants. Many of our readers were much interested in our exhibit, and we had the pleasure of welcoming many of our friends and supporters.

MEDAL AWARDS.

Special Large Gold.—To Messrs. Thos. Rivers and Son, Sawbridgeworth.

Large Gold.—To Messrs. Jas. Backhouse and Sons, Lim., York; Messrs. W. and J. Brown, Stamford; Messrs. Dobbie and Co., Edinburgh; Messrs. Kent and Brydon, Darlington; Mr. J. Wood, Boston Spa; Messrs. Mansell and Hatcher, Rawdon, Leeds; Messrs. E. Webb and Sons, Wordsley, Stourbridge; Messrs. Sutton and Sons, Reading.

Gold.—To Messrs. W. Artindale and Sons, Sheffield; Messrs. Batchelor and Sons, Harrogate; Messrs. R. H. Bath, Lim., Wisbech; Messrs. Charlesworth and Co., Haywards Heath; Messrs. Dicksons, Chester; Mr. A. F. Dutton, Iver, Bucks; Messrs. Gunn and Sons, Olton; Miss Hemus, Upton-on-Severn;



FIRST PRIZE GROUP OF POT ROSES.
Exhibited by Mr. Wm. Todd at the York Floral Fête and Gala.

Sweetwater. Mr. G. F. Brotherston, gardener to Francis Samuelson, Esq., Breckenbrough Hall, Thirsk, had the best dish of strawberries, winning with the popular Royal Sovereign; Messrs. Thos. Rivers and Sons scored for a dish of cherries with the black Early Rivers variety.

NON-COMPETITIVE.

Mr. John Wood, Boston Spa, York, erected another of his excellent model rockeries, the stone used being the fine old weathered Yorkshire limestone which we have commented upon on former occasions, and which enabled the exhibitor to produce the effect of an old-established and matured rockery. This exhibit was tiny in comparison with Mr. Wood's grand effort at Chelsea, but the clever arrangement was equally creditable, simply because the effect produced was that of a little corner of an actual projection in one of Nature's mountain gardens. The plants used were just sufficient to give the touch of life required to complete the picture, everything used being of the nature of rarities such as delight the connoisseur.

artistic baskets we have several times mentioned as receptacles for his flowers. Niagara, Beacon, and Mrs. A. F. Dutton were all good. Messrs. W. J. Godfrey and Son, Exmouth, put up some brilliant zonal pelargoniums, and also a small collection of choice fancy pelargoniums.

The collection of fruit trees in pots brought up by Messrs. T. Rivers and Son, Sawbridgeworth carried fine fruits. The Cardinal and Early Rivers nectarine and the May Duke cherries were splendidly coloured, and Lady Sudeley apples were finely finished fruit. This was a splendid exhibit. Rural table decorations exhibited by Robert Sydenham Limited, Tenby Street, Birmingham, were tastefully furnished with sweet peas. The flowers were good, and there was a lightness about the arrangement that pleased the eye.

Messrs. W. H. and L. Collingridge, 148-149, Aldersgate Street, E.C., occupied a stand on which The Gardeners' Magazine and "Amateur Gardening" were displayed, together with a range of books on various branches

Messrs. E. W. King and Co., Coggeshall; Messrs. J. Kelway and Sons, Langport; Mr. W. Lawrenson, Yarm-on-Tees; Messrs. J. Peed and Sons, West Norwood; Messrs. C. E. Simpson, Lim., York; Mr. W. J. Unwin, Histon, Cambs; Messrs. Young and Co., Hatherley; Messrs. Blackmore and Langdon, Twerton-on-Avon.

Silver-gilt. — To Messrs. Broadhead and Son, Huddersfield; Messrs. S. Bide and Son, Farnham; Messrs. W. J. Godfrey and Sons, Exmouth; Messrs. Sander and Sons, St. Albans; G. Yeld, Esq., M.A., Burton Lane, York.

Silver.—Messrs. Blackmore and Langdon, Twerton-on-Avon; Messrs. Jarman and Co., Chard; Messrs. Longster and Sons, Malton; Mr. W. A. Manda, St. Albans; Mr. G. W. Miller, Wisbech; Mr. G. Prince, Longworth; Robert Sydenham Limited, Birmingham; Messrs. Seagrave and Co., Sheffield; and Mr. W. R. Tranmer.

We shall make further reference to the non-competitive displays in our next issue.

BLETCHLEY AND FENNY STRATFORD HORTICULTURAL SOCIETY.

BLETCHLEY PARK, BUCKS.

Magnificent grounds, adjoining Bletchley Junction, L. and N.W. Rly.

FOURTH ANNUAL SHOW,

AUGUST 4th, 1913, BANK HOLIDAY.

The leading Show in the Midlands.
Special large Prizes for Roses, and for Table Decorations, etc., etc.

Schedules on application to Secretary,
THOS. BEST.
Bletchley, June 16th, 1913.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY.

GRAND QUARTER CENTURY FLOWER SHOW.
SOPHIA GARDENS, CARDIFF,
WEDNESDAY and THURSDAY, JULY 23 and 24.
Specially good Prizes in every section, amounting in money and plate to nearly £500. Tents lighted by electricity. Popular Prices.
Schedules from the Secretary, Mr. A. MAURICE BAILEY, 24, Duke Street, Cardiff.

HANLEY PARK, STAFFORDSHIRE
JULY 2nd and 3rd, 1913.

SEVENTEENTH
GREAT ANNUAL FLORAL FETE.
£500 in Prizes, Silver Cups, Gold and Silver Medals.
SILVER CHALLENGE CUP, VALUE £10 10s. 0d., OFFERED FOR "TRADE EXHIBIT."
(For particulars see page 7 in Schedule.)
Valuable Special Prizes offered by the Principal Firms in England.
Schedules post free on application to
WM. POULSON,
Secretary.
Town Hall, Hanley.

WOLVERHAMPTON
GREAT FLORAL FETE,
July 8th, 9th and 10th, 1913.
Over £900 in Prizes.
ENTRIES CLOSE JUNE 30th.
Schedules on application to the Secretary.

TAUNTON FLOWER SHOW.

THURSDAY, AUGUST 14th.

Entries close Friday, August 8th.

R. A. GOODMAN, Secretary.
3, HAMMET STREET, TAUNTON.

MALVERN ROSE AND SWEET PEA SHOW.

THURSDAY, JULY 15th, 1913.

Open Classes in Roses and Sweet Peas.
Nearly £100 in Prizes.
Entries close July 7th.
For Schedules and Entry Forms apply to A. D. MELVIN, Secretary, The Poplars, Malvern Link.

WITHIN EASY REACH OF LONDON.
ELSTREE FLOWER SHOW will be held in ALDENHAM PARK, adjoining the renowned Gardens of Aldenham House, which will be open.
SILVER CUPS and CASH PRIZES for SWEET PEAS and ROSES. Trade and other Honorary Exhibits, and various attractions. The Midland Railway Co. will issue Cheap Tickets.
Particulars see handbills.
Motor Service from London to Park Gates.
Schedules and particulars from the Hon. Sec., W. J. PRITCHARD, Elstree.

YORKSHIRE AGRICULTURAL SOCIETY.
GRAND HORTICULTURAL SHOW will be held in YORK, JULY 23, 24, and 25, 1913. Large Prizes are given for GROUPS OF PLANTS, HERBACEOUS FLOWERS, FRUIT, etc.
For Schedules apply PETER BLAIR, Trentham Gardens, Stoke-on-Trent.
Entries close July 5th.

LINCOLNSHIRE AGRICULTURAL SOCIETY. GREAT HORTICULTURAL SHOW will be held in LINCOLN, JULY 17th and 18th, 1913. Liberal Prizes are given for Groups of Plants, Roses, and Hardy Flowers.
For Schedules apply PETER BLAIR, Trentham Gardens, Stoke-on-Trent.
Entries close June 30th 1913.

BECKENHAM HORTICULTURAL SOCIETY.
GRAND SUMMER SHOW,
WEDNESDAY, JUNE 9, 1913.
Open Classes, Roses, etc.
Entries close June 28, 1913.
Schedules from Honorary Secretary, T. J. JACKSON, 5, Overbury Avenue.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

(Continued from page 452.)

Jas. Carter and Co., Raynes Park, for irises; Messrs. W. Cutbush and Son, Highgate, for hardy plants; Messrs. Kelway and Son, Langport, for pæonies; Messrs. Jas. Veitch and Sons, Lim., Chelsea, for pæonies, cannas, etc.; Messrs. Wallace and Co., Colchester, for hardy plants.

Silver Banksian Medals to Messrs. H. Burnett, Guernsey, for carnations; Mr. Jas. Douglas, Great Bookham, for carnations; Messrs. G. Jackman and Sons, Woking, for hardy plants; Messrs. H. J. Jones' Nurseries, Lewisham, for Canterbury bells; Messrs. Stuart Low and Co., for carnations; Messrs. Paul and Son, Cheshunt, for roses; Mr. A. Perry, Enfield, for hardy plants; Mr. M. Prichard, for hardy plants; Mr. G. Reuthe, Keston, for hardy plants; Messrs. T. S. Ware, Lim., Feltham, for hardy plants; Messrs. Whitelegg and Page, Chislehurst, for hardy plants; Mr. Goodson, Putney, for orchids; Mesrs. Hassell and Co., Southgate, for orchids; Mr. Flory, Twickenham, for orchids; Messrs. Charlesworth and Co., Hayward's Heath, for orchids; Messrs. S. Low and Co., for orchids.

Bronze Flora Medals to Messrs. Brown, Peterborough, for hardy plants; Mr. Smith, for hardy plants; Messrs. Bunyard and Co., Maidstone, for hardy plants.

Bronze Banksian Medals to Messrs. Dobbie and Co., Edinburgh, for vegetables; Mr. Chas. Blick, Hayes, for carnations; Messrs. W. Fells and Co., Hitchin, for hardy flowers; The Guildford Hardy Plant Company, for hardy flowers; Mr. F. Lilley, Guernsey; Messrs. Carter Page and Co., dahlias, etc.; Messrs. J. Peed and Son, for hardy flowers; Messrs. J. Cheal and Sons, for cut trees and shrubs; Messrs. Phillips and Taylor, Bracknell, for hardy flowers; Messrs. J. Piper and Co., for delphiniums; Mr. R. C. Notcutt, for hardy flowers.

Awards of Merit to Gladiolus Queen of the Whites, from Messrs. B. Hoogstraten, Sassenheim; Carnations Thomas à Beckett and Scarlet Gem, from Mr. Chas. Blick; to Trollius patulus Bees var., from Messrs. Bees, Lim.; to Sweet Pea Frilled Pink, from Messrs. Dobbie and Co.; to Statice Suworowi alba, from Mr. R. C. Notcutt; to Sweet Pea Edith Taylor, from Mr. T. Stevenson; to Philadelphus Norma, from Sir T. Lawrence; to Pæony Gismonda, from Messrs. R. H. Bath, Lim.; to Rose Paul's Lemon Pillar, from Mesrs. Paul and Son, Cheshunt; to Spiræa Sargentiana, from the Hon. V. Gibbs; to Saxifraga Counainia, from Messrs. Fells and Co.; to Astilbe Britannia, from Mr. Profittlich; to Rose Mrs. G. Norwood, from Mr. E. Hicks; to Blandfordia Cunninghami, from Mr. A. Worsley; to Cattleya Gaskelliana Fairy Queen, from Baron Bruno Schroeder; also to Odontoglossum crispum The Baroness, from the same exhibitor; to Oncidioda Bella, from Messrs. Charlesworth and Co.

SCIENTIFIC COMMITTEE.—June 3.

Present: E. A. Bowles, Esq., in the chair; Messrs. J. Fraser, W. E. Ledger, G. Wilson, J. T. Bennett-Poe, and F. J. Chittenden (hon. sec.).

VIOLET WITH LACINIATE LEAVES.—Mr. C. T. Druery sent a leaf of the sweet violet with the margins much cut, varying from the normal type in the way many species of Dianthus vary in their petals.

DAFFODILS FROM NEW ZEALAND.—Mr. A. E. Bowles showed flowers of King Alfred and Flamingo daffodils then in bloom, the plants having been raised from bulbs received from New Zealand.

LÆLIO-CATTLEYA × "FREAK."—Mr. G. Wilson showed a plant of Cattleya citrina × Lælia purpurata from the garden of C. J. Lucas, Esq., Warnham Court, Horsham. The flowers were intermediate in size and colour between the parents, and they are produced on a horizontal spike. A Certificate of Appreciation was recommended to Mr. C. J. Lucas.

PRIMULA CONSPERSA. — Messrs. J. Veitch and Sons, Lim., showed specimens of this species of primula from West Kansu, China, raised from seed collected by Mr. Purdom. It is a species of the farinosa section, flowering later than P. farinosa, and with taller stems and large flowers. The flowers are much the colour of P. farinosa.

CATTLEYA MOSSIÆ BUD SPORT.—Mr. E. H. Davidson sent a plant of C. Mossiæ Golden Ray having the petals marked with yellow like the labellum. It appears to be a case of irregular peloria, but differing from the usual form of peloria in having the labellum characters showing the petals, whereas in the usual form the petal characters show in the labellum.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of the above society was held in the R.H.S. Hall on June 9, Mr. Chas. H. Curtis in the chair. Five new members were elected. Four members were allowed to withdraw double the amount of interest from their deposit accounts, viz., £6 1s., £4 12s. 4d., £3 2s. 2d., and £2 14s. 8d. respectively; and one member withdrew the sum of £20 from his deposit account. The sick pay for the month amounted to £43 7s. 4d. on the ordinary side, and £18 7s. 4d. on the State section, and maternity claims amounted to £18 10s. Mr. W. Collins (late secretary) was co-opted a member of the committee in the place of Mr. A. C. Hill. The secretary reported that balance-sheets and forms had been sent to principal nurserymen, park superintendents, and mutual improvement societies, with the object of bringing the "United" more to the notice of the young gardener. The committee also welcomed the suggestions put forward by two members, and these will be thoroughly discussed and reported upon in due course.

Mr. A. C. Hill, the secretary of the society, informs us that the following questions as to who is the employer for the purpose of the National Insurance Act have been submitted to the Commissioners, and the answers thereto are as given in the several paragraphs.

(9) A man who is carrying on business as a haulier is employed by a gentleman to do gardening work at the latter's private residence. The employment is regular, the man doing the work when he has spare time; he is paid 4d. per hour. The employer exercises practically no control over him, but is in a position to give orders if necessary. Decision:—That the employment of the applicant in garden work is under a contract of service within the meaning of the Act, and he is liable to be insured. (Question 78.)

(13) Applicant employs a gardener who does the work at his own convenience, and sends in a quarterly account for work done. The gardener also employs other men who sometimes take his place in performing the work. Decision:—That the employment of a gardener therein referred to is not

employment within the meaning of the Act. (Question 113.)

(191) A man who was employed to work in a private garden at a remuneration of 3s. per day. He was engaged from day to day for a period of nine days consecutively. Decision:—That employment by the applicant of a man to do work in his garden on the conditions set out in the application was employment of a casual nature, and, as it was not for the purpose of the applicant's trade or business, it was excepted under part 2 of the National Insurance Act, 1911. (Question 1168.)

(211) A gardener is employed at a private house to attend to a greenhouse, keep up the fires in the winter, etc., and to attend generally to the garden. The employer does not in practice exercise control over the work, but has the right to do so; the gardener receives 4s. per day, and is required to do the work in person. Decision:—That the man who is employed by the applicant to look after his greenhouse and do gardening work under the conditions set out in the application is employed under a contract of service within the meaning of the Act. (Question 968.)

East Anglian Horticultural Club.

At the June meeting of this club Mr. H. Goude, lecturer to the Norfolk County Council, gave a very interesting discourse upon "The Relation of Bee-keeping to Horticulture." He stated that bees were far more useful in the production of a fruit crop than was generally thought, and he was pleased to be able to state that latterly large fruit growers were beginning to see the importance of the matter, and were introducing bees into their orchards. He explained thoroughly the function of the bees, and the way they carried on their useful work of pollination, and how they helped to produce fruit upon trees that were self-sterile. Some remarks followed upon their work in the floral world, and also in the vegetable garden. This talk upon bee-keeping was much appreciated.

The animated discussion which followed proved that the subject had evoked much interest, and the lecturer was warmly thanked for his visit.

Many of the members contributed fine displays of flowers. Mr. John Brown, gardener to F. Glover, Esq., Norwich, staged some extra well-grown coleus. Mr. F. Wilby, gardener to F. A. Bainbridge, Esq., Hethersett, had fine outside-grown sweet peas of the newest kinds. Messrs. A. J. and C. Allen, Norwich, had bold bunches of some of the newer roses. Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., and Mr. W. Mayoram, gardener to W. T. F. Jarrold, Esq., Thorpe, were each responsible for a nice exhibit of strawberries. The competitive classes also were keenly contested.

On the day following the officers and committee accepted an invitation to spend the afternoon in the garden of Louis Tillett, Esq., The Cottage, Old Catton. This garden has a reputation for being well kept, and for containing subjects of great interest. Mr. F. Williams, who is in charge here, is president of the club this year, and he conducted the party round. Congratulations he received in large measure, but most perhaps for the beautiful group of the North American cypripedium, which was a treat.

OBITUARY.

MR. C. E. PILLING.

Horticulturists in Norfolk have received a severe shock by the sudden death of the above-named gentleman, who for some time has been secretary of the Norfolk and Norwich Horticultural Society. He took office when the society was not in a very flourishing condition, but by dint of hard work and enthusiasm he lifted it up considerably. Only 48 years of age, Mr. Pilling died at a tennis party on the 9th inst. in the County Rectory Garden, near his home at Wymondham. Many horticulturists paid their last respects to him at the graveside.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

BRITISH GENTIANS.—S. G. F., Purley: If you will be good enough to tell me whether there are any British species of gentian I shall be very much obliged.—Hooker lists and describes five species of gentian as British. These are: Gentiana campestris, pale lilac; G. Amarella, very like G. campestris, but with calyx less deeply divided; and G. nivalis, a low-growing, blue-flowered species. These three are annual kinds. The perennials are G. Pneumonanthe, bright blue, from 1ft. to 2ft. high; and G. verna, a well-known species of lowly growth and with bright blue flowers. The latter ascends to 2,400ft., and is found in Westmoreland, Durham, York, Mayo, Clare, and Galway. It is also found in most alpine districts in Europe, excluding Turkey, and in Northern and Western Asia.

PROPAGATION OF FIGS BY CUTTINGS AND LAYERS.—Mr. Alfred Booth writes, from Bradford: On February 22 last you kindly inserted a query of mine concerning the best method of layering a little bush fig. It was in a cold house, and I ran seventeen of the slender branches through four-inch pots, at the same time putting the remaining eleven branches in slight bottom heat as cuttings. In both cases the results are good, and I have now twenty-eight sturdy plants potted into six-inch and seven-inch pots. However, the result of this and some previous experiments leads me to say that, as the fig is such a free-rooting subject, the method of propagation by cuttings (given a little bottom heat) is less trouble and more expeditious than that of layering. I may add that it is about sixty years ago since I commenced as an amateur to experiment with the Brown Turkey fig, and now, at seventy-five years of age, I am still an enthusiast in these matters, and find great pleasure and profit from the regular perusal of THE GARDENERS' MAGAZINE.

PACKING GRAPES.—F. P. D., Shrewsbury: Kindly tell me the best method of packing grapes to travel by rail. The chief difficulty experienced so far is that of preserving the "bloom" on the berries.—It is practically impossible to send grapes by rail for any distance, and at the same time entirely preserve the bloom on the berries. If special arrangements could be made to ensure safety, then the bunches could be sent on show-boards, the boards being well padded with cotton wool covered with tissue paper. A few ties will keep the bunches in position, and cotton wool wrapped in tissue paper will serve to relieve the weight of the shoulders of large bunches. The stand must be screwed down in a box. Another method is to use cotton wool or fine wood wool for padding the sides of a box, wrap the bunches in soft paper, as cut, and at once place them in the box, stalk upwards. Cover with paper and add sufficient cotton wool or wood wool to keep the whole firm when the lid is put on. Where the railway people are used to handling fruit, and the distance to be covered is not great, the method of packing the grapes in baby baskets, on paper-covered cotton wool, is a good one. The baby basket is then placed in a wicker "flat" or hamper, and fastened down.

TREE TOMATO. — D. G., Chepstow: Would the tree tomato grow and fruit out of doors in this district, or would culture under glass be necessary?—The tree tomato (Cyphomandra betacea) would not be a success out of doors, and is hardly likely to survive the winter without protection even in a sheltered place. It is a quick-growing, small tree, and if grown in standard form it is useful for sub-tropical bedding, its glossy green leaves being quite effective, while its orange-coloured, egg-shaped fruits are a great attraction. They would have to be specially grown in a warm house for this purpose, and hardened off, as in the case of other subjects

used for summer bedding. The fruits are quite good to eat when ripe, and the flavour closely resembles that of the tomato. It may be raised from seeds or cuttings, and treated like other shrubby, warmth-loving members of the solanum family.

AUCUBA AND LAUREL.—S. E. T., Stamford: I have always understood that the laurel and the aucuba were very closely related, if not members of the same family; but was told a few days ago that they belong to quite different natural orders. Will you kindly tell me whether I am correctly informed?—It is a quite common occurrence to find people who believe the laurel and aucuba are very close relatives, and this belief is shared by many gardeners who have not studied botany. The aucuba belongs to the order Cornaceæ, and is therefore closely allied to the dogwood. The laurel is, correctly, not a laurel at all, the tree laurel being the common bay (Laurus nobilis); while the shrub known as the common laurel belongs to the cherry family, and is named Prunus Lauro-cerasus, or Cerasus Lauro-cerasus. The bay belongs to the order Laurineæ, and the laurel to the order Rosaceæ.

ROLLED ROSE LEAVES.—C. H. M., Ross: I enclose some leaves taken from a rose trained upon the south side of our house. The leaves are rolled up in a curious fashion, and in most cases, when unrolled, are found to contain a greeny-grey maggot. Please tell us how to deal with the little pest that is doing so much damage in this way, for I find the leaves die before long, once they curl or roll up.—The rolling of the rose leaves is caused by the leaf-rolling sawfly (Blennocampa pusilla), a pest that has done a great deal of damage in some districts during recent years. The flies appear in May or June, and eggs are laid upon the leaves; the larvæ feed and cause the leaves to curl or roll up, and form comfortable hiding places from which they are not easily dislodged. When full fed the larvæ enter the soil, form cocoons, and remain there until about February, when pupation takes place. Hand-picking is the best method of dealing with an attack, and the leaves removed must be at once burned to destroy the larvæ it contains. Spraying with nicotine solution renders the foliage distasteful, and will kill the larvæ it reaches.

NAMES OF PLANTS.

S. E. J., Torquay.—Catalpa bignonioides.

C. B. W., Wisbech.—1, Linnæa borealis; 2, Saxifraga androsacea.

P. N., Watford.—1, Sophora virginica; 2, Dicentra formosa; 3, Clematis integrifolia.

T. R. C., Botley.—1, Dianthus neglectus; 2, D. deltoides; 3, Periploca græca; 4, Silene nutans; 5, Convolvulus mauritanicus.

M. B. F., Dorchester.—1, probably Cortusa pubens; send further specimens if possible; 2, Tamarix gallica; 3, Cassiope tetragona.

W. J. M., Kildare.—We did our best to determine the name of the plant, but failed to get the specimen identified. If you could send us more and better material we may be more successful.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

PUBLISHING MANAGER,
148-9, Aldersgate Street,
London, E.C.,

who will give the matter immediate attention.

MARKETS.

COVENT GARDEN.

Flowers.

Business continues to be brisk. Irises are very good, and both carnations and roses are abundant.

		s.	d.		s.	d.
Arums	per doz.	2	0	to 3	0	
Adiantum cuneatum	per doz. bun.	3	0	4	0	
Asparagus plumosus	per doz. bun.	8	0	16	0	
,, Sprengeri	per doz. bun.	8	0	12	0	
Carnations	per doz.	1	6	2	0	
,,	per doz. bun.	10	0	18	0	
,, Malmaison	per doz.	4	0	6	0	
Cattleyas	per doz.	9	0	12	0	
Cornflowers	per doz. bun.	0	6	1	0	
Croton leaves	per bun.	1	0	1	6	
Eucharis	per doz.	2	0	4	0	
French fern	per doz. bun.	2	6	4	0	
Gardenias	per doz.	1	0	2	0	
Gerberas	per doz.	1	0	1	6	
Gladioli	per doz. bun.	6	0	10	0	
Iris, Spanish	per doz. bun.	4	0	7	0	
Lilium auratum	per bun.	3	0	4	6	
,, speciosum	per doz.	1	6	2	0	
,, longiflorum	per bun.	1	6	2	0	
Lily of the Valley	per doz. bun.	9	0	15	0	
Marguerites	per doz. bun.	1	0	2	0	
Odontoglossums	per doz. blms.	2	0	4	0	
Pæonies	per doz. bun.	4	0	8	0	
Pelargoniums	per doz. bun.	3	0	8	0	
Pinks	per doz. bun.	1	0	1	6	
Poppies	per doz. bun.	1	0	2	0	
Pyrethrums	per doz. bun.	2	0	3	0	
Roses	per doz.	0	9	4	0	
Smilax	per doz. trails	2	0	3	0	
Spiræa	per doz. bun.	4	0	6	0	
Sweet Peas	per doz. bun.	3	0	6	0	

Fruits.

Supplies are excellent for the time of year, and the demand is good.

		s.	d.		s.	d.
Apples, Australian	per box	10	0	to 18	0	
,, Tasmania	per box	10	0	18	0	
Apricots	per box	0	10	1	6	
Bananas, Canary	per bun.	7	0	12	0	
,, Jamaica	per bun.	3	0	5	6	
Cocoanuts	per 100	18	0	23	0	
Cherries, French	per box	0	10	1	6	
Dates	per doz. boxes	2	9	3	6	
Figs	per doz.	1	6	8	0	
Gooseberries	per ½ sieve	3	6	4	6	
Grape Fruits	per case	12	0	22	0	
Grapes, English (new)	per lb.	2	0	6	0	
,, Guernsey	per lb.	2	0	3	0	
,, Australian	per case	12	0	32	0	
Lemons	per case	9	0	22	0	
Mangoes	per doz.	6	0	8	0	
Melons	each	1	0	3	0	
Nectarines	per doz.	4	0	24	0	
Oranges	per case	12	0	32	0	
,, Jaffa	per case	7	0	9	0	
Peaches	per doz.	4	0	21	0	
Pears, Tasmanian	per case	10	0	12	0	
Pineapples	each	2	6	5	0	
Strawberries	per basket	2	6	3	6	

Vegetables.

Peas and tomatoes are a good supply, and there is still plenty of asparagus. Salading meets a ready sale.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to 2	0	
,, Ground	per bush.	3	0	4	0	
Asparagus, English	per bun.	1	6	3	0	
,, Giant	per bun.	5	0	7	0	
Beet	per bush.	2	0	3	0	
Beans, Guernsey	per lb.	0	6	1	0	
,, English	per lb.	0	8	1	0	
Cabbage	per tally	2	0	3	0	
Carrots	per doz. bun.	3	0	6	0	
,, French	per doz. bun.	6	0	8	0	
Cauliflowers	per doz.	2	6	4	0	
Chicory	per lb.	0	2	0	4	
Cucumbers	per doz.	2	0	4	0	
Endive	per doz.	1	6	3	6	
Horseradish	per doz. bun.	10	0	12	0	
Lettuce, Cos	per doz.	0	9	1	0	
Marrows	per doz.	3	0	8	0	
Mint	per doz. bun.	3	0	5	0	
Mushrooms	per doz. lbs.	4	0	7	0	
Onions	per bush.	2	0	2	6	
Parsley	per doz. bun.	2	0	4	0	
,, Spanish	per case	6	0	7	0	
Peas	per bush.	3	0	6	0	
Rhubarb	per doz. bun.	0	10	1	6	
Radishes	per doz. bun.	0	10	2	0	
Spinach	per bush.	1	6	3	0	
Tomatoes, English	per doz. lbs.	2	0	6	0	
,, Guernsey	per doz. lbs.	4	0	5	0	
Turnips	per doz. bun.	2	0	3	0	
,, French	per doz. bun.	5	0	9	0	
Watercress	per doz. bun.	0	5	0	6	

LONDON POTATO MARKETS.

Old tubers are almost over. New potatoes arrive steadily, and keep up fair prices.

		s.	d.		s.	d.
Scotch	per ton	80	0	to 95	0	
Dunbars	per ton	120	0	136	0	
Jersey, New	per cwt.	11	0	12	0	
St. Malo, New	per cwt.	10	0	11	0	
Lisbon, New	per case	5	0	5	6	
Teneriffe, New	per cwt.	9	0	10	0	

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

DATE. 1913. JUNE 8 TO JUNE 14.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day High-est.	Night Low-est.
	hr. m.	deg.	deg.	deg.	deg.
June 8—Sunday	3 54	57	57	65	47
,, 9—Monday	8 0	57	52	64	42
,, 10—Tuesday	6 12	55	53	66	52
,, 11—Wednesday	12 42	58	55	65	47
,, 12—Thursday	2 12	57	52	62	49
,, 13—Friday	0 36	53	54	63	50
,, 14—Saturday	3 48	55	52	68	53
Means	(total) 37 24	57	53	65	49

DATE. 1913. JUNE 8 TO JUNE 14.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
June 8—Sunday	0·07	58	57	56	32
,, 9—Monday	trace	57	57	55	30
,, 10—Tuesday	—	58	57	55	46
,, 11—Wednesday	—	58	57	55	34
,, 12—Thursday	—	59	57	55	40
,, 13—Friday	—	59	57	55	37
,, 14—Saturday	—	59	57	55	48
Means	(total) 0·07	58	57	55	38

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, June 23.—National Chrysanthemum Society's Outing to Friar Park, Henley-on-Thames.
WEDNESDAY, June 25.—Colchester Rose Show.
Norwich Rose Show; two days.
Southampton Rose and Sweet Pea Show.
Croydon Flower Show.
Harrow Rose Show.
Gardeners' Royal Benevolent Institution.—Festival Dinner at the Hotel Metropole, London; chair to be taken by Leopold de Rothschild, Esq.
THURSDAY, June 26.—City of London Rose Show.
Canterbury Flower Show.
Isle of Wight Rose Show.
Brentford Flower Show.
SATURDAY, June 28.—Windsor Rose Show.
Reigate Rose and Sweet Pea Show.
Northwood Rose and Sweet Pea Show.

CATALOGUES RECEIVED.

BEES, LIM., LIVERPOOL.—Packed with information, freely illustrated, and vastly interesting is the closely-printed catalogue of hardy plants, shrubs, roses, tools, etc., issued by this firm, and new Chinese plants are a leading feature.

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VOL. LVI.—No. 3,113. SATURDAY, JUNE 28, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Fruit Bottling.

Although the preservation of various kinds of fruit by the process commonly known as bottling is by no means new, it had, until within a comparatively recent period, been so long in abeyance in private houses, that when the revival came few indeed were those who had a practical acquaintance with the details essential to success. When some twenty-five years ago a movement was set on foot for the purpose of encouraging the extension and improvement of fruit culture and the introduction of improved methods of utilising fruits, it was generally believed that the drying of fruit under artificial conditions would become an important factor in the extension of the period in which the several kinds would be available for the table. The hopes that were entertained unfortunately failed in realisation. Many experiments were made, and it was found that while dried fruits of fairly good quality could be obtained, the drying process was really not adapted to the conditions that obtain in this country. In the course of the experiments at Chiswick and elsewhere it was soon proved to demonstration that a large proportion of the fruits grown in British gardens are quite unfit for drying, and that the others were far from satisfactory both for commercial purposes and home use. Not even the plums, of which much was expected, gave good results; they lost much in weight, and their shrivelled appearance placed them at a great disadvantage in comparison with imported fruit that had been ripened and dried naturally in a more sunny clime than that of the British Isles. The drying process having, so far as this country is concerned, having failed, attention was once more given to the bottling of fruit for the purpose of extending the period in which it may he had in use, and this has proved an unqualified success. There have been failures, and in many cases where failure has been averted the results have not been satisfactory. These have been due to an imperfect acquaintance with the details, or a want of appreciation of the necessity of every detail being carefully carried out. By the process of bottling, fruits which naturally have a season extending over a few weeks only may be had in excellent condition throughout the year; and the details are so simple as to admit of the work being entered on by any intelligent person with the full assurance of success. There are a few points to which special attention should be directed, and foremost among them is the fruit best suited for bottling. Strawberries, which are plentiful, and now coming to the table in splendid condition, may be bottled, but thus dealt with they lose so much in appearance and flavour as to be but poor apologies for the fresh fruits. Moreover, they shrink so much in course of sterilisation that when complete the fruits contained in three bottles are required to fill one, and these have to be again heated to ensure the proper capping of the bottle. Gooseberries, black and red currants, raspberries and loganberries, and Morello cherries and plums are all of much value. Gooseberries are now in prime condition for bottling, as they should be nearly or quite their full size without the slightest indication of their becoming soft. We are usually told by writers that these fruits should be bottled when of the size used for tarts, but this is vague, because of the continuous increase in size until the ripening stage is reached. Black and red currants should be bottled when ripe, but before they are ripe enough to have become soft. Raspberries and loganberries are of exceptional excellence, and to have them at their best the fruits must be selected and handled with great care. They should be sufficiently advanced towards maturity to be red and to have their characteristic flavour partly developed, but be quite firm. It is essential they be put into small baskets when gathered, and be bottled immediately. They will then retain their characteristic shape and colour, and be rich in flavour, instead, as often happens, be shapeless masses and indifferently flavoured. Cherries and plums are the most satisfactory if bottled when approaching ripeness, but not so mature that there is the slightest risk of injury to the skin. Experimentally we have bottled plums when green, and at various stages of maturity, but the best results have been obtained with fruits that had taken on their usual red, purple, or yellow colour, yielded slightly to pressure, but without the skin having become so tender that there was a risk of breaking it when the fruit was handled. In all cases the fruit selected for bottling should be the best of their respective kinds in the garden and market. The process will not, as some bottlers appear to assume, convert that which is second-rate into fruit of the highest class. In the case of plums some consideration should be given to varieties, for there is a considerable difference in their suitability for the purpose under consideration. Those which can have the strongest recommendation are perhaps the Czar, Greengage, Monarch, and Victoria, and those who have supplies of these varieties should take full advantage of them. The last-named is the most generally useful of the plums, and we find it the most highly appreciated when on the table. Plain water is the most frequently advised for filling the bottles, and excellent results may be obtained with its use, but syrup has much to recommend it, and we advise those of our readers who have not used other than plain water to substitute it for the latter in a few dozen bottles. When the

MR. J. DAVIS.

fruits, especially of gooseberries, have become charged with water there is some difficulty in sweetening them properly, and in all cases it is necessary to heat them up in some way, and thereby subject them to further cooking. On the other hand, with syrup the sweetening is uniform and agreeable, and when used as a separate sweet it is simply necessary to turn them out of the bottle into the dish, and thus the risk of breaking the fruits is avoided. The syrup is made by adding half a pound of cane sugar to each quart of water and boiling for 30 or 40 minutes at a temperature of 212 degrees. For Morello cherries, gooseberries, and some of the rather sour plums, the sugar used may be increased to three-quarters of a pound. There is no occasion to refer otherwise than briefly to the apparatus necessary, for, contrary to the opinion so generally held, it need not be elaborate or costly. If one can afford such a luxury as a steriliser fitted with thermometer, etc., it may be purchased and used, but the sterilisation can be effected equally well in the large iron pot which is found in most households. Where bottles have to be purchased, those with glass tops and screw rings should be selected, because of the greater facility with which the bottles can be made air-tight when sterilisation is complete. They are not, however, essential to success, as any wide-mouthed bottles of convenient size may be used. In the case of the latter it is simply necessary to fill the bottles high up in the neck previous to sterilisation, and when this is complete, place them on one side until the contents are quite cold, and then pour sufficient melted mutton suet into them to form a layer about three-quarters of an inch in thickness. In all cases the bottles should be closely packed with fruit and filled to nearly the top of the neck with water or syrup, great pressure being avoided in the filling process. The temperature of the water in the steriliser has to be carefully regulated, a point with which some few private bottlers are not acquainted, judging from the cracked fruit that may be seen. The water or syrup when put into the bottles will be cold—that is to say, of a temperature between 60 and 65 degrees. It is then slowly raised to a temperature of 155 or 160 degrees, so slowly indeed that about 45 minutes are required to bring it to the temperature mentioned. Subsequently the water is maintained at the same temperature for another three-quarters of an hour, when the process is complete, and the bottles taken out and screwed down, or in the case of those without caps be put on one side to cool. A steady temperature is necessary, for when the heating of the water is hastened during the earlier stage a large proportion of the fruits will have their skins cracked and be rendered more or less unsightly.

Mr. J. Davis, who has occupied the position of head gardener at The Glebelands, South Woodford, the residence of J. Gurney Fowler, Esq., is generally recognised as one of the most successful practical horticulturists of his day, and the high reputation he enjoys is well deserved. Best known in horticultural circles as an orchid grower of a high degree of eminence, Mr. Davis has obtained distinction as a cultivator of fruit and vegetables, and as a proof thereof it may be mentioned that he has for some considerable period been a member of the Fruit and Vegetable Committee of the Royal Horticultural Society. It will be of interest to recall the fact that, at an early age, Mr. Davis commenced his gardening career at Stanlake Park, Twyford, where he remained three years, and laid the foundation of his remarkable knowledge of gardening generally. After a year profitably spent in the gardens of Hurst Lodge, Twyford, Mr. Davis went to Haines Hill, the residence of F. C. Garth, Esq., also in the Twyford district, and here he remained seven years, four years as general foreman. After an engagement as garden foreman at Billingbear Park, Wokingham, Mr. Davis entered on his present position as head gardener at The Glebelands. Orchids were grown in some of the gardens in which Mr. Davis received his training, but not extensively, and at The Glebelands the collection of these fascinating flowers was not large. Now, as the result of the interest taken in them by Mr. J. Gurney Fowler, who at the present time is the chairman of the Royal Horticultural Society's Orchid Committee, and the skill of his gardener, the collection is extensive, and remarkable for the number of the fine hybrids and varietal forms it coutains, and also for the robust health of the plants. Mr. Davis also excels as a cultivator of selaginellas, and those who were fortunate in seeing the fine specimens that were shown in association with orchids from The Glebelands gardens at the Royal International Horticultural Exhibition at Chelsea last year will not readily forget them.

Field-Marshal Lord Grenfell, the President of the Royal Horticultural Society, received, on the 20th inst., the Honorary Freedom of the Gardeners' Company, which had been conferred upon him in recognition of his association during the past twelve years with the work of the Royal Horticultural Society. Following the meeting the members were entertained at lunch by the Master, Mr. G. R. Blades, and, in acknowledging the toast of his health, Lord Grenfell said that he had been a gardener nearly all his life, and wherever he had been quartered he had done his best to make a garden somewhere in the vicinity. He had done so in Canada, and also in Malta, where he thought he was the first to produce roses. It had been supposed to be impossible to grow English roses in Malta, but he had imported a large number and grown them successfully. He had no garden in India, but he had one in Egypt, where he spent twelve years, and he started a horticultural society there. He thought that by the time he left that country there had been a great improvement in the culture of flowers there. It was very difficult to grow flowers in Egypt owing to the rise of the Nile.

The Henry Cannell Fund.—With very great regret we have to announce that Mr. Henry Cannell, V.M.H., of Swanley, has, in his old age, fallen on evil times, and is greatly in need of financial assistance; and, having regard to the services he has rendered in the course of his long and strenuous life, we earnestly hope that this assistance will be forthcoming. A short time since we received information of the straitened circumstances in which Mr. and Mrs. Cannell are, and in making the necessary enquiries, we found the case so sad as to justify our making an appeal for funds to alleviate the unfortunate position in which they are in. When on the point of making the appeal we received from Sir Harry Veitch a circular letter calling attention to the case and appealing for funds, and this appeal has our warmest support. Mr. Cannell is now over 80 years of age, as also is Mrs. Cannell, whose health has been so indifferent as to necessitate her having to keep her bed during the past three years. They have had to leave the Swanley nurseries, and in consequence of their straitened circumstances, they applied for and have obtained the old age pension, which is all that they have to depend upon. We need not now refer to the work of Mr. Cannell in the introduction of many fine begonias, cannas, chrysanthemums, dahlias, fuchsias, pelargoniums, and other flowers for beautifying the garden and greenhouse, but we would mention that he had the misfortune to lose two of his sons who were associated with him in the business at a time when his age rendered their help doubly valuable. Sir Harry Veitch states that he will be pleased to receive any contributions to the fund, and that he will use them to the best possible advantage for both husband and wife. Upon the latter point there can be no doubt, and we trust a generous response will be made to the appeal. Contributions should be addressed to Sir H. J. Veitch, Royal Exotic Nursery, Chelsea, S.W.

Flowering of Agaves at Leicester.—One of the most interesting of the many features of the Abbey Park, Leicester, at the present time, is formed by the flowering of three of the fine specimens of Agave americana, which have long had their home in this fine open space. The specimens are between sixty and seventy years old, and splendidly developed and the flowering of three simultaneously is a matter of considerable interest.

National Sweet Pea Society.—This society's annual outings are invariably a success, and members are being notified of an outing to Messrs. John K. King and Sons, Coggeshall, on July 18, and to the society's trials at the Burbage Experiment Station on July 25; for the moment these dates are only approximate, but members wishing to join one or both of the parties will be sent particulars if they notify the hon. secretary of their intention, on or before July 7. The committee is issuing Question Sheets, and these will be the means of stimulating interest in the society's name flower, and gathering information for the general good. We also notice that the committee is offering a silver medal for the best photograph of sweet peas sent in by a member on or before September 1, and this offer is made for the purpose of securing a wider range of illustrations for the "Annual" of 1914. The society's London Exhibition will be held at the Royal Horticultural Hall, Westminster, on Thursday, July 17.

The Finchley Horticultural Society, which has reached its fifty-fourth year, will, as usual, offer for competition at its annual exhibition, which will be held on July 10, a number of challenge shields and silver cups, and Lord and Lady Ronaldshay have kindly promised to distribute them.

The Gardeners' Company.—In the course of the proceedings at the meeting held by the Worshipful Company of Gardeners, on the 20th inst., Mr. G. Rowland Blades, the outgoing Master, said that it had been a pleasure to him during his year of office to establish a common hall fund, which would provide a permanent home for the company. As an additional proof of his great regard for the Guild, and the interests of gardening, he was proposing to offer a substantial sum to the President of the Board of Agriculture as an endowment for the cause of technical education in gardening on certain conditions, the chief of which would be that the name of the Gardeners' Company should be for ever associated with his gift. The inducement for this proposed action of his was his appreciation of the honour of the Mastership.

and his gratitude for the kindness and loyal support he had received from all the Wardens, Assistants, and Commonalty of that dear old Guild. He also referred in eulogistic terms to the splendid work that had been done by Mr. E. A. Ebblewhite, the clerk, which had enabled the company to attain its present prosperity.

Sweet Pea Conference at Carlisle.—In connection with its provincial show, to be held at Carlisle on August 13 and 14, in conjunction with the Carlisle Horticultural Association, the National Sweet Pea Society will hold a conference, in the Market Buildings, at 7 p.m. on the first day of the show. Mr. F. J. Harrison, of Ulverston, will preside, and Mr. Alex. Malcolm, of Duns, will read a paper on "The Cross-fertilisation of Sweet Peas."

A Gardener's Lost Will.—Seven years ago Mr. William Chester, for some time head gardener to the Duke of Devonshire, at Chatsworth, died at the age of eighty, leaving estate exceeding £5,000. As no will was found, relatives in Australia successfully claimed the money. It was generally understood, however, that Mr. Chester intended to provide for his housekeeper. Last week Mr. Jennings, the present head gardener at Chatsworth, was hunting a rat in his office; his clerk was placing a trap in a recess over the doorway when he slipped, and in endeavouring to break his fall brought down a part of the ceiling, and also a document that proved to be the duly-attested will of the late Mr. Chester, leaving all his property to his housekeeper.

Destruction of the Alpine Pink in Lakeland.—We understand there is considerable indignation in the Lake district because of the removal, by collectors, of many rare plants, especially alpine pinks. Large masses of the latter have been removed from Hobgarton Cragg. We have no information as to the species that has been removed in quantity; it may be a dianthus, or, possibly, Lychnis alpinus, which is sometimes known as the alpine pink.

Flower Culture at Preston.—As mentioned in a recent issue of THE GARDENERS' MAGAZINE, special efforts are being made at Preston to stimulate greater interest in window gardening, and in the cultivation of flowers in front gardens of cottages and villas. A comprehensive competitive scheme, with liberal prizes, has been prepared and published, and strenuous endeavour has been made to place those interested in possession of information that will enable them to make a satisfactory beginning. Mr. W. N. Wood, the secretary of the Preston Horticultural Society, has been especially active in the educational side of the movement. He has just completed his series of lectures and demonstrations, which were commenced on May 20, and have proved highly successful. During a period of about three weeks Mr. Wood gave demonstrations at thirty-one schools and sixteen open-air stations, the attendance at the meetings varying from 100 to 500 persons, many of whom brought plants on which they were desirous of obtaining information. The interest aroused in the town is great, and it is anticipated that an immense improvement will be seen both in flower and window gardens this summer.

ROSE MRS. GEORGE NORWOOD.

A large and finely formed, bright rose-pink, sweetly-scented hybrid tea variety. A.M., R.H.S., June 17. Mr. Elisha Hicks, Hurst, Twyford. (See page 473.)

THE SITKA, OR MENZIES' SPRUCE.

Amongst the several exotic trees which are being tried under forest conditions in this country the Sitka spruce, or, giving it its correct name, Picea sitchensis, is likely to prove one of the most important, for it appears to be better adapted than any other tree yet tried for reclaiming wet and cold ground at a considerable altitude, while it is also spoken highly of in some quarters for planting in exposed positions about the coast.

Until recently the common spruce (Picea excelsa) was usually chosen for planting wet ground, but where this and the Sitka spruce have been planted side by side the latter has quickly taken the lead. When planted on wet ground, either at a low elevation or at a considerable altitude, young plants of P. excelsa commence to grow early in spring, and the young shoots are often crippled by frost. The Sitka spruce, on the other hand, starts into growth rather later, and is less liable to injury. It sometimes happens that trees which grow rapidly during their earlier years mature early, and are outgrown later by a kindred species which was slower in its early days; but there does not appear to be any fear of this happening with the Sitka spruce, for in various parts of the country there are ornamental specimens approaching one hundred feet in height, with a considerable girth, but which, from the date of introduction, 1831, cannot have reached maturity yet.

As an instance of its rapid growth when planted under favourable conditions annual growths of from four to five feet in length have been measured both in Scotland and in the South-west of England. On the other hand, trees planted on the "raised turf," or "Belgian system," on bog land at elevations varying between 800 and 1,400 feet in Scotland, have formed shoots twelve to fifteen inches long in a single season, and that the second year after planting.

So far as the timber is concerned, that from native-grown trees is superior to the wood of P. excelsa, and there does not appear to be any reason to doubt its quality when grown in this country. Any that has been seen so far has been cut from trees grown for ornamental purposes, and it was, therefore, rough and knotty, a condition which will not apply when proper forestry methods are adopted throughout their growth.

Whether planted near the sea coast or inland, it stands wind well, and in the south-west counties it is said to be superior to either Pinus insignis or Cupressus macrocarpa for exposed situations, although these two trees are looked upon as exceptionally good subjects for providing shelter for tender subjects.

The Sitka spruce is a native of the Pacific Coast region of North America, occupying a comparatively narrow belt from Northern Alaska to California. In many parts it is found in swampy ground about the banks and mouths of rivers, and extends to the tide mark along the coast. For the latter reason it is sometimes given the name of Tideland Spruce. Under favourable conditions it attains a height of 200 feet, with a trunk diameter of fifteen or sixteen feet. The best stands are said to occur in rich, moist soil in Oregon, Washington, and in some parts of British Columbia and South Alaska. The wood is light, strong, straight-grained, and brownish in colour, and the colour is more especially developed in the heart wood. It is used for all kinds of building purposes, cooperage, and paper pulp, forming one of the many important commercial timbers of Western North America.

The best plantations in the British Isles, and probably in Europe, are to be found at Durris, near Aberdeen. There are two plantations, covering about 83 acres. They stand at altitudes varying from 700 to 800 feet, and were planted on wet, boggy land, drains being opened at about eight or nine yards apart at planting time to let off some of the superfluous water. Originally, common spruce, Douglas fir, and Scots pine were mixed with the Sitka spruce, but the majority have been suppressed by the latter, and the plantations are now almost pure. The planting was accomplished in 1878, and the trees are now from thirty-five to forty feet high. No thinning has been done other than that naturally accomplished by the suppression of the weaker plants, therefore the plantations are dense enough to kill the lower branches, and so clean the trunks. Unfortunately, very few plantations were made for many years after those at Durris were formed, and the majority of those which are now to be found are less than ten years old.

One factor working against the general planting of Sitka spruce is its price, for it is still much dearer than ordinary spruce, although it appears to be becoming cheaper. Large quantities of young plants are offered by Continental nurserymen, but many people complain about the numerous deaths which occur amongst such plants, probably due, to some extent, to heating during transit. As a rule, if plants are obtained from such sources it is advisable to procure either one-year or two-year-olds, and line them out in the nursery previous to transferring them to permanent quarters, but many people prefer, and wisely so, to pay a little more for plants grown in this country, or to obtain seeds and raise their own.

There is one disease which attacks the Sitka spruce in common with the common spruce, that being the Spruce aphis, Chermes (or Adelges) abietis, which punctures the young leaves, and causes them to develop into a cone-like gall, often called a pineapple gall. Nursery stock and isolated trees may be cleaned by spraying once every fourteen days during April and May with a paraffin solution, but it is almost impossible to do anything to infested trees in a plantation, because of the labour involved in thoroughly spraying them.

W. DALLIMORE.

PRIMULA PULVERULENTA.

May I further commend Primula pulverulenta as a splendid subject for the waterside and for deep beds and herbaceous borders? Plants of this deep red primula are quite hardy throughout England, and from seed sown one season one obtains plants which make a magnificent display the next. The growth is much the same as that of P. japonica, but it is lighter in formation, and, in my opinion, much better adapted for garden decoration. Our plants were, at the middle of May, in their beauty, and continued to make a pleasing picture for some time. A fine variety is the blush white form shown under the name of Mrs. Berkeley. This makes a splendid contrast to the red colouring of the type. Whether Mrs. Berkeley is practically identical with some seedlings we have just flowered, my memory hardly justifies me in saying. With us these pale forms are of a soft salmon-pink shade, very dainty, and of decided merit. At any rate, Primula pulverulenta, or varieties raised from it, may be commended to all amateur gardeners. P. H.

ALLAMANDAS.

These are usually grown in a stove temperature in this country, but they do fairly well in an intermediate house in the summer time when grown in pots, which enables the cultivator to move them from place to place as occasion requires. Where allamandas are planted out in borders in a stove it is desirable to keep the soil around their roots rather dry throughout the winter months.

Experienced cultivators have no difficulty in growing very fine specimens, the flowers of which possess such soft shades of yellow and look so charming during many months of the year. On the other hand, growers who have not had much experience do not thoroughly know what the treatment should be, and often produce too much unripe wood on their plants. The branches of plants growing in borders should have the maximum amount of light throughout the growing season; any shading that may be advisable being of a temporary character. Plants in large pots can be moved to any required position.

Weakly shoots should at the winter pruning be cut out altogether, and others judiciously shortened. The soil must have a good watering and the branches frequent syringings to induce early growth of young shoots. These, in due course, require to be trained wide enough apart under the roof-glass to admit of light reaching all the main leaves. When the new shoots are about two inches long, those plants that need it may be repotted and others in borders top-dressed. Good fibrous loam should form the principal ingredient in the compost, a small quantity of leaf-soil and some old mortar rubble being also useful. Slowly-dried cow-dung may be added after passing it through a half-inch mesh sieve. Pot firmly, water carefully, and keep the leaves and rods quite free from mealy bug and other insect pests.

If it be wished to have these plants on balloon-shaped wires for any special purpose, the branches must be trained in position some time before the plants are actually required to be removed. Cuttings are easily rooted during the summer months if inserted in small pots filled with a very sandy compost, and plunged in a bottom-heat of about 75 degrees, keeping the plunging material in a moist condition.

G. B.

GLOXINIAS GROWN COOL.

The remarks on the culture of gloxinias by your correspondent "G. B." in THE GARDENERS' MAGAZINE of June 14, is entirely in accord with my own experience. There is no doubt that gloxinias are often kept too warm, the result being floppy leaves and weak flower stems. Added to this, plants grown in a considerable amount of heat are far more liable to be affected by insect pests than those under cooler conditions.

My first experience in growing plants cool was brought about by a demand for them late in the summer. Having a quantity of one-year-old tubers, I treated them much the same as begonias, that is to say, they were laid in shallow boxes of sandy soil in a warm part of the greenhouse in order to start them into growth. Then they were potted into 3½-inch pots, and as soon as spring frosts were over they were placed in a cold frame. Plenty of light and air were given, though for a short time the frame was shut up rather early in the afternoon in order to husband the supply of sun-heat. When the roots had taken possession of the new soil this was discontinued.

This mode of treatment proved to be such a success that I have always followed it since. Gloxinias like a liberal amount of leaf-mould in the compost.

S. W.

NEW PLANTS AND FLOWERS.

SWEET PEAS.

Dobbie's Frilled Pink.—An attractive, palest pink variety of large size; nearly every flower has a double standard, and the frilling or waving is particularly pronounced. A.M., R.H.S., June 17. Messrs. Dobbie and Co., Edinburgh.

Edith Taylor.—A beautiful variety of fine form, with just a trace of frilling in its broad standard. The colour is very bright cerise-rose, most effective in the garden. A.M., R.H.S., June 17. Mr. T. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone.

ONCIDIODA BELLA.

An interesting and beautiful bigeneric hybrid derived from Cochlioda Noezliana and Oncidium Marshallianum. It has a modified oncidium growth, and a spike that suggests the possibilities of branching when the plant becomes stronger. The flowers are of oncidium shape, and about 1½ inch across. The sepals and petals are light and bright orange with orange-yellow bars on the former, and similarly coloured margins to the latter. The lip has a spreading golden-yellow central lobe, and an orange base and side lobes. A.M., R.H.S., June 17. Messrs. Charlesworth and Co., Haywards Heath.

ODONTOGLOSSUM CRISPUM THE BARONESS.

A splendid odontoglossum with flowers of very large size and excellent form. The spike carried thirteen blooms, and their colour is white, tinted with rose; large blotches of rich purplish-red are on the sepals, and the marks on the petals are of deeper red. The lip has a light golden crest and base, and bright red-brown spots. A.M., R.H.S., June 17. Baron Bruno Schröder (gardener, Mr. Shill), The Dell, Egham. (Illustrated in THE GARDENERS' MAGAZINE of June 21, p. 451.)

CATTLEYA GASKELLIANA FAIRY QUEEN.

A delightful white variety; sepals and petals being of the purest white, while the lip is creamy-white with yellow throat and a pale pink mark on the centre of the white apex. A.M., R.H.S., June 17. Baron Bruno Schröder, The Dell, Egham.

STATICE SUWOROWI ALBA.

One of the most beautiful of the new plants at the recent meeting of the R.H.S. It is a strong counterpart of the popular old S. Suworowi in all but colour. The tiny flowers clustering on long, spiky branches are of purest white. This bids fair to be a popular market plant; it is certain to be a greenhouse favourite. A.M., R.H.S., June 17. Mr. R. C. Notcutt, Woodbridge.

SPIRÆA SARGENTIANA.

A new Chinese shrubby species with very twiggy growth. As shown, it is about 3½ft. high. The white, green-centred flowers have a creamy appearance in the mass, and they are borne in terminal corymbs on the slender young side growths. A.M., R.H.S., June 17. Hon. Vicary Gibbs (gardener, Mr. E. Beckett, V.M.H.), Aldenham House, Elstree.

ASTILBE BRITANNIA.

A graceful and pretty hybrid astilbe, about 3ft. high. The colour is a lovely shade of rose-pink, and the individual blooms are of good size for an astilbe. A.M., R.H.S., June 17. Mr. Profittlich, Twickenham.

BLANDFORDIA CUNNINGHAMI.

An uncommon plant, and one rarely seen in flower. It has wiry, grassy foliage, and an erect spike rising about 2ft. high, and bearing, in this case, eleven flowers and buds at the apex. The flowers are pendulous, tubular, about 3 inches long, and of a deep yellow colour with reddish-brown base. A.M., R.H.S., June 17. A. Worsley, Esq., Isleworth.

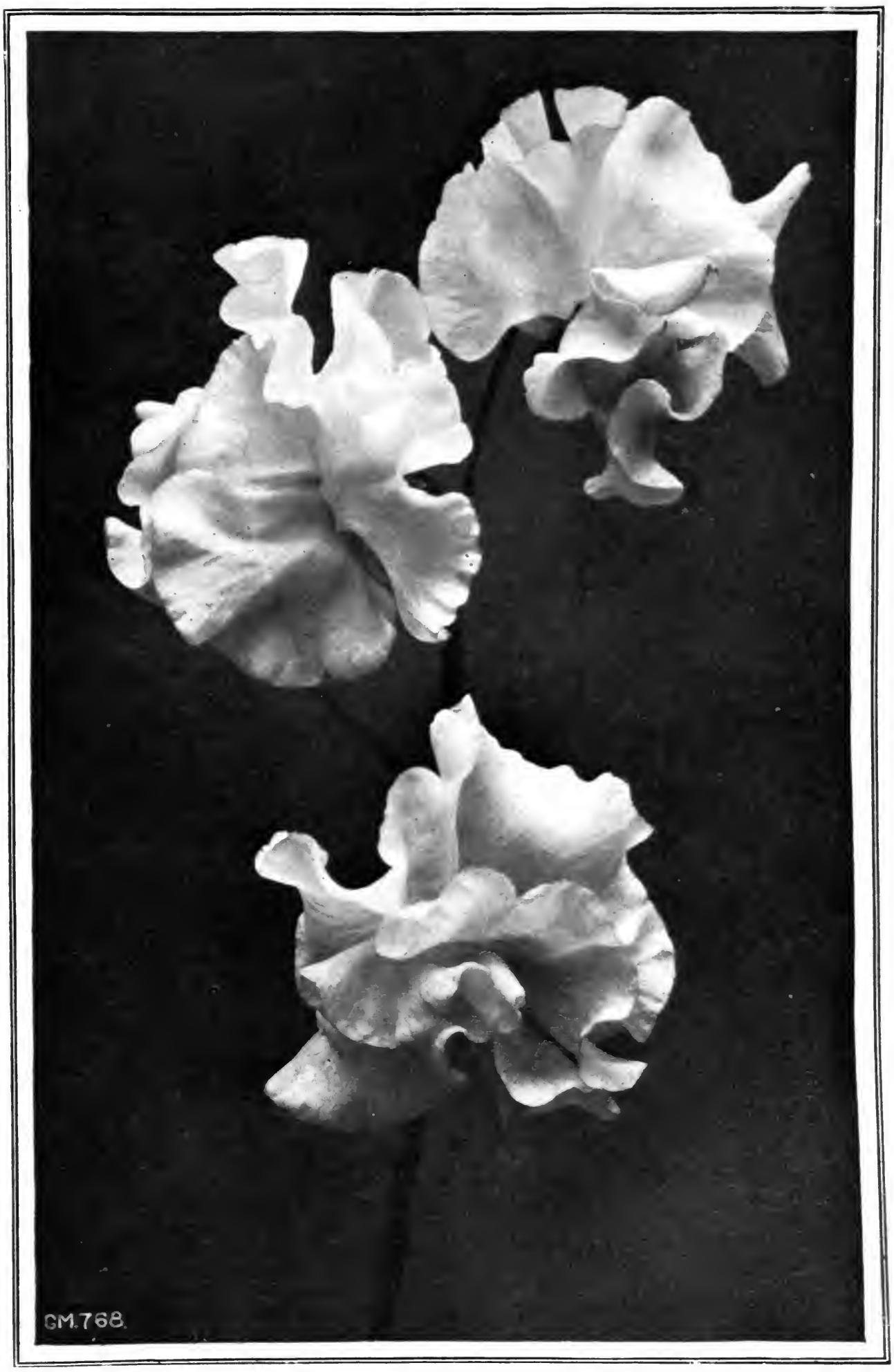
ROSES.

Mrs. George Norwood.—A lovely hybrid tea rose of excellent form, fine growth, and sweet fragrance. It is broad-petalled, and of a lovely deep rose-pink shade. This has the sturdiness and a great deal of the form of Frau Karl Druschki, which rose, with Mdme. Gabriel Luizet, were its parents. A.M., R.H.S., June 17. Mr. Elisha J. Hicks, Hurst, Twyford, Berks.

Paul's Lemon Pillar. — This beautiful cream-coloured or lemon-tinted rose is a very distinct new variety derived from Marechal Niel, and, probably, Frau Karl Druschki. It has a vigorous climbing habit, and produces its large, shapely flowers all along the rods. In shape and fragrance Paul's Lemon Pillar is very much like Marechal Niel, therefore, as a climbing rose, the variety seems certain of a fine future. A.M., R.H.S., June 17. Messrs. Paul and Son, Cheshunt.

TROLLIUS PATULUS BEES' VAR.

A beautiful hardy plant collected by Forrest at an altitude of 12,000ft. on the



SWEET PEA DOBBIE'S FRILLED.

A pale pink variety, very much frilled, and with double standards to the flowers. A.M., R.H.S., June 17. Messrs. Dobbie and Co., Edinburgh.

Kari Pass, by the Yanktse-Kohong divide in South-east Thibet. About a foot high when in flower, it is of tufted habit, and has small trifoliate leaves, deep green with pale green dots at the bases of the main and marginal divisions. The erect stems carry from one to three rich golden-yellow—buttercup yellow—flowers, and these are from 2 to 2½ inches across, and have a central cluster of golden stamens. A very attractive and useful plant for the moist spots at the foot of the rock garden, or in some other boggy place. A.M., R.H.S., June 17. Messrs. Bees Lim., Liverpool.

SAXIFRAGA BRUNONIANA.

An interesting and curious little species with rosettes of small linear-oblong, hairy-margined leaves. The lax corymbs of yellow flowers rise rather less than six inches high, but are not very attractive. The clustering leaves and the numerous crimson runners, each with its plantlet, make the attraction in this plant. A.M., R.H.S., June 17. Mr. W. Fells, Hitchin.

PHILADELPHUS NORMA.

A very fine single-flowered variety in which the white flowers are about two inches across, of finely-rounded form, and borne quite freely along the arching growths, usually in threes at the ends of the little branchlets. A.M., R.H.S., June 17. Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking.

CARNATIONS.

Scarlet Gem.—Of extremely good form, and with the flattest, smoothest petals any florist could wish for. This border variety has a good calyx, and its colour is rich coral-red. A.M., R.H.S., June 17. Mr. Chas. Blick, Hayes, Kent.

Thomas à Beckett.—A yellow-ground fancy variety, with rosy-pink edging and splashes. Of large size, and with a first-rate calyx. A.M., R.H.S., June 17. Mr. Chas. Blick, Hayes.

PÆONY GISMONDA.

A large and very double herbaceous variety of light rose-pink colouring, and pale guard petals. A.M., R.H.S., June 17. Messrs. R. H. Bath, Lim., Wisbech.

GLADIOLUS QUEEN OF THE WHITES.

A tall-growing, pure white variety, with well-expanded flowers of good size and shape. A crimson blotch at the base of the tube does not detract from the purity of the flowers, as it is viewed when growing. A.M., R.H.S., June 17. Mr. B. Hoog-Straten, Sassenheim, Holland.

WHAT IS A SPRING FLOWER?

At a recent meeting of the Bournemouth Gardeners' Association, which was devoted to "Questions and Discussions," amongst various others was the question, "What is a spring flower?" (not necessarily hardy). The opinion was expressed by some that any flower that bloomed in the spring under artificial conditions should come under that definition. On the other hand, it was contended that such flowers as carnations, zonal pelargoniums, etc., which, although perpetual-flowering in the spring, yet bloomed practically all the year round, should not be allowed. Also that such annuals as stocks, clarkias, schizanthus, etc., when grown in pots for that purpose, should undoubtedly be included. No answer that was considered satisfactory was forthcoming, and the question being an important one in view of the wording of classes in some show schedules, it was suggested that I write you on the matter. Indeed, the question is one that might well be discussed in the columns of THE GARDENERS' MAGAZINE. It would, at least, be useful to have the opinions of readers who are interested in the question.

C. NIPPARD,
Secretary, Bournemouth Gardeners' Association.

SMALL CHILDREN IN THE GARDEN.

Some regard them as a trial, and others in the same way as birds—a nuisance at times, but the garden is a dull place without them. We know some grown-ups who are like crusty old bachelors in their attitude towards children in the garden—they must not go on the lawn because of treading down the edges, they must not set a foot on the dug ground because of making the gravel paths dirty, they must not touch a flower or a fruit, nor have a square yard to do what they like with; while there are others who are so indulgent that the children may do almost anything their wayward fancies suggest without being even remonstrated with. Both these extremes, it need hardly be said, are utterly wrong, and, though there may be some incorrigible specimens of the genus boy, I am convinced—and my conviction is based on experience—that there is another method totally different from either, and able, with the exercise of wisdom and patience, to go a long way towards solving the problem. If it were more generally adopted, possibly we should not see so many advertisements for, or by, gardeners giving the impression that a family, even a small one, was a hindrance to a gardener in his profession.

Early Training.

The first and most essential part of the method recommended consists in early training, and this may, and should, begin while the child is only a few months old. Some will smile; but, as every wise mother or experienced nurse knows, a child may begin to acquire disciplined ways before many months old, and the treatment of flowers may be amongst these. The first and most important thing is to accustom children to seeing and handling flowers. Let the flowers be always in the room with them, and before very long their beauty will begin to grow upon them, and then they will get to love them. When this stage is reached, and it is a perfectly natural one, a great step has been taken, for children will not, as a rule, knowingly injure things they love.

I knew a little girl in her second year who used to kiss all the sweet-smelling flowers, whether in apparent imitation of her elders, or through delight in their fragrance, I cannot say, but at least it showed affection for them, and she very rarely damaged any, though pretty mischievous in some ways. If a little boy brings you with delight a beautiful spike of gladiolus with only the first flower open, it is not a case for scolding, unless it has been repeated several times, but rather a good opportunity for explaining to him that he has destroyed the beautiful flowers as they were coming into the full enjoyment of life. Some children have the bump of destruction strongly developed, but then some children often have latent possibilities of an appreciation of form and colour, as well as affection and sympathy, and if any, or all, of these can be called out, they may act as a powerful brake upon the destructive tendencies.

When a certain section of a Bank Holiday crowd gets out into the country and proceeds to destroy wild flowers, trample down corn, mutilate young trees, and the like, it is really rather a case for pity than punishment, however indignant we may feel, for we may be pretty certain that these misguided people have never had a chance of becoming familiar with the beauties of the plant world, and so have no liking, or even reverence, for them, which will restrain them from such wantonness. The normal children, who have been brought up as suggested above, will not, when grown up, destroy flowers or plants for destruction's sake. When children are big enough for games of various kinds, and generally rampageous romping, then, of course, accidents will happen, probably frequently, especially if the garden is not a large one. But that is another matter, these notes only dealing with small children.

Help with the Work.

Another important point in the management of small children in the garden is to encourage them to try and help with the work. Children of three will not really be of much help, or only exceptionally, and the necessary teaching and explanation as to what they are to do will be a hindrance at first. But the time will have been well spent, for it will be the beginning of their training in being useful later, and it will give them an interest in seeing some results of their little attempts at work, and an interest in taking care of what they have helped to produce. Children generally like to be useful, and a normally healthy child usually likes to be busy; and, in common with children of a larger growth, their interest in the garden, as in anything else, will be in proportion to the time they have given and the effort they have made to add a little to its beauty or usefulness. A man who will take trouble with this process of instruction which the child will regard as playing with its father, for it cannot be expected to do anything much alone for the first five years of its life, will be amply rewarded later on by a great deal of willing help and service, good for both father and child. One need have no fear of making a boy effeminate or unfit for the sterner work of life because he has been led to acquire a love for flowers. As the late Dean Hole says in one of his books: "Why should a boy be less brave or strong if taught to appreciate the beautiful things about his daily path? Or why should youth ride more timidly to hounds because it has a flower in its coat? There is a time for all things . . . . a time to develop the intellectual as well as the physical powers."

The Fruit Problem.

It may be said that it is not flowers that present the difficulty in the garden so much as the fruit. Doubtless the latter is the greater problem, and where the garden is not large enough to produce such an abundance that even a couple of boys can make no impression upon it, one must remember one's own boyhood, and make up one's mind to some sacrifice. One can, however, do a good deal even in this direction by early training. A little girl of two gnawed the rosy cheeks of some Adam's Pearmains which hung temptingly within her reach, and came and told her father what she had done. As with the gladiolus referred to above, explanation was the only course, pointing out what beautiful fruit she had spoiled, and when the winter came a particularly fine specimen was produced for her to eat, and memory called in to identify it with a certain fruit which looked so inviting on a certain branch in the summer and autumn, the child was old enough to put things together sufficiently to see that it was a pity to touch growing fruit. And there is a higher appeal than this, namely, to the child's unselfishness, the effectiveness of which will vary according to the disposition it has inherited. Children may be made very selfish by being considered and indulged too much, and there is not the least doubt that unselfishness may be encouraged and developed by wise example and early training.

ALGER PETTS.

FRAGRANT FLOWERS AND FOLIAGE.

Many plants are grown for their scent rather than for the beauty of their flowers, though in some instances the two attributes are combined, as in the rose, carnation, lily, and others. As a rule, this is not so, for often we find the most simple forms, such as the lavender, mignonette, wood laurel, and the like, whose individual flowers are quite insignificant, exhaling the most delicate perfumes. To obtain the real charm of such things, they should be either grown in large quantities by themselves, or intermixed with others of like character. For example, lavender does not present a pleasing appearance in a formal garden associated with pelargoniums and the like; but planted by itself, growing over a low wall, or in a semi-wild state, on a dry, sandy bank, it is most charming. Even when not in bloom its grey foliage is cheerful. The rosemary, grown in the same way, or sheltered by a belt of shrubs, has a charm all its own, particularly where it blooms early. I was much struck with this when visiting Hartpury in February. Plants growing in sheltered positions were then in full flower, which was unusually early, even for so warm a place.

The common Daphne (Spurge laurel) is another plant that should be grown in a semi-wild state on a dry, sandy bank, where it will expand its small green flowers very early in the year, scattering their perfume for a considerable distance around. This plant makes but few roots, therefore resents transplanting when it has attained any size. For this reason those who are desirous of having good clumps should plant rather close together when in a small state. Azara microphylla also produces small, insignificant flowers, but their vanilla-like perfume is very refreshing. This shrub is much hardier than many suppose, though in low-lying places it is sometimes cut down in severe winters, but, as a rule, if planted in a sheltered place, will grow away most luxuriantly.

There are many plants like the myrtle, Aloysia citriodora, sweet-scented geraniums, and bergamot (Monardia), that are grown more for their foliage than flowers, though the latter is a showy herbaceous plant. Among deciduous shrubs we have such kinds as lilacs, syringas, Azalea pontica, and others. These, as a rule, should not be planted in quantities in close proximity to the mansion, especially some of the philadelphus, as their scent is too powerful; but when grown in groups along the woodland walks, the perfume to many is most refreshing.

As already mentioned, but little effect is produced by many of the sweet-scented flowers, but if we plant mignonette amongst stocks, either in beds or borders, they harmonise, and at the same time are very effective, especially when the stocks are of distinct colours. It is not, however, in every establishment that space can be afforded to grow plants in pots of these things specially for bedding, space being too limited, as both take up much room. Mignonette planted by itself does not make much of a show, but if a patch be sown on a border near the mansion it is always appreciated.

Heliotropes in themselves do not make a bright display, but standards of the white kinds on a groundwork of the deep heliotrope colours are most effective, and the scent of this is very agreeable wherever they are planted. There are also many sweet-scented flowers that are more suited to the herbaceous border than for bedding, their habit of growth being too loose for the latter.

Turning to plants for the production of cut flowers, those that have long stems find most favour, as they can be used for so many purposes, the rose, carnation, lily, and others. At one time there was a great demand for gardenias, but these of late years have lost favour, as they require so much heat to grow them to perfection, but they are still largely grown in some places, and where they are well grown it is astonishing the quantity of flowers they produce. The neat, bright, glossy foliage that surrounds the flowers give them added value for buttonholes, bouquets, and the like. Eucharis flowers were at one time in great demand, large houses being devoted to their production, but of late they have lost favour, especially since it has been possible to retard bulbs of lilies and other plants. Where lily of the valley used to be grown by the hundred it is now produced by the million; the same may be said of other things. It is not so much now a case of forcing such things into bloom as retarding them to produce flowers at any given period of the year.

Carnations have now become very popular, more especially the perpetual kinds, as these bloom so freely during the winter. At one time carnations flowers in January were great rarities; now they are as common as the tulip and hyacinth. There has also been quite a revolution in the production of roses since the hybrid teas came so much to the fore; thousands of these are now to be had at very low prices even at midwinter, the production of them having become quite an industry. If we turn to the sweet-scented violets, we shall find that these also are grown in very large quantities. There has been great strides made, both in the mode of production and in the varieties grown. Fifty years or so ago there was only the small kinds, such as Devoniensis, and now there are dozens of varieties. Marie Louise seemed to be the starting-point, and it is still largely grown, though other varieties, especially those with long stems, find most favour, as they can be used for such a variety of purposes.

H. C. P.

PHILADELPHUS NORMA.

This is a very large-flowered pure white variety. A.M., R.H.S., June 17. Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking. (See page 474.)

NOTES FROM SCOTLAND.

Flowering Trees and Shrubs.

Owing to the lateness of the season in more northern parts of the kingdom, it was thought the May-flower—Crætagus oxacanthra—would this year allow its name month to pass away unrelieved by the perfume and attractiveness of the customary wreaths of blossom. Though so very common, there are but few flowering trees that have such a charm for town dwellers as this, its name alone being a prominent factor in this respect. In the Glasgow pleasure resorts, but more particularly in Queen's Park, and its splendid adjunct, Camphill, the thorns were at their best on June 4. Fine old specimens of the white, as well as many of the older scarlet and pink forms, were pictures of loveliness, to which admiring crowds of visitors daily gave their attention. Younger plants of the more newly-introduced varieties are there, too, in numbers, and likewise meet with most favourable criticism. These, perhaps, are still more beautiful than older specimens, owing to a greater preponderance of foliage, which tends to display the rich inflorescence to greater advantage than when closely-packed masses of flowers are not in this way relieved.

The rowan tree, lilac, laburnum, the various kinds of viburnum, and many other species are now at, or are approaching, their best. The "bonnie broom," though but a humble plant, is really one of the best among the many at this season, and as seen growing in odd places, as upon a sun-burnt bank or by an outcrop of rock, which may bring its lovely yellow blossoms to the correct point of vision, it never fails to elicit the warmest admiration from all parties and classes of persons.

Rhododendrons and Azaleas.

In the first-named park, upon the northern slope of the hill, and the spacious terrace overlooking the city, the rhododendron beds are still making a grand show. Some of the earlier varieties are about past their best, but many of the better hybrid varieties have yet to open, and should provide a display of much interest throughout the month. Upon the lower slope bordering the bowling-green a large mass of that grand, though old, variety, Broughtoni, has been for ten days or more as near perfection as one could ever expect to see it. In the same enclosure large beds of the Ghent or mollis azaleas, planted in colour sections, are now at their best. Moreover, both these and rhododendrons are making excellent growths, which in such comparatively young plants augurs well for another year.

Darwin and Cottage Tulips.

Upon the terrace referred to these were planted in groups among rhododendrons, which as yet, being small, they overtopped by about six inches, thus showing their varied and in many instances most gorgeous colours in a most effective manner. Among the many, the old Gesneriana is still very conspicuous, having stems quite 30in. in length, and rich, deep-coloured flowers that are always appreciated. Other striking sorts are Fairy Queen, Clara Butt, Black Chief, Mrs. Moon, Picotee, Fawn, Caledonia, Inglescome Yellow, Lucifer, and Prince of Orange, among many others scarcely less meritorious. Spring bedding, which is largely practised here, has been of high quality this year; and although bulbous plants, with the exception of the large-growing scillas, are now past, carpeting plants and beds of wallflowers still make a good display.

Rouken Glen.

This splendid estate, on which are situated two mansions, was purchased a few years ago by Lord Rowallan (then Mr. Cameron Corbett), and presented by him to the Corporation of Glasgow in trust for the use of the citizens for all time, is now looking its best. The famous Glen, which takes its course right through the central portion of the estate, having wide areas of park lands on either side, is one of the most charming touches of natural scenery it has ever been my privilege to behold. Giant trees, tangled undergrowth, flowering plants and ferns, rocky defiles—a waterfall and parting stream drifting therefrom—together with well-kept and easily-graded walks, make this indeed a pleasant place. The walks and drives that intersect the more level portions of the estate have, for the most part, been long formed, and are judiciously planted with trees of many varieties, both as park specimens and in avenues.

Hitherto access to this resort on Sunday has not been of the best; for, although an excellent service of tramcars pass and repass the gates, these at times, but more especially in the evenings, were quite inadequate to the demand made upon them. On Sunday, June 1, the Caledonian Railway instituted a service of excursion trains —ten in all—from the Central Station, Glasgow, to Whitecraigs Station, for the convenience of travellers wishing to visit Rouken Glen. The venture appeared to work well, and large numbers took advantage of the facility thus presented. I am not quite certain, but I believe this to have been the first occasion on which a Sunday excursion train was ever run in Scotland. The service is to be continued throughout the season.

A mild protest against such desecration of the Sabbath was made for a few days previous, mostly by way of paper correspondence, but of little avail. Could the objectors have seen the happy thousands revelling in the bright sunlight and light, refreshing breezes of an almost perfect afternoon, they might possibly have been led to change their views. The project thus inaugurated by the premier railway company is almost certain to be followed by others; and, whether right or wrong in its conception, will assuredly go a considerable way towards relieving the extreme dreariness of a Scottish Sunday in the larger centres of population, and would be the means of affording facilities to thousands, whose lives thereby would be brightened in beholding the glories of Nature.

JAMES DAY.

Rondeletia strigosa.—This is a near relative of the bouvardias, and, like them, it forms an exceedingly pretty little flowering shrub. It is of a freely-branched habit, furnished with shining green leaves, while the flowers, borne in compact clusters, are bright crimson, with a yellow centre.—K.

FLORISTS' AZALEAS.

I do not know whether the azaleas of the indica type are as popular with the florists and their customers as they were a few years back. Perhaps they are not, especially as pot plants are not so much in demand nowadays, owing to the greater love for cut flowers.

Be this as it may, there are still large numbers grown, and, with due attention to the selection and effective display of the most attractive varieties, the florists can do much to keep this sterling race of shrubby subjects well to the front.

Many buyers hesitate over azaleas because of the difficulty in keeping them in health after they have them, a state of affairs partly due to the method of their importation. Readers know that these azaleas are largely sent over from Belgium and Holland as lifted plants, and potted after arrival. They carry new season's foliage, and also their complement of flower buds.

One notes with favour the use of tiny azaleas in blossom. This is a good thing, and the bright-hued varieties, in small pots, can be easily dropped into receptacles for decorating the tables or the boudoir. Pyramidal azaleas are pleasing, but their price is somewhat against them, though for effect they are better than flat-crowned plants.

Then again the manner of showing azaleas has a great deal to do with their sale. Attraction tells. Brilliant reds, arranged with a massing of cherry-red and ruby cyclamen, would be very desirable for St. Valentine and birthday gifts. Whites, of course, will have the preference for Easter sales, but some of the prettiest shades of pink and white should always be on view. It is possible, too, that well-grown specimens of free-growing and lighter-habited azaleas could be brought more into commerce by enterprising traders. Finely-flowered specimens of A. ledifolium leucanthum are always appealing to the eye, and should be popular for early flowering. The newer A. sublanceolatum, which was given an Award of Merit a season or two ago, is valuable for decoration late in the season, and the large rosy-red blossoms are most attractive.

I wish to especially commend the decorative azaleas, which the Japanese so freely use in the creation of their brilliant colour effects in landscape gardens. These azaleas do especially well in pots, and for brilliancy and floriferousness they are unsurpassed. Grown under cool conditions they are a veritable glory during March and April. A grouping of one variety in a conservatory, or in the centre of a florist's window, is sufficiently glowing to hold the onlooker's attention.

Among the finest forms for decorative effect are Hinodegiri, a brilliant profuse red, with a neat, pleasing habit. Benigiri, also a bright, telling red, compact in growth, and smothered with blossom in spring. Kirishima, very near to Hinodegiri, gives a wonderfully brilliant glow of rosy-red colouring. I like it even better than Hinodegiri, and it is quite as free as that variety, and the flowers are a trifle larger, and more enchanting in hue. Yavegiri is glorious, a semi-double salmon-red, of undisputed beauty. It is a good grower, and a few well-flowered plants make an ideal picture of azalea beauty. In closing, may I commend the white-flowered Hakatashiro? As a white this is superb, the colour being very pure, and the shape of the blossoms reminds one forcibly of a trumpet lily.

P. C.

POT PLANTS FOR THE GARDEN.

From early seed sowings it is easy to obtain fine specimen plants for pot cultivation in the summer garden, and not only is immense interest to be gained thus, but the whole appearance of the pleasure grounds will be vastly improved. The wild, or natural garden, or the vicinity of a semi-wild water garden, should not be artificially decorated in this manner, but the lawns and broad walks on large estates, the tiled paths, verandah edges, step sides, and corners of small floral parterres, more or less formal as they are sure to be, are not injured in character by rows of pot plants.

A new idea that added much to the attractiveness of a moderate-sized villa garden last year was the sinking of pot subjects in gravel, wherever space could be spared; a wide walk was avenued by stately delphiniums, between each two a foliage plant appearing, such as Kochia tricophylla, the giant Eragrostis maxima, the Abyssinian grass that reaches a height of three feet; Lavatera arborea variegata, the mallow with cream and grey-green leaves; and Zea gracillima variegata, Z. japonica variegata, and Z. japonica gigantea quadricolor. A less broad path was made into a walk offering perfume and beauty by the row of sunk pots of sweet peas, while another, in shade, gained in value as a lounging spot by reason of the lines of different tobacco plants. By keeping the pot surfaces an inch below that of the paths the plants gain the benefit of receiving more water than rain conveys to their neighbours in beds and borders, or, if drought arrives, filling the pots to the rim twice a week will safeguard the roots that are hidden from fierce sunheat by the protecting gravel.

In addition to the plants mentioned there are hundreds of others that can be sown, for either sinking or standing in the ornamental environs of our dwellings. Sunflowers of tall annual species succeed if given manure in the compost; hollyhocks require large pots, but when grown in them, and from the best seed, the colours, separately even, are extraordinarily beautiful, embracing apricot, blush, peach, deep mauve, salmon, and purple, as well as all the familiar pinks and crimsons. Chimney campanulas may be shown all the summer in the open, and housed during winter, to either blossom under glass or be serviceable another year out of doors, while the popular Canterbury bell yields almost denser colour masses, so numerous are its blooms. It is worth noting that this plant, like many others, attains maturity sooner under pot culture than if transplanted in the seedling stage into boxes, and then given more root room in soil.

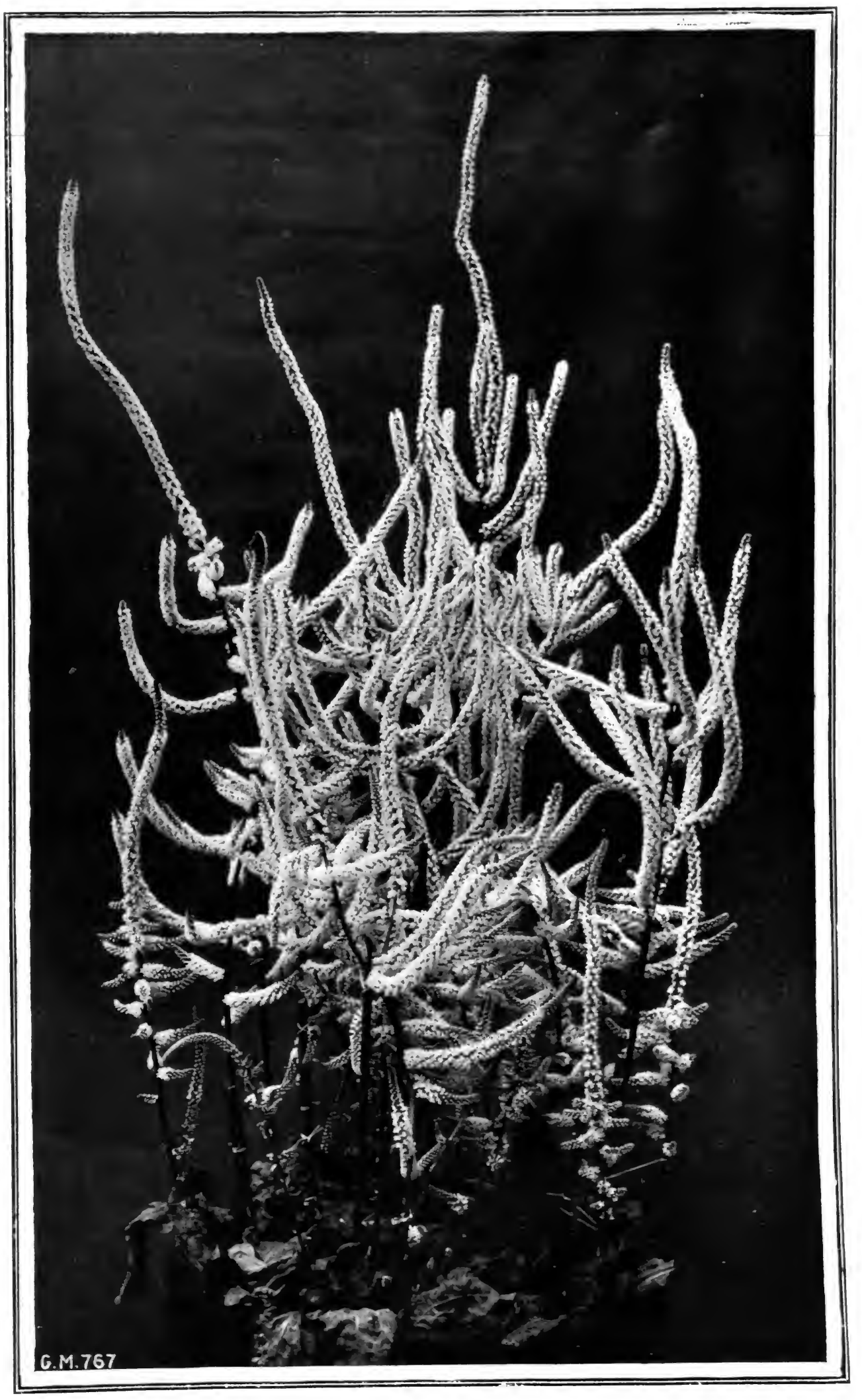
Perhaps it is among half-hardy subjects that the best pot plants are found. The fine Ricinus panormitanus, with its colossal leaves and six-feet stems of blue, is not sufficiently known; R. sanguineus is a self magenta-purple; R. Cambodgensis has stems nearly black, and all these give a tropical air to an English garden. For a rapid-growing hardy foliage plant Rheum officinale should be chosen. Many of the giant annual poppies, if sown in the pots and reduced to one, two, or three, as the size may demand, would form surprisingly handsome ornaments, and be able to bear any amount of heat. Papaver somniferum Marion is soft heliotrope, three feet in height.

A further use for pot plants, sunk or standing, is to encircle shrubs that have become bare at the lower stem, or trees that have grown unsightly for any reason. Then owners of small gardens, who naturally desire to locate beauty in every spot, may outline greenhouse walls, against which borders are seldom permitted. Admirable fuchsias can be raised from seed early, and grown on under glass, to adorn shady sides; or shadowed nooks anywhere, by ferneries, rockeries, glades, arbours, or walls, may be charmingly embellished by lines or groups of white and coloured foxgloves. The biennial Mulleins, Verbascum olympicum, and V. phlomoides, with their grand silvery leaves and yellow spikes, can also be recommended for shade.

Groups of different pot plants can often be found room for in the centre spaces of gravel formed by the junction of walks; if the pots are sunk the effect will be that of a round or square bed as soon as the leaves have spread over the gravel. The best method is to lay the surface gravel very loosely to hide the soil in the pots. To prevent a group of plants in pots from danger of being blown over is easy. A strip of green-painted wire netting should be fastened round them, and a couple of short stakes driven into the path and wired to this will effectually secure the whole.

Tubs are, of course, as useful as pots, and more pleasing to the eye if painted brown, grey, or a really dull green, with which no leaf colour is likely to clash.

M. H.



STATICE SUWOROWI ALBA.

An elegant plant with branching spikes of small, pure white flowers. A.M., R.H.S., June 17. Mr. R. C. Notcutt, Woodbridge. (See page 473.)

PERPETUAL-FLOWERING CARNATIONS.

The most forward of the perpetual carnations are now established in their flowering pots, but there are still a number yet to receive their final potting. Young plants that are growing in 48's should be moved on into 24's as soon as they are well rooted through. For this potting a compost consisting of two parts good fibrous loam, one part flaky leaf-soil, and sufficient silver sand and crushed charcoal to keep the soil sweet and open, is recommended. If the loam is rather retentive, the addition of some broken mortar rubble would be an advantage, while a 5in. potful of carnation manure may be added to each bushel of the compost.

See that the pots are quite clean and well crocked. Pot firmly, but do not place the plants too deeply in the new pots, as deep potting is liable to cause stem rot. It is important to see that the plants are moist at the roots before being potted, and it will then be unnecessary to give any water for several days after potting; in fact, it is preferable to allow the soil to become moderately dry again before giving water, but when water is supplied always allow sufficient to moisten the whole of the soil.

Newly-potted plants become established more quickly if kept fairly close in a frame for a few days, but later on air must be admitted freely. It is desirable to shade the plants lightly with thin tiffany during the hottest part of the day, and also to spray them over several times daily in bright weather. Stake and tie the growths as they need support, using green stakes and raffia, and taking care not to draw the ties too tightly. The patent wire supports have much to commend them, and when once affixed they save a good deal of subsequent labour, and the blooms are certainly more easily cut if these supports are used.

Stopping requires careful attention, and most of the stock will now be ready for the second stopping. At the least four pairs of leaves should be left on each shoot, and it is better to perform the work early in the morning, as the growths then snap off readily. As a general rule, it is not advisable to stop perpetual carnations much later than the end of June if one wishes to commence cutting early in October, although varieties like Enchantress, Dorothy Gordon, May Day, Rosette, Winsor, Beacon, and White Wonder may be stopped up to the middle of July.

Established plants succeed better stood on ashes in the open than in a cold frame, as the air can then circulate more freely around them, and it is always advisable to allow them as much room as can possibly be spared. It is necessary, however, to be able to protect them with frame-lights in case of heavy rains, and for this purpose a wooden framework should be erected over them.

A sharp look-out must be kept for insect pests, and upon the first signs of them preventive measures must be taken. Green-fly is easily eradicated by the use of quassia extract. Red spider is destroyed by the use of nicotine soap insecticide, or a more simple remedy is to spray with salt and water, one ounce of salt to a gallon of water, repeating the operation at intervals of two days until the pest is entirely annihilated. I have found "Anti-Rust" effective in destroying the rust disease, but when the attack is not a bad one it is preferable to cut off the affected leaves and burn them.

Keep the pots free from weeds, and pick off any decayed foliage that may appear. Applications of weak soot water are beneficial to established plants, and it can also be advantageously sprayed on the foliage. Endeavour to have the plants housed by the end of August, as they are best under glass after that date. J. GARDNER.

ROSE PAUL'S LEMON PILLAR.

A robust, large-flowered pillar rose, with fragrant cream or lemon-tinted flowers. A.M., R.H.S., June 17. (See page 473.)

Asparagus.—From the present time the cutting of asparagus heads should cease generally in the South, and in warm, dry districts, otherwise the strength of the plants will be unduly taxed, and the next crop be poor in consequence. Beds which have not been top-dressed should receive an application of agricultural salt, nitrate of soda, guano, or soot, or, failing those, of farmyard liquid manure. The artificials should not exceed at one dressing 2oz. per square yard. In the absence of heavy rain it will be necessary to give a thorough watering. The plants from the April sowing will require to be thinned to a distance of not less than six inches apart. The beds of one-year-old plants, and those formed this year, should be given a mulching, as an insufficiency of moisture at the roots will seriously affect the growth.—W. MESSENGER.

IVER NURSERIES.

Enjoying all the advantages of pure country air, untainted by smoke of factory chimney or railway engines, the site of the Iver Nurseries is ideal, and particularly well chosen for Mr. A. F. Dutton's speciality, the carnation.

Mr. Dutton was among the first in this country to venture largely upon the cult of the modern perpetual-flowering carnation, and he has for a number of years occupied a prominent position among our leading exhibitors of this popular flower. Iver Nurseries to-day may justly claim to be one of the most extensive perts and largest growers of this increasingly and up-to-date establishments among the considerable number that are devoted mainly to carnation culture.

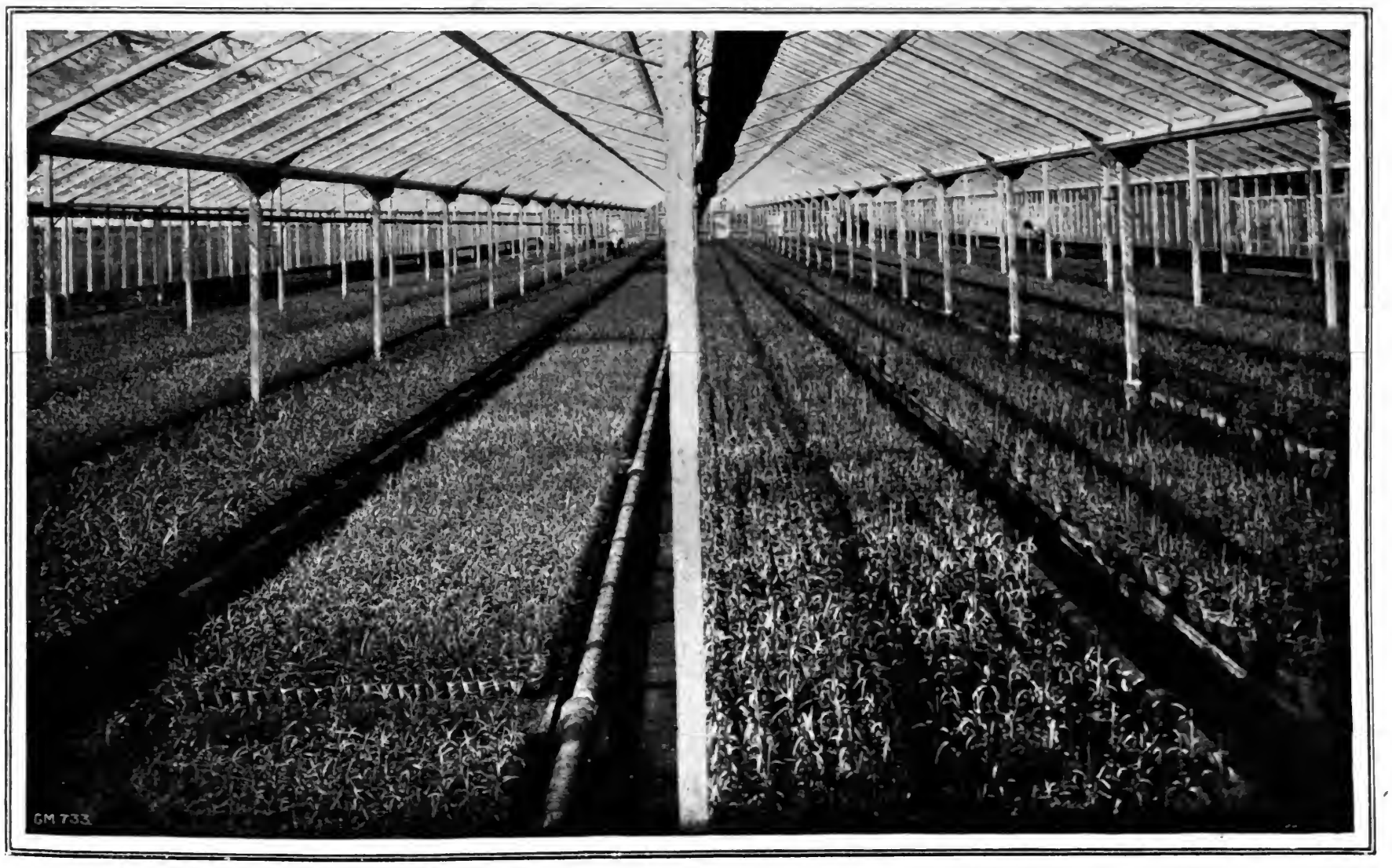
The excellent range of broad, lofty houses, built upon modern lines, covers no less an area than 146,000 square feet. The general arrangement of the houses is after the American plan, there being two or three spans to the roof of each house, the eaves of which are about ten feet from the ground. The atmosphere of these lofty, wide houses is more buoyant than is the case in the narrow, low-roofed houses that were formerly built, and a suitable temperature can, as a consequence, be maintained with far less expenditure of fire-heat. The heating installation is modern and efficient. A row of pipes runs round the the houses overhead, close under the roof, as well as a row near the ground. Powerful boilers are worked in pairs, anthracite coal being the fuel used. Mr. Dutton has recently installed an ingenious device known as Haden's Electric Turbo, by means of which the hot water is driven from the boiler through the pipes in a large block of houses at such a speed that it returns to the boiler before it has lost two degrees of heat. Thus, the return pipes stand at practically the same temperature as the flow, and a genial temperature is maintained with far less consumption of fuel than is possible without the aid of this clever instrument, and there is no risk of the objectionable and injurious results accruing from an overheated pipe. Electric power is necessary for driving the Turbo, and it may here be mentioned that Mr. Dutton has his own electric plant for the production of both power and light.

Capital packing sheds, and a beautifully cool underground shed for cut flowers have been built, and a competent staff is constantly busy packing both plants and cut blooms.

Now, as to the plants. First, in the propagating house, a span-roofed structure, 180ft. in length, were many thousands of cuttings, rooted or rooting in successive batches, shallow pans being used, in which the cuttings appeared to root without fail. Then there is a big new three-spanned house, 200ft. long, filled entirely with young plants in 60's. The accompanying illustration will convey some idea of the vast number of plants this house contains. I never remember seeing so many thousands under one roof, and a sturdier, healthier lot of plants no one could wish for. Next in importance come the big batches of plants in 48's, for sale as ready to flower, and, indeed, all were well budded, and some actually in bloom at the time of my visit. The houses filled with the main stock for production of flowers for exhibition and market, presented an imposing display. Growing in beds, the plants show the vigour and robustness that denote liberal treatment without coddling, and a thorough understanding of all the details of culture. As to coddling, indeed, Mr. Dutton's system is the reverse. He has adopted with distinct success almost open-air treatment, one of the ranges of houses being built with movable roofs, and the plants are kept uncovered until they are just about coming into flower.

Of varieties it may be said that the collection at Iver lacks none of the best. Certain varieties that have proved themselves exceptionally serviceable are grown in very large numbers, and when a new one is found to excel others of its colour, the superseded have to retire. May Day is a strong favourite with Mr. Dutton, it and Scarlet Glow being grown in thousands. The variety Mrs. A. F. Dutton was in fine form. Its clear rose flowers are of a lively and pleasing colour, and the plant is of fine constitution. Our illustration fairly represents an average bloom of this variety, showing it to be a shapely, well-built flower. I may whisper that carnation-lovers may expect ere long to see other novelties emanating from Iver.

Mr. Dutton grows border carnations on a large scale, and his collection is kept well up to date. He also devotes one house to malmaisons, growing all varieties of merit. From end to end of the establishment there is evidence of business-like control, a keen perception of that which is most serviceable, and abundant proof, endorsed by conversation with Mr. Dutton, that he is as keenly interested in the charm and merits of the flowers he grows as in the successful conduct of his business. Although carnations are the speciality, they are not the only feature of the nurseries. In the open several acres of hardy perennials are grown for cutting, and latterly bulb-growing has been taken up. Altogether my visit to Iver Nurseries proved most enjoyable, and I came away well pleased with all I had seen. VISITOR.



A HOUSE OF YOUNG TREE CARNATIONS AT IVER NURSERIES.
The house is 200ft. by 75ft., and contains about 130,000 plants.

LUPINS.

The great improvements which have taken place during the last few years among the perennial lupins have placed this sterling race of decorative plants upon a high level. Lupins are of immense value for massing, and are capable of really splendid effects when the colours are carefully selected.

In the past Lupinus polyphyllus has been one of the greatest favourites of the country cottage gardens, especially the older varieties, such as the deep blue, the blue and white, and the pure white. The easy growth of these plants, their longevity, and their effective display when in blossom made these general favourites in the past, and when one adds to these values the wonderful fragrance of the bean-field, there will assuredly be no hesitation in using the lupins very extensively in private gardens.

Two of the most beautiful colourings yet seen among the polyphyllus section are the pinks, of which the variety roseus is the type, and the ruby-purple shades give a fine vinous touch of warm colouring which is splendid in bright sunlight. The value of these two-colour groups for massing is certainly high.

Then the sterling race of hybrids raised by crossing L. polyphyllus with L. arboreus has rendered many new shades of colouring

possible. It would be difficult to exactly denote all the varieties which owe their origin to these crosses, but most of the newer sorts belong to this intermediate type. From Langport come the favourite yellow Somerset, practically a herbaceous form of great utility; Belle of Huish, a bronzy-yellow, with a very profuse, bushy habit; Coronation, a splendid golden-yellow of intermediate type; Canary, a soft clear yellow, with goodly spikes, and a typical tree lupin habit; Rod of Ivory, white, with creamy upper lobes to the blossoms, and tall, well-held spikes; Columbine, pale blue, with creamy-yellow lobes, and a good herbaceous habit; Langport King, a fine variety with colourings of blue, bronzy-carmine, and white; and Phyllis Kelway, a sterling creamy-yellow, are but a few out of many forms, and their value is enhanced because they are more continuous flowering than the older forms.

Like delphiniums and many other decorative perennials, the lupins are greatly assisted by the removal of the flower spikes directly the blossoms have faded. This aids the production of new growths and blossoms, and thereby adds considerably to the usefulness of the plant.

Seeds sown early in the season, and potted on when large enough, will often produce a good display, but from an outdoor sowing later in spring one cannot expect good flowering plants until the following season. Lupins revel in a strong soil. In heavy clay soil they grow luxuriantly and make grand bushes. They are successful in light soils, but are not so lasting. As subjects for town gardens they are invaluable, though, of course, one associates them with the open beauty of the countryside.

Then just a word concerning the Tree Lupins (L. arboreus), in its white and yellow forms. These are easily raised from seeds, and make splendid specimen bushes for the crowns of banks, or for isolating in the grass. Given plenty of space, they form splendid symmetrical bushes, which in due time are completely covered with odorous spikes of blossom. They are also valuable for large borders, and make splendid low hedges to separate one portion of the garden from another, the exceptionally free growth being of the greatest value to "break up" a summer landscape.

Lupins are freely used in the wild garden. Where grouped in large numbers they are splendidly effective, especially if there is sufficient sunshine to light up the colours of the blossoms. Where large numbers of seedlings are grown, it is always a wise policy to make selections of the best, and reserve them for future garden adornment and as parents. P. S. HAYWARD.

CARNATION MRS. A. F. DUTTON.

A beautiful perpetual-flowering variety with bright rose-pink flowers, raised by Mr. A. F. Dutton. (See page 479.)

ROSE NOTES.

Seldom have we had such a season for insect foes as the present has proved so far. The excessive hot weather, accompanied by north-east winds, was very trying to the roses during the early days of June, and they seemed quite unable to get away from their foes, the only remedy being a constant use of the syringe late in the afternoon. Too many do not sufficiently bear in mind the incongruity of syringing during a bright mid-day sun, and I am convinced that much of the burning and shrivelling of the tender foliage is brought about by this. A free use of water only is a great help early in the evenings of hot and dry days, and refreshes the foliage more than many imagine. I have found it especially useful upon hot and dry walls, having a decided tendency to check the attack and spread of red spider, a persistent little foe that put in an earlier appearance than usual this season. Altogether, I do not remember a season when the constant use of the syringe was in greater request, and it will be well to keep up its use.

If the present arid weather continues we should not neglect to use the hoe freely, and then apply some mulch. Many kinds of mulch may be used, but the one finding most favour with me is Wakeley's hop manure. This has a clean and pleasing appearance, feeding the roots, and keeping all much cooler than in the case of many other mulches. It is all very well to use crude natural manures, but unless these are somewhat covered with soil, it is more or less unpleasant to get among the plants, especially during damp weather, when of the roses are at their best.

As I write (June 14) we have a good show of flowers among the earlier hybrid perpetuals, and teas, and their hybrids, with the earlier of the wichuraianas and climbing polyanthas. But I fancy we have a greater number of malformed and abortive flowers than usual, a few of the worst varieties being Madame I. Periere, Mrs. Paul, Souv. de la Malmaison, and the earliest of the darker hybrid perpetuals, which were doubtless caught by the succession of early morning frosts experienced here in East Sussex.

The necessity for careful hand-picking of rose grubs and caterpillars seems lasting much longer than usual, but we must not cease in this work so long as the enemy is in evidence, for nothing can so completely destroy the best and most promising flower-buds than the ravages of these insects. One of the worst things in this neighbourhood is the overwhelming attack of aphides upon the climbers in sheltered positions, causing much labour in the way of washing, more so than for many seasons past. Various cheap and effective washes have been given from time to time, and I have made a good one by dissolving a penny packet of Hudson's soap in 20 gallons of water, this being all the more effective if first of all dissolved in a gallon or so of boiling water. I have found this quite harmless to the foliage, but deadly to insects, and all the more so when applied with considerable force, while we could scarcely have anything cheaper or more easily obtained.

Do not neglect to earth up dwarf stocks intended for budding during next month, when I hope to be able to offer a few practical hints once more. If the stocks have a little of the surrounding soil drawn up to them, the bark will be softer, and lift much freer, which is a great point towards a satisfactory "take."

The present is a critical time in the cultivation of plants for winter blooming. Unless we secure good wood from now onwards we cannot obtain a satisfactory crop of flowers in the forcing house. I am induced to note this because so many are apt to neglect their pot roses after their chief beauty is past and large quantities of blossom are available from the open. But we must remember than any neglect now means poorer wood to start upon for next winter's forcing. Where necessary, I prefer to pot now, while the growths are partly ripe. All will admit that, given sufficient room, it is better to have the roots well established before forcing begins. Further, the soil will not be so exhausted, and one can feed to great advantage by the aid of mulchings and liquid manure as the forced growth progresses. Syringe freely and keep the plants growing for at least another two months. This is more than ever necessary in the case of climbers and weeping standards in pots, as it is long, well matured rods of maiden growth that are so essential here. ROSARIAN.

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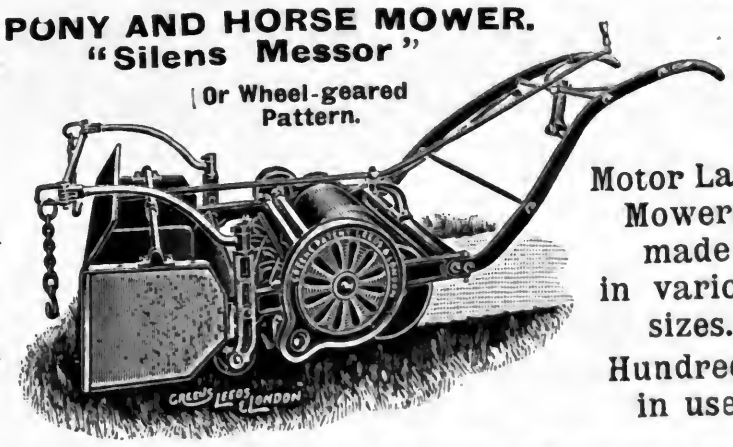

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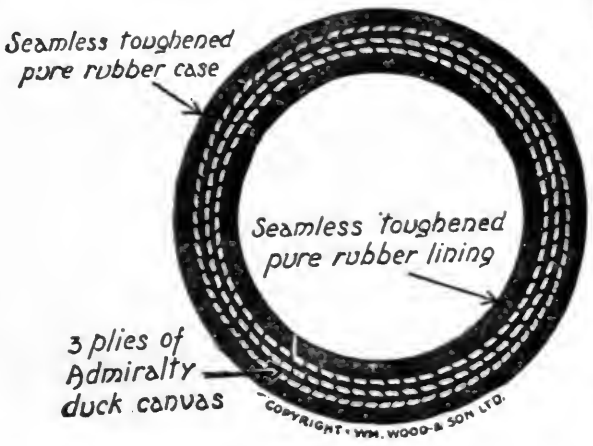
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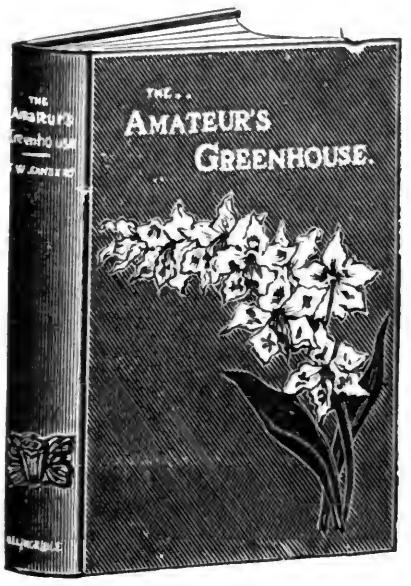

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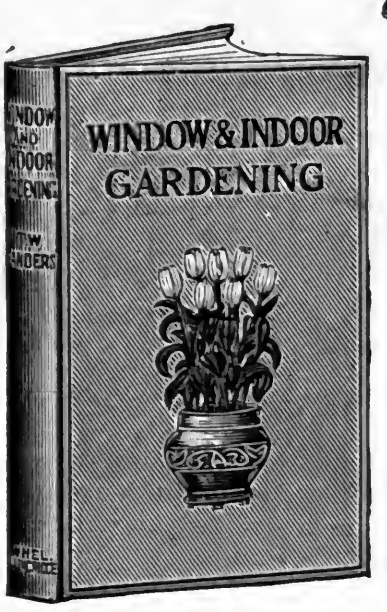

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SILVER-LEAF DISEASE.

One of the most distressing features which have marked the last decade for all fruit growers, amateur and professional alike, has been the terrible progress "silver leaf" disease has made all over the country.

Ten to fifteen years ago, now and again one came across Victoria plum trees which were afflicted by the disease, the cause of which was then unknown, but now it is no exaggeration to say that hundreds of acres are affected, while the ravages have extended to many other varieties of plums and also some apples.

The most striking effect, which was the first indication that the tree was suffering from a disease, was the curious white, colourless appearance of the leaves on the affected bough or branch; hence, of course, its name, "silver leaf disease." The most careful microscopic search of the affected leaves failed to discover any fungus or anything to account for the condition.

By and by, however, it was observed that when a branch of a tree died as the result of the disease, some time after small fruiting bodies of a fungus made their way through the bark in large numbers. Considerable controversy has raged as to whether this fungus is really the cause of the disease known as silver leaf, but it may be considered that it has been conclusively proved that it is so.

Certain experiments have been made, healthy trees being inoculated with minute portions of the fungus fruits, and the diseased condition of the leaves has followed within a very short period. When, however, the portions of fungus were rubbed on to the uninjured bark, no such effect was observed, and the tree was quite healthy.

It will be seen from this that the fungus is a wound parasite, being unable to obtain an entrance into the tissue of the trees except by means of some wound either accidentally caused or by the process of pruning. As soon as a spore of the fungus has lodged upon such a wound, germination quickly takes place, and the mycelium grows through the vessels of the wood. It is this choking by the mycelia of the vessels which carry food, etc., to and from the leaves that causes their peculiar appearance.

The mycelium grows through the vessels till the affected part—bough, branch, or even the tree itself—is killed, and it is only then, and not till then, that fruiting bodies are formed, which push through the bark, and so distribute their spores widecast and affect other trees. Two facts will naturally follow from this: firstly, the great importance of removing at once all dead and dying wood from trees affected with the disease, and burning them up out of the way; and, secondly, that all wounds, however caused, should be protected in some way to prevent the spores germinating upon the surface and finding an entrance thereby.

For this purpose something should be used which will last a year or two till the wound should have healed itself over, and, of course, should not be of such a nature as to injure the tree. Stockholm tar seems very good for this purpose; also red or white lead paint, preferably mixed without turpentine, as it is just possible that the latter may be injurious to the trees. Whatever is used, it should be applied as soon as possible after the wound has been made, and all cuts from an inch in diameter upwards should be protected. With regard to curative measures, once a tree is attacked we know very little at present what to do to affect a cure.

Occasionally, when the attack is discovered at a very early stage, the removal of the affected bough sufficiently far back into the healthy wood will put a stop to it, but such cases are very seldom met with. One now and again meets with a case of a tree being affected, and then for all the silvery appearance to disappear from the leaves after a time without anything being done, but such cases are even more rare. The fact that the mycelium remains internally during the life of the host led to the suggestion that toxic substances should be injected in such a manner as to be carried up or down, as the case may be, in the sap.

The method which was ordinarily used consisted of boring two or three holes of about 1in. diameter into the tree and filling these with finely divided crystals of sulphate of iron, which had been previously well damped, closing the hole with a stopping of Portland cement. Varying results have been reported, some who tried the method reporting cures and others quite the opposite.

One improvement might be suggested in the method: that is, by replacing the cement plug by a piece of tin fastened to the tree by tacks, by this means ensuring that the hole is quite full of the sulphate and that it therefore comes into contact with the sap, both in ascending by the wood and descending by the inner bark. A further development of the idea is to sow sulphate of iron round the tree, and prick it in amongst the roots to try and get it taken up by them; but this seems scarcely as feasible as the former method. It is quite necessary, however, that some remedy should be discovered very shortly to combat this destructive disease, otherwise the orchards in many places will be swept entirely away.

F. W. Hammond.

ALPINE PLANTS FROM SEEDS

One of the most fascinating pursuits is found in raising rock and alpine plants from seeds; and wherever these charming subjects are grown to any extent, no other method can rival this in providing healthy and vigorous specimens. It is generally accepted as sound policy that seeds of alpine plants give the highest percentage of germination when sown as soon as ripe, and this is probably most noticeable in genera like Primula, Gentiana, and Anemone; and, although numerous kinds germinate quite freely when sown at the usual time in spring, the prudent cultivator will sow seeds as soon as ripe, for then the vitality is greatest.

It is, of course, with home-grown seeds that one gets the best results, and, in seelcting these, choose only the best types. For example, Dianthus neglectus and Ramondia pyrenaica often give weak colours in the flowers, and such should not be perpetuated when it can be avoided. Another instance occurs in Saxifraga longifolia, which, with insect agency, readily fertilises with S. cotyledon and similar kinds; and, while the resulting seedlings have a certain beauty and interest of their own, they are not comparable with the true plant. For this reason, a good flowering specimen of S. longifolia should always be carefully hand-fertilised, and the flower-spike enclosed in some fine gauze material to exclude insects.

In certain quarters it is frequently held out as a bait to the uninitiated that from seeds there is always the chance of raising something in advance of the type—a fact none can dispute: but an improved variety is more generally the result of careful selection and systematic crossing; while the novelties that originate haphazard or by accident are exceedingly rare, and do not fall to the lot of many.

Alpine seeds are best sown in well-drained pots or pans, using a compost of loam and peat in equal parts, with a quantity of sharp grit or crushed chalk to keep it open. Large numbers of rock and alpine plants show a decided preference for chalky soil. In their young stages this substance maintains the soil in a sweet condition; while in the open, with chalk in the soil, they are more reliable perennials. The seed-pans must be carefully drained, and filled to within half an inch of the top with the compost advised, first passing it through a half-inch sieve. The seeds must be sown thinly, and covered lightly, or not at all, acording to their size. The pans should not be watered overhead, but stood carefully in a tank or other vessel of water. Once the water rises to the surface, remove the pans and place them in a shaded frame, glassing each pot separately, in order to conserve moisture, and so hasten germination. When the seedlings appear, slightly tilt the cover glasses to admit air, and gradually increase the amount until the glasses can be dispensed with.

When the seedlings are large enough to handle, transplant into pots or boxes, using a compost as already advised, but slightly rougher. During the hottest period of the year alpine seedlings make most rapid progress when the pans or boxes are stood upon a cool ash base, and some light shade is afforded, while those that are transplanted into thumb-pots should be plunged to the rim in coal-ashes or cocoanut-fibre refuse. Numbers of these free-growing rock plants may eventually be placed out in nursery beds. This ensures much larger plants; and, if these can be planted permanently by the middle of September, there will be few losses during the winter.

Choice and rare alpines are most readily established when planted in their permanent positions towards the end of March. Some attention will be necessary the first season, in the matter of watering; but, if the soil is specially prepared before planting, and the plants are made thoroughly firm, the problem of supplying adequate moisture to establish them successfully, will not be laborious work.

Among rock and alpine subjects I have raised from seeds in the manner indicated are the following: Æthionema coridifolium and Æ. grandiflorum, Alyssum montanum, A. alpestre, A. saxatile and its var. citrinum; Androsace carnea, A. Haggeri, A. sarmentosa, A. villosa, and A. primuloides; Anemone pulsatilla, Antirrhinum glutinosum, Arenaria balearica, A. grandiflora, and A. montana; Campanula cenisia, C. pulla, C. pumila, C. valdensis, and C. Vidali; Dianthus alpinus, D. deltoidea, D. graniticus, D. neglectus, and D. sub-acaulis; Edraianthus dalmaticus and E. graminifolius; Erinus alpinus and varieties; Geranium argenteum, Gypsophila muralis, G. repens, and G. cerastioides; Hypericum fragilis, H. coris, H. repens, and H. reptans; Iberis gibraltarica and I. jucunda; Leontopodium alpinum, Lithospermum graminifolium, Onosma albo-roseum and O. stellulatum; Papaver alpinum, primulas of many kinds; Ramondia pyrenaica, Saponaria ocymoides, Saxifraga Burseriana, S. longifolia, and many others; sedums of many kinds; Silene alpestris, S. armeria, and S. Shaftæ; varieties of Thymus serphyllum; Tunica saxifraga, Veronica incana, V. prostrata, and V. rupestris.

Thomas Smith.

Coombe Court Gardens.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

IMPORTED ORCHIDS.—Such species of cattleyas as C. Dowiana, C. D. aurea, and C. Warscewiczi (gigas) are imported in quantities at this season of the year. The species usually arrive in good condition, that is to say, the plants reach us with a minimum loss of leaves, and the pseudo-bulbs in a normally plump condition. Some of the plants, especially those of C. Warscewiczi, may even retain their flower sheaths, and may produce flowers later in the season, although it is desirable that they should not be permitted to bloom until they have become re-established, or at least, made a season's growth under cultivation. It is desirable to retain the leaves on the plants as long as possible. With this end in view, the fact should not be overlooked that the plants have been packed in cases for some weeks in transit, and thus in darkness. To expose them directly they are received to the full effects of our midsummer light is liable to have an ill effect; and this will be made apparent by a rapid change of colour, which generally ends in the loss of some of the foliage thus effected. Care therefore is necessary to protect the plants for a few weeks from strong light, even if they are placed in their receptacles and permanently potted.

POTTING.—My experience has been that shallow pans are the most serviceable for the culture of C. aurea, C. Warscewiczi in its varied forms, and the natural hybrid C. Hardyana. These should be well drained and the compost used should be of a lasting nature. The compost should be pressed moderately firm. Suitable wires should then be affixed so that after the plants have become used to the light they may be suspended in a position within reasonable distance of the roof glass.

INSECT PESTS.—Before potting it is most desirable to cut away all dead and decaying matter about the base, and to thoroughly examine for insect pests which may be hidden beneath the decaying bracts. The worst fear from imported cattleyas is the cattleya fly. Previous attacks on the plants may be detected by small perforations and the disfigurement of bulbs. Where these are observed it is advisable that the plants should be isolated and grown well away from the general stock. Later indications of the appearance of the cattleya fly may be seen in the thick, knotty appearance of the base of the new growth when an inch or so in length. If such growths are cut off and examined, the grubs of the fly will be found in different stages of development. Where the young growths of cattleyas are affected with this pest it is desirable that they should be cut clean off the plant and burnt. Although it may be disappointing to lose what have apparently been good growths, the consolation remains that there are usually plenty of dormant buds on imported plants, and later growths are not generally infested by the cattleya fly.

WATERING.—Imported plants should not be very liberally watered, as by carefully spraying the plants overhead in warm weather they will retain their normal plump condition until such time as the new roots become established in the potting compost.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

HUMEA ELEGANS. — This beautiful greenhouse plant is now developing its inflorescence, and, as it requires plenty of head room, it may be removed to the conservatory, where, apart from its distinct character, the scent of its leaves and flowers is always appreciated. The pots are now full of roots, and during periods of bright sunshine they must be examined frequently for the purpose of ascertaining whether they require water, for if they suffer from drought they will be seriously injured. The flowering season may be somewhat delayed, if desired, by placing the plants on the north side of a high wall, and plunging the pots in ashes. Shift on young plants that have been raised this season as their requirements demand, but do not overpot them, or apply moisture to the roots too freely. Keep them moving steadily in a cool house, and shade them from bright sunshine.

CHRYSANTHEMUMS.—The final potting of these must be accomplished with the least possible delay, so that the plants may be arranged in their permanent summer quarters. A position must be chosen which is exposed to the sun during the greater part of the day, but if somewhat sheltered from rough winds it will be an advantage. The large-flowering kinds must be securely tied to wires that are supported to stout posts. Recently-potted plants must be carefully watered till the roots are pushing freely in the new soil, and manures must be withheld till they are well rooted. Give the plants a vigorous syringing morning and evening, and damp the immediate surroundings with the aid of the garden hose occasionally, to help keep the atmosphere cool during very hot weather. Spray the plants overhead occasionally with an insecticide to keep them free from aphis. The decorative kinds should have their pots half plunged in ashes, if time will permit.

LILIUMS SPECIOSUM AND AURATUM.—If these are not already supported with stakes they should receive support at once. The pots being now full of roots, stimulants may be given liberally. A top-dressing of some rich soil will also be beneficial. Guard against attacks of aphis by spraying with insecticide.

SHADING. — The blinds must be kept drawn during the greater part of the day in hot weather. This remark may also be applied to all houses containing flowering plants. The plants must be watered several times daily if necessary, and, where practicable, the flowers and stages should be sprinkled with water occasionally to keep the atmosphere cool.—E. HARRISS, Lockinge Park Gardens.

HARDY FRUITS.

APPLES.—The prospect at the present time of a good all-round crop is excellent; indeed, not for many years have I seen a heavier set of fruit, both on orchard and bush-grown trees. The latter will need to be thinned now that the fruits are large enough to enable the cultivator to see which are the most likely to attain full size and high finish. Thinning the clusters is a matter of great importance, and should be commenced early by removing the undersized and deformed ones first with a pair of grape scissors. Then thin the remainder so as to leave the crop as evenly distributed as possible. The quantity to leave on each bush should be regulated by the size of the variety and the strength of the growth. On no account should the trees be overcropped, especially on light land, as this would be entirely at the expense of next year's yield. Do not on any account allow the roots to suffer from an insufficiency of moisture, and feed liberally with liquid manure if the trees are in need of such assistance. This will enable the fruits to attain a good size and ensure the formation of strong fruit buds by the end of the season. These remarks apply also to all kinds of fruit trees bearing good crops. Destroy caterpillars as they make their appearance on the leaves. A few light syringings with a nicotine insecticide followed with clear water will do much to rid the trees of the pests.

PEARS.—The crop of these is very light, so that very little thinning will be necessary. The trees of most varieties produced a profusion of flowers, and looked very promising till we had 10 degrees of frost that seemed to change matters, and since both flowers and tiny formed fruits dropped wholesale. Morello cherries are very satisfactory, and most kinds of soft fruits. Keep the leaders of all young trees that have not filled their allotted space neatly secured to the required position, and on shallow borders a few good soakings of water will prove very helpful in many cases where the growths are not over strong. Keep the foliage free from red spider, also slug-worm, if such put in an appearance; a few syringings with nicotine insecticide will destroy most kinds of insects if applied according to directions given on the tins.

FIGS.—Attend to the young growths of trees trained on walls; lay in the leaders and other shoots required for next year's fruiting. Any superfluous growth should be removed, so that there is no overcrowding of the wood. A firm rooting medium and ample extension of the branches is the best for the production of plenty of figs. Large trees will benefit greatly from a few good soakings of liquid manure and a mulching of decomposed cow manure. Keep late-planted trees well supplied with moisture to assist them to make a free, healthy growth.—H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

TOMATOES.—Plants grown in the open, whether trained against walls or fences, or fastened to stakes, should be made secure against winds. All lateral growths should be removed at an early stage. They must not suffer from an insufficiency of water at the roots, otherwise the flowers will not set satisfactorily. When a good set is obtained, place a mulch of decayed manure about the plants, and supply them with liquid manure alternately with clean water.

SCARLET RUNNER AND CLIMBING FRENCH BEANS. — The rows of plants should receive their stakes before the vine has made much growth. Some short, twiggy growths introduced between the tall stakes will form a support to the young bines, and from those they will transfer themselves to the stakes. If the land be of light texture lay a thick mulch of manure along the sides of the rows. An abundant supply of water is required during dry weather, dryness at the roots being one cause of the failure of runner beans to set their flowers. A good spraying of the foliage during the evening after hot days is most beneficial.

CARROTS.—A good sowing of the Scarlet Model type should now be made. These will provide a useful stock of young carrots for autumn use, or they may be lifted and pitted for the winter. A position previously occupied by early potatoes is well adapted for the purpose; the land should be forked over and levelled. Apply a good dressing of soot, which should be well raked in. The soil must be in a moist condition when sowing occurs, and unless a good water supply is at command it is advisable to wait for rain.

SAVOY CABBAGE. — A good batch of plants should be transplanted during showery weather. The land should be moderately rich, and occupy an open position. If varieties grown are dwarf ones, allow a space of eighteen inches between the rows and twelve inches from plant to plant in the row; for the Drumhead varieties, a distance of two feet between the rows, and 1½ feet between the plants is a suitable distance at which to plant. Water liberally until the plants are well established.

BROAD BEANS. — When most of the flowers are set, pinch out the tips of the stems to protect the plants from being laid by strong winds; stakes should be driven in 9ft. apart on either side of the rows, fastening string to them.—W. MESSENGER, Woolverstone Park Gardens, Ipswich.

ROYAL SHOW

BRISTOL,
July 1st to 5th, 1913.

£11,000 in Prizes.

Horses, Cattle, Sheep, Pigs, Poultry, Produce, Implements, Jumping, Riding and Driving, Four-in-Hand Teams, Horse-Shoeing and Butter-Making Competitions, Agricultural Education and Forestry Exhibitions, Flower Show, Dog Show.

OVERSEAS SECTION.

Military and Naval Displays,

Bands of H.M. 19th (Queen Alexandra's Own Royal) Hussars and 1st Batt. Gloucestershire Regiment.

Prices of Admission: Tuesday, July 1st, 5/-; Wednesday and Thursday, July 2nd and 3rd, 2/6—after 5 p.m., 1/-; Friday and Saturday, July 4th and 5th, 1/-. Season Ticket, 10/6.

THOMAS McROW, Secretary.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND, 16, Bedford Square, London, W.C.

THE GREAT ROSE SHOW OF THE YEAR

Will be held by the

National Rose Society

in the

ROYAL BOTANIC GARDENS, Regent's Park, N.W.,

on

FRIDAY, JULY 4.

The two Champion Challenge Trophies will be competed for, also numerous other Cups and Pieces of Plate, and Money Prizes to the value of over £400.

NEW SEEDLING ROSES IN A SEPARATE TENT.

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Luncheons, Teas, and other Light Refreshments.

ADMISSION:

Noon to 3 p.m., **5s.**; 3 to 5 p.m., **2s. 6d.**; 5 to 7 p.m., **1s.**

E. MAWLEY,
Hon. Secretary, Rosebank, Berkhamsted.

THE POPULARITY AND PROSPERITY OF THE

BIRMINGHAM FLOWER SHOW

INCREASE EACH YEAR!!

£600 CASH PRIZES. 8 SILVER CUPS.

Gold, Silver-Gilt, Silver, and Bronze Medals.

FRIDAY and SATURDAY, July 18 and 19, 1913.

WILLIAM G. CARRADINE, F.R.H.S.,
Secretary, Birmingham.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY.

GRAND QUARTER CENTURY FLOWER SHOW.

SOPHIA GARDENS, CARDIFF,
WEDNESDAY and THURSDAY, JULY 23 and 24.

Specially good Prizes in every section, amounting in money and plate to nearly £500. Tents lighted by electricity. Popular Prices.

Schedules from the Secretary, Mr. A. MAURICE BAILEY, 24, Duke Street, Cardiff.

MALVERN ROSE AND SWEET PEA SHOW.

THURSDAY, JULY 10th, 1913.

Open Classes in Roses and Sweet Peas.
Nearly £100 in Prizes.
Entries close July 7th.

For Schedules and Entry Forms apply to A. D. MELVIN, Secretary, The Poplars, Malvern Link.

NORTH LONSDALE ROSE SOCIETY, ULVERSTON.

THIRTIETH ANNUAL EXHIBITION, FRIDAY, JULY 18th.

Numerous Open Classes for Roses, Sweet Peas, Violas, and Herbaceous Flowers.

Entries close July 12th. Schedules from F. J. HARRISON, County Square, Ulverston.

LEICESTER.—ABBEY PARK FLOWER SHOW, 5th and 6th August next. Open Class, Group of Plants, £20, £15, £10, £6. Liberal prizes for Collections of Fruit, Displays of Roses; Silver Cup, Gold and Silver Medals for non-competitive exhibits. Schedules from JOSEPH BURTON, Supt.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

York Floral Fete and Gala.

Owing to the great pressure on the space in our issue of the 21st inst. we were compelled to leave over our notes on the floral designs and a portion of the non-competitive exhibits. These we have now the pleasure of giving.

FLORAL DESIGNS.

Mr. F. H. Ward, York, staged the best bouquet of roses, and also the best basket of roses. Messrs. W. J. Godfrey and Son, Exmouth, were easily first for a basket of carnations, and they associated a white with a heliotrope variety. In the hand-basket class Mr. F. H. Ward scored with blush carnations, very prettily arranged.

Mrs. Jefferson, Acaster Malbis, York, was placed first for a group of flowers suitable for a table decoration, and she used pink and cream-pink sweet peas, with pink and pale blue schizanthuses; Mr. J. Morrod, Clarence Street, York, came second with a charming arrangement of white and pale lavender sweet peas.

NON-COMPETITIVE EXHIBITS.

The delphiniums from Messrs. J. Kelway and Son, Langport, were noble spikes of first-class varieties, James William Kelway being one of the largest-flowered and richest dark blues. This firm's pæonies were also very fine, and made a brave, bright display of rich colour. A group of rambling roses, hydrangeas, carnations, etc., was arranged in front of the main entrance by Messrs. J. Backhouse and Son, Lim., York. The groundwork was well filled in with newer varieties of the dwarf polyantha roses, with zonal pelargoniums, liliums, and ferns to give pleasing variety to the group.

From Messrs. Sutton and Sons, Readiog, came a very attractive display of choice vegetables with stands of melons and tomatoes, all tastefully set off with vases of sweet peas, antirrhinums, poppies, and other flowers that may be raised from seeds. Prominent on the stand put up by Messrs. Jarman and Co., Chard, was a collection of cut zonal pelargoniums, embracing a fine assortment of both single and double varieties. Mr. Wm. Lawrenson, Yarm-on-Tees, came out strong with pyrethrums, and also perpetual-flowering carnations.

Messrs. E. Webb and Sons, Wordsley, Stourbridge, occupied a big space at the entrance end of the tent, arranging upon the ground mounds of gloxinias, begonias, petunias, spiræas, etc., with a small collection of cut sweet peas and a central stand of vegetables, melons, etc. A unique exhibit of radishes was staged by Messrs. J. Kelway and Son, Langport, there being something like seventy dishes. Some of the varieties were very uncommon and of exceptional form and colour, particularly Golden Globe, Triumph, Olive Black Japan, and Violet Giant.

On Messrs. Sander and Son's (St. Albans) stand of orchids there were Lælio-cattleya Canhamiana and several hybrid forms, such as L.-c. Kathleen, and L.-c. Cora, together with choice cypripediums and odontoglossums, and in the centre of the group rose the tall spikes of Peristeria elata, a plant of quite distinct character, and considerable interest.

A large group of choice ferns, arranged by Messrs. E. J. Batchelor and Sons, Harrogate, was restful and pleasing to the eye, and contained many choice things. The finely-crested Nephrolepis Batchelori was very well shown, and such things as davallias, platyceriums, and adiantums were well used. A group of caladiums from Messrs. J. Peed and Sons, Norwood, reminded us of past days, when these were in the height of popularity as exhibition subjects, and they also demonstrated that caladiums are still capable of producing a refined, but striking, effect that even to-day should not be ignored. Messrs. Peed also showed gloxinias, and some well-grown streptocarpus.

Sweet peas were rather largely shown, several of the leading specialists putting in an appearance. Messrs. E. W. King and Co., Coggeshall, occupied an end position on one of the tables, arranging their flowers in the form of a double-sided bank with tall columnar stands at intervals along the centre. Queen Mary, Anglian Fairy, and Rosabelle were three distinct and good varieties shown. Another very fine exhibit was that from Mr. W. J. Unwin, Histon, Cambridge, who had splendid vases of Clara Curtis, Nettie Jenkins, Scarlet Emperor, Cyril Unwin, and Edith Taylor among his extensive collection of up-to-date varieties.

Messrs. Dobbie and Co., Edinburgh, made a feature of sweet peas, their flowers being really fine, and of rich colours. Ruby Palmer was very bright, and Mrs. McIlwick represented one of the now popular metallic mauve and terra-cotta shaded varieties. Antirrhinums of a splendid strain were another fine feature in Messrs. Dobbie's exhibit, the glowing colours and long spikes of Dobbie's Scarlet, Crimson King, and Moonlight being highly effective. Collarette dahlias and violas were also shown by this firm.

Messrs. S. Bide and Sons, Lim., Alma Nurseries, Farnham, put up sweet peas of the most useful and popular sorts in small vases. Thomas Stevenson, Mrs. Hugh Dickson, Loyalty, and Dorothy being a few of the most distinct. Miss Hemus, Upton-on-Severn, showed big masses of sweet peas, such as Paradise Comet, Orange Paradise, and Lavender Paradise, as well as some delightful Iceland poppies, and her rich dark blue petunia, which is of striking colour and very free flowering.

Mr. G. Yeld, M.A., 2, Burton Lane, York, showed a set of his hybrid irises, including several remarkably pretty things. Mars, with soft brown standards and rich maroon-purple falls, was pleasing; Sunshine, a clear yellow, and the large bold flowers of Lord of June were among the best. Hemerocallis Tangerine, another product of Mr. Yeld's, was particularly bright. "Glorious pæonies!" was the descriptive exclamation we heard just as we approached Messrs. R. H. Bath's splendid exhibit of these noble flowers. The adjective was distinctly appropriate, for the noble blooms were fine in size and form, as well as rich in colour. Her Grace, a delicate china pink; Francois Ortegal, glowing crimson; and Marie Lemoine, cream colour, were three beauties.

Messrs. Blackmore and Langdon, Twerton Hill Nurseries, Bath, made a splendid show of delphiniums. Statuaire Rude was conspicuous among the mauve shades, whilst the white Moerheimi and the Cambridge blue Capri contrasted well with such dark varieties as Walter T. Ware, Robert Cox, and King of Delphiniums.

Messrs. Mansell and Hatcher, Lim., Rawdon, Leeds, put up a group of orchids that was imposing in general effect, and of sustained merit when submitted to closer investigation. Sprays of odontoglossum overhung a big central mound of cattleyas and other large-flowered orchids, and on either side were similar mounds, the intervening spaces and the foreground being furnished with Vanda teres, Odontoglossum Williamsonianum, Miltonias, Cypripedium niveum, Lycaste aromaticum, and other lovely things, all nicely arranged on a foundation of fresh green moss. Orchids were beautifully shown by Messrs. Charlesworth and Co., Haywards Heath. Miltonia vexillaria, well flowered, several good Odontoglossum crispums, and Lælio-cattleyas in variety were the outstanding

features, but some of the smaller things, such as Epidendrum vitellinum, Odontioda Lutetia, and Masdevallia Courtauldiana were also well shown.

A stand of violas, numbering somewhere about a hundred varieties, was set up by Messrs. W. Artindale and Son, Nether Green, Sheffield, most of the best-known bedders and exhibition varieties being represented. Pyrethrums were a telling feature of Mr. G. W. Miller's exhibit from the Clarkson Nurseries, Wisbech, but his pæonies, delphiniums, and other border flowers were bright and effective.

A bright display of herbaceous flowers came from Messrs. G. Longster and Sons, Derwent Nurseries, Malton, including Kniphofia Tucki, Hemerocallis Sovereign, Papaver Mrs. Perry, and a few pyrethrums, pæonies, etc. Messrs. Dicksons, Lim., Chester, had a mass of pæonies, with big bunches of delphiniums in the background, and a group of Astilbe Arendsi Ceres as a centrepiece. Messrs. Gunn and Sons, Olton, Warwick, arranged a group of phloxes on the ground, using their best and brightest varieties in big, showy masses.

Messrs. W. and J. Brown, Stamford, put up a beautiful group of cut roses, the table being occupied by exhibition blooms in boxes, with tall stands of decorative varieties at intervals. Towering to a good height at the back of the stand were fine bunches of Lilium Szovitzianum.

Richmond.

In the fine Old Deer Park, at Richmond, the local horticultural society held its exhibition on June 25. The show was a good one, though we have seen some better at Richmond. Roses were fine, and hardy flowers were very well shown; fruit was a short display, but vegetables were very good for the season.

GROUPS AND PLANTS.

Premier award for a group was won by Mr. H. Burford, gardener to Sir Max Waechter, Terrace House, Richmond, who staged a very elegant combination, in which Campanula Moerheimi, Lilium speciosum, Malmaison carnations, clarkias, and a few well-grown crotons were lightly disposed over a pleasing groundwork of maidenhair ferns and Gypsophila elegans. Mr. H. Hicks, gardener to C. M. Bartlett, Esq., Uplands, East Sheen, came second with a rather heavy arrangement of caladiums, coleuses, gloxinias, crassulas, etc.

The plant classes were fairly well filled. Mr. Burford scored for palms with very good kentias and cocoses; Mr. H. Lawrence, gardener to Mrs. Vaughan Arbuckle, Stawell House, Richmond, had the six best foliage plants, including a good Anthurium crystallinum; Mr. A. Allum, gardener to Lionel Warde, Esq., Petersham House, Petersham, was a capital first for six caladiums, with grand specimens, and in a good competition; Mr. H. Lawrence was to the front for six ferns, his Asplenium nidus being his best specimen.

Mr. E. Skelton, Townsend Terrace, Richmond, showed the best hardy ferns; Mr. Allum led for coleuses, with large, well-coloured pyramidal specimens, in a close contest; Mr. Lawrence was an easy first for aspidistras, winning with four grand plants among five competitors; Mr. Lawrence had the finest six fuchsias, but Mr. Hicks ran him very closely. For half a dozen orchids, Mr. F. Cresswell led with Odontoglossum Dora, O. eximium, O. Williamsianum, O. MacNabianum, Odontioda Wilsoni, and Lælio-cattleya Canhamiana; Mr. H. S. Chandler, Quencote, Ashford, second.

Mr. W. J. Hill, gardener to G. Aitkens, Esq., Manaton, East Sheen, had the best single and the best double begonias, and also the finest nine streptocarpuses, these being particularly well flowered. Mr. W. Chant, gardener to E. R. W. Bennett, Esq., Darly Lodge, Sunbury, beat Mr. Hill for gloxinias.

Mr. F. Cresswell, gardener to Dr. Miguel Lacroye, Brynder, Roehampton, scored for a small group; his arrangement was a rather solid one, and the grace of his numerous odontoglossums and odontiodas was spoiled by the rigidity with which the spikes were erectly staked; Mr. F. Tarrant, gardener to C. W. W. Burge, Esq., Sunnybank, Teddington, second, and Mr. F. W. Taylor, gardener to T. J. Messom, Esq., The Hut, Strawberry Hill, third.

ROSES AND HARDY FLOWERS.

The Gunnersbury Park Challenge Cup for the best forty-eight roses, distinct, three blooms of each, secured a good contest among three competitors. Messrs. Harkness and Co., Hitchin, won the cup with a fine clean lot of flowers, and especially good were their blooms of Mrs. Shean, Gustave Piganeau, Mrs. D. McKee, Mrs. J. Laing, Mdme. Jules Gravereaux, Avoca, Mrs. T. Roosevelt, Mabel Drew, Frau Karl Druschki, Bessie Brown, Mildred Grant, and Jennie Bigatois. Messrs. B. R. Cant and Sons, Colchester, came second with smaller fresh flowers; and Messrs. D. Prior and Son, Colchester, were third.

Five contestants came forward in the class for two dozen treble blooms of roses, and first prize was awarded to Mesrs. W. and J. Brown, Peterborough, for a good set that contained Mdme. C. Soupert, W. R. Smith, Frau Karl Druschki, Mdme. Jules Gravereaux, Dean Hole, and Mrs. M. Sinton. Messrs. G. and W. H. Burch, Peterborough, were placed second, and Messrs. Harkness and Co., third. Mesrs. G. and W. H. Burch came first for twelve trebles, and they had fine blooms of St. Helena and Dean Hole; Mr. J. Pigg, Royston, Herts, second, and Messrs. W. Crisp and Sons, Colchester, third; four entries.

First place for twelve tea roses, one variety, was occupied by Messrs. W. and J. Brown, Peterborough, with Mdme. Jules Gravereaux in fine form; this same variety, gained second place for Messrs. G. and W. H. Burch, and third for Messrs. D. Prior and Sons; the two unplaced boxes contained Mrs. Foley Hobbs. The best twelve H.P. or H.T. roses were bright blooms of Lyon Rose, from Messrs. G. and W. H. Burch; there were seven competitors, and Messrs. Harkness and Co. came second with Mrs. John Laing, and Messrs. D. Prior and Son third with Bessie Brown.

The Rev. L. E. Chalmers Hunt, William Rectory, Letchworth, led in the amateurs' class for a dozen roses; and the Rev. J. H. Pemberton, Havering-atte-Bower, came second. The same competitors occupied similar positions in the class for two dozen blooms, but there seemed little to choose between the two sets.

Mr. G. Baldwin, Greenford Green, had a grand nine bunches of sweet peas, and worthily won the first prize with Marks Tey, Mrs. Cuthbertson, Dorothy, Thos. Stevenson, Sunproof Crimson, Melba, Hercules, Lavender George Herbert, and Lady Knox. Mr. Allum scored for two dozen bunches of herbaceous flowers with a fine lot, in which campanulas, delphiniums, and liliums were very fine; Messrs. G. Massey and Sons, Spalding, second; and Mr. Thos. Smith, gardener to the Marquis of Ripon, Coombe Court, Kingston Hill, third.

Mrs. A. R. Bide, Farnham, led for three stands of flowers suitable for a dinner table, with a pleasing association of pink clarkias and Mdme. Abel Chatenay roses; Mrs. Robinson, second; and Miss Bashford, Barrow Hedges Farm, third, with Lady Hillingdon roses. Miss Martin, North Road, Richmond, and Mrs. A. Robinson, Norhyrst, Carshalton, were the leading prize-winners in other classes for floral arrangements.

FRUIT AND VEGETABLES.

In the fruit classes Mr. W. Lintott, gardener to Sir W. Greenwell, Morden Park, Caterham, had matters pretty much his own way. He was first for six dishes of dessert fruit, with Black Hamburgh and Foster's Seedling grapes, Brown Turkey figs, Early Rivers nectarine, Royal Sovereign strawberries, and Premier melon. Both for black grapes and for white grapes Mr. Lintott was first prize-winner. Mr. F. W. Taylor and Mr. G. Baldwin, gardener to A. W. Perkin, Esq., Greenford Green, Harrow, second and third respectively. Mr. Allum led for a dish of strawberries; and Mr. E. Montague, gardener to Colonel Biddulph, Grey Court, Ham, scored for nectarines with good fruits of Cardinal.

Vegetables were numerous and good. Mr. G. J. Broome, gardener to Miss Langworthy, Grays House, Holyport, Berks, led for Messrs. Webb and Sons' prizes for six kinds, and also won the first of Messrs. Sutton and Sons' prizes for six kinds, with very fine carrots and onions. Mr. Broome continued his successes by winning Messrs. J. Veitch and Sons' first prize. The Richmond allotment holders brought out some splendid produce, their carrots, beet, turnips, cauliflowers, and peas being in first-rate condition.

NON-COMPETITIVE.

The traders supported the committee ably on this occasion. The chief displays were of Japanese maples and bamboos from Messrs. Fromow and Sons, Chiswick; pot roses in great variety; and hydrangeas from Messrs. Jas. Veitch and Sons, Chelsea; ivies, greenhouse plants, fuchsias, especially good, from Mr. L. R. Russell, Richmond; palms, blue hydrangeas, and pink spiræas from Mr. Wm. Thompson, Sheen Nurseries, Richmond; hardy flowers in great variety, including a selection of alpine plants, from Messrs. T. S. Ware, Lim., Feltham; roses, finely set up, and hardy flowers from Messrs. G. Jackman and Son, Woking; roses in abundance and finely coloured from Messrs. W. and J. Brown, Peterborough.

Manchester Orchid Society.

At the recent meeting the members of committee present were: Messrs. Z. A. Ward (in the chair), H. Thorp, J. Evans, D. McLeod, Dr. Hartley, J. Bamber, C. Parker, G. Weatherby, A. J. Keeling, W. Shackleton, A. G. Ellwood, J. Lupton, J. Cypher, and H. Arthur (secretary). The display was good, and numerous novelties were exhibited.

R. Ashworth, Esq., Newchurch (gardener, Mr. Gilden), was awarded a Large Silver-gilt Medal for a fine group, comprising Odontoglossums Vuylstekei Ashlands var. (A.M.), Vertumis (A.M.), Jasper, Fascinator, Leeana, Ardentissimum, crispum xanthotes, Odontioda Charlesworthi, Miltonias vexillaria Cobbiana, Kaiser A. Victoria, Chelseaensis, and Bleuana grandiflora; Cattleyas Mossiæ delicata, Robert de Wavrin, Lælio-cattleyas Aphrodite, Fascinator, and G. S. Ball; Cypripediums bellatum, Queen of Spain, R. Ashworth, Godefroyæ, Kaiser Wilhelm, niveum Ashlands var., callosum Sanderæ, grande atratum, and others.

A. Warburton, Esq., Haslingden (gardener, Mr. Dalgleish), staged a nice group, for which a Large Silver Medal was awarded. Among the odontoglossums were O. crispum Grairelanum, Luce-Mariæ, Capartianum, A. J. Balfour, Mortebeekense, and Virgin Queen; Miltonias vexillaria, including the Vine House var.; Cattleyas Schroderæ Vine House var., Lælia purpurata, and a fine plant of Cypripedium Rothschildianum, carrying five fully-expanded flowers on one stem, a Cultural Certificate with Bronze Medal being awarded to Mr. Dalgleish.

O. O. Wrigley, Esq., Bury (gardener, Mr. Rogers), exhibited in fine condition Phalænopsis Rimestadiana, Odontoglossum crispums (white and blotched), and fine examples of Cypripedium niveum.

Z. A. Ward, Esq., Northenden (gardener, Mr. Weatherby), staged a seedling with 7 flowers, and O. crispum xanthotes, for which a Cultural Certificate and Bronze Medal were awarded to Mr. Weatherby.

Colonel J. Rutherford, M.P., Blackburn (gardener, Mr. Lupton), staged Cattleya Mossiæ Beardwood var., and a fine variety of Miltonia vexillaria.

Messrs. Armstrong and Brown, Tunbridge Wells, had a group for which a Large Silver-gilt Medal was awarded. Amongst the host of good things must be specially mentioned Cœlogyne pandurata, Orchidhurst var., with 14 flowers on one spike (F.C.C.), Cymbidium Lowianum concolor; cattleyas in variety, in-

cluding Mossiæ alba, Lælio-cattleya Martinetti, Orchidhurst var., Brasso-cattleya Veitchi splendens, Lælia purpurata, Orchidhurst var.; a nice collection of odontiodas, containing several new hybrids; miltonias of the vexillaria type, Masdevallia Harryana, and others.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Medal for a group, containing Lælio-cattleya Aphrodite, Canhamiana, Fascinator, Brasso-cattleya Triune, Mossiæ Digbyana, Cattleya Mossiæ, Skinneri Temple's var., Miltonia vexillaria, Bleuana nobilior Odontoglossum eximeum, Lambeauianum, Thunia Veitchi, Oncidium pulchellum.

The Liverpool Orchid and Nursery Company were awarded a Silver Medal for a group of unnamed Lælio-cattleyas, amongst which were several good varieties; well-grown plants of Canhamiana and Dominiana, with Miltonia vexillaria and a few cypripediums, including bellatulum album and Godefroyæ Sunset, made a nice display.

Messrs. A. J. Keeling and Sons, Bradford, staged a good mixed group, for which a Silver Medal was awarded, the miltonias of the vexillaria section being very fine; a Cultural Certificate was voted for one specimen.

Messrs. Stuart Low and Co., Enfield, staged Cattleyas Mossiæ, Reineckiana grandis, Pintadeau, and Mrs. E. Ashworth; Lælio-cattleyas Canhamiana, Duchess, and Eudora superba.

Messrs. Charlesworth and Co. staged Odontoglossums splendens, Marietta, and eximeum.

A First Class Certificate was awarded to Cœlogyne pandurata Orchidhurst var., a fine variety, with large flowers, from Messrs. Armstrong and Brown. An Award of Merit was made to Odontioda Vuylstekei Ashlands var., and O. Vertumis, both shown by R. Ashworth, Esq.

A NEW ROT OF POTATO TUBERS.

A new disease of potatoes, which was notified from Ireland last year, has now been described in detail by Dr. G. H. Pethybridge.* It was first observed in 1909 in the plots of the temporary experiment station, established by the Irish Department of Agriculture, at Clifden, Co. Galway. Since then it has been kept under observation, and has also been received from other parts of Ireland. Referring to this new disease, the "Kew Bulletin" states that the rotting is found to be due to a fungus closely allied to Phytophthora infestans, but differing in certain essential particulars. The fungus is named P. erythroseptica, and for the disease the name "Pink Rot" is suggested, owing to the cut surfaces of affected tubers quickly turning pink when exposed to the air.

The facilities afforded by the Clifden station give Dr. Pethybridge exceptional opportunities for studying potato diseases, and in the opening part of his paper he briefly but critically reviews the principal forms of tuber-destruction caused by vegetable organisms. The potato tuber is a structure on which, when once it has been injured, a most varied micro-flora and fauna readily develop, hence the diagnosis of the cause of decay is exceptionally difficult.

Pink Rot commences when the potatoes are still in the ground, and has been found in some varieties as early as July. In most cases the attack begins at the "heel" end of the tuber, and proceeds rather quickly towards the distal or "rose" end. Diseased tubers remain firm, but if pressed exude a quantity of juice, and finally become completely rotten. They do not, however, develop cavities, as in the case of Black Stalk Rot, caused by Bacillus melanogenes. If the tubers are exposed to the air, the subsequent stages resemble those of a "dry" rot; but if covered, the moisture which is exuded does not dry up, so that in the field or store the rot would be regarded as of the "wet" type. A characteristic series of colour-changes takes place when affected tubers are cut open and exposed to the air. The pink colour begins to show after a few minutes, and within half an hour the whole of the diseased portion becomes a deep salmon-pink. With an exposure of several hours the cut surface gradually darkens, and becomes purplish-brown or nearly black. As pointed out above a number of other fungi develop on such decaying tubers, and pustules of various kinds, including those of Fusarium, break through the skin. The latter are merely secondary, the organism causing the initial injury being entirely internal.

Examined with the microscope diseased tissues show an abundance of rather wide, much-branched, intercellular hyphae. No haustoria were observed, and no reproductive organs of any sort could be discovered.

With suitable precautions the fungus was isolated without difficulty, it being found to grow more easily on artificial media than its ally P. infestans. A full account of the culture media and methods is given, and also of the experiments which prove the pathogenic character of the fungus. Reproductive organs were produced abundantly in artificial cultures, though strong predilections for certain substrata were shown. Growth on various media derived from oats was specially vigorous, and an abundant crop of sexual organs follows, from which oospores develop. An acid medium appears to be unfavourable for the production of antheridia and oogonia. Conidia were produced when pieces of culture were transplanted to sterilised peat-bog water or even rain-water; these structures are apparently only developed under water and very rarely, if ever, on aerial mycelium.

The method of development of the apparently sexually produced oospores is remarkable and unique amongst fungi. The oogonium incept enters the antheridium at or near its base, grows up through it and out at the top, expanding there to form the oogonium proper in which the oospore develops. Cytological details are not yet available. At the end of Dr. Pethybridge's paper other species of the same genus are shown to behave in a similar manner, and some systematic alterations based on this discovery are proposed.

Phytophthora erythroseptica is prevalent in the West of Ireland, and the losses caused by it are considerable, in some cases heavier than those due to P. infestans. They are greatest in crops grown continuously on the same land (infection taking place from the soil) and can be avoided by proper rotation.

* On the Rotting of Potato Tubers by a New Species of Phytophthora having a Method of Sexual Reproduction hitherto undescribed. Sci. Proc. Roy. Dubl. Soc., vol. xiii., No. 35, March, 1913.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The festival dinner of this institution, held at the Hotel Metropole on June 25, under the chairmanship of Leopold de Rothschild, Esq., was an unqualified success. The attendance of 220 ladies and gentlemen constituted a record. The Whitehall Rooms were beautifully decorated with orchids, carnations, and roses, and the function was an altogether brilliant one. We shall refer to the gathering in more detail in our next issue, but now have only time and space to state that the sum total subscribed to the funds of the institution amounted to a little over £3,000, including 100 guineas from the chairman, £100 from Messrs. N. N. Rothschild and Sons, £100 from Messrs. Sutton and Sons, £250 from the Duke of Bedford, £100 from Messrs. J. Veitch and Sons, and £50 each from Messrs. N. N. Sherwood, Mr. Edward Sherwood, and Mr. Wm. Sherwood; £50 from Sir Jeremiah Colman, £165 collected by Mr. Jas Hudson, £62 by Mr. Wallace, £75 by Mr. H. G. Alexander, and £271 from Covent Garden friends. In addition to the chairman, the chief speakers were Sir Harry J. Veitch, Colonel Mark Lockwood, M.P., Hon. W. T. Mackenzie, and N. N. Sherwood, Esq. The capital musical arrangements were under the direction of Mr. Herbert Schartau.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

EARLY ENGLISH WRITERS ON GARDENING.—P. R., Coventry: There seems to be a general impression that Wm. Tusser, who wrote "A Hundreth Good Pointes of Husbandrie," published in 1577, was the first of English authors on gardening matters, and I find some difficulty in discovering anyone who wrote upon this subject at an earlier date. Do you know of any?—Felton, who wrote concerning English Authors on Gardening, in 1830, refers to "Alfred, an Englishman, surnamed the Philosopher, much respected at Rome. He died 1270, and left four books on the Meteors of Aristotle; also one on Vegetables, and five on the Consolations of Boethius." He further refers to Daniel, a Dominican friar, who left a manuscript treating upon herbaria, trees and fruits, and who appears to have flourished about 1379. Richard Arnold had a chapter on "The Crafte of graffynge, and plantyne, and alterynge of fruyts, as well in colours as in taste"; this was printed in 1502.

COMMON SODA IN THE GARDEN.—W. D., Horeham: Would you kindly inform me if a quantity of discoloured washing soda could be put to any good use in the garden or orchard, or for farm crops?—Washing soda (carbonate of soda) is of little use in the garden as a fertiliser. In a very dilute form it may be serviceable on light lands because, as in the case of salt and nitrate of soda, it has the power of retaining moisture. In many cottages the soap suds are carefully preserved after washing day, and, diluted, are used in the garden, with no small success. In a dry state soda is capable of doing considerable damage to crops, and in the neighbourhood of alkali works leaves become covered with a fine deposit and soon drop, and trees do not last long under such conditions. Dr. Bourcart, in a recent publication, points out that "carbonate of soda acts like carbonate of potash; when it is a case of neutralising the acidity of certain marshy lands carbonate of soda may play the part of lime, and the nitric ferments, which cannot act except in slightly alkaline media, may thereby modify the flora of the field. In such conditions carbonate of soda, in small dose, may exert a favourable influence on vegetation." We do not know the cause of the discolouration of your soda, and you do not state the quantity; but we suggest it is of more value for cleansing purposes, or, in a powdered state, for killing weeds on paths, than as a fertiliser in the garden.

FAILURE OF OUTSIDE PAINT WORK.—A.M., Guildford: As an old subscriber to your valuable paper, can you or any of your numerous correspondents help me with their advice on the following? A short time ago I had an orchid house painted white inside and out, with the result that, although the inside paint-work, in spite of the heat and water, is as hard as possible, the greater part of the outside paint-work peels off in strips as though you were stripping a wall-paper, and leaves the wood as clean as when it came from the plane. If any of your readers who have an orchid house have found the same difficulty, perhaps they can suggest a satisfactory remedy.—It is probable that the woodwork was damp when the paint

was put on outside, and damp wood is a frequent cause of trouble to painters. However, we shall be very glad to receive suggestions for cause and remedy from any of our readers.

SPARTIUM JUNCEUM.—F. E., Bournemouth: I send you some growths and flowers of a shrub that is new to me, but can hardly be uncommon, as I found it growing upon a dry, gravelly bank near a railway. It was perfectly at home, and of good size, and I should like to know what it is, whether it is easily obtainable at a reasonable price, and how it is propagated. I may say that I have lived in the extreme north of England all my life, and that may be one reason why I have never seen this shrub before.—The plant is Spartium junceum, a shrub that is quite hardy in the south, and produces its golden, fragrant flowers in profusion. It is not particular as to soil, but rather prefers a sandy, stony, or gravelly soil, and it must have a position where it obtains all the sunshine available. Plants can be obtained at reasonable rates from any of the nurserymen who advertise in our columns. Propagation is from seeds.

EMPLOYMENT IN PUBLIC PARKS AND GARDENS.—B., Rotherfield: For employment in the London parts, apply, enclosing particulars of experience, age, etc., to the Chief Officer, Parks and Open Spaces, London County Council, Spring Gardens, London, W.C.; for Hyde Park, apply to Mr. J. Gardiner, Park Superintendent, Hyde Park, London, W.; for Regent's Park, to Mr. A. D. Webster, Superintendent, Regent's Park, London, N.W.; for the Brighton Parks, to Mr. G. Ward, The Lodge, Preston Park, Brighton.

COLOUR ASSOCIATION IN FLORAL ARRANGEMENTS.—H. H., Sussex: I shall be glad if you will kindly tell me what colours associate best in the cases of flowers used for table decorations, etc.—White will associate well with any other colour, but rather hard effects are produced by white and very brilliant blue, or vivid scarlet. Yellow and pink, pink and pale blue or lavender, blue with a pale and a deep pink, yellow and brown, orange and brown, crimson and scarlet, crimson and bronzy-purple, cream and blue, cream and pink, salmon and carmine, deep crimson and rose, orange and yellow, and scarlet and maroon are a few combinations of colours that look well, but a great deal depends upon the kinds of flowers associated, and their disposition. Beautiful table decorations may be produced by the use of two or three shades of the same colour, and some consideration of this point, with a little practice, will enable you to create many different and excellent effects. Then, also, the same flowers look quite distinct when used with different greenery, and this alone is a point well worth studying, because sometimes one has plenty of a certain kind of suitable flowers that may be popular with the ladies of the house, and if these can be arranged in different ways and with distinct greenery, or perhaps a few other flowers, the use of that particular flower does not become monotonous. Watch Nature's combinations of colours in field and hedgerow and woodland, and also in the same plant and flower, and you will find plenty of object-lessons.

STATICE AURICULÆFOLIA. — C. M., Colne: This is not hardy everywhere; indeed, some authorities list it as only half-hardy, but it is given in the Kew Hand List of Herbaceous Plants, so we may assume that it is fairly hardy at Kew.

GALLS ON AZALEA LEAVES.—W. R., Berks.: I send a few azalea branches, bearing leaves upon which are a number of galls. Kindly tell me whether these galls are caused by a fungus or insects, and how to get rid of the trouble. — The galls are caused by a fungus named Exobasidium rhododendri. The fungus spreads by means of spores, and not by means of permanent mycelium in the plant tissues, therefore the affected leaves should be at once removed and burned, and a careful watch must be kept upon the bushes so that leaves may be cut off as soon as signs of the fungus appear. Next season a close watch must be maintained, and affected leaves removed at the first sign of the disease. In this way the disease may be exterminated, or at least kept severely in check.

NAMES OF PLANTS.

E. B. E., Bath.—Phœnix canariensis.

K. G. C., Southgate.—1, Cornus alba sibirica variegata.

S. M. M., Hayes.—1, Salix babylonica annulis; 2, probably Pyrus nivalis.

R. O., Edgbaston.—1, Veronica buxifolia; 2, Campanula Portenschlagiana; 3, Centaurea candidissima.

W. J. C., Taunton.—1, Odontoglossum Lambeauianum; 2, a poor Cattleya Mossiæ; 3, Iris sibirica; 4, Asparagus verticillatus.

C. M., Colne.—Campanula rapunculoides; 2, Nepeta Musseni; 3, Lachyrus grandiflorus; 4, Scabiosa alpina; 5, Gnaphalium lanatum.

P. A., Woking.—1, Helichrysum microglossum; 2, Cistus laurifolius; 3, Ginkgo biloba; 4, Cornus Spathi; 5, Linaria cymbalaria; 6, Anchusa italica Dropmore.

D. B., Old Colwyn.—1, Poterium sanguisorba; 2, Silene inflata; 3, Anthyllis Vulneraria; 4, Linum catharticum; 5, Hemerocallis flava; 6, Epilobium montanum.

W. P., Wilts.—1, Tradescantia virginica; 2, Mertensia dahurica; 3, a form of Thalictrum aquilegifolium; 4, Veronica gentianoides; 5, Campanula Portenschlagiana.

P. B., Rugby.—1, probably a Plectranthus, send when in flower; 2, Libonia floribunda; 3, Pelargonium quercifolium; 4, Nephrolepis exaltata todeaoides; 5, Cypripedium barbatum; 6, C. Harrisianum.

The Gloriosa Pink.—The pinks are universal favourites, and this comparatively new one has undoubtedly come to stay. It is of that dwarf tufted habit of growth, common to the good old white pink of cottage gardens, and totally different from many present-day kinds, which show a leaning towards the carnation. The flowers of Gloriosa are large and full, prettily fringed, and in colour a delightful shade of lilac rose. They have also a delicious perfume, and are borne over a lengthened period.—W.

TRADE NOTES.

PÆONIES FROM LANGPORT.

Attractive in colour and rich in perfume are the splendidly-developed herbaceous pæonies that, through the courtesy of Messrs. Kelway and Sons, we have now upon our table. The name of the Langport firm has so long been closely associated with these glorious flowers that it is hardly necessary to say that they were among the first to give attention to the improvement of pæonies, and have attained to a high position both as raisers and cultivators. Especially deserving of mention among the single varieties that have been submitted to us are Queen Alexandra, white, with golden anthers; British Empire, purple-rose, with pink and yellow centre; Dorothy Daniels, blush; Signorette, rose, suffused crimson, with pink centre; Muriel Law, rose-pink, with white centre; Miss Ida Chamberlain, rich pink, with golden anthers; and Prince George, rich rose-crimson. The double varieties include Lord Paunceforte, pink, shading to white; Mrs. Philip Belben, bright pink; Limosel, rich rose; and Sophia Miller, all of which are of high merit.

MESSRS. SUTTON AND SONS' EMPLOYEES' OUTING.

The excursion which is annually so generously provided for their employees by Messrs. Sutton and Sons, Reading, took place on Friday, June 20, when Bournemouth was visited. Two special trains conveyed the employees, their wives, etc., the party numbering nearly 1,000 together with the members of the firm. The s.s. "Monarch" had been chartered to make four trips from the pier to and from Swanage, and these were heavily patronised. The Corporation tramways, too, were largely requisitioned, the journeys to Christchurch and Poole being particularly popular. The beautiful gardens were duly appreciated, while the sands were, of course, greatly enjoyed by the younger people. The firm, as usual, not only bore the cost of the trains and steamer, but provided each employee with a sum of money to defray the day's expenses.

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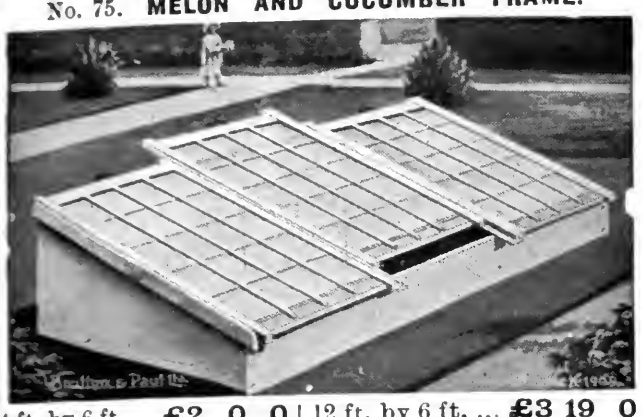

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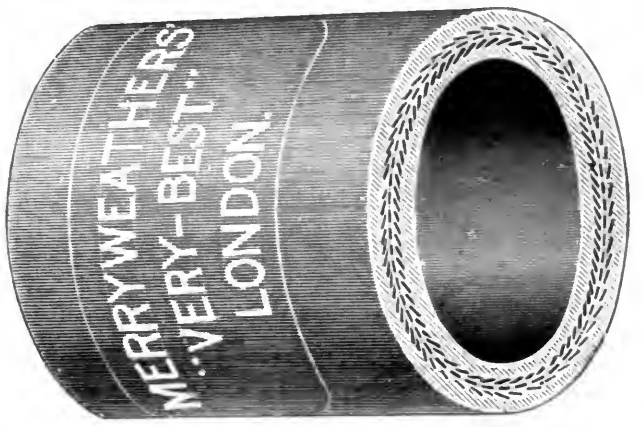

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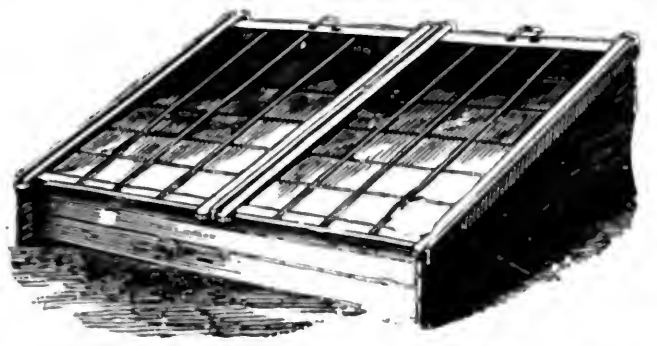

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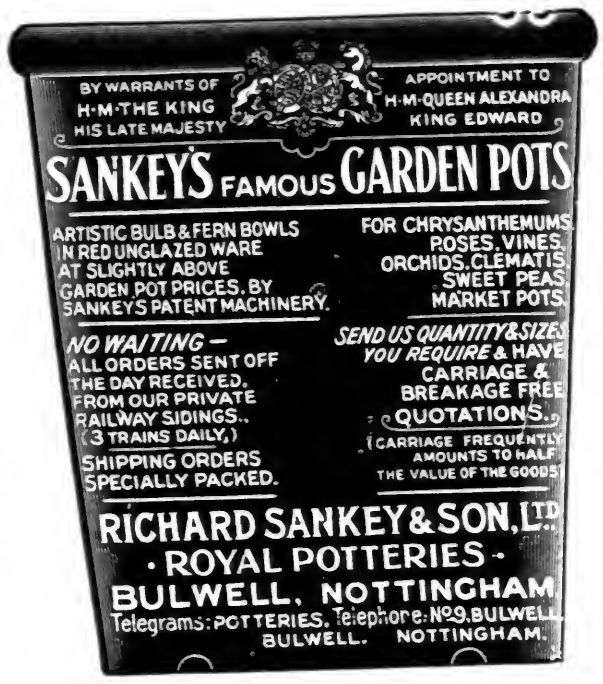
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FRUIT CROPS IN GERMANY.

His Majesty's Consuls in Germany, in reporting on the condition of the fruit crops in that country, state that the prospects for the current year are most unfavourable. Cold weather with frosts and snow which set in about the middle of April did great damage to almost every kind of fruit, and in all quarters severe losses were suffered by what had promised to be an exceptionally plentiful crop. Most harm appears to have been done to the crops in Baden, Wurtemberg, Hesse, and Saxony.

Red, white, and black currants promise small to medium crops, and gooseberries and strawberries a medium crop; most of the raspberry blossom stems were frozen, but it is hoped that fresh shoots may yet make the crop a medium one. Large cherries may be a good crop, but it is feared that the cold days at the beginning of May did further damage; in many districts sweet cherries have been for the most part destroyed, whilst sour cherries are expected to have suffered more than the larger kinds. Peaches and apricots suffered most severely, and a complete failure of these crops is reported. Apples and pears were not much damaged, and good crops are expected. Early Zwetschen plums promise a scanty crop, but a slightly better crop of later kinds is hoped for. Mirabelles are expected to be a good crop on the whole; in the interior of Lorraine they are promising well, but in the left Moselle valley the crops were frozen.

As regards individual districts, the lowlands in Wurtemberg, where the chief fruit-growing districts are to be found, suffered much damage from frosts; but on higher ground trees were more backward and prospects are still fairly good. Apricots, peaches, and early cherries are practically a failure, but later cherries are fair in some places. Plums are a small crop in some districts, but Zwetschen promise an average crop. Early pears and apples are almost a failure, but an average crop of late sorts is expected. Raspberries, red currants, and gooseberries promise fairly well on high land; on low lands they are a failure.

The fruit crop in Rhenish Hesse, except for apples, is almost a total failure. Apricots, peaches, and sweet cherries have been entirely destroyed; plums, mirabelles, and sour cherries have suffered less; about half the average crop of Zwetschen and pears was hoped for, but the setting fruit is now beginning to drop from the trees.

In Baden peaches and apricots were frozen, sweet cherries, early Zwetschen, and early plums suffered severely, sour cherries and late Zwetschen were not so much affected. It is hoped that from the abundance of cherry blossom a moderate crop may yet result. A devastating hailstorm was experienced on May 28, in the neighbourhood of Heidelberg, especially in the Gaiberg district, which is famous for its cherries, and the whole crop has now been ruined.—Journal of the Board of Agriculture.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

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Adiantum cuneatum	per doz. bun.	3	0	to	4	0
Asparagus plumosus	per doz. bun.	10	0		18	0
,, Sprengeri	per doz. bun.	8	0		12	0
Carnations	per doz.	1	6		2	0
,,	per doz. bun.	4	0		8	0
,, Malmaison	per doz.	4	0		6	0
Cattleyas	per doz.	9	0		12	0
Cornflowers	per doz. bun.	0	6		1	3
Croton leaves	per bun.	1	0		1	6
Eucharis	per doz.	2	0		4	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	1	0		2	0
Gerberas	per doz.	1	0		1	6
Gladioli	per doz. bun.	4	0		10	0
Gypsophila	per doz. bun.	2	0		4	0
Iris, Spanish	per doz. bun.	4	0		7	0
Lilium auratum	per bun.	3	0		4	6
,, speciosum	per doz.	1	6		2	0
,, longiflorum	per bun.	1	3		2	0
Lily of the Valley	per doz. bun.	9	0		15	0
Marguerites	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	2	0		3	0
Pæonies	per doz. bun.	4	0		8	0
Pelargoniums	per doz. bun.	3	0		8	0
Pinks	per doz. bun.	1	0		1	6
Poppies	per doz. bun.	1	0		2	0
Pyrethrums	per doz. bun.	2	0		3	0
Roses	per doz.	0	9		4	0
Smilax	per doz. trails	1	0		1	6
Spiræa	per doz. bun.	4	0		6	0
Stephanotis	per gross	6	0		8	0
Stocks	per doz. bun.	4	0		6	0
Sweet Peas	per doz. bun.	3	0		6	0

Fruits.

Gooseberries and strawberries are a full supply, but currants are scarce at present. Cherries sell well, and so do grapes.

		s.	d.		s.	d.
Apples, Australian	per box	14	0	to	18	0
,, Tasmanian	per box	14	0		18	0
Apricots	per box	1	6		4	0
Bananas, Canary	per bun.	7	0		12	0
,, Jamaica	per bun.	3	0		5	6
Cobnuts	per doz. lbs.	4	6		6	0
Cocoanuts	per 100	18	0		23	0
Cherries, French	per box	2	0		3	0
,, English	per peck	3	0		4	0
Cranberries	per case	8	0		9	6
Currants, Black	per ½ sieve	8	0		9	0
,, Red	per ½ sieve	8	0		9	6
Dates	per doz. boxes	2	9		3	6
Figs	per doz.	1	6		8	0
Gooseberries	per ½ sieve	4	0		5	0
Grape Fruits	per case	12	0		22	0
Grapes, English (new)	per lb.	1	6		7	0
,, Guernsey	per lb.	2	0		3	0
,, Australian	per case	20	0		32	0
Lemons	per case	10	0		30	0
Mangoes	per doz.	6	0		8	0
Melons	each	1	0		3	0
Nectarines	per doz.	4	0		24	0
Oranges	per case	8	0		44	0
,, Jaffa	per case	7	0		9	0
Peaches	per doz.	4	0		21	0
Pears, Tasmanian	per case	10	0		12	0
Pineapples	each	3	0		5	0
Strawberries	per basket	1	0		1	6
,,	per doz. pun.	3	6		6	0
,, Kent	per peck	2	0		4	0

Vegetables.

Excellent supplies meet a steady demand. Salading sells at firm rates.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	2	0
,, Ground	per bush.	3	0		4	0
Asparagus English	per bun.	1	6		3	0
,, Giant	per bun.	5	0		7	0
Beet	per bush.	2	0		3	0
Beans, Guernsey	per lb.	0	6		1	0
,, English	per lb.	0	8		1	0
,, Broad	per bush.	2	0		3	0
Cabbage	per tally	2	0		3	0
Carrots	per doz. bun.	3	0		6	0
,, French	per doz. bun.	6	0		8	0
Cauliflowers	per doz.	2	6		4	0
Chicory	per lb.	0	2		0	4
Cucumbers	per doz.	2	0		4	0
Endive	per doz.	1	6		3	6
Horseradish	per doz. bun.	10	0		12	0
Lettuce, Cos	per doz.	0	9		1	0
Marrows	per doz.	3	0		8	0
Mint	per doz. bun.	3	0		5	0
Mushrooms	per doz. lbs.	4	0		7	0
Onions	per bush.	2	0		2	6
,, Spanish	per case	6	0		7	0
Parsley	per doz. bun.	2	0		3	0
Peas	per bush.	3	0		6	0
Rhubarb	per doz. bun.	0	10		1	6
Radishes	per doz. bun.	0	10		2	0
Spinach	per bush.	1	6		3	0

LONDON POTATO MARKETS.

New potatoes are a steady supply, and meet a fair demand.

		s.	d.		s.	d.
Scotch	per ton	80	0	to	95	0
Dunbars	per ton	120	0		130	0
Jersey, New	per cwt.	10	0		13	0
St. Malo, New	per cwt.	11	0		12	0
Lisbon, New	per case	4	3		4	6
Teneriffe, New	per cwt.	9	6		11	0

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. JUNE 15 TO JUNE 21.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
June 15—Sunday	13 54	67	59	77	52
,, 16—Monday	12 48	69	63	84	45
,, 17—Tuesday	9 30	71	66	82	54
,, 18—Wednesday	6 6	58	56	75	50
,, 19—Thursday	11 36	60	54	69	54
,, 20—Friday	1 24	54	52	64	48
,, 21—Saturday	4 24	56	55	67	46
	(total)				
Means	59 42	62	58	74	50

DATE. 1913. JUNE 15 TO JUNE 21.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
June 15—Sunday	—	60	57	56	40
,, 16—Monday	—	61	58	56	32
,, 17—Tuesday	—	63	59	56	43
,, 18—Wednesday	—	64	60	56	37
,, 19—Thursday	trace	64	60	57	45
,, 20—Friday	0·34	62	60	57	35
,, 21—Saturday	—	61	59	57	36
	(total)				
Means	0·34	62	59	56	38

FORTHCOMING ENGAGEMENTS

NEXT WEEK.

MONDAY, June 30.—Epsom Rose Show.
Maidstone Flower Show.

TUESDAY, July 1.—Royal Horticultural Society's Exhibition at Holland Park, Kensington; three days.
Flower Show at Bristol in connection with the Royal Agricultural Society's Meeting.
Sutton Rose Show.
Scottish Horticultural Association.

WEDNESDAY, July 2.—Penarth Rose Show.
Brockham Rose Show.
King's Lynn Flower Show.
Burgess Hill Flower Show.
Warminster Flower Show.
Hanley Floral Fête; two days.

THURSDAY, July 3.—Cambridge Summer Show.
Ipswich Flower Show.

FRIDAY, July 4.—National Rose Society's Show at Regent's Park.

SATURDAY, July 5.—Thornton Heath Flower Show.
Ilford Summer Show.
Walton-on-Thames Rose Show.
French Horticultural Society of London.

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VOL. LVI.—No. 3,114. SATURDAY, JULY 5, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Deep Cultivation and Dry Weather.

Although the considerable deficiency in the rainfall during the past month does not appear to have seriously affected the more important of the garden crops, except on light soils, it has necessitated the general use of the garden hose and watering-can, and brought into special prominence the immense value of deep and otherwise thorough cultivation. In all seasons, whatever may be the character of the weather, the results obtained from a deeply-stirred and well broken-up soil are such as to afford an ample return for the additional labour involved; but in a summer such as that of last year fairly good crops are obtained from shallow working. This summer, as in so many others that one could call to mind, some crops are more or less variable, due, in some instances, to the soil being so thin and light as to fail to retain within range of the roots any considerable proportion of the moisture that falls upon the surface, or to enable the plants to draw to any considerable extent upon the subsoil for the supplies of water so essential to healthy growth. Where, on the other hand, crops growing in soils of a substantial character are seen to be less vigorous than usual, and giving a poor yield, it may be assumed that the importance of tillage, carried out in accordance with the more advanced views that obtain has not been appreciated or that the cultivators have not had a sufficiency of manure at their command. Except in the case of small areas of land, such, for example, as gardens of quite small dimensions, it is not practicable to materially reduce the porosity of the soil, but available supplies of such material as decayed vegetable refuse, leaf-mould from the woods, well-decayed manure, and other organic matter, should be utilised for the purpose of increasing the humus in the soil, and consequent thereon improving its powers of retaining water. In the case of gardens having a large area, those in charge have practically to rely on purely cultural methods in their endeavours to assist both ornamental plants and useful crops to pass through periods of drought without serious injury. Thorough cultivation, combined with judicious manuring, is, perhaps, of even greater importance in the management of ordinary and strong loams than in the case of those which are light in texture because of the possibility of modifying the moisture they contain in the most diverse seasons. In dealing with soils such as these, they may, at the annual digging or trenching, be so prepared that the plants will have a deep root run, and in periods of drought be able to draw upon the water contained in the subsoil. Then, in the course of the season of growth, the surface may, by frequent use of the hoe, be maintained in a sufficiently loose state to prevent any appreciable loss of soil moisture by evaporation from the surface. In soil preparation it should be constantly borne in mind that the particles of which it consists are enveloped in their films of water, and that when there is a continuity of these, the water will pass horizontally or upwards or downwards through the soil. If this fact is fully recognised and constantly kept in mind, it will not be difficult to understand the necessity for care in carrying out the operations of digging, or the results obtained from perfect or faulty methods of procedure. Moisture derived from the rains falling on the surface of the ground envelops the minute particles in the form of a thin film, and as the quantity increases it passes downwards by means of the continuous films until the whole of the particles are covered. Should the water be in excess of what is necessary for this purpose, the pressure from above causes the films to increase in thickness until they form drops of water in the open spaces and pass away into the drains. Should, on the other hand, there be a drying of the films of the particles forming the upper layers of the soil, the loss resulting therefrom will be replaced by the moisture drawn from the lower layers, provided there is a continuity in the water films. This latter is a point of great practical importance because if the soil is consolidated throughout its depth, there will be a continuous rise of water from the subsoil to the surface, where it will be evaporated, until the loss from the upper layers is replenished by rains or artificial watering, or, as in the case of long droughts, the subsoil supply is exhausted. Should, on the other hand, the soil be trenched or dug over in a rough manner and thrown loosely into the bottom of the trench, there will be some loss of continuity, and the water will not rise freely by capillary attraction. As the result of this faulty method, the plants will be deprived of some part of the subsoil water, and suffer accordingly should the weather be dry for any considerable period. The proper course in both digging and trenching is to well break up the soil, except on the top, where it will be exposed to atmospheric influences, so that it may become well consolidated before the time of sowing or planting. When this is done there will be

MR. WILLIAM HALES, A.L.S.

a continuity of water film between the subsoil and the layer above where the greater proportion of the roots are found. If the soil remains in a consolidated state on the surface evaporation will take place at a rapid rate, and not only will much moisture be lost, but the surface will, early in the season, have its temperature so greatly reduced as to impose a check on the growth of young and tender plants. To obviate this, the soil should be hoed to a depth of about two inches at sufficiently frequent intervals to maintain the surface in a loose state. We are sometimes told by the advocates of summer hoeing that a layer of loose soil is equal to a mulch of manure, but such views are hardly supported by experimental research. A good mulch has a slight advantage, but the soil mulch is so highly beneficial that there should be very little cessation in the use of the hoe in weather such as that which we have experienced. The season in which soil is dug or trenched has some bearing upon its water-content, although seldom referred to. It may therefore be mentioned that soils which are prepared in the autumn, and, in accordance with usage, left rough on the surface, and absorb a much greater quantity of moisture than that which is allowed to remain in a consolidated state until the spring.

Mr. William Hales, A.L.S., who has charge of the famous old Physic Garden, at Chelsea, is an old Kewite who, like many another, had to put in a deal of "spade work," before arriving at an important position. Born at Leamington, he commenced work about 1886 at Strathearn House, a local establishment long noted for good cultivation. Later on he was employed in a local market nursery where several tons of grapes, besides other indoor fruits, and quantities of flowers were produced. A period here was followed by eighteen months in a private garden at Edgbaston, which was preparatory to entering the Birmingham Botanical Gardens, where Mr. W. B. Lathom was then the superintendent. At Birmingham Mr. Hales became keenly interested in botany, and studied this science at the Midland Institute, meanwhile adding greatly to his knowledge of plants, and his experience as a cultivator. He stayed four and a-half years at Birmingham, and during his stay regularly attended the meetings of the Birmingham Gardeners' Association, winning one second and three first prizes for essays. From Birmingham to Kew followed as a natural course of events, where he soon became a sub-foreman, and did so well that in 1899 he was recommended for the post he now occupies. The old Chelsea Physic Garden had been sadly neglected and the prospect was not encouraging, but, believing that the garden could be made a useful educational establishment, he put all his energy and skill into the work of reformation, and with such good effect that a competent authority recently wrote: "The garden is now the most educational of its kind within the Metropolis." Mr. Hales has been elected an Associate of the Linnean Society, he has a seat on the R.H.S. Scientific Committee, and the closeness with which he studies the subject of the education of gardeners was evidenced in the paper he read before the Conference on the occasion of the International Horticultural Exhibition of 1912. Mr. Hales has accomplished a great work at Chelsea, a work that we hope he may long be spared to continue.

National Rose Society's Exhibition.—We shall give in our next issue a full report, with illustrations of new roses, etc., of the National Rose Society's Exhibition, held in the gardens of the Royal Botanic Society, Regent's Park, July 4.

Presentation of Carnations to the Queen.—On Coronation Day the Past Master (Mr. G. Rowland Blades) and the Clerk (Mr. E. A. Ebblewhite) of the Worshipful Company of Gardeners attended at Buckingham Palace and presented to the Queen a beautiful bouquet of carnations. The bouquet was composed of the flowers of the pure white variety known as King George, and the lovely pink Queen Mary, which were first submitted to public notice two years since.

To Save the Crystal Palace.—"The Times" has opened a Crystal Palace Fund, at the request of the Lord Mayor of London, for the purpose of raising the £90,000 needed for the completion of the purchase of the Crystal Palace and grounds for the benefit of the public. A "Private Citizen," who desires to remain anonymous, has offered to contribute 10s. for every £1 donated on or before July 31, and his offer stands good to the total of £30,000, which means that the public must give £60,000, and then the needed sum will be completed automatically. The appeal has met with a splendid response. On the first and second days the donations amounted to £10,018 4s. We commend the public-spirited action of our contemporary to our readers, and hope that the £90,000 will soon be raised.

Croydon Gardeners' Association.—This enterprising association does not arrange for a recess in the summer, in accordance with the practice that so generally obtains, but instead of holding meetings at that season visits are made to noteworthy gardens within a convenient distance of Croydon. A few evenings since about seventy members of the association visited the gardens of Wood Hall, Dulwich, the residence of J. C. Eno, Esq., and had a very enjoyable time. The gardens, which are under the charge of Mr. R. B. Leech, are remarkable for their diversity and high keeping, and the visitors, whether interested in herbaceous plants, rock gardening, fruit and vegetable culture, or trees and shrubs, found plenty to interest them, and saw the various ornamental plants and useful crops at their best.

Insect Enemies of the Pear.—At the meeting of the North of England Horticultural Society, recently held in the Leeds Law Institute, Professor F. V. Theobald gave an instructure lecture on the more destructive insect enemies of the pear. Having briefly described the habits of the more noteworthy of the insect pests that prey upon the foliage and fruits of pear trees, he stated that only eleven are sufficiently injurious to be termed pests, and by far the worst is the pear midge, after which the pear leaf blister mite, and the pear and cherry slugworm rank as most serious. The first-named he characterised as one of the chief drawbacks to the production of good crops of pears. It cannot be checked by spraying; all one can do is to try and lessen it by persistent hand-picking of deformed fruits. The midge may be reduced by keeping poultry in the garden and orchard at the time the maggots fall, and dressings of kainit and vaporite have both proved successful, spread under the trees when the larvæ fall to the ground. Hand-picking was described as useless unless other cultivators in the neighbourhood follow the same plan; the midges that lay the eggs being able to travel a considerable distance. The blister mite could, Professor Theobald stated, be controlled by spraying in winter with lime, sulphur, soda, salt wash, and in spring with paraffin jelly. The slug-worm also, he said, could be easily controlled by spraying with arsenate of lead. Several minor pests, it was stated, would yield to tobacco wash or other treatment, and he especially mentioned the pear or leaf-curling midge (Cecidomyia pyri) as an insect which had recently increased considerably, and needed to be checked at once by spreading vaporite round the trees at the time the larvæ are falling.

Birmingham Horticultural Society.—This society has made such rapid advances within the past two or three years that its annual exhibition, which will be held on July 18 and 19, has the promise of being one of the most important of the provincial gatherings of the season. Silver challenge cups to the value of 130 guineas are offered in seven classes. Four are of the value of £21 each, and one of these is for a rock and water garden, one for a collection of roses, one for a collection of sweet peas, and one for the best exhibit in certain of the trade classes. The cash prizes are on a liberal scale, and as the schedule is comprehensive in character, the total amount is large. The Royal Horticultural Society will send a deputation for the purpose of awarding that society's medals to the more noteworthy exhibits. The secretary (Mr. W. G. Carradine), 84, Hamstead Road, Handsworth, Birmingham, will readily give full information on the various competitions.

The Chiefs from Southern Nigeria, who arrived in London a short time since for the purpose of giving evidence before the Colonial Office Committee on Land Tenure in Africa, paid a visit the other day to Messrs. Sutton and Sons' seed establishment at Reading. The members of the party were conducted through the various departments in the extensive premises, and expressed themselves as greatly interested in what they saw. At the close of the inspection they were entertained at lunch in the Abbey Hall, at which Mr. Arthur W. Sutton, V.M.H., presided, Mr. Leonard Sutton being also present. Subsequent to this function a visit was paid to the firm's trial grounds in the London Road.

Plant and Animal Life.—In the course of a lecture on plant life given before the Nottingham branch of the International Society of Philology, Science, and Art, Professor Leon directed attention to the fact that, while plant life and animal life appeared to differ very materially from each other, they are found on investigation to be in remarkable agreement, both in structure and development. The plant body, like that of the animal, is built up of a number of different tissues, each of which has its function to perform in the economy of the whole organism. The body of a plant, like that of an animal, is ultimately composed of innumerable minute cells, which in the plant are each enclosed within a cell wall. The living cells are extraordinarily uniform throughout the whole plant world, and is closely akin to those of animals. Plants go through the same stages of life and growth as animals, they are born, have their youth, arrive at maturity, reproduce their kind by a species of sexual arrangement, attain old age

arrive at senility, die, and decay. As in animals, so in plants, there is a great diversity in the length of the duration of their lives, from the ephemeral creature whose period of existence can be measured by hours to the one who flourishes, hale and strong, for long periods. Speaking generally, however, the duration of life amongst plants may be divided into three classes—annuals, biennials, and perennials. The life processes and reactions are not nearly so obvious among plants as they are in animals, but many of them are strikingly similar in the two classes. The greatest fundamental difference between them is in their methods of obtaining nutriment.

Vacant Lectureships at Aberdeen.—At a meeting of the Central Studies and Staff and Forestry Committees of the Aberdeen and North of Scotland College of Agriculture it was decided to advertise for a lecturer in horticulture at a commencing salary of £150 per annum, rising by yearly increments to £300. It was also agreed to advertise for a lecturer in forestry in succession to Mr. William Dawson, who has been appointed Reader in Forestry at Cambridge University. The commencing salary offered for the latter post will be £350 per annum.

National Botanic Garden at the Cape.—There is a movement on foot for the founding of a National Botanic Garden for South Africa, at the Cape. The Kirstenbosch estate, which is Government property, is suggested as a suitable site. It is further urged by those who are moving in the matter that such a garden should come under the control of the Agricultural Department, rather than be attached to the South African College. There are, of course, others who urge that the directing body should be a scientific botanical staff. The difficulties do not seem beyond solution, and there can be no doubt but what such a garden would be of immense scientific and economic value to South Africa.

The Sweet Pea Trials that are being carried out at the University College Gardens, Reading, under the direction of an advisory committee, of which Sir Randolf Baker, Bart., is the president, and Mr. W. P. Wright the hon. secretary, will be inspected on Thursday next, July 10. The Advisory Committee will meet from 12 noon to 3 p.m., with an interval for lunch, and the Awards Sub-Committee will sit from 3 to 5 p.m. Guests will be admitted at 2 p.m. to the sections of the trials already dealt with by the Advisory Committee. The members of the last-named body will, with the guests, visit Messrs. Sutton and Sons' trials of sweet peas at Southcote, Reading, leaving the University College, at 3 p.m.

Viola Trials at Wisley.—The Royal Horticultural Society's Floral Committee visited the Wisley Gardens a short time since for the purpose of inspecting the viola trials which have been carried out during the past two years. As the result of the inspection the committee recommended that Awards of Merit should be made to fourteen varieties, and that twenty-four varieties should be commended for having stood well through two seasons. These awards and commendations have been confirmed by the Council of the society. The varieties receiving Awards of Merit were Royal Scot (Grieve), Agnes Kay (Kay), Sulphurea (Grieve), Purity (Forbes), Redbraes Bronze (Grieve), Bertha (Gold), Blue Duchess (Dobbie), Alexandra (Grieve), Admiral of the Blues (J. P. Robertson), Redbraes White (Grieve), Redbraes Yellow (Grieve), Virgin White (Todd), Bridal Morn and Fred Williams (Forbes). Plants of the last-named variety were sent to Wisley by Mr. John Forbes, those of Bridal Morn by Mr. Charles Turner, and those of all the other varieties were sent by Messrs. Dobbie and Co. The commended varieties were: Kitty Bell, Pencaitland, Archie Grant, Walter Welsh, Maggie Mott, Snowflake, Grievei, Mrs. Chichester, William Robb, Primrose, Arabella, Max Kolb, Ivanhoe, Countess of Kintore, James Pilling, Kingcup, Molly Pope, Virgin White, Bullion, Rotherfield Belle, Kate Blythe, Cornuta, Dawn, and Palmer's White.

Commons and Footpaths.—It is gratifying to have unquestionable evidence that the Commons and Footpaths Preservation Society are not less active in their endeavour to prevent the stopping of public footpaths and the enclosure of commons than at any previous period. At the recent annual meeting of the society Lord Eversley, the president, stated that during the past two years they had been concerned in 1,200 cases, as compared with 1,000 during the two previous years. In every part of the country the lords of the manor were continually taking small tracts of commons, and footpaths were being blocked up. During the period the society had opposed sixty Bills in Parliament, forty with regard to commons, and twenty in respect of footpaths. While these Bills asked for something like 760 acres of common, they did not succeed in getting more than a single acre, and not a single substantial footpath had been blocked. About 250 complaints of encroachments by lords of the manor had been dealt with by the society, and in almost every case they had been able to prevent the enclosure. The society had been approached by landowners to arbitrate between them and the public with regard to footpaths. Altogether they had had some 800 complaints regarding footpaths. They had advised legal proceedings in certain cases, with success on the part of the public, while, in some cases, where they had advised local authorities that they had not a good case, the local authorities had rushed into litigation and lost their cases.

Roses at Swanscombe.—Just now the cemetery at Swanscombe is aglow with roses, and well deserving a visit from those who are specially interested in these fragrant flowers. A correspondent informs us that there must be upwards of 2,000 rose plants, and that both old and new varieties of merit are represented. Many of the bushes are, he states, so large that they carry upwards of one hundred finely-developed blooms. Mr. W. Etherington, the able superintendent, may be heartily congratulated on the success he has achieved in the furtherance of rose culture in the Swanscombe district.

Trials of Irises at Wisley.—The attention of growers of irises is called to the fact that the Council of the Royal Horticultural Society have decided to hold a trial of "Bearded Flag and German Irises" at the Society's gardens at Wisley. Those wishing for their plants to be tried should send two of each in July.

AN EFFECTIVE ARRANGEMENT OF JAPANESE IRIS
In the gold medal water garden exhibited by Messrs. R. Wallace and Co. at the Holland House Show.

VARIATION AND ENVIRONMENT.

In the innumerable essays and theories which have been promulgated with regard to the underlying causes of variation, especially in plants, the predominant idea appears to be that change of environment is the great predisposing cause. That plants do assume different habits in response thereto is beyond all doubt; a lowland plant transferred to highland conditions of extra exposure must, if it survive, show the result in contracted foliage and other differences, and, probably, in the course of a few generations its seminal offspring may inherit these induced peculiarities.

There are, however, many forms of variation which differ markedly from this class, and, inasmuch as a unique branch of study in this direction exists in the shape of the innumerable natural sports of our native ferns, I think it is much to be regretted that, so far, the scientific varietal specialist has practically left this field of investigation entirely to the amateur. The writer, indeed, has never found its value recognised, or even alluded to, in the works on the subject which he has come across. Attention is largely concentrated on cultivated plants, in connection with which, of course, purely natural wild sports, and the conditions under which they have originated, are left out of the question, although it is precisely these which should be studied most.

I have stated above that, so far as ferns are concerned, the field of study is a unique one, and I say so very advisedly. No other class of wild plants has been subjected now for more than half a century to close investigation by varietal experts all over the country, and the results of research retained, not merely as herbarium specimens, but in a large majority of cases, as living plants. Some of these experts, moreover, have kept persistent and clear records of their discoveries as well, so that almost exhaustive lists are extant with descriptions and localities demonstrating the really marvellous capacity of plants to assume, in many cases, very diverse forms, departing widely from the normal ones, and, as a rule, so efficiently endowed with the power of reproduction on the same abnormal lines as to entitle them to specific rank, but for their usually sporadic and solitary nature.

In Mr. E. J. Lowe's "British Ferns," 1891, no less than 1,360 different wild finds are recorded and described, and although these doubtless embrace a number of very similar forms, the fact that even these have been found in widely separated localities establishes their value as independent "sports." To return now to the question of environment, or change of environment, as underlying the departure from the normal type, it is quite impossible for the experienced fern hunter to accept this view. The vast majority are found growing under precisely the same conditions as the innumerable normals among which they appear. One has, indeed, often to dig them up and disentangle their roots and fronds from those of their normal companions of the same species. How, in such cases, is it possible to impute the often great structural and constitutional variations to difference of environment, or any change therein? Hill sides, in quite unfrequented districts, far removed from any cultural influences, i.e., under absolutely wild and unsophisticated conditions of growth, have afforded hundreds of these discoveries, and here the environment must have been the same for ages. Yet on one and the same hillside very different forms may crop up, dwarf and congested, robust and lax, and so on, and these, when extracted and brought under culture, will not only retain their peculiarities permanently, but, as we have said, will, as a rule, yield true offspring from their spores.

All but a very few of our native species have "sported" freely, and in many directions, and in all the literature dealing with them it has so far been quite impossible to even suggest a reason for the wide departures from the normal structural types which distinguish these "finds" from their immediate neighbours. Furthermore it has happened repeatedly, and this brings us to another phase of these inscrutable phenomena, that spores taken from these purely wild plants, even from the wild fronds as found, have produced, together with the parental type, very different varieties in addition, and in several well-recorded cases repeated sowings have yielded, roughly, equal percentages of several distinct types. A decomposite tri-pinnate Polystichum (P. angulare decompositum Pearsoni), for instance, yields from its spores a percentage of densely quadripinnate plumose forms a percentage of the true parental form, and a small percentage of a most remarkable depauperate grandidens, with all the subdivisions reduced to short spikes. As the parent presents no iota of irregularity, we are confronted here with the curious fact that three different kinds of spores are produced.

In a wild Dorsetshire find of P. aculeatum (pulcherrimum) repeated sowings demonstrate that here also three different variations are inherent in its spores, since, in addition to the parental form, it produces, in one direction, reversions almost to the normal, and, in the other, about 20 per cent. of marvellously attenuate forms with almost hair-like subdivisions, endowed with the peculiar capacity of becoming longer and longer as they approach the extremity of the pinnæ, though the pinnæ of the parent taper off gradually in the normal way. The result is that sub-divisions normally of one-third of an inch attain a length of nearly three inches in the offspring, which they produce from some of the spores. Here again, since these diversely-endowed spores are, as in the previous case, all sown together, and are produced on one and the same frond, it is clear that environment or change of environment can be no factor, especially since the distinct varietal character is evidenced by the first primary frond the prothallus produces.

A very beautiful percristate form of Pteris aquilina when sown gives invariably a brood of the true parental form and another of a dense grandiceps type, practically consisting of stalked crests. This latter bears no spores, and is always raised by sowing its parent again. This fern is, in a great many collections, in various parts of the country, but the varied environment this involves makes no difference, the same two kinds of crops, always without linking forms, are sure to result from a sowing of spores from any of the various sources. These three cases of what may be termed a segregated definite varietal capacity in the spores of one and the same plant, are, of course, different to those in which spores from erratic and unsymmetrical "sports" yield varied progeny. They are in themselves more or less inconstant, and it only appears reasonable that spores produced on erratic parts of the frond should be so affected as to yield erratic progeny, as some ferns do to a remarkable extent.

In the three cases cited, however, the fronds are perfect and present no traces of the divergence which arises in the progeny of the spores they bear.

How "sports" arise, therefore, we cannot pretend to explain, but in the case of science, something is always gained by the elimination of unfounded theories, and to those who have carefully studied the phenomena presented by our native fern sports, it is, at any rate, perfectly clear that variation does occur quite independently of environment or change of environment, and that on a very large and very striking scale.

Chas. T. Druery, V.M.H., F.L.S.

THE OLEANDER.

This showy flowering shrub, which forms such a prominent feature along the Mediterranean district, and in other warm portions of the globe, is an old plant in gardens, having, according to the "Dictionary of Gardening," been introduced as long ago as 1596. It used to be more popular in gardens than it is now, perhaps, to a certain extent, owing to the fact that many fail to induce it to bloom in a satisfactory manner. The conditions under which it occurs in its South European home will give the key to its successful culture here, for it is essentially a sun-lover, and, at the same time, needs a plentiful supply of water at the roots. If grown in a shaded greenhouse the foliage will be of a healthy dark green tint, but flowers will be sought for in vain.

Of course, the protection of a greenhouse is necessary for the oleander during the winter, but, as far as my experience extends, the best way to induce it to flower is, as soon as it can be safely turned out of doors, to stand it in a sheltered sunny spot, taking care that it does not suffer from want of water at the roots. The flower spikes are terminal, and sometimes, after being very promising, they will not open properly. This is liable to happen if the plants become too dry at the roots, or if there is a long spell of wet, cold weather.

Sometimes young growths are pushed out immediately below the flower spikes, and if these shoots are allowed to grow unchecked they may starve the flower buds. On this account they are better removed.

In the cultivation of the oleander it must be borne in mind that it is naturally of a loose, willow-like habit of growth, hence it is useless to continue stopping it in order to form a dense bush. At the same time, a certain amount of stopping when young is necessary. When the pots are full of roots it is an advantage to give an occasional stimulant.

There are many varieties of Oleander (Nerium Oleander), most of them having been raised in continental nurseries. The type has single pink flowers, but one of the finest is splendens, with blossoms of a bright rose-pink, and semi-double in character. Of the white varieties, Madonna grandiflora is one of the best. There is a variety which has leaves freely marked with gold. So showy is it that a good example will vie with some of the crotons.

S. W.

Campanula pyramidalis.—The plants which are intended for flowering in the conservatory or greenhouse should either have their pots plunged in ashes or be secured to wires to prevent damage by strong winds. The former method is the best, as it also helps to keep the roots cool and moist. They must now be liberally treated in the matter of watering and feeding with stimulants, or they will lose some of their lower leaves, which very much spoils their appearance when in bloom. Shift on young seedlings, and stand the pots on a cool ash bed in a cold frame.—E. Harriss.

PENTSTEMONS:

ATTRACTIVE AND INTERESTING SPECIES.

Apart from the florist's varieties, chiefly derived from P. Hartwegi, P. Cobæa, and P. gentianoides, this large and beautiful genus contains many useful and attractive species, which are of great value in the garden. It is essentially a North American genus, the Rocky Mountains and the north-west of the continent being the home of many species, while others are found as far south as Mexico. There have probably been fifty species in cultivation in this country at various times, but as some are short-lived they are often lost to cultivation for a time until reintroduced by means of seeds from their native habitats.

In addition to the great range of colour found in the family, including nearly all shades of rich purple and violet, scarlet and rose, to white, the time of flowering of the various kinds extends from May to October. In masses they are exceedingly effective, while for the rock garden the choice kinds, like P. heterophyllus, P. glaber, P. Menziesi, and its varieties are most charming.

The cultivation of pentstemons, as a whole, presents no difficulties, as most of them are easy to manage, only a few having the unfortunate habit of failing to accommodate themselves to circumstances. Their main requirements are a deep and rich, but well-drained soil. With liberal treatment they will produce most effective and pleasing results, with an abundance of flower.

During our damp and foggy winters plants in the open are tried severely, and they often get cut back badly, especially where the soil is at all close and retentive. But usually they will break away freely in the spring. It is as well, however, to always keep a reserve stock of the more tender kinds in pots in a cold frame. Seeds of most species may be obtained readily, and they will germinate freely if fresh. With many of the species, like P. glaber and its allies, seeds produce the best results. They may also be increased by means of cuttings in July, when half-ripened shoots should be selected, and inserted in sandy soil under a hand-glass. They root readily, and good plants may be had if they are potted up and kept in a frame for the winter.

P. azureus is a dwarf plant from California, with pretty blue flowers on stems nearly a foot high. It is most suitable for the rock garden.

P. barbatus.—No garden is complete without this species, which is one of the most elegant of perennials. It is one of the taller-growing kinds, with stems from 2ft. to 3ft. high or more, bearing a profusion of rich scarlet flowers. One of the easiest of all to manage, it is easily increased by division or by seeds. There are many seedling forms of this plant, with flowers of various shades of rose, carmine, and scarlet.

P. cæruleus.—When obtained true this is a beautiful plant hailing from the Rocky Mountains of Colorado. Sub-shrubby in habit, it grows about 1ft. high, with narrow glaucous leaves and flowers of a fine blue colour. The only way to increase this species is to select a few plants and cut off all flowers, thereby inducing it to produce young shoots which may be taken off and inserted as cuttings.

P. Cobæa.—A native of Texas, this beautiful large-flowered kind is somewhat tender, and must be kept in a frame for the winter. In height, from 1ft. to 2ft., the flowers vary in colour from pale purple to white.

P. confertus.—A useful plant for the rock garden, having a dwarf spreading habit, and producing its lilac-coloured flowers in May and June. The variety cæruleo-purpureus is a good form, with bluish-purple flowers.

P. Eatoni.—Reaching a height of 3ft., this

PENTSTEMON PUBESCENS.

A hardy species with soft purplish-blue flowers and lilac lip. Exhibited by the Wargrave Hardy Plant Farm at a recent R.H.S. meeting.

handsome plant has glaucous leaves and stem, while in contrast the flowers are of a rich carmine-scarlet, produced very freely in branching panicles. It is a native of North-western America, and requires to be frequently raised from seeds.

P. gentianoides.—A sturdy growing plant, with variable coloured flowers of violet shades, and a native of Mexico. It is one of the least hardy of the family.

P. glaber.—A beautiful dwarf and free-flowering plant, rarely a foot in height. It is one of the most useful for the alpine house in pots, or for the rock garden. It comes into flower in May and continues throughout June. The flowers, varying in colour from purple-violet to blue or rose, are produced in dense thyrsoid heads. P. glaber var. roseus is a lovely form, with rose-coloured flowers.

P. Hartwegi.—The chief and most important factor in producing the valuable race of florist's penstemons, P. Hartwegi itself is a first-class border plant. It is a native of Mexico, grows about 2ft. high, and bears large scarlet flowers. Two of the most distinct varieties are albus, with creamy-white flowers, rather longer in the tube than the type; and roseus with pretty rose-coloured flowers.

P. heterophyllus.—One of the most charming plants in the genus, this is of free branching habit, growing about 1ft. high, with narrow leaves and rosy-purple flowers of a very pleasing shade. It is shrubby in habit, very compact, and makes an ideal plant for a sunny corner in the rock garden. In very sheltered, well-drained positions, it will come well through the winter, but young plants are readily raised from seeds, while cuttings strike freely in July and August.

P. humilis is a low-growing plant from the Rocky Mountains, only a few inches high, with pretty blue flowers, which turn to a rosy-purple with age. It is one of the hardiest, and should be planted in gritty soil and in a sunny, well-sheltered position.

P. Menziesi.—Shrubby, or sub-shrubby, in habit, this species and its numerous forms are amongst the most attractive of plants in May and June. The type has flowers of a rosy colour, produced in great profusion. Newberryi has flowers of a rosy-pink, while the variety Scouleri bears large, rich, blue-purple flowers in such profusion as to hide the whole plant; most effective for borders. Considered by some as a form of this species, P. Douglasi, with exceedingly large rose-coloured flowers, out of all proportion to the plant, is a very interesting kind.

P. pubescens is an old garden plant, growing about a foot and a-half high. It is of branching habit, with purplish-blue flowers, having a pale-coloured lip. For the border it is very useful, and one of the hardiest members of the genus. The illustration on the previous page represents a specimen recently exhibited by the Wargrave Hardy Plant Farm. There are several forms of this in cultivation, one, latifolius, with broader leaves and purplish-white flowers; and pygmæus, a diminutive form only a few inches high.

The above represent but a small proporton of the desirable members of this genus.

W. IRVING.

Clerodendron fallax.—If grown cool, this clerodendron forms a noble feature in the greenhouse during the summer, the large, upright panicles of flowers being, under such conditions, very richly coloured, while they also retain their beauty for a considerable time.—W. T.

Tibouchina heteromalla.—That popular greenhouse plant so well known as Lasiandra or Pleroma macrantha, is now placed in the genus Tibouchina, the specific name being changed to semi-decandra. Though an older plant, T. heteromalla is much less grown than the other, and, truth to tell, it is less showy. Blooming, however, as it does at this season, it forms a striking feature in the warm greenhouse. The flowers, borne in panicles, are violet-purple in colour, and about two inches across.—K.

OUTDOOR PEACHES AND NECTARINES.

It is useless to attempt to grow peaches and nectarines out of doors unless assiduous attention is given to their requirements, and this is most urgently necessary throughout their growing and fruiting seasons, to which these notes will chiefly refer.

Insect Enemies.

During the time the trees are in blossom, and in some situations for several weeks subsequently, they require protection from frost. It is indiscreet to run risks by slackness of attention to this, for it is easy to be caught napping, and be deceived by the weather, and in this way have a crop of fruit either much impaired or wholly destroyed. At the commencement of leaf growth, a close watch must be kept for aphis, and upon its first appearance the trees should be properly sprayed with one of the several well-known efficient insecticides, but in reality the best method to adopt, and that which is practised here, is to spray the trees in this way at intervals, commencing immediately before the blossoms expand, and without waiting for discovered attacks. Only by this means can the trees be kept perfectly clear of aphis, and their cultivators, in this respect, relieved from anxiety. On the other hand, if this pest becomes so well established as to be protected by curled leaves before attempts are made to dislodge it, there is much difficulty in clearing the trees, and the young shoots are more or less permanently crippled, the crop of fruit receives injury, and the prospects of that of the following season reduced.

Of insect pests red spider, next to aphis, is usually the most troublesome to peaches, especially in dry seasons upon trees planted upon light or porous soils. This pest will, however, be powerless to cause injury if the roots are properly supplied with moisture, and their branches have unremitted attention paid to them with the garden engine or syringe.

Blister and Mildew.

At the commencement of leaf growth the fungoid disease known as blister also frequently makes attacks, and this is certainly likely to happen in exposed bleak positions, if the weather is cold, and thus congenial to its development. Under such conditions, the attacks are likely to be severe, and cause many of the leaves to become fleshy and distorted, and quite unfit to fulfil their functions. Our trees are protected from spring frosts by canvas blinds, which are considered to lessen the evil, though they do not wholly prevent it. To pick and burn the affected leaves is essential, and as a remedy, solutions of carbonate of copper or of "Medela," used in the form of a spray immediately before the blossoms expand, and again subsequently, if needful, are found to be beneficial. As in the case with mildew some varieties are more susceptible than are others to this disease. Sulphide of potassium applied as a spray, at the rate of half an ounce to a gallon of soft water as soon as attacks appear, is a certain cure for mildew.

Disbudding.

The disbudding of shoots is a most important detail of management, necessitating skilful manipulation, and particularly in the case of young trees. It should be commenced as soon as the shoots can be manipulated by finger and thumb, followed up gradually, and completed before the shoots become woody at their base. Any superfluous growths found after this stage is reached should be carefully removed by a knife. By adopting this practice the circulation of sap is not injuriously checked nor consequently their root action. When operating in this way, the chief objects to be kept in view are the retention of sufficient of the most promising and best-placed shoots, both for the formation of properly balanced trees and for furnishing them, over their whole surface, with good fruit-bearing wood; though this, it should be remembered, cannot be obtained unless the shoots are allowed enough space for their leaves to be well exposed to the sun. Apart from affording the advantages referred to, disbudding is beneficial in improving the quality of the fruit. After the disbudding is completed the sap will be more concentrated and cause the remaining shoots to make increased progress, and thus render necessary close attention to tying and training, and to stopping their lateral growths.

Thinning Fruit.

In favourable seasons the thinning of fruit, owing to the trees usually, under these conditions, setting more than they can bring to perfection, becomes a necessity, some varieties, Bellgarde peach for example, setting more freely than do others. This operation should be commenced as soon as it can be discerned which fruits are taking a decided lead, be followed up gradually, and finished when the fruit commences to stone. The largest and best placed—in preference, those placed on the front of the strongest branches—should be reserved for the crop, the weight of which should be governed by the vigour, general constitution and the treatment the trees receive with respect to stimulants. In an ordinary way, when fruit of the finest quality is required, one peach to each square foot or one nectarine to each square of nine inches of the tree's surface, is sufficient. It is not, however, possible to closely follow a strict rule in this matter. Nevertheless, it must not be forgotten that over-cropping is a mistake that sometimes has disastrous effects upon the trees and their future productiveness. In order to obtain the highest degree of flavour and colour of the fruits, they should as soon as their stoning period is over and the second swelling is about to commence, be exposed to the sun and air. When they begin to ripen they must be protected from birds, and during the gathering season be carefully attended to in this respect, at least once daily, so that the dropping of the fruit is, as far as possible, prevented.

Manurial Assistance.

Properly diluted liquid manures from the farmyard answer well in assisting the trees to bring their crop up to perfection. Bone-meal and kindred artificial compounds, of which there are several valuable ones in the market, are also most suitable fertilisers. Assistance of this description is most profitably given during the early stages of the fruits' development. In dry seasons, upon light soils particularly, mulchings of stable litter are beneficial, and waterings, either with clear water or manurial liquids, as required, should at all seasons receive timely and intelligent attention. I write intelligent in this instance, because I have known a given quantity of water to be poured upon borders for the benefit of the trees, and a great portion of it to run off the surface into drains, the operator appearing to think he had achieved his object.

THOS. COOMBER.

The Hendre Gardens.

THE OLD ENGLISH GARDEN IN BATTERSEA PARK.

For a long period Battersea Park has occupied a leading position among the open spaces under the control of the London County Council, and it is evident that those who are responsible for its management at the present time fully appreciate the importance of increasing its attractions and interest as opportunities offer. The latest addition to the amenities of the park is an old English garden, wherein visitors may enjoy hardy and other flowers under much the same conditions as those which obtained in the days of their forefathers. It was a happy idea to provide so distinct a feature, and those with whom it originated have the satisfaction of knowing that what has been done has met with the hearty approval of the residents of Battersea. This much may be assumed, for we have heard nothing but praise of the garden, and when we were there the other morning it was so crowded that the photographer found it anything but an easy task to use his camera without showing in the resulting picture paths so crowded with visitors as to render obscure many of the objects in the beds and borders.

This new garden has been formed on the west side of the park, and in the enclosure known as the Botanic Garden, an area of which a portion has been devoted to supplying the botanical classes in the Metropolitan schools with specimens for practical study. The enclosure is within a very short distance of the western entrance, and within a few yards of the southern side of the river drive. The enclosure has an area of about two acres, and is surrounded by trees and shrubs, the former being perhaps a trifle too tall, but the belt of arborescent and ligneous vegetation, effectively screens the garden from those who are not within its boundaries, and adds much to its enjoyment.

The garden has for its centre a pool of water, with fountain, and this has around it at intervals specimens, in pots, of hydrangeas, apaganthus, and other suitable plants. At either end are large beds chiefly planted with dwarf roses, and at the present time gay with annuals, the dwarfer candytufts being the most prominent. Flanking the water pool, and its accompanying beds, are borders about twelve feet in width, and intersected in the middle by a cross walk. These borders are chiefly filled with hardy perennials, comprising delphiniums, erigerons, pæonies, Michaelmas daisies, herbaceous phloxes, and other of the finer subjects. There are also excellent groups of certain of the biennials, such, for example, as Canterbury bells and sweet williams. Tender plants are not largely grown, but those which have been given a position in the garden have been selected with much judgment. Especially noteworthy among the tender subjects are the breadths of finely-flowered verbenas.

On the western side is a pergola which extends the whole length, and terminates at either end with a small temple fitted with seats. On the three other sides there is a flat arch of wood at each of the entrances. The pergola and arches are made of square oak, and remarkable, not less for elegance of design than for durability of material, and when clothed with roses and other plants of scandent habit they will add much to the attractions of the garden. Mr. Rogers, the able superintendent of Battersea, may be heartily congratulated on the success he has achieved in the creation of this new and interesting feature.

OLD ENGLISH GARDEN, BATTERSEA PARK.
Central view looking west, with the pergola.

GARDENERS AND THEIR HOLIDAYS.

It would seem that in these days, when every trade or profession takes an annual holiday, the gardener alone is in a general way excepted. In some instances employers are more generous in this respect than in others, as they not only grant their gardeners leave of absence, as it were, but, knowing the circumstances in which they are placed, they render them substantial monetary aid. There are, however, some who entirely object to their gardeners having a holiday at all, and others who tell their gardeners they cannot make it an annual affair. Now the gardener is placed in peculiar circumstances, and those who have had the control of a large establishment know full well that the duties in such places are very exacting, and one is glad at times to get away from the place for a little relaxation, as it were, from the excessive toil. Not only has the gardener to look after those under his charge, he has in many instances accounts to keep, and much clerical work in addition. No wonder then that we see so many poor fellows go wrong. How many, I wonder, have taken this into consideration; but when we look into the matter we find that almost daily there is some one of the craft falling out of the ranks through nervous breakdown, or going out of his mind. Now were there a system whereby the gardener could take a holiday and visit a friend in a different part of the country, he would no doubt go back to his labours much refreshed both in body and mind. It is not always well to be a drudge; both brain and limb need some rest.

If gardeners who are able to take a holiday would visit some gardens where things are well grown, they would be astonished.

H. C. Prinsep.

AMONG THE ALPINE FLOWERS.

"Golden butterflies gleam in the sun,
Laugh at the flowers, and kiss each one;
And great bees come, with their sleepy tune,
To sip their honey and circle round;
And the flowers are lulled by that drowsy sound,
And fall asleep in the heart of the noon."

Philip Bourke Marston.

Such is a part of the picture the poet draws of the garden in the high tide of summer, and as we look upon our flowers in the mid-day of the bright hours we seem to enter into the spirit of his words. In the full sunlight many of the flowers appear drowsy amid all their brightness, and look "asleep in the heart of the noon." Yet the alpines are inexpressibly beautiful, even though the shrinking, more modest beauties of the earlier months have gone to their rest. Instead of the more unassuming flowers, which consort so well with the softer charms of the spring months, we have the more opulent charms of their later sisters. Helianthemums open with the morning in all their glory, and, should the weather be bright, fall asleep on many days by the time the sun reaches the meridian; glowing or delicately-coloured pinks open their lovely eyes to the wooing of the sun of July; campanulas give their lovely cups or bells of blue or white; cranesbills and heronsbills in plenty brighten the rock garden; veronicas afford us their welcome flowers of blue or white; soapworts are in sheets of bright colour; a few silver saxifrages yet send up their lovely plumes; gay poppies flaunt in the winds, and a host of other flowers proclaim their enjoyment of the time with all its wealth of beauty. From among them we must select a few for notice.

Spiræa decumbens.

As a rock or wall garden shrub of trailing habit few can surpass Spiræa decumbens in combined beauty and grace, and a handsome plant, seen the other day, brought out this fact in a most striking way. Planted in an almost perpendicular retaining wall, it was about three feet through, and was exquisite, with its mass of small and beautiful leaves, and the many, many flowers so closely, yet gracefully, arranged in their sprays. The colour of these is a soft white, which harmonises well with the delicate greenery of the foliage. One finds this an easy plant on rockwork also, and, as it will thrive in loam, leaf-soil, or peat and sand, it can well be accommodated with other flowers of the rock garden. It is raised from cuttings, and will thrive in almost any position. We have grown it best in a south-east exposure, but other plants of equal beauty have been seen in other aspects in different gardens.

Dianthus alpinus.

Except for a certain hardness of colouring, Dianthus alpinus is one of the finest of a most delightful class of rock plants, the alpine pinks. It is not a success everywhere, and we find gardens in which it has been attempted year after year with but little success. In others, again, it thrives admirably, and covers its pleasing leaves with its magnificent deep rose flowers, which are often so closely set together that not a vestige of the foliage can be seen when one looks on the plant from above. In some places our arch-enemies, the slugs, destroy the small plants, but where they are kept in check, the plants generally increase in size and in beauty. D. alpinus is evidently one of those which have a penchant for lime, though this is not essential, and it is a pleasure to see it in such a soil, flowering well, and even sowing itself and colonising the places round about by its healthy, vigorous, self-sown progeny. Where it is happy it is the freest, perhaps, of alpine pinks, but for my part, I have a preference for another gem in point of colour. This is Dianthus neglectus, of which I may speak again.

The Snowdon Thyme.

Most of us "know a bank where the wild thyme blows," and many of us grow this fragrant plant in our gardens in some form or other. For a while the so-called "crimson" variety of Thymus serpyllum was written largely in the list of coveted plants, and its white sister variety found, and still finds, favour with many. Here there is a very beautiful variety, which came to me as having been collected on the Welsh Snowdon. At present it is very beautiful, though not a large plant, with its soft pink flowers close set on the foliage they hide so prettily at its flowering season, but which is too neat to be concealed for ever from view.

Helichrysum rupestre.

Just a note of warning regarding this "everlasting" rock plant. It is too rank for many places, and is not good enough for any but very large collections. Its height depends on the soil, but it ought always to be in very poor material. A dry, limy moraine, or a bank of rubble, poor soil, and limestone will suit it, and there it will pass among many other plants, though it is impossible to admire it greatly. It has silvery, woolly foliage, and in poor soil heads of "everlasting" yellow flowers on stems some nine inches high.

S. Arnott.

ERANTHEMUM TUBERCULATUM.

Some well-flowered examples of this pretty and distinct species of eranthemum were recently noted in flower in the intermediate portion of the T range at Kew. It differs markedly from the more commonly-grown species of eranthemum, such as E. pulchellum, whose flowers are collected in a terminal cone-like head, and also from those which are of upright growth and sparely branched. Eranthemum tuberculatum forms quite a freely-branched, compact little bush, whose slender branches are curiously warted, hence the specific name of tuberculatum.

The leaves are small and ovate in shape. The flowers, which are scattered over the shoots, instead of being collected in one head or cluster, are pure white, about one and a-half inches across, and somewhat suggestive of the flowers of Bouvardia Humboldti corymbiflora. The small warts on the stems are very suggestive of scale insects, and as these pests are very fond of this eranthemum, they are often very numerous before their presence is suspected.

A native of New Caledonia, Eranthemum tuberculatum has been long grown in gardens, but, as a rule, to a very limited extent. Where decorative flowering plants have to be provided all the year round it is decidedly worthy of attention. Cuttings root very readily, even if good-sized shoots are taken, provided they are put in a close propagating case with a gentle bottom heat. As with most eranthemums, this species is more satisfactory when treated as an intermediate house plant than in the stove.

K.

BORDER CARNATIONS IN APRIL.

It is not easy to grow winter-flowering carnations satisfactorily unless they are grown in a house by themselves, and, to some eyes, one bloom of a border carnation is worth many of the other kind, even when the latter are at their best. My gardener (Mr. G. Cousins), therefore suggested this spring that he should try what he could do with some border plants, potting them up in February, and growing them under glass, at first in a vinery, and later in a cool greenhouse. I have been much pleased with the result, for the foliage of the plants kept clean, the flowers came of good colour, and sufficient size, while the calyces burst very little, if at all, more than is the case with the plants flowering in July.

The plants (a little more than 200) were from layers taken in the usual way last August, and were placed in their flowering pots (two or three plants in 32-sized pots), at, and soon after, the middle of February. Top air was given them always in each house, and the temperature was generally 55 to 60 degrees during the daytime. Sir Walter flowered by the end of March, and we had flowers throughout April. On May 5 there were forty blooms in the house, and not all the plants had then flowered.

No top-dressing was given; the soil was that used for the July flowers. Tantalus was particularly good, better than he was with us last July. Ronnie Buchanan, Pasquin, Linkman, and Burgomaster also threw plenty of good blooms; Father O'Flynn was of fair size, but burst more than others; Grand Dame did very well; Mrs Walter Herriott fairly well; Sir Galahad well; Duchess of Wellington well, except that the colour was not as "blue" as it should be; Mrs. Griffith Jones was excellent in colour, but the blooms varied in quality; Cyclops did well.

The experiment seems to me one that lovers of border carnations may well try, for many beautiful blooms can be had in this way at a very small expenditure of space and labour. Now that carnation time is almost with us, this little record may be of service to lovers of the flower.

Winchester College. J. A. Fort.

HIBBERTIA DENTATA.

As a climbing plant for the greenhouse this scarcely has its merits sufficiently recognised, as from a foliage point of view it is very ornamental all the year round. It makes headway by twining its flexible shoots around any support, the bark of the said shoots being when young bright red, a colour with which the young leaves are also deeply suffused. The mature leaves are more of a bronzy green, but in colour there is a certain variation, according to the amount of exposure the plant gets. The flowers, borne from autumn to spring, are rich golden-yellow, about three inches in diameter, and rather suggestive of some of the hypericums. Cuttings strike root very readily, while seeds are sometimes ripened from which young plants can be easily raised.

W.

BUDDING ROSES.

The months of July and August are undoubtedly the most suitable for the work of budding roses; and, although information is frequently given on the subject, it is such an important detail in the culture and increase of our national flower as to call for a few notes at this seasonable time.

I do not propose to treat upon the actual method of budding, but to give a few hints that may be of service and a reminder to those about to bud their various rose stocks. None of these should be cut or unduly disturbed in any way previous to budding, as this upsets the flow of sap for several days. Therefore any cutting back that may seem necessary for the easier manipulation should be done a fortnight or so previously. For the same reason I would not disturb or cut any wood away after the bud has been inserted.

It will be well to draw especial attention to the great advantage of more careful selection when taking the buds than is usually given. Not only should we take buds from a perfectly healthy and typical plant of each variety, but they should be taken from the best shoots. I am convinced there is more in this method of selecting buds than many apparently think. The rosebud and stock should be in a perfect condition for the operation, otherwise I would prefer waiting until such occurs, which will not be long if we devote a little thought and work towards that end. The quicker the flow of sap that occurs at a suitable time the greater the chance of success.

Oftentimes I meet with cases where the bud has not been tied in firmly enough. It should be as firm as possible, without constriction, and due care taken to ease the tie a little after the bud is set, and as the stock swells through its natural growth. Any lengthy exposure that will dry up the sap left upon the inner bark of the rosebud, or that between the lifted bark and the exposed wood of the stock, must be most carefully avoided. A dry and dull day is an ideal time for budding, and I have been struck with the higher percentage of failures when working through a drizzly wet day, the water not conducing to so good a result as when sap-moisture alone is present.

To have to force the bark up in the case of stocks, or to find any difficulty in removing the small portion of rose wood from below the eye or bud to be worked, is plain proof things are not in an ideal condition for the operation. Water the stocks well, and let the buds remain upon the shoot in water for a time under such circumstances.

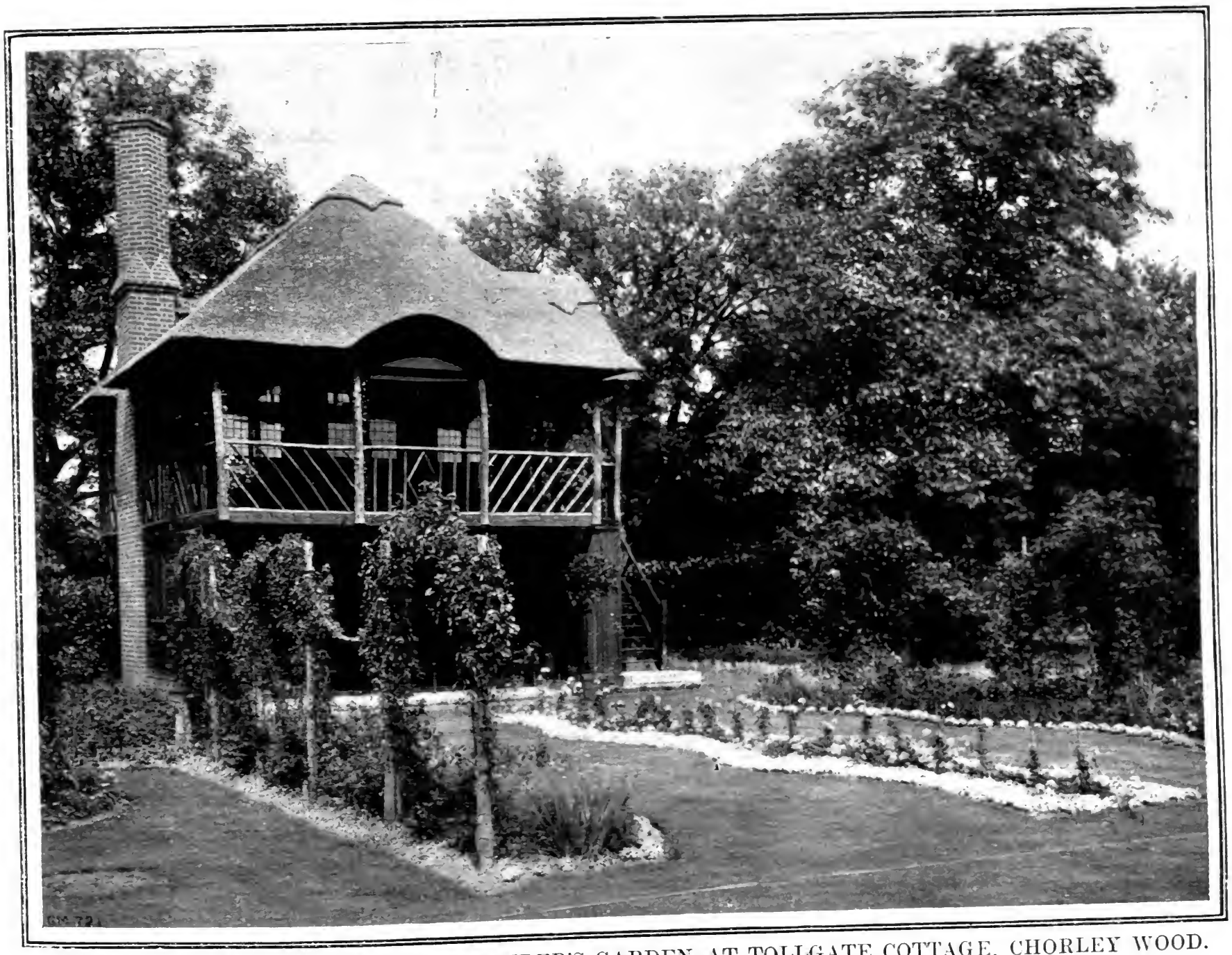
It is almost useless, too, to put in any rose bud that does not carry a sound and prominent seat, or heel, after the small portion of wood has been removed from it, as it is most vital that this seat should rest firmly upon the exposed wood of the stock. Make the lengthwise cut before lifting the bark of the stock, as near to the crown of roots in the case of dwarfs, and as close as possible to the main stem of standards, so that you can slip the bud down well, and thus avoid space that may eventually develop a number of suckers from the stocks. Cut through the bark only, never into the wood.

If the dwarf stocks were planted rather shallow, and some soil drawn up around them, as suggested in former notes, the bark will be found in a softer and more tractable condition for lifting than if the whole of the stems had been left exposed.

ROSARIAN.

TEA HOUSES IN THE GARDEN.

One of the great revivals of recent years is the love of open-air life, and particularly of a desire to live as much as possible in the garden. This revival has led to the construction of garden houses of a very different character to the old-fashioned summer house, and the aim has been to secure shelter from wind and rain, and a little shade from occasional hot sunshine, without shutting out light and air and excluding the beauty of the garden. In very many instances such houses are not far from the home, and placed in a position commanding special views of the garden or of the surrounding country. In such houses it is a common practice to have breakfast, lunch, and tea from late spring until the "chilly autumn hours" arrive—in short, the idea is to live as much as possible out of doors.



TEA HOUSE IN SIR GEORGE ALEXANDER'S GARDEN AT TOLLGATE COTTAGE, CHORLEY WOOD.

Garden houses of this character are varied in design and size, and when far from the dwelling they are usually more substantially built than when close at home. Numerous examples of useful and beautiful garden houses—and, happily, usefulness and beauty may be combined readily—have been illustrated in these pages; and in the present issue Sir George Alexander's tea-house at Tollgate Cottage, Chorley Wood, is depicted. This is a two-storied design, the lower portion wide open, the upper with a broad balcony and arrangements for providing just as much or as little shelter as the occasion warrants. Set among trees at the head of the rose garden, this tea-house is in keeping with its surroundings, and a distinct ornament to the garden, as well as a desirable place in which to have tea.

SUMMER COLOUR IN THE GARDEN.

There should be a blaze of glorious eye-satisfying rich hues in the garden from June to November, varied by those masses of white and grey, bronze and silver-green, that can be supplied partly by foliage, and are necessary to rest the eye and give value to the brightness. Probably colour is more wasted in English than in continental pleasure-grounds, and more in private pleasaunces than in public parks. There is no reason why the smallest strip garden behind a villa, or the humblest roadside plot before a cottage, should not be planted with a view to colour. Certain it is that only when professional and amateur gardeners are awake to the necessity of caring for plants and flowers primarily as colour producers that the whole effect of their labours are most noticed, for the finest isolated specimen plants do not give the pleasure that can be reaped from a full collection of less perfectly developed ones. This is no plea for overcrowding, since flowers will not show their finest hues unless well cultivated, but it may serve as a suggestion that a few bouquets of exhibition blooms are less worth working for than a garden display that will be the talk of a neighbourhood.

As though adorned to help all men equally the least costly flowers, on the whole are most appreciated, at least among outdoor growers. The pelargonium is generally employed, and cannot be called expensive, yet a more vivid red still can be gained by sowing field-like spaces of the Tulip poppy, a hardy annual, eighteen inches high, that springs up and flowers within two months. Then what a magnificent, slightly deeper scarlet, comes from serried ranks of the double Opium poppy. The zonal pelargonium, by the by, is one of our most wasted plants. Dotted over a bed among other colours, it loses all its distinctive worth, but congregated closely for a bank covering, both on sides and summit, it will create a summer feature that will live long in memory. The deep rose-pink pelargonium, the common gold calceolaria, whose hue exactly rivals gorse, are two other beauties for similar employment.

In an old-fashioned garden last year, where long paved walks led between wide borders, two of the latter, opposite each other, were filled entirely with orange and with lemon African marigolds respectively. Under the azure sky of July and August, hovered over from dawn to dark by myriad bees and butterflies, these displays of a noble foreign flower gave delight that no mingled carpet-bedders, no variety of pale fuchsias and marguerites, could have conferred. For as far as the eye could reach down the walk were the side masses of orange and of lemon, the great buds nodding, the huge double balls clustering, the elegant foliage spreading, the whole a luxuriance of tropical splendour.

Dahlias and hollyhocks are flowers from the lavish planting of which generous colour effects can be gained, especially as the best dahlias now throw many more blooms, and higher above the plants, than did the older kinds; yet the herbaceous phlox stands, perhaps, supreme as an example of the floriferous hardy subject of an infinite choice of tints. Phlox clumps will blossom grandly the same year if not planted before June, so long as plenty of old manure is put where the pots can soon strike down to it, and if water is copiously given when rain does not supply enough. Phloxes of deep shades are far preferable to those in which a second hue appears. Etna is a perfect dazzling coral-red, Flambeau, a distinct orange-scarlet, Lady of the Lake, a charming salmon-pink. It must not be imagined, however, that only the warm colours are entitled to high praise for garden splendour; the phlox Iris, of blue-violet, like violet China asters or ten-week stocks, will make an extraordinary show under a sunny sky, one that violas can repeat on a lower level. The pale and deep blue asters and stocks, too, only require to be present in sufficient quantity to be remarkable.

An illustration of a plant capable of attracting attention by the rarity of its hue is Gilia coronopifolia, a genuine cerise flower, produced in branching spikes. Calliopsis nigra speciosa, terra cotta-crimson, is exceptionally rich-looking; the brown calceolaria has its merits; so also has Antirrhinum carmineum, a magenta-carmine, and a variety named Ruby, an original shade of old rose that comes true from seed.

The pelargonium experiments made last year went to prove that, when pelargoniums are desired more for bloom than foliage, they should be planted so closely that stem and foliage growth is checked, as in pot culture, the yield of the trusses being then doubled. Nasturtiums remain the chief colour bedders for the cottage garden, though equally suited to the adornment of beds on a wide-spreading lawn, and the miniature, or liliput, strain gives an even finer spread of brilliance than do the older Tom Thumb varieties. M. H.

SEASONABLE NOTES ON CHRYSANTHEMUMS.

Owing to the introduction of the beautiful early-flowering varieties during the past ten years, the season of chrysanthemums has been considerably prolonged. The beauty of the flowers, their usefulness, both in the open borders and the supply of cut flowers for indoor decoration, combined with their dwarf, compact habit, have commended them to cultivators, and they are now highly popular. There was not much diversity of colour in the older border varieties; some of the best of them flowered very late in the season, others were very tall, and one often saw them tied up like so many sheaves of corn in the beds.

In these days less staking is needed, but it is done in a very neat manner, so as not to spoil the character of the variety dealt with.

Timely Staking.

This is most desirable; if growths are allowed to fall apart, or topple over to one side, and so remain for a week, or even a couple of days, much difficulty will be experienced in getting them back to their original position; in fact, this can seldom be done.

After flower buds form the stems quickly harden, so that it is not necessary to have the stakes used higher, when fixed in the ground, than the topmost main leaves. About nine inches of flower stem and main stem will appear above the top of the stakes, and while sufficient support will be given there will not be any unsightly display of sticks.

Watering and Feeding.

So far this season there has not been any long spell of very hot weather. When such a time comes, and the plants are growing in a poor soil, they become stunted, and flower prematurely. The first crown buds develop in an ill manner, the florets are too short, the colours poor, and the flowering season all too brief.

There are other reasons why some batches of border plants are, in like manner, unsatisfactory, but there should not be any deficiency of water. Neither should liquid manure be very sparingly used. With the aid of surface mulching, watering, and judicious feeding, the plants will make a satisfactory growth, and produce an abundance of highly-developed flowers. Surface driblets of liquid manure are of but little use, and, as a rule, once every week the soil should be thoroughly soaked.

Earwigs.

Just at the time when the first crown buds develop the young earwigs are becoming very numerous, and infest the plants. They are more troublesome where the soil is allowed to become dry on the surface immediately round the stems. Less damage is done when the soil is maintained in a moist condition, as the pests cannot then find a comfortable lodgment. Hollow bean stalks, pots with moss in them, old pieces of boards placed together on the ground, and similar old-fashioned means of trapping may be carried out. I have, however, found that earwigs lodge a good deal in the crown blooms, which they eat, usually leaving the younger flowers untouched. By closely examining these early blooms morning and evening many earwigs will be found, and can then be destroyed. It is also a good plan to place a few dahlia blooms that are beginning to fade between the stems, about six inches from the ground. The earwigs lodge in the blooms, and may be shaken out and destroyed.

Feeding and Top-dressing.

Plants that are grown for exhibition must be assisted with rich top-dressings and other food as soon as the pots are well filled with roots. However good the compost may be, it is not in great bulk in each pot, and when the roots are plentiful they soon exhaust the nutriment in it. Suitable stimulants in weak doses should be given in due time, as a week or ten days' delay in their application will result in a certain loss to the cultivator.

Many growers give soot-water first. This is a good stimulant when the soot is not too fresh, but if it is fresh, and the liquid beyond a medium strength, the roots will be destroyed, and many leaves on the lower part of the stem will suffer. I prefer to give supplies of very weak liquid manure for a week or so, applying them alternately with clear water, before using any soot-water. It being necessary to water the plants at least twice each day in fine weather at this season, few days will pass without some stimulant being given. Later on, of course, the strongest-growing varieties will need stimulants every time water is given.

Some artificial fertilisers, either in dry or liquid state, must be applied directly the plants are becoming potbound. These concentrated manures must be applied according to the directions given with them, using rather less where other home-made manures are also applied.

Geo. Garner.

PYRETHRUMS.

The Compositæ order is generally recognised in gardens for its beauty or utility, and nowhere are these qualities more charmingly combined than in the garden forms of pyrethrum. As a market flower, the sale of pyrethrums each season attains enormous proportions, and they appeal first to the grower and then the public, and are of special value in garden decoration. Pyrethrums are easy to cultivate in any well-tilled soil, but prefer one of medium texture to those that are inclined to be heavy and therefore wet; the latter, however, if drained and well broken up, incorporating some half-rotted manure in the process, will generally give good results, while light soils should be solidified by heavier material and well-rotted manure.

Pyrethrums are best planted in spring, but where it is necessary to lift and divide the crowns this may safely be undertaken after the flowers fade, choosing, if possible, showery weather for the work; on a small scale, artificial watering may be practised with success. Pyrethrums develop an enormous quantity of fine fibrous roots, and, as a general rule, they resent disturbance, and while only a moderate display can be looked for the first season after planting, in the second and subsequent years the display is prodigal in the extreme. As decorative subjects in the garden they exhibit the highest lasting qualities, whether as cut flowers or allowed to fade naturally on the plants. The colours are bright and pure, and exhibit considerable variety.

Pyrethrums have either single or double flowers; in the latter case the blooms are mainly self-coloured, while in the singles the ray florets are usually very distinct from the normal yellow of the disc.

A dozen good double sorts include: Queen Mary, with bright satin, rose-pink flowers; Mont Blanc, pure white, early; Lord Rosebery, bright crimson scarlet; Captain Nares, purple-crimson; Empress Queen, blush-pink, extra good form; Pericles, yellow, outer petals tinted peach; Delicatissima, rosy-lilac, centre orange; Le Dante, combination of rose and orange; Paul Journer, blush, deepening to rose; Regale, large, bright reddish-crimson; Uzziet, striking combination of orange-bronze; and La Belle Blonde, large and beautiful white.

Singles.—Agnes Mary Kelway, bright rose-pink; Albert Victor, crimson-scarlet; Carmen Sylva, blush-pink; Clemence, crimson; Elsie Gertrude, pale flesh; Esmeralda, cherry-red and white; Jubilee, scarlet-crimson; Mrs. W. Kelway, flesh-pink; Pink Pearl, extra good pink; Princess Marie, white; Vivid, bright amaranth; and Warrior, carmine-purple.

THOMAS SMITH.

Coombe Court Gardens.

ANCHUSAS AT KEW.

Prominent among the many features of interest in the Royal Gardens, Kew, at the present time is that formed by the glorious masses of the Dropmore variety of the Italian Alkanet (Anchusa italica), which are proving veritable surprises to not a few of the many visitors. This fine form, which some years since originated in the gardens of Dropmore, long famous for its coniferous trees, is one of the finest of all the hardy perennials bearing blue flowers, and should therefore be given prominent positions in the mixed border, if the space will not admit of it being grown in bold masses, as at Kew, on the lawn or by the waterside. Given a favourable position and a deeply-cultivated soil, the plants will attain a height ranging from 4ft. to 6ft., and produce side branches so freely as to form huge pyramids, densely furnished with flowers of the most brilliant blue.

For several years past the cultivation of this distinct and beautiful alkanet has been steadily increasing at Kew, and this year it is so freely represented as to add immensely to the attractions of the gardens. It is grown both in large beds, and in bold, irregular masses on the banks of the lake that flanks the southern side of the Syon Vista. There is no occasion to institute comparisons between the two methods of arrangement. Both are good; and, while the formal beds are the best for breadths of lawn, the irregular groups are most in keeping with the conditions that obtain on the margin of a lake that is free from formality. We illustrate herewith the exceptionally fine bed on the lawn, not far distant from the northern end of the T-range. The bed has, perhaps, a larger area than would be advisable in the majority of private gardens, but the modification of the size would be a very simple matter, and it may well be regarded as a model of what such a bed should be. The plants are about 4ft. in height, and remarkable for their uniformity, and the profusion of the large, brilliant blue flowers.

Those of our readers who are specially interested in hardy flowers should, if they have the opportunity of doing so, visit Kew during the next few days. Readers who are desirous of obtaining the fullest information on the cultural requirements of this handsome anchusa will do well to turn to the highly interesting article on its culture from the pen of Mr. Wyndham Fitzherbert, which appears in our issue of April 20, 1912.

A GLORIOUS BED OF ANCHUSA ITALICA DROPMORE VARIETY, AT KEW.

Blandfordia Cunninghami.—It was pleasing to see a good specimen of this Australian liliaceous plant at the Horticultural Hall on June 17, when an Award of Merit was given it. These Blandfordias are much rarer in gardens than was at one time the case; still, they are well worth attention, their drooping bell-shaped flowers of a waxy texture being so beautiful Though the specimen shown was in general features, characteristic of B. Cunninghami, the exterior of the flowers was less richly coloured than I have before seen them.—W.

HOLLAND HOUSE FLOWER SHOW.

The Royal Horticultural Society's summer show at Holland House on Tuesday, Wednesday, and Thursday, July 1, 2, and 3, was a great success horticulturally, as the range of subjects was extremely wide, cultivation of the highest order was evident on every hand, and the standard of arrangement was higher than usual. The Rev. W. Wilks, Mr. S. T. Wright, Mr. H. B. May, Mr. Reader, and Mr. Gaskell deserve a word of praise for the smartness with which the tents were cleared, judging commenced, and the whole place tidied up ready for the visitors.

The weather was overclouded in the early morning of the opening day, but the rain kept off, and the light breeze was appreciated alike by visitors and exhibitors.

ORCHIDS.

Messrs. Charlesworth and Co., Haywards Heath, put up a glorious group of orchids, quite one of their best efforts. The central mass of Lælio-cattleya Canhamiana and L.-c. Fascinator was noble, while at each end the grace and colouring of the odontoglossums whole arrangement was light, and every plant stood clear of its neighbour. Disa grandiflora, Cattleya Mossiæ Wagneri, Odontoglossum Williamsianum, Miltonia vexillaria Queen Alexandra—a lovely thing, and the pretty Odontioda Lambeauianum, with golden markings in the bright red. Mr. S. W. Flory, Twickenham, presented a rather flattish arangement of Cattleya Mossiæ, miltonias, odontoglossums, and a few pans of the dainty golden-veined Ancectochilus. Another small group, chiefly of odontoglossums and odiontiodas, was from

LÆLIO-CATTLEYA GOTTAIANA THE PRESIDENT.

A handsome form of this fine hybrid; the colouring rose-mauve and ruby-purple. Exhibited by Messrs. Charlesworth and Co. at the Holland House Show.

Orchids were good, roses were present in great force, formal and rock gardens were again a great feature, and evidenced a large expenditure of skill and money. Greenhouse plants were also well displayed, and carnations were very fine. Sweet peas were grand, indeed remarkably so for the season. Vegetables were splendid, though not overabundant, and fruits were represented by pot trees, superb pineapples, and tempting strawberries.

Out of doors the newer Chinese trees and shrubs, and formal gardens, added to the size and interest of the show. One tent was filled with horticultural sundries, and there were seats, tents, and other garden accessories in the open, but the way in which some of these exhibits were arranged and decorated reminded one of a local fair ground rather than the summer show of a dignified Royal society.

and odontiodas were very noticeable. A few outstanding plants were Lælio-cattleya Gottaiana The President, rosy-mauve and ruby-purple; Dendrobium Dearei, Odontoglossum Episcasta, O. President Poincaré (very fine), Grammatophyllum Ellisi, with big spikes of green and brown flowers; a finely-branched spike of Odontioda Cooksoniæ, O. Brewi (O. Charlesworthi and Odontoglossum Harryana), with deep red-brown flowers; the handsome Miltonia Charlesworthi, Cattleya Mossiæ Olympia, and the fine old Peristeria alata.

Messrs. Mansell and Hatcher, Rawdon, Leeds, put up a famous group, and fine plants of Cattleya gigas filled up the centre, flanked by recessed groups of Phalænopsis Rimestadiana over Renanthera Imschootiana. At the ends L.-c. Canhamiana, L.-c. Aphrodite, and Cattleya Mendeli were piled up lightly with ferns and white odontoglossums to form splendid corner mounds. The

Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common.

Messrs. Stuart Low and Co., Enfield, had a fairly large exhibit of orchids, and their central feature was a high stand of Renanthera Imschootiana and Phalænopsis Rimestadiana, the crimson and white colouring combining well. Stanhopea tigrina and Acineta densa, with their drooping spikes, were also very interesting in this display. Cattleyas and lælio-cattleyas were very much in evidence, and there were good masses of Cypripedium callosum Sanderæ, Dendrobium Dalhouseanum, Epidendrum vitellinum majus, and Oncidium crispum. Cirrhopetalum robustum, with its green and yellow flowers, was a quaint species on view.

A large and particularly charming group of orchids from Messrs. Sander and Sons, St. Albans, commanded attention by reason of its superb central feature, composed of

fine plants of Phalænopsis Rimestadiana carrying about thirty glorious spikes of white flowers, hanging over a group of Miltonia vexillaria, in which M. v. Chelseaensis, M. v. Invincible, and M. Sanderæ were notably fine things. This combination of phalænopsis and miltonias was greatly admired, and very much commented upon. Cattleya gigas Sanderiana, grouped in mounds at either end, were grand, and in the recesses were almost innumerable odontiodas, oncidiums, cypripediums, Dendrobium Dearei, Acineta chrysantha, and a number of beautiful hybrid odontoglossums. An altogether fine display. Mr. Edward V. Low, Vale Bridge, Haywards Heath, had a charming group of orchids squeezed between hardy flowers and carnations. Cattleya Mendeli Lambeauianum was his leading feature, and this is white, with pink-tipped lip. Nanodes Medusæ and Oncidium macranthum were good in this contribution.

The finest private contribution of orchids was set up by Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate. This was a large and elegant, as well as a very bright and interesting exhibit, the plants being pleasingly arranged over ferns, asparagus, and moss. In the centre a number of Lælio-cattleya Phœbe lent their bright orange-gold colouring, blending with the purple of L.-c. Canhamiana and the white of Phalænopsis Rimestadiana. To right and left elegant spikes of Odontioda Bradshawiæ, Oncidium Papilio, and Odontoglossum Lady Roxburgh rose above Cattleya Mossiæ, C. Mendeli, miltonias, Lissochilus speciosus, Masdevallia Harryana, Cypripedium superbiens, C. callosum Sanderæ, and many other rare and beautiful kinds. Surrounded by some fine specimens of the useful Polypodium Mandaianum Mr. W. A. Manda, St. Albans, showed a few plants of Cattleya Mossiæ and C. gigas.

CARNATIONS.

Border carnations that appealed to the fanciers were shown in good form by Mr. Jas. Douglas, Great Bookham, who had several dozen vases of fine flowers; first-rate varieties were Renown, Mrs. Robert Gordon, a lovely pink shade; Hercules, crimson; Mr. Robert Morton, salmon; Greyhound, heliotrope; Mrs. Henwood, white; ; and Bookham White, the latter a superb variety. Mr. C. Engelmann, Saffron Walden, displayed perpetual carnations, grandly setting up tall stands containing scores of blooms of Carola, Sunstar, Harlequin, Lady Northcliff, Pioneer, Enchantress, May Day, and Triumph, with lower vases underneath of Mikado, Winsor, Lucy, Mrs. C. W. Ward, Carola, and My Rose.

A very beautiful and artistically-arranged group of perpetual carnations came from Mr. Bertie E. Bell, Guernsey, who put up fine flowers in baskets and vases of varying size, and disposed them skilfully. His leading varieties were Carola, Winsor, Rose Doré, Beacon, very bright; White Enchantress, Mrs. C. W. Ward, splendid; Britannia, Coronation, and Dorothy Gordon. Some fine flowers came from Mr. H. Burnett, Guernsey, but he had not such a large display as usual, presenting grand vases of Marmion, Mrs. C. F. Raphael, Calypso, Rosette, White Wonder, Baroness de Brienen, and the yellow and pink Mandarin.

Under a canopy of muslin and smilax Mr. G. Hillman, gardener to W. M. Gott, Esq., Trevython, Par Station, Cornwall, staged a large collection of Malmaison carnations; the flowers were of fair quality, and looked well disposed in vases over maidenhair ferns. Leading varieties were Princess of Wales, Mrs. Trelawney, Calypso, Maggie Hodgson, Old Blush, Princess Juliana, King Oscar, and Duchess of Westminster. An imposing exhibit of carnations from Messrs. Stuart Low and Co., Enfield, was composed of raised vases of Malmaison and perpetual varieties, Old Blush and Princess of Wales being especially well shown, together with Lady Coventry and Cerise Seedling.

A large corner exhibit in the great tent was arranged by Messrs. Wm. Cutbush and Son, Highgate. Roses were included, chiefly weeping standards and pillars. The whole was prettily arranged, and most informally. There were grouplets of Maggie Hodgson, Monk, Lady Coventry, Baldwin, and Princess of Wales carnations, and vases of such beautiful varieties as Mrs. C. W. Ward, Marmion, May Day, and White Enchantress, as well as of such fine pinks as Coronation, The King, and Princess Christian, all very free flowering and attractive varieties. Mr. Johnson, gardener to Lord Burnham, Hall Barn, Beaconsfield, was represented by a large group of Princess of Wales carnation, a popular Malmaison variety. The plants were in pots, and carried a goodly number of flowers; there were fifty or sixty plants staged.

Carnations and phloxes came from Messrs. W. Wells and Co., Merstham, and of the former they had excellent blooms of R. F. Felton, Bonfire (vivid scarlet), Mrs. C. W. Ward, Cecilia Improved, Scarlet Glow, and Dorothy Gordon.

ROSE MURIEL DICKSON.

An effective hybrid tea, the colour rich carmine. A.M., R.H.S., July 1. Messrs. Hugh Dickson, Lim., Belfast.

ROSES.

From Messrs. W. Paul and Son, Lim., Waltham Cross, came a grand display. Magnificent specimens of climbers and extra tall weepers made a charming effect, while low on the ground baskets were grouped, and formed a bed of delightful colouring, perhaps a trifle too flat. Some of the best were Bianca, Betty, Ophelia, very fine; Beauté de Lyon, a grand colour; Joseph Hill, Juliet, Triumph, and Pharisaer. Messrs. G. Jackman and Son, Woking, occupied a position on the stage, which they made the most of. Utilising decorative varieties in the background, which were in fine condition, as were also tall stands of Lady Ashtown, Le Progres, Hugh Dickson, and Madame Ravary, while the front was exceedingly bright with exhibition and decorative forms.

Messrs. F. Cant and Co., Braiswick Nurseries, Colchester, staged an extensive exhibit, the front being attractive by means of a large collection of polyantha varieties arranged in vases. The decorative sorts were bright and well arranged. Mention should be made of Commandant Jules Gravereaux, Irish Beauty, Ecarlate, Dawn, Rouge Angevine, and Rayon d'Or. Messrs. G. Bunyard and Co., Lim., Maidstone, staged some nice boxes of roses, backed with vases of decorative varieties. In the former were fine boxes of Hugh Dickson, Rayon d'Or, Dean Hole, and Frau K. Druschki.

Mr. Walter Easlea, Danecroft Nursery, Earlwood, also staged some effective roses, in which were noted Cherry Page, a promising decorative variety; Rayon d'Or, Mrs. Herbert Stevens, Yvonne Barbier, a white polyantha, Sunburst, and Chateau de Clos Vougeot. Messrs. Morse Bros., Deben Nursery, Woodbridge, staged some very nice roses arranged in bamboo stands and vases. The most conspicuous were Rayon d'Or, Leslie Holland, Juliet, General McArthur, Sunburst, and Lady Pirrie, while Messrs. H. Cannell and Sons, Swanley, also contributed a display of ramblers, and single blooms arranged on a moss bed.

Mr. John Mattock, New Headington, displayed roses in tall bamboo stands, with baskets and vases in front; in the former were Aglaia, Lady Curzon, Helene, and Crimson Damask in fine form, while Irish Elegance, Marquis de Sinety, and Lyon were also quite prominent. Messrs. W. and J. Brown, Peterborough, staged an effective display, which was built up with pillars, arches, mounds, and the orthodox boxes in front, the general effect being excellent, Lyon and Irish Elegance being happy in combination, while Avoca, Dorothy Page Roberts, Lady Ashtown, Joseph Hill, and Lady Pirrie were in fine condition.

Mr. G. Prince, Longworth Nurseries, Faringdon, occupied his space to the best advantage. The arches were, perhaps, a little crowded, but the general effect was capital. Perhaps the most conspicuous were Madame Jean Dupuy, Irene Walls, Rayon d'Or, Irish Glory, Juliet, and Avoca. Messrs. G. Bunting and Son, Buntingford, Herts, also had a considerable display, in which the decorative varieties occuped first place, while Mr. R. C. Notcutt, Woodbridge, arranged some fine flowers in bamboo stands and vases, especially good were Leslie Holland, Joseph Lowe, Juliet, and Lyon.

From Messrs. Stuart Low and Co., Bush Hill Park, N., came an effective exhibit, built up with pillars, baskets, and mounds. Here fine examples of Rayon d'Or, Liberty, Lyon, very fine; Leslie Holland, Molly Sharman Crawford, and Lady Ashtown were to be seen, the arrangement being most effective.

The Rev. Chalmers Hunt also exhibited some well-grown roses in the orthodox boxes and also in vases. A charming display was that from Mr. Charles Turner, Royal Nurseries, Slough. The group was composed of huge ramblers, in a cut state, with some splendid weepers, while the front was formed with baskets and vases filled with all sections of the rose. Tall cocos and kentia palms were used effectively, and contributed to this handsome display.

Messrs. B. R. Cant and Sons, Colchester, had an effective display of cut roses arranged in bamboo stands. The background was occupied with decorative varieties, which included the singles Lady Curzon, Mrs. A. Kingsmill, Blush Rambler, and American Pillar. The most striking of the specimen flowers were Edward Mawley, J. B. Clark, Theodore Roosevelt, Betty, Warrior, Joan, very fine; Killarney, Lyon, and Mrs. A. Tate. Messrs. Paul and Sons, Cheshunt, occupied a corner of the large tent with a fine exhibit of roses in pots, which included climbers in fine condition, also tall weeping kinds, which were in the pink of condition, the most conspicuous being Rubin, Excelsa, Shower of Gold, and Paul Transon, while fine examples of Lyon, Sunburst, G. C. Waud, Mary Countess of Ilchester, and Madame Ravary were also noted.

Messrs. Hobbies, Lim., Dereham, had a central position, which they occupied with an effective design, but the feature of the display was undoubtedly the fine standard weepers. These were lightly arranged, and displayed each plant well. Baskets made a fine groundwork, while the front was composed of posts and chains on which were arranged decorative varieties in vases, with trails of smilax.

SWEET PEAS.

Messrs. Sutton and Sons, Reading, produced a huge display, arranged in splendid style, the tall columns at the back showing up well against a white background. These were looped together with arches of smilax, while vases and shields were effectively arranged, nearly all the leading sorts being represented, while the size of the blooms left nothing to be desired. Mr. James Box, Lindfield Nurseries, Haywards Heath, presented a splendid exhibit arranged in rather low mounds, but they were all directly under the eye. The peas themselves were remarkable for size and brilliancy of colouring, while the stems left nothing to be desired. The most striking varieties were President, Maud Holmes, R. F. Felton, Elfrida Pearson, Jas. Box, Edith Taylor, and Orange Perfection.

Sir Randolf Baker, Ranstone House, Blandford (gardener, Mr. A. E. Usher), had a splendid exhibit staged in vases, with huge columns to break up the outline, the result being a fine achievement, the blending of colours being especially pleasing. Clara Curtis, Hercules, Anglian Pink, Princess Victoria, Barbara, May Campbell, Tennant Spencer, King Manoel, Dobbie's Cream, and Edrom Beauty were most conspicuous. Mr. J. D. Webster, Chichester, also had a nice exhibit of sweet peas, which were fine in colour, and nicely arranged with Asparagus plumosus, but the same remarks could not apply to the front, which was somewhat crowded. The Rev. L. C. Chalmers Hunt, William Rectory, Letchworth, also staged a considerable collection of sweet peas.

Messrs. Dobbie and Co., Edinburgh, arranged a magnificent display of flowers of high quality. Columns and vases were the order of the day. These were mounted with Asparagus Sprengeri, trails of smilax, and other suitable material. The peas that struck the visitor most were New Marquis, Rosabelle, Elfrida Pearson, Thomas Stevenson, dazzling in colour; Melba, Dobbie's Scarlet, Edrom Beauty, Syeira Lee, Inspector, Lady Miller, and John Ingman, again a remarkable colour. Messrs. G. Stark and Son, Great Ryburgh, arranged a light display of well-developed flowers with good substance. The most striking were Mrs. Pitt, Burgundy, a remarkable colour, but slightly weather-worn; Maggie Stark, Hercules, Premier, The Abbot, and Double Cream.

Messrs. E. W. King and Co., Coggeshall, staged some fine examples of their seedlings on the table arranged by them. Anglian Lavender, Anglian Cream, Anglian Orange, Anglian White, very fine; Anglian Royalty, killed by the dark velvet background; and Anglian Pink. Messrs. S. Bide and Sons, Lim., Farnham, contributed a bright bank of fine flowers, though somewhat crowded. Particularly fine were the varieties Edward Prince of Wales, Premier, Clara Curtis, Mrs. W. J. Unwin, Edith Taylor, May Campbell, and Dorothy.

Messrs. J. King and Sons, Coggeshall, occupied one of the "right over" exhibits, which means, in common parlance, that one side can be viewed, but to see the other one had to go outside the tent to the next entrance. The firm, however, had risen to the occasion, and staged some very fine examples of Moneymaker, Hercules, Lady Miller, Maud Holmes, King's Scarlet, Prince George, Thos. Stevenson, Eric Harvey, and Mrs. W. J. Unwin.

ROCK AND FORMAL GARDENS.

A garden that attracted a very great deal of attention, and deservedly so, was the one designed and planted by Messrs. J. Carter and Co., Raynes Park. Within a rough stone terracing, with its cupressus hedge, there was a formal water garden, with a high rough stone wall at the back of it, supporting a terrace and portico beyond. The water garden terrace was the great feature because water lilies bloomed in this pool, and a glorious lot of Iris Kæmpferi were planted all around, and were in full bloom. On the wall dwarf antirrhinums bloomed gaily. Behind the columns of the portico evergreen and deciduous trees formed a fine backing for splendid pillar roses and a border daringly filled with cannas, richardias, liliums, and dwarf polyantha roses. Leaden urns, each with its Sciadopitys verticillata, marked the corners of the terrace steps and leaden dolphins poured water into the lily pond. A fine design and well carried out, and one that was thronged with visitors all the time.

A beautiful garden, one of the great features of the great show was arranged in the large tent by Messrs. R. Wallace and Co., Colchester. The general idea was an elongated water garden, with its complement of lilies and groups of Kæmpferi irises and spiræas, all alongside the winding stream of water. Rough stones afforded a crossing, and led to a terrace with its stone walls gemmed with ivy and dainty flowering plants. At either end bold groups of spiræas, eulalias, bamboos, etc., suggested a semi-wild garden, while from the beginning of the water, rough stone steps also led upwards to the terrace. Here a vantage point and resting-place commanded views of the broad borders, filled with brilliant masses of Madonna lilies, delphiniums, eremuri, erigerons, sidalceas, with sweet lavender and fragrant thymes along the margin. A stone terrace wall, itself a perfect garden of blossom, supported this garden on the other side. The whole exhibit was quaintly and beautifully conceived, and carried out with that superb artistic skill which we expect nowadays from this Colchester firm.

Messrs. Russell, Earl's Court Road, W., presented a formal garden, which contained some nice features, especially the garden seats. From Messrs. Pipers, Bayswater, came a wonderful creation in the form of a sunk garden, with terraced borders. The latter were raised by means of old stone slabs, on which were growing rock plants and hardy ferns. The pools were filled with Iris Kæmpferi, nymphæas, sarracenias, and rushes; the background of triellage, clothed with rambling roses, had a fine effect, while the edge of clipped trees looked very natural in their setting of old York stone.

Messrs. J. Cheal and Sons, Lim., Crawley, exhibited a fine wall of old stone covered with suitable subjects, while an old-time paved path, with a border rising naturally from it, contained many interesting plants. These included dianthus, campanulas in variety, mimulus, etc., while the background was formed with variegated shrubs and trees; a few rhododendrons gave a massive effect to the exhibits.

Mr. Clarence Elliott, Six Hills Nursery, Stevenage, presented a beautiful rock garden in the open air. The masses of Campanula pusilla Miss Willmott and C. pulloides were most attractive, as were also masses of Dianthus deltoides superbus, and quite a variety of thymus. The Wargrave Plant Farm, Lim., The Arcade, Liverpool Street, E.C., also had an attractive rock garden, which seemed very popular, judging by the crowd constantly in front of it.

A charming exhibit was that from Messrs. Whitelegg and Page, Chislehurst, who had their exhibit arranged on the floor with a natural setting of stone. The saxifragas, potentillas, violas, and primulas were much admired, while additional were delphiniums, spiræas, heucheras, and gaillardias, with a large variety of other flowers.

Messrs. Harkness and Son, Bedale, Yorks, staged some handsome hardy flowers. The Oriental poppies were just in their full beauty, as were also the gaillardias, gladioli, and irises.

Miniature Japanese gardens from the Yokohama Nursery Company, Craven House, Kingsway, attracted a continual crowd of interested spectators. Some of the little gardens, about 2½ft. long, with rocks, rugged little trees, reeds, bridge, water, tiny temple, lanterns, and gold fish, were very quaint and artistic. In some cases there was quite a garden in a bowl a foot long, and about as much across. Some larger efforts were even more dainty and elaborate, and the ladies called them "sweet little gardens." Messrs. J. Piper and Sons also had a low rock garden in the large tent, and the prettiest feature of the exhibit was a long tuft of Campanula Miss Willmott, running down from the upper portion in an ever-broadening stream.

TREES AND SHRUBS.

A wonderful collection of Chinese plants, chiefly trees and shrubs, all introduced to cultivation since 1900, and all raised from seeds sent home by Mr. Wilson when collecting for the Chelsea firm in China, made up a grand and interesting group from Messrs. Jas. Veitch and Sons, Chelsea. Prominent was Magnolia Delavayi (F.C.C.), a yellowish-flowered species of large size, and with handsome leafage; Lilium myriophyllum, the elegant blue-flowered Thalictrum dipterocarpum; Berberis Wilsonæ, Pæonia Delavayi, Berberis brevi-paniculata, Rubus lasiostylus, with white stems; R. Veitchi, with silky grey leaves; Lonicera nitida, with small shining leaves; Viburnum Henryi, with loose panicles of small white flowers; Ilex Veitchi, Cotoneaster rugosa, C. acutifolia, Stranvæsia undulata, various vitises, and a whole host of other new trees and shrubs. By the side of these were pyramidal and standard bay trees from the same firm.

A very gay group of variegated ivies, gleaming in silver and gold, standards and bushes, green and grey, large and small, was put up by Mr. C. R. Russell, Richmond, and was not the least attractive of the outdoor exhibits; hardy fuchsias in variety, and a fine set of the handsome Dimorphanthus Mandschuricus argenteo-variegatas, also

from Mr. Russell, proved equally attractive. Messrs. Paul and Son, Cheshunt, staged an interesting display of cut hardy shrubs, which were well staged; also a collection of hardy-flowering shrubs. Here one noted the Philadelphus purpureus maculata in fine condition, Kerria variegata, Weigelia aurea marginata, Liriodendron aurea marginata, Loniceras in variety, and a goodly display of other attractive plants.

A beautiful display of acers came from Messrs. W. Fromow and Sons, Sutton Court, Chiswick, which were assisted with bamboos in variety, and similar subjects. The group was formed round the entrance to two tents, and was admirably adapted to the purpose. Messrs. W. Cutbush and Son, Highgate, N., presented a fine display of clipped box and yews. These varied in size from mere bantams to huge specimens of every shape and form. Mr. Carlton White, 53, New Bond Street, had a large display of topiary work, which were chiefly composed of box and yews. Here one could satisfy the most fantastic taste, for they were all shapes and sizes. Mr. G. Reuthe also had a display of hardy shrubs in the open air. The berberis, phaius, and rhododendrons were all more or less the attraction of lovers of this particular section. The same exhibitor also presented a pretty rock display.

Messrs. G. Jackman and Son, Woking, brought out their clematises, and amazed everyone with their big plants of these gloriously-flowered climbers. The same firm put up a gorgeous bank of hardy flowers, where Iris Kæmpferi, gaillardias, delphiniums, and kniphofias were massed in fine style.

STOVE AND GREENHOUSE PLANTS.

The glorious Solanum Wendlandi was grandly shown by Messrs. Jas. Veitch and Sons, Chelsea, whose contribution of stove and greenhouse plants was most interesting. Two new nepenthes, N. Lewis Bradbury and N. atropurpurea, attracted a deal of attention by means of their brilliant crimson pitchers. Gorgeous cannas, in fine variety, the violet-blue Exacum macranthum, and a batch of malmaison and perpetual carnations completed the display. The Chelsea firm presented a bank of orchids, wherein Disa grandiflora was very fine, and L.-c. Canhamiana, Brasso-cattleya Digbyano-purpurata, Cattleya Mossiæ varieties, and some capital hybrid odontoglossums. Messrs. Whitelegg and Page, Chislehurst, showed fruiting canes and picked fruits of the Newberry, which is even larger than the loganberry.

Mr. W. H. Page's fine exhibit of zonal pelargoniums, from Hampton, made one hot to look at. There were three great mounds of plants smothered in glowing bloom, and the varieties, Winter Cheer, Fiscal Reform, and His Majesty, were all first-rate, the latter a grand white-eyed scarlet variety with large blooms and trusses. Caladiums from Messrs. J. Peed and Son, West Norwood, were finely grown, and the pink leaves of Lord Milner and the transparent white ones of Crested Wave stood out conspicuously; carnations were added at one end of the caladiums. The same firm showed gloxinias.

Mr. H. J. Jones, Ryecroft, Lewisham, filled a large space with a bold group of a well-selected strain of cup-and-saucer Canterbury bells, and with a very bold collection of herbaceous phloxes grown in pots, and showing the height and style of growth; Elizabeth Campbell, Le Mahdi, Rosenberg, Rose Queen, Frau Ant. Buchner, G. A. Stroehlin, Goliath, tall carmine-red; Dr. Konigshofer, salmon-scarlet; and Flora Horning, were varieties that attracted our attention.

The begonias from Messrs. Blackmore and Langdon, Bath, were superb, and the group of grandly grown plants was finely arranged, the hanging baskets of Mrs. Bilky, Gladys, and Golden Shower being especially beautiful. Among the double sorts a few of the loveliest were Lady Tweedmouth, Queen Mary, Empress Marie, Duchess of Cornwall (crimson-scarlet), Princess Victoria Louise, and George Pike. Blue hydrangeas, caladiums, cannas, Coleus cordelia, and pelargoniums made a bold display for Messrs. W. Cutbush and Sons.

Mr. A. Ll. Gwillim, Canbria Nursery, Sidcup, staged a collection of begonias in his well-known style. The most prominent varieties were Seashell, Sidcup Beauty, Mrs. J. C. Gwillim, Miss Muriel Edwardson, Margaret Gwillim, Avalanche, and Radience; while the bedding varieties, Washington and Col. Laussedat, were much admired; the double forms were exceedingly well done. A fine group of crassulas came from Lady Northcliffe, Sutton Place, Guildford (gardener, Mr. J. Goatly). The plants were more freely trained than one usually sees them, thereby adding to their beauty; they were well grown, and equally well displayed.

Messrs. Stuart Low and Co., Bush Hill Park, staged a miscellaneous exhibit; the chief features were the fine bushes of Metrosideros floribunda, groups of Pelargonium Juvenal, and Humea elegans. Mr. L. R. Russell, Richmond Nurseries, Richmond, had a splendid exhibit of stove and greenhouse plants arranged in a huge bank.

A most refreshing group of ferns came from Messrs. H. B. May and Sons, Lim., Upper Edmonton, which was carried to the wall of the tent, with fine specimens of davallias, nephrolepis, Lycopodium scandens, etc.; while the forefront contained a wealth of hardy ferns that would gladden the eye of any expert; while some charming plants of Nephrolepis exaltata Wilmottæ attracted much attention, as did also a good clump of Adiantum gloriosum, and a new form of Adiantum trapeziforme named Queen Mary.

Messrs. R. and G. Cuthbert, Southgate, produced a charming effect with tall plants of Humea elegans, well over six feet high, with a central group of Streptosolon formosum, also groups of Lilium longiflorum; while the front was composed of Viscaria oculata Brilliant, annual delphiniums, and

THE LARGE AND BEAUTIFUL GOLD MEDAL COLLECTION OF SWEET PEAS.
Exhibited by Sir Randolf Baker, Bart. (gardener, Mr. Usher), at the Holland House Show.

ivy-leaved pelargoniums, the whole being finished off with palms and ferns. Messrs. W. Treseder, Lim., Cardiff, sent some nice decorative pelargoniums, intermixed with bamboo stands containing dahlias in nearly all sections. From Messrs. Jarman and Co., Chard, came a miscellaneous display of zonal pelargoniums, with carnations, Canterbury bells, and some really fine centaureas. Messrs. H. Cannell and Sons also presented a gay collection of cut zonal pelargoniums which were much admired. Messrs. Pipers, Bayswater, arranged a group of large fuchsias in the open air; these comprised tall pyramids, standards, and plants of a decorative size; they were well grown, and beautifully flowered.

HARDY FLOWERS, ETC.

A delightful group of hardy flowers showed how well Mr. Jas. Box, Lindfield, can grow and stage these popular subjects. It was a grand display, filling the end of one tent, and included water lilies, spiræas, phloxes, Thalictrum flavum, campanulas, delphiniums, gladioli, and a vast number of other subjects. Campanula persicifolia humosa, soft blue; Delphinium Rev. E. Lascelles, and Gladiolus America were outstanding in a fine selection. Very beautiful was the batch of Lychnis Arkwrighti shown by Mr. J. S. Arkwright, Ringham Court, Presteign; the parents are L. chalcedonica and L. Haageana. There is a range of colour from palest salmon to vivid vermilion-scarlet, and some have dark bronzy foliage. They vary from 15 inches to 4ft. in height, and form a very attractive set of plants for garden decoration, as they are very free-flowering.

Gladioli came from Messrs. Barrie and Brown, London Bridge, and alpines from Mr. Reg. Prichard, Wimborne. In the collection from Messrs. Bees, Liverpool, Primula capitata, Campanula Miss Willmott, Trollius Yunnanensis, and Sedum glaucum were conspicuous plants. The Hardy Plant Nursery, Christchurch, also submitted alpines; and Messrs. W. and C. Bull, Frome, had a small bank of hardy flowers. Messrs. Carter Page and Co., of London Wall, gave us a taste of autumn in their cactus and pæony-flowered dahlias, with which pelargoniums and violas were associated. Messrs. W. Fells and Son, Hitchin, had a gay display of fine varieties of gaillardias, delphiniums, etc.; and the Wargrave Plant Farm, The Arcade, Liverpool Street, contributed a selection of delphiniums and other border flowers, as well as a fine lot of gaillardias and a few water lilies.

Mr. Maurice Prichard, Christchurch, arranged a central rock garden backed by select delphiniums, eremuri, verbascums, Romneya Coulteri, etc., and flanked by Japanese irises in fine variety. Dianthuses were lovely in the rock garden, and Campanula Ruddiana, Fuchsia Carmen, were also very charming. Wahlenbergia vincæflora and Lavatera olbia with its satiny pink flowers were other fine things here. Messrs. Carter and Co. had a small tent all to themselves just outside the big tent, and this, with its front open to the grounds, was filled with a selection of sweet peas, dwarf roses, Phlox Drummondi, and a central group of double and single begonias.

Mr. Amos Perry's effort was a considerable one, and a magnificent lot of glorious delphiniums were brought from the Hardy Plant Farm at Enfield, and arranged in bold groups at the back of masses of pinks, erigerons, armerias, etc. In the centre of their big group they had a fine selection of hardy ferns, the lady ferns being especially cool and beautiful. Japanese irises and liliums were grouped in the foreground. Eremurus Warei, Lilium Humboldti, Erigeron hybrida Pink Pearl (A.M.), and such delphiniums as Antigone, Mrs. Perry, Moerheimi (white), and Rev. E. Lascelles, were charming, and the nymphæas in pans provided a fine selection of these lovely water plants.

Noble masses of delphiniums were boldly staged by the Messrs. Bakers, Wolverhampton, behind English irises, campanulas, and selection of alpines, etc. The water garden with its complement of waterside plants, as arranged by Messrs. Phillips and Taylor, Lily Hill Nurseries, Bracknell, had a pleasingly cooling effect in the big tent. Nymphæa Frœbelli, N. tuberosa rosea, N. Wm. Falconer, the lovely N. Gladstoniana, N. chronatella, and N. carnea, were water lilies in fine form on this pool; while Calla palustris, Saxifraga peltata, spiræas, variegated acorus, and alismas were prettily grouped around, and a bank of border flowers filled the end of the display.

Messrs. G. Gibson and Co., Leeming Bar, Bedale, had a small group of hardy flowers, their gaillardias and lilies being specially meritorious. Messrs. Fred. Smith and Co., Woodbridge, brought forward a large collection of hardy flowers, in which Anthemis Kelwayi, gaillardias, verbascums, and Campanula persicifolia Moerheimi attracted our attention. Delphiniums were boldly shown by Messrs. R. H. Bath, Lim., Wisbech, and their vases of Le Danube and Clara Stubbs were very good; perpetual carnations, roses, antirrhinums, and a selection of border flowers were grouped round the delphiniums.

Once again Messrs. Gunn and Sons, Olton, put up herbaceous phloxes in good style, filling large stands with trusses of one variety; Lady Stewart, Gen. Van Henty, Harrisoni, Iris, Le Mahdi, Wilbur Wright, Gruppen Kœnigen (pink), George A. Strochlin (salmon-red), and Frau von Lassberg (white), form a fine selection from this group. A grand strain of Canterbury bells, represented by great sheaves of noble spikes of large bells—white, pink, mauve, lavender, white and violet, formed a great attraction, as displayed by Mr. W. J. Godfrey, Exmouth. The same firm presented zonal and show pelargoniums, and of the latter the white, brown-blotched Bystock was very pretty.

Among the fine selection of delphiniums from Messrs. Blackmore and Langdon, Twerton-on-Avon, there were magnificent spikes of Walter T. Ware, Robt. Cox, the grand Statuaire Rude, Novelty, and The Alake, very dark violet. A large assortment of gladioli of the Colvillei section, together with numerous spikes of the graceful lavender-flowered Sparaxis pulcherrima, and dainty ixias were displayed lightly by Mr. F. Lilley, Guernsey.

Mr. Stuart Maples, Stevenage, and Mr. T. R. Hayes, Keswick, were exhibitors of alpines, and Mr. C. Dixon, gardener to Mary Countess of Ilchester, Holland House, put up a very interesting set of sempervivums and saxifrages, about sixty species of each, and all finely grown and forming a very educational collection. Mr. Howard Crane's violas and violettas were very sweet and pretty, and Mr. Jas. Macdonald's grasses and lawns growing on a textile material were a source of attraction, and, referring to the latter, one lady suggested a few yards for a dress length. Mr. H. Hemsley, Crawley, showed alpines, but a feature of his group was a seedling from Antirrhinum sempervirens and A. glutinosum, crossed with the popular garden form of A. majus. These form an interesting series of semi-creeping rock plants, with gaily-coloured flowers, and an Award of Appreciation was granted Mr. Hemsley for his work in this direction. The Guildford Hardy Plant Nursery, Guildford, and Messrs. Pulhams, Elsenham, staged alpine plants, the latter firm arranging a small rock garden.

A square-based pyramid of annual flowers and a lovely selection of art-coloured antirrhinums was from Messrs. Watkins and Simpson, Covent Garden. The Blue Gem nemesia was particularly lovely, and received as much admiration as the chamois, apricot, coral-pink sulphur-tinted, and red snapdragons.

Messrs. Thompson and Charman, Bushey, Herts, had a large exhibit of hardy flowers, lightly arranged. The dianthus here were prominent, as were also the campanulas and geums. The scarlet pentstemon, Southgate Gem, was very bright and atractive.

Mr. G. W. Miller, Clarkson Nurseries, Wisbech, staged some capital hardy flowers, especially the gaillardias, which were very fine. The delphiniums, also, were good; while Mr. H. Newman, The Watford Nurseries, sent a group of Pink Challenger, which was in fine condition for the late period. A bright bank of hardy flowers came from Messrs. B. Ladhams, Lim., Shirley, Southampton. Prominent features here were the collection of pinks and gaillardias, while Messrs. W. Cutbush and Son occupied the end of the tent with a fine exhibit of delphiniums, liliums, irises, and gaillardias. The water lilies, too, were quite a feature.

From Messrs. Rich and Co., Bath, came a collection of violas in good condition, also Iris Kæmpferi, and a display of hardy flowers. The campanulas were in fine form. Messrs. W. Wells and Co., Lim., Merstham, exhibited a fine collection of phloxes, in which were noted some very fine forms, especially Selma, Elizabeth Campbell, and Andre Laurie. From Messrs. John Forbes, Lim., Hawick, came a fine collection of named pentstemons in pots, also phloxes; both subjects seemed to revel in the heat, and were most attractive, while the pansies and violas had evidently had more congenial weather than that experienced in the south. Robert Sydenham Limited, Tenby Street, Birmingham, had an effective display of sweet peas, in which Scarlet Emperor, Edith Taylor, and Maud Holmes were conspicuous.

A glorious group of eremuri with a base of spiræas came from Messrs. Jas. Veitch and Sons. Most of them were seedlings, and arranged in colours. Some of the most prominent were E. Warei, E. Olgæ, E. Lemon Queen, and E. superbus. From Mr. G. Renthe, Hardy Plant Nursery, Keston, came an interesting exhibit of hardy shrubs and flowers.

From Messrs. Barr and Sons, Covent Garden, came a pretty group of hardy flowers, which included some art shades of Lupinus, Viscaria cærulea—very fine, excellent Canterbury bells, ixias, and a good collection of early-flowering gladioli. The same firm also had an extensive exhibit of Japanese pigmy trees, which were now making their new foliage, and attracted a crush of visitors. Messrs. G. and A. Clark, Lim., Dover, presented a fine exhibit of hardy flowers, which merged to a central pool, which was edged with hardy ferns; while nymphæas in good variety occupied the pool.

Messrs. Paul and Son, Cheshunt, made a speciality of heucheras on their stand of hardy flowers; while the potentillas, delphiniums, verbascums, and campanulas all helped to make a pretty display. The Misses Hopkins, Shepperton-on-Thames, had an effective exhibit of hardy flowers, arranged in a natural style, which was most effective. Messrs. G. Bunyard and Co., Lim., Maidstone, arranged an effective exhibit of hardy flowers. The brilliant colours of the delphiniums, in conjunction with pentstemon Southgate Gem, at once arrested attention, while the collection of liliums were well arranged. The front was charmingly arranged with dwarf alpine subjects. Mention should also be made of the spiræas, early gladioli, and eremuri, which were most conspicuous in a really worthy exhibit of hardy flowers.

Delphiniums in splendid condition came from Messrs. Kelway and Son, Langport. The spikes were huge, and arranged with their side growths complete. Some of the finest were Quakeress, Kitty Wardell, A. C. MacLaren, Athos, Queen of Spain, Star of Langport, and Knight of Langport; also a few late pæonies, and Coreopsis grandiflora. From Messrs. T. S. Ware, Lim., Feltham, came a large exhibit of hardy flowers, arranged most naturally. Delphiniums were most tastefully grouped, while the spiræas were quite a feature. The front was composed of a long winding pool that allowed a number of subjects to be arranged.

FRUITS AND VEGETABLES.

Mr. Thos. Coomber, V.M.H., gardener to Lord Llangattock, The Hendre, Monmouth, contributed twenty-six splendid specimens of Queen pineapples, and was deservedly granted a Gold Medal for the high cultivation this set represented. Messrs. S. Low and Co. showed some well-grown pot trees of Brown Turkey, St. John's, White Marsailles figs.

A splendid array of tempting strawberries from Messrs. Laxton Bros., Bedford, were

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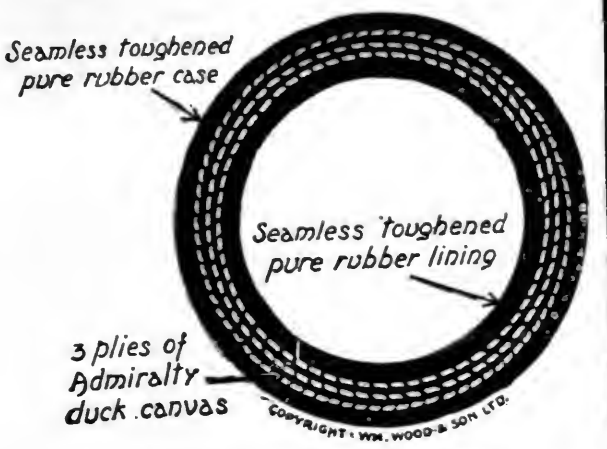
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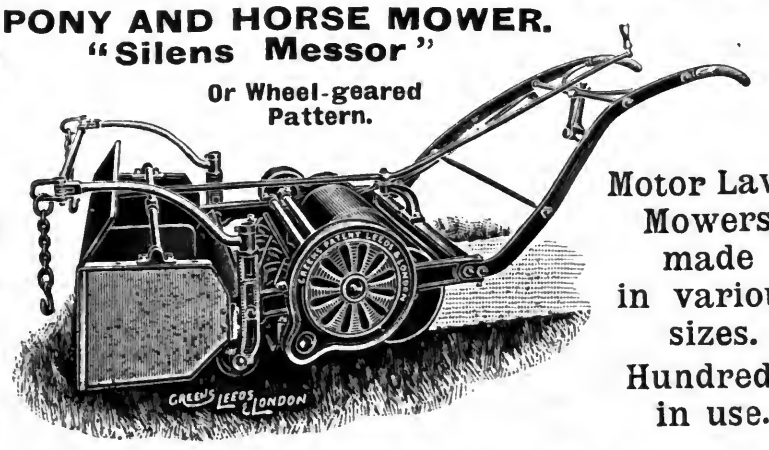

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beautiful and fragrant, and the fine fruits were greatly admired. Of such varieties as The Queen, Givon's Late Prolific, King George, Sir J. Paxton, Laxton's Reward (fine colour), Bedford Champion, of fine size; Royal Sovereign, The Laxton, Profit, Epicure, and The Earl there were splendid baskets of beautiful fruits.

Splendid fruit trees in pots, carrying fine crops, were exhibited by Messrs. Jas. Veitch and Sons; the plums, peaches, nectarines, and apples were very well arranged. Mr. Camp, gardener to S. Heilbut, Esq., Holyport, Maidenhead, contributed some finely-grown and well-cropped trees of plums and of Bigarreau Noir de Gubin and Bigarreau Noir de Schmidt cherries.

A superb collection of very finely-grown vegetables, arranged in splendid style, was submitted by Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree. The Defiance and Early Emperor cauliflowers were beautiful, Quite Content peas were very fine, marrows were capital for the season, while turnips, potatoes, French beans, lettuces, aubergines, edible podded peas, cucumbers, tomatoes, carrots, and radishes were all perfect, and shown in grand style, the whole exhibit being attractive in the highest degree, as well as a striking example of skilful cultivation.

HORTICULTURAL SUNDRIES.

These were very numerous again, and occupied considerable space. The chief exhibitors were: Robert Sydenham Limited, rural table decorations; Messrs. W. Voss and Co., insecticides, etc.; the Three C.'s Company, Liverpool, continuous cloches; Messrs. Valls and Co., 12, Little Britain, garden sundries; Messrs. Barbour and Co., Leeds, lawn sand, worm destroyer, etc.; Messrs. E. A. White, Lim., syringes and Abol insecticides; The Pattison Lawn Horse Shoes; Messrs. J. Weeks and Co., Chelsea, model greenhouses, blinds, etc.; Messrs. Wakeley Bros., hop manure; Messrs. W. Cooper and Nephews, Berkhampstead, syringes, fungicides, and insecticides; Messrs. Barr and Sons, Covent Garden, garden sundries; Messrs. J. Bentley, Lim., Hull, fertilisers; Messrs. Jeye, sprayers and washes; Mr. J. Pinches, Camberwell, garden labels and other sundries; Messrs. Gamage, Lim., Holborn, garden tents and seats; Messrs. Heathman and Co., Fulham, folding ladders; Messrs. D. Robert and Son, Tottenham, garden tub for shrubs; Messrs. Benton and Stone, Lim., Birmingham, spraying machines; The Four Oaks Company, Sutton Coldfield, spraying machines and syringes; Messrs. Pearce and Co., Holloway Road, N., greenhouses and garden seats; the Dryad Co., model seats and summer-houses; the London Provincial Building Co., Wandsworth, summer-houses and seats; Messrs. Lloyd, Lawrence, and Co., 29, Worship Street, lawn mowers; Messrs. Robinson Bros., Lim., West Bromwich, Carmona fertilisers and Alpha sprayers; The Leyton Timber Company, Leyton, summer-houses and rustic work; Messrs. T. J. Syer and Co., Wilson Street, E.C., tents and seats; The Hughes Bolckow and Co., Lim., Blyth, teak garden seats; Messrs. Liberty, Regent Street, W., garden furniture and bamboo work; Messrs. J. Cheal and Sons, Lim., Crawley, garden seats, pergolas, tubs, and fences; Messrs. T. Crowther and Son, North End Road, Fulham, garden ornaments; and Messrs. Castles, man o' war garden seats.

CUPS AWARDED.

Coronation Cup.—Messrs. Sander and Sons, St. Albans, for orchids.

Silver-gilt Cups.—To Mr. James Box, for water garden, sweet peas, etc.; to Mr. L. R. Russell, for stove plants, shrubs, and irises.

Large Silver Cups.—To Sir Jeremiah Colman, Bart., for orchids, carnations, and roses; to Messrs. Wm. Cutbush and Son, for cut trees and flowering plants; to Messrs. G. Bunyard and Co., Lim., for roses and hardy flowers; to Mr. Charles Turner, for roses.

Silver Cups.—To Messrs. Mansell and Hatcher, Lim., for orchids; to Messrs. Stuart Low and Co., for orchids, roses, carnations, New Holland plants, and fruit; to Messrs. J. Piper and Son, for formal garden, rock and water plants, fuchsias, Japanese trees, etc.; Messrs. J. Carter and Co., for water garden and flowering plants; Messrs. J. Veitch and Sons, Lim., for flowering plants, trees, etc.; Messrs. Barr and Sons, for water garden and flowers; Messrs. W. and J. Brown, for roses and herbaceous; to Mr. M. Prichard, for alpine and bog plants; to Mr. A. Gwillim, for begonias and herbaceous plants.

Standard Cups.—To Messrs. Stuart Low, for orchids; to Messrs. Peed and Son, for caladiums and flowering plants; to Mr. Amos Perry, for herbaceous, alpines, etc; to Messrs. G. Jackman and Son, for roses, clematis, etc.; to J. S. Arkwright, Esq., for Lychnis Arkwrighti; to Messrs. W. Fromow and Sons, for Japanese maples.

MEDAL AWARDS.

Gold.—To the Right Hon. Lord Llangattock, for pineapples; to Sir Randolf Baker, Bart., for sweet peas; to the Hon. Vicary Gibbs (gardener, Mr. E. Beckett), for vegetables; to Messrs. Blackmore and Langdon, for begonias; to Messrs. H. B. May and Sons, for exotic ferns; to Messrs. Paul and Sons (Cheshunt), for roses; to Messrs. Wm. Paul and Son (Waltham Cross), for roses; to Messrs. Sander and Sons, for orchids; to Messrs. Sutton and Sons, for sweet peas; to Messrs. James Veitch and Sons, Lim., for fruit trees in pots; to Messrs. James Veitch and Sons, Lim., for Chinese plants; to Messrs. R. Wallace and Co., for ornamental water garden; to Messrs. Charlesworth and Co., for orchids; to Messrs. Dobbie and Co., for sweet peas.

Silver-gilt Hogg Medal.—To S. Heilbut, Esq. (gardener, Mr. H. Camp), for fruit trees in pots.

Silver-gilt Knightian Medal.—To Messrs. Laxton Bros., for strawberries.

Silver-gilt Flora Medal.—To Mr. S. W. Flory, for orchids; to Messrs. J. King and Sons, for sweet peas; to Messrs. G. and A. Clark, Lim., for herbaceous flowers and aquatics; to Messrs. Bakers, for herbaceous flowers and alpines; to Mr. B. E. Bell, for carnations; to Mr. H. Burnett, for carnations; to Mr. C. Engelmann, for carnations; to Messrs. F. Cant and Co., for roses; to Messrs. B. Cant and Sons, for roses; to Messrs. Hobbies, Lim., for roses; to Wilfred W. Gott, Esq., for carnations; to Messrs. J. Cheal and Sons, for ornamental garden.

Silver-gilt Banksian Medal.—To Mr. G. Reuthe, for alpines and shrubs; to Messrs. S. Bide and Sons, Lim., for sweet peas; to Messrs. E. W. King and Co., for sweet peas; to Messrs. Gunn and Sons, for phloxes; to Messrs. Harkness and Sons, for herbaceous and Spanish iris; to Mr. Geo. Prince, for roses; to Messrs. Fred Smith and Co., for herbaceous plants and flowers; to Messrs. G. Stark and Son, for sweet peas and kniphofias; to Messrs. Bees, Lim., for alpines and hardy plants; to Right Hon. Lord Burnham (gardener, G. Johnson), for carnations; to Messrs. John Forbes (Hawick), Lim., for summer-flowering plants; to Mr. H. J. Jones, for phloxes and Canterbury bells; to Messrs. Thos. S. Ware, Lim., for begonias; to Mary Countess of Ilchester, for sempervivums and saxifrages.

Silver Flora Medal.—To Mr. H. Dixon, for orchids; to Messrs. J. Veitch and Sons, Lim., for orchids; to Rev. Chalmers Hunt, for roses, sweet peas, and vegetables; to Messrs. Phillips and Taylor, for water garden, etc.; to Messrs. Whitelegg and Page, for sweet peas; to Robert Sydenham Limited, for sweet peas; to Messrs. R. and G. Cuthbert, for Humea elegans and spiræas; to Mr. Jas. Douglas, for border carnations; to the Guildford Hardy Plant Nursery, for herbaceous plants; to Mr. T. R. Hayes, for heaths and alpines; to Mr. H. Hemsley, for antirrhinums and rock garden; to Mr. Mattock, for roses; to Mr. Notcutt, for roses; to Mr. Reginald Pritchard, for herbaceous; to Mr. Frank Lilley, Guernsey, for sparaxis and gladioli.

Silver Banksian Medals. — To Mr. E. V. Low, for orchids; to Mr. Jas. MacDonald, for exhibit of grasses; Mr. Carlton-White, for clipped trees; to Messrs. Bath, Lim., for roses and herbaceous; to Mr. Webster, for sweet peas; to Messrs. Kelway and Son, for delphiniums, sweet peas, etc.; to Lady Northcliffe (gardener, Mr. J. Goatley), for Crassula coccinea; to Messrs. Carter Page and Co., for flowering plants; to Messrs. G. Bolton and Son, for roses; to Mr. Howard Crane, for violas and violettas; to Mr. Walter Easlea, for roses; to Mr. Clarence Elliott, for alpines; to Messrs. G. Gibson and Co., for herbaceous; to Mr. G. W. Miller, for herbaceous and small plants; to Messrs. Morse Bros., for roses; to Mr. W. H. Page, for flowering plants; to Messrs. Watkins and Simpson, for antirrhinums; to Messrs. W. and C. Bull, for herbaceous flowers; to the Wargrave Plant Farm, Lim., for herbaceous flowers; to Messrs. W. J. Godfrey and Son, for flowering plants.

Certificates of Appreciation.—To Mr. Hemsley, for work in raising new antirrhinums.

AWARDS TO HORTICULTURAL SUNDRIES.

Silver-Gilt Banksian Medal.—To Messrs. T. Crowther and Son, for ornamental stone and ironwork; to Messrs. Gamage and Co., for garden tents, etc.

Silver Banksian Medal.—To Messrs. Abbott Bros., for Osterley table tray, etc.; to Messrs. Benton and Stone, Lim., for spraying machines, etc.; to Messrs. Castles, for garden furniture; to Messrs. Liberty and Co., for Japanese garden ornaments, etc.

Bronze Banksian Medal.—To Messrs. Barr and Sons, for tools and implements; to Messrs. Jos. Bentley, Lim., for horticultural chemicals; to Mr. John Bradley, for bunty tea house; to Miss Edith Fisher, for water-colour drawings; to Four Oaks Spraying Machine Co., spraying machines; to Messrs. Heathman and Co., for ladders, hose, etc.; to Mr. Robert Hughes, for water-colour drawings; to Miss Mitchell, for garden baskets; to Mr. John Pinches, for labels, exhibition boxes, etc.; to Messrs. W. Voss and Co., Lim., for insecticides; to Messrs. E. A. White, Lim., for insecticides, sprayers, etc

AWARDS TO NEW PLANTS.

(Orchid Committee.)

First-Class Certificate.—To Miltonia Sanderæ, from Messrs. Sander and Sons, St. Albans; to Miltonioda Harwoodi, Fowler's var., from J. G. Fowler, Esq., South Woodford; to Odontioda Brewi, from Messrs. Charlesworth and Co., Haywards Heath.

Award of Merit.—To Cattleya Mossiæ, var. Dreadnought, from Messrs. Sander and Sons; to Odontioda Wilsoni, The President, from Messrs. Charlesworth and Co.; to Cattleya serenata, from Messrs. Mansell and Hatcher, Rawdon; to Cattleya Mossiæ Olympia, from Messrs. Charlesworth and Co.

(Fruit Committee).

First-class Certificate. — To Strawberry Connoisseur, from Messrs. Laxton Bros.

Award of Merit. — To Pea King of the Dwarfs, from Messrs. Sutton and Sons; to Pea Superb, from Messrs. Laxton Bros., Bedford; to Pea No. 3,879, from Messrs. Hurst and Son, Houndsditch.

Highly Commended.—To Pea Hundredfold, from Messrs. Sutton and Sons; to Pea Snowdrop, from Messrs. J. Carter and Co.

(Floral Committee).

First-class Certificate.—To Adiantum trapeziforme Queen Mary, from Messrs. H. B. May and Sons; to Magnolia Delavayi, from Messrs. Jas. Veitch and Sons.

Award of Merit.—To Adiantum Sieberti-anum, from Messrs. H. B. May and Sons; to Polypodium Mayi cristatum, from Messrs. H. B. May and Sons; to Rose Ophelia, from Messrs. W. Paul and Son, Waltham Cross; to Nepenthes Lewis Bradbury and Nepenthes atropurpurea, from Messrs. J. Veitch and Sons; to Iris Kæmpferi Morning Mists, from Messrs. R. Wallace and Co.; to Border carnations Virginia and The Baron, from Mr. Jas. Douglas; to Roses Ulster Standard, Muriel Dickson, and Mrs. Godfrey Brown, from Messrs. Hugh Dickson, Belfast; and to Erigeron hybrida Pink Pearl, from Mr. A. Perry

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SUMMER - FLOWERING CYPRIPEDIUMS.—Such species as Cypripedium barbatum, in its varied forms, C. callosum, C. c. Sanderæ, C. Curtisi, C. Lawrenceanum, and their numerous beautiful hybrids, form an interesting and useful class of free-flowering plants that are all the more or less serviceable in gardens generally. The plants may be used for decorative purposes, their foliage being almost as attractive as the flowers; and the durability of the latter, whether cut or allowed to remain on the plants, leaves nothing to be desired. The plants are easily accommodated in a warm greenhouse or a moist position in a stove, and require very little attention, excepting ample root moisture during the season of active growth. During the stages when plants have only two or three growths annual repotting is desirable, but in large specimens potting should not be done more often than is necessary, but it is well to thoroughly overhaul the surface of the compost every year.

REPOTTING.—The best time to repot is shortly after the flowering period. New breaks are then produced, or where the new growths are in a more advanced state the new roots make their appearance, and these quickly become established in the fresh compost with the least possible risk of injury from repotting. In the case of such species as C. Lawrenceanum, the plants continue in most instances to make an annual succession of growths, and, while the older ones may continue to retain their leaves in good condition, they can seldom be induced to produce growth from their base unless something happens to the leading growth or the rhizome be severed. This severing of the rhizomes not only produces larger specimens by increasing the number of leading growths, or those from which flowers are produced, but it also affords the opportunity of increasing stock where it is desirable. The potting compost for all forms belonging to the tesselated section should contain very little, if any, loam. Peat and sphagnum moss will meet their requirements with plenty of broken crocks intermixed to render the compost porous.

CYPRIPEDIUM NIVEUM and its allies, such as C. bellatulum, C. Godefroyæ, and C. G. leucochilum, where a suitable situation is found to meet their requirements, are well worthy of every consideration. There is very little difficulty in growing them when they are first imported for a year or two, but the general experience is that they rapidly deteriorate under artificial conditions. We find in the case of C. niveum in particular, that the plants should not be disturbed too frequently, and when they are attended to for potting requirements a compost of a lasting nature should be used. We find that yellow turfy loam, intermixed with plenty of lime rubble, suits thm best. Provide liberal drainage, and during the winter and autumn give only sufficient root moisture to retain the foliage in a normal plump state.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

EUPHORBIA (POINSETTIA) PULCHERRIMA.—The earliest rooted plants should now be shifted into their flowering pots, a suitable compost consisting of two parts loam, one leaf-mould, one peat, half part sand, and a little burnt earth and dried cow manure. For a few days after repotting keep them fairly close, shade from bright sunshine, and maintain close growing conditions. Remove the shading in time to retain a fair amount of sunheat. Pot up later plants as they are ready, and, should there not be a sufficient number, it may be increased by reducing the tops of some of last year's plants to the lower eyes that show signs of breaking. Carefully shake away the old ball of soil, and repot, using 48's, with the view to transferring to a larger size when ready. Such plants will give two or more useful bracts often as good as many of the young plants. When well growing, rather less shade and more air will be necessary, and a little ventilation on mild nights will assist in the production of healthy, short-jointed wood. Water must be carefully applied, as must also artificial or other manures, for the roots are easily damaged, and when this happens the plants suffer from a loss of foliage and produce poorly-developed bracts.

PALMS.—Stove palms are now growing freely, and will require frequent syringings, and the house generally should be kept rather moist. Occasional applications of manure, liquid or artificial, and soot water, will assist in the development of clean, healthy leaves; while a little soot sprinkled between the pots will give off healthy fumes and assist in combating insect pests. This, by the way, will be found a useful practice with most plants when growing under moist conditions. Where the time can be spared, sponging over the foliage will be repaid by the improved appearance of the plants.

STREPTOCARPUSES.—Those raised from seed sown in spring may be transferred to 54-sized pots. These will be valuable for late flowering, and, given careful attention during the few months' comparative rest in the meantime, will prove valuable in spring for shifting into 5½-inch pots to form the early and main batches for next season.

GLOXINIAS.—As the earliest flowering plants pass out of bloom, such as are considered worth keeping may be removed to a warm frame or pit, continuing to water until they show signs of ripening, when water may be gradually withheld. When thoroughly matured, transfer to their resting quarters. Should any variety be considered particularly worth propagating, this may be done by means of leaf cuttings. Seedlings will still require the growing conditions of the stove.—H. PRIME, Hatfield House Gardens.

FRUITS UNDER GLASS.

PEACHES.—As soon as all the fruits have been gathered from the trees, the latter should be frequently syringed to keep the foliage clean and healthy, this being a matter of the first importance, as the proper ripening of the wood, the plumping up of the buds, and the next season's crop will depend upon it. Old trees and others that have been in bearing some time should receive frequent applications of diluted liquid manure, as this will prove of great assistance to the trees. Never allow the trees to become in the least dry at the roots from now onwards until the leaves drop naturally, or bud dropping in the spring is sure to follow. Keep the ventilators wide open night and day, and if the roof lights are removable so much the better, as these may be removed, cleaned, repaired, and painted if necessary.

SUCCESSION HOUSES which contain ripe fruit should be kept fully ventilated night and day, as by these means the highest flavour is secured. Examine the trees daily when the fruits are cool, and gather all that are ready. A little practice will enable anyone to discern when a fruit is fit to gather. Place the fruits in an airy room on a soft surface, and keep each day's gathering separate. Trees which are swelling up a heavy crop of fruit should be liberally assisted with liquid and other stimulants. Pinch all gross shoots and any lateral growths, and otherwise keep the foliage clean and healthy by freely syringing it in the mornings and again at shutting-up time with clear soft water. Push aside the foliage as the peaches change colour, to fully expose them, always remembering that, as a rule, the higher the colour the better the flavour.

LATE HOUSES.—Finally, thin the fruits in these houses, if not already done, reserving all the best-placed fruits. If the trees are all right at the roots there need be no apprehension of fruit dropping at a later stage. Attend to tying and training, and avoid overcrowding; keep the syringe going vigorously, feed liberally, and apply a good mulch of horse-droppings or other similar material, as these mulches will be found of benefit to trees carrying heavy crops.

SUCCESSIONAL FIG HOUSES.—These will now be supplying ripe fruits, and a drier atmosphere will be necessary. Syringing will have to be done sparingly, and this only after all ripe fruits are gathered. The best flavoured fruits are those that are not picked until they are near bursting, but for travelling a long distance they must be picked in a tender but not too ripe stage. Later trees from which only one crop is gathered should have abundance of air and copious waterings at the roots to obtain large fruits of the highest quality. Do not pinch the points of the shoots, but remove altogether any growths which cause overcrowding, and any fruits which show after the main crop is thinned should be removed.—F. JORDAN, Warter Priory Gardens.

THE FLOWER GARDEN.

BORDER CARNATIONS.—In many instances the effects of the past wet winter and spring are still very evident among border carnations; not only are flowers scarce, but the side growths also; in fact, I have noticed that many plants of some varieties are not producing any growths at all, but simply solitary flower stems. This is far from being satisfactory, as another season's display is in danger owing to the shortage of young plants. Plants which are to be treated should have the surface soil between them lightly moved with a small hand-fork, previous to putting down the soil in which the young growths are to be layered; a mixture of light sandy soil will be found suitable for the purpose. In preparing the growths strip all basal leaves off, and make an incision with a sharp knife quite three parts of the way through the stem transversely, below a joint, and carry it upwards for an inch; this is of great importance, for unless the stem is sufficiently severed the young growths will secure enough nourishment from the old plant to keep them going without a check, and consequently the formation of roots is delayed. When pegging down, the tips of the layers should be brought up to nearly an upright position to prevent reunion.

THE ROCK GARDEN.—During spells of hot, dry weather, many subjects in the rock garden will be greatly benefited by occasional soakings of water, and this, quite apart from those which require keeping in a more or less damp condition continually, such as Gentiana verna and G. pneumonanthe, various primulas, hardy cypripediums, etc., as it is not always possible to make provision for them to sufficiently establish themselves to such an extent as to defy a long drought, however well Nature is copied in constructing a rockery. Incidentally there occur sites which consist of only a shallow depth of soil laying over partly hidden stones; such places are death-beds during dry weather if not kept watered. All freshly-planted colonies must be well looked after in this respect until they are established. The present time is very suitable for propagating various rock plants, as many have passed out of flower; generally speaking, the majority of the soft-wooded kinds give no great difficulty in this direction, whether cuttings or divisions are practised. A cold pit containing light, gritty soil is a most suitable place in which to insert the cuttings, etc., and until these have taken root the pit should be kept close and well shaded during bright weather.—T. B. FIELD, Wych Cross Place Gardens.

THE SHOW OF THE MIDLANDS!!

BIRMINGHAM HORTICULTURAL EXHIBITION.

FRIDAY and SATURDAY, July 18 and 19, 1913.

£600 CASH PRIZES.
8 Silver Cups. Gold, Silver-Gilt, Silver, and Bronze Medals.

BOOK SPACE AT BIRMINGHAM.

WILLIAM G. CARRADINE, F.R.H.S., Secretary, Birmingham.

THE GREAT ROSE SHOW OF THE YEAR

Will be held by the

National Rose Society

in the

ROYAL BOTANIC GARDENS, Regent's Park, N.W.,

on

FRIDAY, JULY 4.

The two Champion Challenge Trophies will be competed for, also numerous other Cups and Pieces of Plate, and Money Prizes to the value of over £400.

NEW SEEDLING ROSES IN A SEPARATE TENT.

BANDS OF THE ROYAL HORSE GUARDS (THE BLUES) AND SCOTS GUARDS.

Luncheons, Teas, and other Light Refreshments.

ADMISSION:

Noon to 3 p.m., **5s.**; 3 to 5 p.m., **2s. 6d.**; 5 to 7 p.m., **1s.**

E. MAWLEY,
Hon. Secretary, Rosebank, Berkhamsted.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY.

GRAND QUARTER CENTURY FLOWER SHOW.

SOPHIA GARDENS, CARDIFF,
WEDNESDAY and THURSDAY, JULY 23 and 24.

Specially good Prizes in every section, amounting in money and plate to nearly £500. Tents lighted by electricity. Popular Prices.

Schedules from the Secretary, Mr. A. MAURICE BAILEY, 24, Duke Street, Cardiff.

LEICESTER.—ABBEY PARK FLOWER SHOW, 5th and 6th August next. Open Class, Group of Plants, £20, £15, £10, £6. Liberal prizes for Collections of Fruit, Displays of Roses; Silver Cup, Gold and Silver Medals for non-competitive exhibits. Schedules from JOSEPH BURTON, Supt.

MALVERN ROSE AND SWEET PEA SHOW.

THURSDAY, JULY 10th, 1913.

Open Classes in Roses and Sweet Peas.
Nearly £100 in Prizes.
Entries close July 7th.

For Schedules and Entry Forms apply to A. D. MELVIN, Secretary, The Poplars, Malvern Link.

NATIONAL SWEET PEA SOCIETY.—GREAT EXHIBITION AT ROYAL HORTICULTURAL HALL, WESTMINSTER, July 17, and at CARLISLE on August 13 and 14th. Now is the best time to join the Society. Minimum Annual Subscription, 5s. Schedules on application. Entries for London close July 10th. CHAS. H. CURTIS, Hon. Sec., Adelaide-rd., Brentford, Middx.

ROYAL LANCASHIRE AGRICULTURAL SOCIETY.

GREAT HORTICULTURAL SHOW will be held at BURNLEY, on JULY 31, 1913, and following days. Liberal Prizes are given for Groups of Plants, Hardy Perennials, Carnations, Fruit and Table Decoration, etc.

Entries close July 14th. For Schedules apply—PETER BLAIR.

Trentham Gardens,
Stoke-on-Trent.

WOLVERHAMPTON.

GREAT FLORAL FETE,
JULY 8th, 9th, and 10th, 1913.

NEXT WEEK.

YORKSHIRE AGRICULTURAL SOCIETY. GRAND HORTICULTURAL SHOW will be held in YORK, JULY 23, 24, and 25, 1913. Large Prizes are given for GROUPS OF PLANTS, HERBACEOUS FLOWERS, FRUIT, etc.

For Schedules apply PETER BLAIR, Trentham Gardens, Stoke-on-Trent.

Entries close July 5th.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Norwich Flower Show.

JUNE 25 and 26.

Chapelfield Gardens and the Drill Hall were the delightful venue of an interesting show The competitive classes occupied three tents, while the Drill Hall was well filled with trade exhibits. The weather was fine but cool, with the result that the roses lasted well even through the second day. The attendance of visitors was not so large as could have been wished, there being counter attractions in the Norfolk Agricultural Show, held at Dereham on the same dates.

ROSES.

occupied the greater portion of one of the tents, and in some of the classes there was fairly close competition, some excellent blooms being staged by well-known exhibitors. The leading class was for forty-eight distinct varieties, and here Messrs. Burrell and Co., Howe House Nurseries, Cambridge, were first. The merit of their stand lay in the freshness and evenness of the flowers, which were not exceptionally large, but had good substance. Colonel R. S. Williamson, Edward Mawley, J. B. Clark, Wiliam Shean, and Florence Pemberton were a few of the best. Messrs. Frank Cant and Co., Braiswick Nurseries, Colchester, followed very closely for second place, showing Alice Lindsell, George Arends, Killarney, Mildred Grant, and Duchess of Portland, among other leading exhibition roses. Mr. H. Morse, Westfield Nurseries, Eaton, Norwich, was third. Messrs. Burrell and Co. also led for eighteen triples, showing some beautiful flowers of Dean Hole, Comtesse de Nadaillac, Bessie Brown, and other light varieties for third. Messrs. Burrell and Co. also had for favourite A. K. Williams in good form on their second-prize stand, as well as several recently-introduced varieties. Success still followed Messrs. Burrell and Co. in the class for eighteen teas and noisettes distinct, their Maman Cochet, Mdme. Jules Gravereaux, and Molly Sharman Crawford being especially noteworthy. Mr. H. Morse was second in this class, his stand containing smaller but neat blooms.

For twelve blooms of new roses in not less than eight varieties, Messrs. Burrell and Co. again occupied the premier position with Edward Mawley, Mabel Drew, Duchess of Sutherland, Mrs. Amy Hammond, Mrs. Jos. H. Welch, Ethel Malcolm, Mrs. Muir McKeen, Lady Barham, Mrs. Cory Wright, Mrs. Herbert Hawksworth, Lady Greenhall, and Mrs. Sam Ross. Second prize in this class was secured by Messrs. Frank Cant and Co., Melody, a cream-coloured flower of fine shape being conspicuous in their box. Mr. H. Youngman, gardener to the Executors of R. Steward, Saxlingham Old Hall, Norfolk, took third in this class with a very nice stand of choice varieties. Messrs. Frank Cant and Co. obtained premier honours for eighteen bunches of garden roses distinct. They had a good bunch of Princess Bonnie, a rich red H.T. of good form, Lady Curzon, and Mdme. Pernet Ducher were also of great excellence.

In the amateurs' section the largest class was for thirty-six distinct varieties, Mr. H. Youngman scoring with a beautiful lot of well-grown and well-staged roses. Included in the set was a really magnificent bloom of Mrs. Jos. H. Welch, which received the award for the best bloom of any rose other than tea or noisette. Mr. J. Hinchley, gardener to Rev. J. A. Z. Fellowes, Bunwell Rectory, received second prize, some of his flowers being very good. Third prize was taken by Mr. R. Balls, gardener to Miss Penrice, Witton House, Norwich.

Mr. H. Youngman again led the way for eight triples, staging with fine effect Mrs. J. H. Welch, Bessie Brown, Mdme. Melanie Soupert, and others. He was followed by Mr. R. Balls and Mr. J. Hinchley in the order named. For twelve teas and noisettes Mr. H. Youngman was still to the fore, his flowers including The Bride and White Maman Cochet, Medea, and Comtesse de Nadaillac. Mr. J. Hinchley was second, and he was awarded the prize for the best individual bloom of tea or noisette with a superb example of Muriel Grahame.

In a separate section for growers of less than 500 plants there were some very creditable exhibits. Mr. J. Weeks, gardener to Cecil Wilson, Esq., High House, Thorpe, Norwich, took first prize for twelve blooms distinct, showing Mrs. Edward Mawley, Mrs. Theodore Roosevelt, Joseph Lowe, Mildred Grant, etc. Second prize was secured by Mr. E. Chambers, gardener to Captain H. H. Francis, Long Stratton, Norfolk; and the third prize went to Mr. S. Jackson, gardener to L. E. Garrett, Esq., Chedgrave Manor. There were seven entries in this class, and the quality over all was excellent.

Mr. J. Weeks scored for four varieties in triplets, showing Countess of Derby, Kaiserin Augusta Victoria, Juliet, and Mdme. Melanie Soupert. The second prize was awarded to Mr. S. Jackson, who had three big blooms of Mildred Grant, which rather overpowered the other varieties. Mr. J. Woodrow, gardener to Bishop Fisher, Burgh House, Norwich, was third in this class. Six teas found Mr. R. Lowne, gardener to A. Lewick, Esq., Coonoor, Thorpe, at the head of the class, Mr. E. Chambers being placed second.

Mr. J. Hinchley was awarded first prize for twelve blooms of any one tea or noisette variety, showing Lady Roberts, the flowers being of fine form and rich in colour. Mr. H. Youngman had Souv. de S. A. Prince, for which he received second prize, Mr. R. Balls coming third with Souv. de Pierre Notting. For twelve blooms of any one variety other than tea or noisette, Mr. H. Youngman's Frau Karl Druschki received principal honours; Bessie Brown, shown by Mr. J. Hinchley, being placed second, Mr. R. Balls taking third place with some nicely-coloured La France. For six blooms of any tea variety H. C. Fitzgerald, Esq., Thorpe St. Andrew, secured the first prize with White Maman Cochet, Mr. E. Chambers' stand of Lady Roberts taking second place, third prize going to E. G. Buxton, Esq, Catton Park, with the same variety, but not so rich in colour. H. C. Fitzgerald, Esq., also scored with six Frau Karl Druschki; Mr. J. Woodrow was second with Mrs. W. J. Grant. Mr. H. Youngman excelled in a class, restricted to members residing in Norfolk, for twenty-four distinct varieties, the second prize going to Mr. J. Hinchley.

SWEET PEAS.

Next to the roses, sweet peas were the best feature of the show, the exhibits filling the central stages of the second tent. The chief class in the section was for twenty-four bunches of twelve spikes each, distinct varieties, and the winner received in addition to a cash prize Daniels' Challenge Cup, value ten guineas. Mr. F. Wilby, gardener to F. A. Banbridge, Esq., Cedar Grange, Hethersett, was the winner, and he showed a nicely-arranged collection of up-to-date varieties. Walter P. Wright, Mrs. C. W. Breadmore, Lady Evelyn Eyre, Hercules, Barbara, and Edith Taylor were included in his exhibit.

Mr. T. Bethell, gardener to Major E. W. Denny, Tacolneston Hall, led for twelve bunches, showing very strong flowers, strong in stem and clear in colour. The second prize

was awarded to A. T. Stedman, Esq., Glandford, Cley, who also had a fine exhibit. Mr. Allborough, gardener to Neathes Prior, Esq., Thorpe St. Andrew, was third. Mr. S. Rayner, gardener to Dr. A. R. Kay, The Manor House, Blakeney, had the best six bunches, R. F. Felton, White Queen, Mrs. Cuthbertson, and King Manoel being good vases. Miss L. Spratt, Manor House, Tacolneston, was a good second, and Mr. S. Hurst third.

The Silver Medal for the best single vase went to Mr. T. Bethel, with a strong bunch of Sunproof Crimson of really good quality. Mr. Bethel also won with Mrs. J. C. House in the single vase of any blue, lavender, or mauve variety, and with Clara Curtis, well shown in the primrose or cream class. The best vase of a purple or maroon variety was King Manoel, shown by Mr. S. Rayner. Mr. Bethel had the best vase of a white variety with Nora Unwin, and also for the best flaked variety with well-grown flowers of Mrs. W. J. Unwin.

Mr. W. Chettleburgh, gardener to Colonel Rous, Worstead House, Norwich, received first prize for a collection of forty-eight varieties of cut hardy perennials. He showed Orchis foliosa, Kniphofia repens, Rudbeckia californica, and Tropæolum speciosum among his subjects. Mr. J. Hilson had first prize for thirty-six bunches, showing a nice clean lot of useful border subjects, the best twelve bunches being staged by Frank Neave, Esq., Lingwood, Norwich. Tropæolum polyphyllum and Iris ochroleuca, with Martagon lilies, were among his best bunches.

Mr. S. Hunt, gardener to Mrs. Colman Wells, Southwell Lodge, Norwich, was placed first for six bunches, showing King of Delphiniums, Iris Anglica Bridesmaid, Geum Mrs. Bradshaw, etc. A grand vase of cut carnatons secured first prize for Mr. W. Allan, gardener to Colonel the Hon. C. Harbord, Gunton Park, Norwich, his flowers of Cecilia and other good varieties being large and beautifully finished. Mr. D. Cockerell, gardener to G. E. White, Esq., Eaton House, Norwich, was second, and Mr. F. J. Endersby third.

FRUIT.

A collection of six dishes brought three entries, the winner being Mr. J. Hilson, gardener to Sir Frederick Adair, Bart., Flixton Hall, who showed Black Hamburgh and Buckland Sweetwater grapes, Queen of the West melon, Brown Turkey figs, Givon's Late Prolific strawberry, and Cardinal nectarine. The second prize was awarded to Mr. T. Notley, gardener to E. G. Buxton, Esq., Catton Park, Norwich, and the third to Mr. W. Chettleburgh.

Mr. J. Hilson had the best three bunches of black grapes, and Mr. J. Woodrow the best single bunch. Mr. Woodrow led for three bunches of white, and Mr. Hilson for a single bunch. Mr. Hilson also scored for two dishes of strawberries, showing Royal Sovereign and Givon's late Prolific. The first prize for four dishes of strawberries was awarded to Mr. F. J. Endersby, gardener to J. H. Gurney, Esq., Keswick Hall, the varieties being The Laxton, The Leader, Bedford Champion, and Laxton's Reward.

NON-COMPETITIVE.

Messrs. Hobbies, Lim., East Dereham, specialised in new roses, their stand containing quite a collection of the most recently-introduced varieties. Among a nice lot of roses exhibited by Mr. H. Morse, Westfield Nurseries, Eaton, Norwich, Rayon d'Or was richly coloured, and Duchess of Wellington, Sunburst, Dean Hole, and Mrs. Foley Hobbs were well shown. Messrs. A. J. and C. Allen, Rose Nurseries, Norwich, made a big display of weeping standard and pillar ramblers in pots, as well as a broad mass of cut flowers set up in round baskets.

Messrs. Young and Co., Hatherley, Cheltenham, brought a very attractive lot of perpetual carnations, which were arranged most tastefully; the large blooms of Mrs. Raphael and the clear yellow Cecilia were conspicuous among many of the best sorts, Royal Purple being very distinct and rich in colour. A good display of roses came from Mr. Ernest Morse, "The Dell" Nurseries, Eaton, Norwich.

Messrs. Daniels Bros., Lim., the Royal Nurseries, Norwich, occupied one side of the hall with an exhibit comprising tall weeping standard roses, conifers, and ornamental shrubs, some miscellaneous greenhouse flowering plants, a colony of nymphæas in an improvised pond, and a table of sweet peas.

One of the most attractive exhibits in the hall was a collection of sweet peas staged by Mr. W. J. Unwin, Histon, Cambridge. His flowers were particularly clean and bright in colour, and they were arranged with great taste. Mr. Robert Holmes, Norwich, showed big, bold bunches of sweet peas, most of which were of his own raising, and included a number of promising seedlings. Messrs. G. Stark and Son, Great Ryburgh, showed among other good sweet peas an unnamed seedling of a rich blue colour. They also had Stark's Salmon, one of perfectly even shade throughout.

Mr. G. W. Miller, Clarkson Nurseries, Wisbech, staged a nice collection of orchids, embracing cattleyas, cypripediums, and a few odontoglossums. Mr. Miller also staged a capital collection of hardy border flowers, pæonies and delphiniums being strong features.

City of London Rose Show.

With old-time pomp and ceremony, and in a blaze of ceremonial scarlet and gold, the Lord Mayor of London and the Lady Mayoress attended at the Great Hall of the Cannon Street Hotel, in the City of London, on Thursday, June 26, to open the first real City rose show. Our readers will remember that Mr. A. E. Protheroe started the idea of a City show for City men, but he also worked tremendously hard in organising a society to carry out his idea, acted as hon. secretary and treasurer, and saw his efforts most amply rewarded by a superb exhibition of blooms on the above date. Trophies and pieces of plate were freely offered as prizes, and the competition was altogether first-rate, and the blooms shown were in excellent condition. The lighting of the hall is scarcely of the best for a rose show, and, owing to the strenuous competition, there was none too much space to move in, but these are matters which were only noticeable as a consequence of the success of the exhibition.

NURSERYMEN.

The Turner Challenge Cup for the best forty-eight blooms was capitally won by Messrs. Alex. Dickson and Sons, Newtownards, who led among eleven competitors, and scored with lovely flowers, some of which, to our way of thinking, were a little too much dressed. There were capital flowers of Edward Bohane, Mrs. E. Mawley, Lady Cooper, Frau Karl Druschki, Lady Burnham, Nita Weldon, H. V. Machin, Mrs. Foley Hobbs, and Ulster. Second prize fell to Messrs. B. R. Cant and Sons, Colchester, and third to Messrs. R. Harkness and Co., Hitchin. There were also eleven competitors in the class for a dozen trebles, and here Messrs. G. and W. H. Burch, Peterborough, scored with a good set of Lady Ashton, Lyon Rose, Mdme. Jules Gravereaux, W. Shean, Mildred Grant, Dean Hole, Mrs. Maynard Sinton, St. Helena, Rosamane Gravereaux, and Mrs. Theodore Roosevelt. Mr. George Prince, Longworth, Berks, was a good second, and third prize fell to Messrs. Alex. Dickson and Sons.

Mr. George Prince, Longworth, Berks, led for eighteen tea roses with a good stand of medium-sized flowers; Mrs. E. Mawley, Medea, Mdme. Jules Gravereaux, and Mrs. H. Stevens were capital blooms; Messrs. J. Burrell and Co., Cambridge, second; and Mr. J. Mattock, Headington, third; four competitors. Eighteen bunches of decorative roses made a grand show, and to Mr. J. Mattock, Headington, Oxford, fell the principal award for a lovely stand, in which General MacArthur, Lady Pirrie, A. R. Goodwin, Warrior, and Duchess of Wellington made important bunches; Messrs. W. Spooner and Sons, Arthur's Bridge, Woking, second; and Messrs. Frank Cant and Co., Colchester, third; five competitors.

Messrs. Chaplin Brothers, Joyning's Nursery, Waltham Cross, were a capital first in the class for seven baskets of roses, each basket containing one variety only. The varieties shown were Lady Hillingdon, Pharisaer, Mdme. M. Soupert, General MacArthur, Mdme. Abel Chatenay, Duchess of Wellington, and Prince de Bulgarie; Messrs. A. Dickson and Sons second, their Irish Fireflame, Carine, Queen Mary, Joseph Hill, and Mrs. F. Straker were lovely, and of fine quality and colour; Mr. W. R. Hammond, Burgess Hill, Sussex, third; five competitors.

The best dozen new roses came from Messrs. Alex. Dickson and Sons, Newtownards, who won with Mrs. H. W. Handworth, Mrs. J. H. Welch, Mabel Drew, Mrs. A. E. Coxhead, Lady Barham, Miss Amy Hammond, Mrs. G. Preston, Mrs. Foley Hobbs, Lady Greenall, Edward Mawley, Alex. Hill Gray, and Duchess of Sutherland; Messrs. B. R. Cant and Sons, second; and Messrs. J. Burrell and Co., third.

AMATEURS.

The open amateur challenge cup, presented by A. E. Protheroe, Esq., was won by Mr. W. Onslow Times, Bedford Road, Hitchin, who staged the best two dozen flowers, and showed Mdme. M. Soupert, Mdme. Jules Gravereaux, Gloire de C. Guinoisseau, White Maman Cochet, a fine form, but several of his flowers were weather-stained. Mr. Henry Balfour, Langley Lodge, Headington Hall, Oxford, second; and Mr. E. F. Brown, Lynton, Sussex Place, Slough, third.

In the members' section the City of London Championship Trophy, for the finest twelve roses, was won by Mr. H. L. Wettern, 16, Water Lane, E.C., with a grand box of superb flowers, the varieties being Yvonne Vacherot (one of the best blooms in the show), Mrs. J. Welsh, Mildred Grant, Avoca, Caroline Testout, Rhea Reid, Mdme. Jules Gravereaux, W. Shean, Mrs. T. Roosevelt, Mrs. J. Laing, Hugh Dickson, and Dean Hole; Mr. Lewis S. Pawle, Stock Exchange, came second, and Mr. J. Hart, 21, Spital Square, E.C., third.

Mr. A. C. Turner and Mr. H. L. Wettern were placed as mentioned for six trebles, and Messrs. H. L. Wettern, J. Hart, and A. C. Turner were the prize-winners for nine teas or noisettes, while Mr. A. C. Turner beat Mr. H. L. Wettern for six blooms of one variety with Bessie Brown, Mr. Wettern showing Mrs. T. Roosevelt.

Mr. A. S. Brown, Brokes Lodge, Reigate, led for a dozen blooms in the division open to growers of fewer than 1,000 plants, and he was closely followed by Mr. G. Gally, The Holme, Walton-on-Thames.

Mr. C. W. Edwards, Brantwood, Sutton, beat Mr. S. Hogg, 63, Winchester House, for nine blooms, in a class for flowers of fewer than 500 plants.

Mr. W. G. Padley, Winchester House, led for six blooms among seven competitors, who all grow fewer than 250 plants.

The Metropolitan classes brought out a very keen competition, and were confined to members growing roses near the City. The challenge cup, offered by the "City Press" for the best dozen flowers growing within eight miles of the Royal Exchange was capitally won by Mr. A. E. Coxhead, Ambleside Avenue, Streatham, and his best blooms were of Caroline Testout, Frau Karl Druschki, and Mrs. S. Clarke.

The Inner Suburbs Challenge Cup, offered by Mr. John Collingridge for the best nine roses within five miles of the Royal Exchange, fell to Mr. R. d'Escofet, Kingsley Dene, Dulwich, for a quite good set of popular varieties.

Mrs. A. E. Robinson, Norhyrst, Carshalton, and Mrs. A. C. Brown, Brokes Lodge, Reigate, won prizes for a bowl of roses, the former having Mdme. Abel Chatenay with Rosa rubrifolia foliage, and the latter showing Richmond, with Jersey Beauty foliage.

Mr. A. C. Turner scored for a dozen bunches of decorative roses, and won the

Walter Voss cup with a grand lot, his Lady Hillingdon and Liberty being splendid; Mr. H. L. Wettern a good second.

Medals for best blooms in certain divisions of the show were won as follows: Mr. A. E. Stanger, 21, Finsbury Pavement, with Avoca; Mr. H. L. Wettern, with a grand Yvonne Vacherot; Mr. R. d'Escofet, Dulwich, with Mrs. Myles Kennedy; and Messrs. B. R. Cant and Sons, Colchester, with A. Hartmann, a new rosy-red H.T. variety.

Mr. G. Prince and Messrs. Paul and Son added non-competitive groups of roses, which added greatly to the interest and effectiveness of the show.

Bournemouth Rose and Sweet Pea Show.

JUNE 25 and 26.

In a sheltered part of the beautiful grounds surrounding the winter gardens, a very successful exhibition of roses and sweet peas was held. The members of the Bournemouth Mutual Improvement Society combined on this occasion with the council of the Bournemouth Horticultural Society for the purpose.

Raising funds for the benefit of the last-named society, prizes were awarded only to members of the Mutual Improvement Society for competitive exhibits, medals and certificates being awarded to non-competitive or trade exhibits. Grand displays were made by some of the large nursery firms; Messrs. Carters', Raynes Park; Messrs. Dobbies, Edinburgh; Messrs. E. Webb and Sons, Stourbridge; Messrs. Cooling, Bath,; and Messrs. Keynes, Williams, and Co., Salisbury, being especially represented, each firm staging grand produce. The weather was beautifully fine, and great crowds of people visited the show. Last year the members of the Mutual Improvement Association held a very successful show solely for the benefit of their funds. This year the Bournemouth Horticultural Society is to have the benefit, as it is intended to hold larger exhibitions in future by the members of the council.

In the gardeners' tent the chief attraction was the table decorations of sweet peas and roses respectively. There was keen competition. Mr. W. Shave, of Wimborne, was first for a lovely sweet pea table; Mr. Heath, gardener to G. G. Russell, Esq., being second. Mr. Heath was first for a table of roses, Mr. Evans, gardener to G. J. Fenwick, Esq., coming a close second. Mr. Heath scored in the classes for a basket of roses and an epergne of sweet peas. Mr. Shave had the best bowl of roses, and Mr. Taylor, gardener to Walter Child Clark, Esq., the best six vases of roses. Mr. Weaver staged very high-class blooms of sweet peas in the class for nine and six vases respectively. Mr. Shave scored in the class for a display of sweet peas on a given table space, and was closely followed by Mr. Weaver. Mr. C. Humphries won in the class for roses staged singly, having a lovely specimen of the variety Hugh Dickson.

The large tent was filled to overflowing with non-competitive exhibits, comprising roses and sweet peas, stove plants, carnations, and herbaceous subjects, Mr. M. Prichard's group of the last-named being very noteworthy.

AWARDS.

Gold Medal.—Messrs. Webb and Sons, for sweet peas, Melba, Inspector, Thomas Stevenson, and Mrs. Cuthbertson were charming as regards colour, and all were very fresh; Messrs. Carters', Raynes Park, for sweet peas, White Queen, Edrom Beauty, White Spencer, and Loyalty being attractive varieties; Messrs. G. Watts and Sons, Lim., Palace Nurseries, Bournemouth, for roses and carnations, and stove and greenhouse plants. The roses were very representative, fresh, and well staged.

Silver Medal.—Messrs. Dobbie and Co., Edinburgh, for sweet peas, which were in the best possible condition, but rather short in the stem; Mr. T. Stevenson, Wimborne, Dorset, for a grand collection of about fifty vases of sweet peas, Bertie Usher, Edith Taylor, and May Campbell were noteworthy varieties, and all were staged in a light and graceful way; Messrs. Cooling and Sons, Bath, for climbing and hybrid tea roses, Mdme. d'Arblay, Rubin, Seagull, York and Lancaster, Bar le Duc, and Crimson Damask were lovely in bud and full in bunch or cluster; Mr. T. K. Ingram, Parkstone, Dorset, for charming weeping varieties as standards, and liliums; Mr. M. Prichard, Christchurch, Hants, for flowers of herbaceous plants, delphiniums being well represented, Verbascum vernale, Pæony Geftchen, Chrysanthemum maximum Mrs. Leigh, lupins, Œnothera fruiticosa, Gillenia trifoliata, white-flowered with red calyces, were all beautiful.

Certificates.—Walter Child Clark, Esq., for roses; the Chairman of Council, Councillor Chamberlain, F.R.H.S., for roses, carnations, and sweet peas; Messrs. Kaynes, Williams, and Co., Salisbury, for roses; Mr. Elford, Bournemouth, for border carnations; The Burton Hardy Plant Nurseries, for herbaceous flowers; Messrs. D. Lorrimer, Bournemouth, and Percy Sugden, Wimborne, for displays of roses respectively.

Southampton Rose Show.

By permission of Ellen Lady Swaythling the annual rose show was held in the beautiful grounds attached to South Stoneham House on June 25th, and, if not so large as in some years past, the display was of an interesting character. The roses were of capital quality, fresh, well coloured, and included an extraordinary number of the newer varieties, so much so that we missed many old favourites. The H.P. section was almost unrepresented, so popular have the many H.T. varieties become.

The arrangements were excellent under the guidance of Mr. C. S. Fuidge and Mr. H. E. Molyneux.

In all twenty-seven classes were provided for cut blooms, ten being open to all. The principal one was for forty-eight distinct varieties, and there were four competitors. Mr. G. Prince, Longworth, Faringdon, was easily first with medium-sized, fine quality specimens, the best varieties being Jonkheer J. L. Mock, Lyon Rose, Mdme. Jules Gravereaux, J. B. Clark, Bessie Brown, Edward Mawley, Ethel Malcolm, Lady Ashtown, Mildred Grant, Oberhofgartner Terks (extra fine), Mrs. M. Sinton, Lady Ursula, Mrs. G. Shawyer, Marquise de Sinety, Medea (large), Mrs. A. Coxhead, Avoca (richly coloured), Mrs. Myles Kennedy, Mrs. Sam Ross, Mdlle. Melanie Soupert, and Mabel Drew. Messrs. D. Prior and Sons, Colchester, were second with larger specimens, which, however, were not so clear or well coloured, but Lady Barham was so fine that it was selected as the premier bloom in the open classes. Mr. J. Mattock, Headington, Oxford, was placed third.

Four competitors staged twelve triplets, and Mr. G. Prince was here successful, winning the premier place with a really good set, and Edward Mawley, Lady Barham, Bessie Brown, J. B. Clark, Mdme. Jules Gravereaux, Mildred Grant, Dean Hole, Frau K. Druschki, and Mrs. A. Coxhead were deserving of mention as outstanding varieties; Mr. John Mattock was a good second, staging smaller, fresh examples; and Messrs. D. Prior and Sons third.

Five competed in the class for twelve teas or noisettes, and Mr. Prince followed up his previous successes by annexing the premier award with remarkable blooms of Mdme. J. Gravereaux, Mrs. F. Hobbs, Comtesse de Nadaillac, Mrs. Myles Kennedy, Mdme. Cusin, Souvenir de S. A. Prince, Mrs. Herbert Stevens (a wonderful bloom, pure in colour), Mrs. E. Mawley, White Maman Cochet, and Molly Sharman Crawford. Alexander Hill Gray, Esq., Beaulieu, Newander Bridge, Bath, came second with a good set; and Mr. H. Drew, Longworth, Berks, was third.

In the class for six blooms of any red or pink rose six competed, and Lady Ashtown was the winner of both first and second sets. Mrs. Foley Hobbs won for Mr. A. Hill Gray the leading award for six blooms, any yellow or white variety; Messrs. Prior and Son depending upon Bessie Brown for second place.

For a representative group of roses, 50 square feet, six entered, but only two competed, and the withdrawals at the last moment were a serious loss to the show. Mr. J. Mattock was easily first with a capital display, effectively arranged, of Lady Curzon, Irish Elegance, Crimson Damask, Marquise de Sinety, Lady Hillingdon, Juliet, Mrs. W. J. Grant, Sunburst, Goldfinch, and A. R. Goodwin, etc.; Messrs. W. and R. Rogers and Sons, Red Lodge Nurseries, Southampton, second. Baskets of cut roses in three distinct sorts made a good display, and Mr. J. Mattock was easily first with Ethel Malcolm, Lyon Rose (grandly coloured), and General MacArthur; Messrs. Prior and Sons second, and Mr. Prince following.

AMATEURS.

For eighteen distinct blooms four entered, and Mr. W. Jarratt Thorpe, Gransmoor, Hucclecote, Gloucester, won the prewith good blooms of Mrs. F. Hobbs, Ulrich Brunner, George Dickson (very fine), Jonkheer L. Mock, Bessie Brown, Franccis Michelon, and Princesse M. Mertchersky; Mr. A. Hill Gray second with smaller specimens; Dr. Seaton, Woodside Cottage, Lymington, third. In the class for six triplets five took part, and Mr. A. Hill Gray won with a good set, in which Lyon Rose, Ulster, and R. W. Smith were the most prominent sorts; Mr. W. J. Thorpe a close second. Mr. A. Hill Gray led for twelve teas or noisettes, and had a grand bloom of R. W. Smith; Dr. Seaton second.

In the division open to growers of less than 500 plants, a class for twelve blooms, distinct, was made. Dr. J. F. Gillett, Andover, with small, neat specimens, was first; Mr. J. A. Fort, The College, Winchester, won the piece of plate offered for twelve, for growers of less than 300 plants.

In the classes confined to the county of Hants, Mr. H. E. Molyneux, Brantwood, Southampton, won the Allan Gunn cup for twelve distinct blooms, among six entrants, with an interesting set, composed mainly of new varieties; Mrs. T. H. Vanderbilt, Colleen, Portia, Laurent Carle, Mrs. Muir MacKean, and Mrs. Amy Hammond were all good. Mr. R. C. W. Dixon, Glanville, Hulse Road, Southampton, came a good second. Mr. Allan Searle, Ashton Lodge, Bassett, Southampton, won for twelve teas or noisettes. Mr. Molyneux also secured the leading place for six bunches of decorative varieties with a specially pleasing exhibit of Grace Molyneux, Gustave Regis, Irish Elegance, Goldfinch, and Tausendschon. Mr. A. Searle second with a good set also. Very good indeed were the exhibits in the class for a display of garden or decorative varieties, and Mr. F. M. Vokes, Birch Lawn, Sholing, was first.

LADIES' CLASSES.

For a decoration of cut roses suitable for a dinner-table 6ft. by 4ft. five competed, and Mrs. E. M. Burnett, Westwood Road, Southampton, won with an effective arrangement of Irish Elegance with its own foliage; Mrs. Bealing second with a rather too heavy centrepiece of Mdme. Abel Chatenay. The last-named was first for a vase of cut roses. Mrs. Burnett won for a basket of roses with a quite effective arrangement of mixed blooms, Mrs. Bealing following.

SWEET PEAS.

Good specimens of this annual are invariably found at this show. In the class for six bunches, distinct, three entered, and the premier award fell to Mr. Usher, gardener to Sir Randolf Baker, Branstone, Dorset, for extremely fine blooms of Doris Usher, R. F. Felton, King Manoel, King Alfred, Hercules, and Barbara; Mr. Bealing, Bassett, Southampton, was a close second.

For six bunches (amateurs) Mr. S. T. White, North End, Eastleigh, won.

NON-COMPETITIVE.

Trade exhibits were numerous and effective. Messrs. John K. King and Sons, Coggeshall,

staged a remarkably fine collection of well-grown sweet peas, and gained a Gold Medal. Messrs. Toogood and Sons had sweet peas in quantity effectively displayed. Messrs. B. Ladhams and Sons, Shirley, Southampton, received a Silver-gilt Medal for a grand display of hardy flowers most charmingly arranged. Lavatera Olbia, an effective mallow rose-pink in colour, growing a yard high, was fine. Messrs. W. H. Rogers and Son, Red Lodge Nurseries, Southampton, had roses, hardy plants, and an effectively arranged rockery. Mr. E. J. Wootton, Fair Oak, Eastleigh, sent carnations in variety.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, June 17.

Present: Mr. G. Massee, V.M.H. (in the chair); Dr. Voelcker, Messrs. J. Odell, A. Worsley, G. Gordon, V.M.H., R. Hooper Pearson, W. Hales, J. T. Bennett-Poë, V.M.H., W. Fawcett, J. Fraser, E. M. Holmes, and F. J. Chittenden (hon. secretary).

COLOURS IN PELARGONIUMS. — Mr. Fraser showed specimens of, and offered remarks upon the manner in which the bright colours of show pelargoniums had developed from what was at first a dull-coloured flower with colours spreading merely along the veins in a double feathered line. This later became intensified, forming two spots of deep colour at the tips of the veins. Later still the colour spread from the spots until the whole of the upper petals became suffused with the same colour, though of probably lighter intensity, and finally the same colour spread to other parts of the flower.

BLUE OAK.—Dr. A. Voelcker showed sections cut across the branches of the oak from which the piece of greenish-grey wood shown by him last year was taken. The oak is at Tewkesbury, and has been struck by lightning, but it is improbable that this has had anything to do with the coloration of the wood. The dead branch had more of the colour developed than the living, but the latter showed it to a considerable extent, though in no part was it so intense as in the dead. The heart-wood was not coloured. The appearance was extremely like that described by Von Schrenk in Bulletin 36 of the "Bureau of Plant Industry," Dept. of Agriculture, U.S. America, under the title of "Blueing of Timber," and attributed to the presence of a fungus.

FOXGLOVE BRANCHED.—Mr. E. M. Holmes showed a spike of foxglove bifurcated about a third of the way up, and showing little, if any, sign of fasciation in the lower part. Other members referred to similar instances.

SAWFLY ON APPLE.—Mr. E. M. Holmes also showed some sawfly larvæ, which he had found feeding on the foliage of the apple. The larvæ belong to Lygæonematus mœstus, which Professor Theobald has only recently recorded as British.

ROSE WITH GREEN PETALS. — Mr. Chittenden showed the flower of Rosa canina with green petals. It had been plucked in a hedge not far from Leatherhead by Mr. Pleese, of Merrow, who had brought it to him.

VIOLA WITH FRINGED FOLIAGE. — Mr. Druery sent the plant, of which a leaf had been shown at the last meeting, of a viola with frilled and fringed foliage. It was found in his garden at Acton, and was evidently not V. odorata, as was at first thought. The species could not be determined from the specimen before the committee, but was perhaps V. Riviniana.

PELARGONIUM HYBRIDS. — Mr. A. Langley Smith showed a series of pelargoniums raised by himself. The first cross was not defined. From it were raised numerous seedlings, varying much in foliage and in habit and colouring of flowers. These were the result of self-pollinating the hybrid. The third set were the result of fertilising the seedlings so obtained with pollen from the original hybrid. These again showed much variation in foliage, etc.

GOOSEBERRIES DISEASED. — Several specimens of gooseberry branches were sent. They had died suddenly after starting into growth. This trouble with gooseberries is usually due to the attack of the fungus Botryosphæria ribesi. It is best to remove and burn the affected branches as soon as they are discovered, not allowing them to remain until the autumn. The branches should be cut away close to their origin, as the fungus fruits near to the base of the affected shoots.

SAXIFRAGE RUST.—Foliage of several of the longifolia group of saxifrages was sent from Hindhead badly attacked by a rust fungus. This fungus is a native of Switzerland, and has previously been recorded as attacking species of this section of saxifraga in this country (see "Journal of Botany," 1908, p. 153). Puccinia Pazschkei differs from P. saxifragæ in having the teleutospores warted instead of striate, and it does not appear to attack the British species of saxifraga.

Gardeners' Royal Benevolent Institution.

As announced in our issue of June 28, the annual festival dinner of this valuable horticultural charity, resulted in the donation of over £3,000 to the fund. Leopold de Rothschild, Esq., presided over a record attendance of ladies and gentlemen, and those present included Sir Jeremiah and Lady Colman, Sir Henry and Lady Veitch, Mr. and Mrs. Leopold Salomons, Sir Fortescue Flannery, Sir Walter Smythe, Right Hon. Colonel Mark Lockwood, M.P., Sir George and Lady Pragnell, and Messrs. G. Monro, H. B. May, A. Mackellar, J. F. McLeod, H. J. Alexander, Jas. Hudson, Jas. O'Brien, G. Bunyard, W. Cobb, W. Crump, G. H. Cuthbert, C. A. Ebblewhite, C. R. Freider, D. Ingamells, J. T. Taylor, A. Metcalfe, H. W. Nutting, J. Rochford, N. N. Sherwood, C. Sherwood, W. Sherwood, W. Atkinson, E. White, S. T. Wright, etc.

After the loyal toasts, the Chairman briefly reviewed the history of the fund, and said that when he presided over a similar function twenty-five years previously there were 134 pensioners, and now there were 258, costing £4,000 a year to maintain. Invested funds promised sufficient income to about defray management expenses, and so the maintenance of the pensions depended almost entirely upon the result of the generous contributions of friends at the festival dinner. He appealed earnestly for liberal contributions to the funds, so that those who had fallen on evil times in the course of their work of producing flowers, fruits, and vegetables might be helped.

Sir Harry J. Veitch, the treasurer, thanked the chairman for his presence and his earnest appeal, and emphasised the need of help by referring to several distressing cases that at present were receiving a little help from either the Victorian Era or Good Samaritan funds, until the next election of pensioners took place. How greatly the help the pensions brought was appreciated was made abundantly evident by the expressions of gratitude which Sir Harry quoted from letters received. Sir Harry pointed out that £145,000 had been expended in pensions by the charity, and the good work was limited by the amounts contributed by friends of gardening and gardeners.

"Horticulture in all its Branches" was proposed by the Hon. W. T. Mackenzie, High Commissioner for New Zealand, and responded to by Colonel Mark Lockwood. Mr. N. N. Sherwood ably proposed "The Chairman," a toast that was very enthusiastically received.

To Mr. G. J. Ingram, the secretary, a word is due for the excellent arrangements, and Mr. Hudson and Mr. Bedford deserve great praise for the floral decorations.

Chislehurst Amateur Horticultural Society.

JUNE 28.

The annual exhibition of this admirably managed society was held in the grounds of Kemmal Warren, Chislehurst, the residence of H. H. Nelson, Esq., on the 28th ult., and proved in every way a great success. The schedule was less comprehensive than is customary at summer shows, but there were ample provisions for the various classes of cut flowers that can be shown at their best at the present time, and, as the awards were liberal, the competition was spirited throughout. The great features were formed by the roses, sweet peas, and hardy flowers, which are exceptionally well grown in the many fine gardens in and around Chislehurst, and groups arranged for effect.

Roses were shown in large numbers and in excellent condition, and formed a delightful feature. Very keen was the competition in the class for twelve distinct varieties of garden or decorative roses, not less than four or more than nine trusses of each. In the result the premier award was made in favour of Mr. R. C. R. Nevill, Croft Cottage, Chislehurst, who had finely-balanced bunches of General MacArthur, Gustave Regis, Blush Rambler, and others of the more useful decorative varieties; and was awarded in addition to the first prize the Royal Horticultural Society's Silver Banksian Medal and the Affiliated Societies' Medal. In competition for the prizes for six bunches of decorative roses, Mr. B. de Quincy, Avonhurst, Chislehurst (gardener, Mr. Read), obtained premier honours with a remarkably fine collection; and Miss de Quincy, Stowcroft, Chislehurst, was a close second.

There was a spirited contest for the honours in the class for twelve blooms of exhibition roses, and the premier award was made in favour of Mr. John Dewrance, Cranmore Place, Chislehurst (gardener, Mr. Salway), who had blooms large in size and high in finish; Sir Corbett Woodall, Walden, Chislehurst, was a capital second. In another class for twelve blooms, Mr. Dewrance and Mr. B. de Quincy staged excellent boxes, and were first and second respectively. For six blooms, distinct, Mr. Harold Margeston was first with a box in which White Kaiserin was represented at its best. In competition for the prizes for six blooms in three varieties, Mr. Stanley George, Redholme, Chislehurst, occupied the first place with superb blooms; and Mrs. Lionel Jackson, The Vane, Bickley, followed closely for second place. In the class for six blooms of any one tea rose, Mr. J. Dewrance staged for first place superb blooms of Madame Melanie Soupert. Mr. Fox, Widmore, was successful in obtaining the first place for a bowl of roses with Irish Elegance, the blooms of high quality, and the arrangement characterised by much taste; Mrs. Harold Margeston had a charming arrangement in the class for a table decorated with roses.

Sweet peas were finely shown, and made

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

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a delightful display of colour. Miss McFarlane, Elmhurst, Bickley, was successful in obtaining premier honours in the class for twelve varieties, the flowers large in size and superb in colour. In addition to the first prize Miss McFarlane was awarded a Silver Medal for her vase of Edrom Beauty, and a challenge cup for the best exhibit in the division. Mr. B. de Quincy was successful in obtaining the second prize, staging flowers in a high state of development. The successful competitors in the class for six bunches were Mr. T. Morton, Holbrook, Chislehurst; Mr. Horton Harrild, Walsingham, Chislehurst; and Mr. T. Howard, West Leigh, Bickley; and all staged flowers of considerable excellence. In another class for six bunches, Mrs. Smith, Wyncroft, Bickley, was first; and for a vase of sweet peas Mrs. Waugh, Chislehurst (gardener, Mr. L. Mitchell). Mrs. Fox was successful in a strong competition in taking the first prize for a table decorated with sweet peas.

Hardy flowers constituted a glorious feature, for they were of high quality throughout, and staged with much taste. There were two classes for nine bunches, and in one Mr. J. Dewrance was first, and in the other Mr. A. Robinson, Butainley, obtained premier honours. The entries were numerous, and the flowers highly meritorious in the class for twelve bunches, and Mr. R. C. R. Nevill was successful in winning the first prize, a silver medal, and a challenge cup. Mr. H. Harrild and Mr. J. Dewrance, who were second and third respectively, also exhibited remarkably fine collections. Mrs. G. Smith and Mr. Thomas were among the leading prize winners.

Groups arranged for effect were considerably above the average, and at the head of several exhibitors was Mrs. Tiarks, Foxbury, Chislehurst (gardener, Mr. J. Lyne), who had a richly-coloured and exceedingly tasteful arrangement, the beautiful Vanda teres being used with good effect at the back, and odontoglossums, cattleyas, and Clerodendron fallax in the foreground. Mr. Leonard de Quincy, Oakhurst, Chislehurst, was a close second with a beautiful group. The gloxinias were simply magnificent; and Mr. J. Dewrance and Mrs. O'Brien, Oakleigh, Chislehurst (gardener, Mr. Parks) were first and second. No finer gloxinias than these have been seen on the exhibition stage.

Lavatera Olbia.—It is strange that this pretty flowering member of the mallow family, which was introduced well over three centuries ago, should have been so little known till within a quite recent period. The large flowers, which are of a beautiful satiny pink colour, with deeper veinings, are very freely borne.—T.

Double-flowered Agapanthus.—When first introduced, the double-flowered form of Agapanthus umbellatus aroused much interest, but it never became popular, and is now not often met with. The drawback is that the flowers, though double, do not open properly, however well the plants may be treated.—S. W.

A Bunch of Grapes on Old Vine Rod.—I have, growing from the rod of an Alicante vine, a very nice bunch of grapes. This bunch grows from a smooth part of the rod, and not from any portion of the spur. A fruit-bud had evidently formed, but I have not seen one in such a position before. There is no leaf or leaf-stem, only the solitary bunch. I remember a friend pointing out to me, many years ago, a shoot which had grown in the usual way after remaining dormant for a whole year. The shoot was on an ordinary spur, but this spur did not, during the whole of one summer, bear a growing shoot of any kind; the second year the bud developed in the usual way, but I do not remember whether the branch bore any grapes or not; I believe it did. Perhaps some reader of The Gardeners' Magazine may have had similar experiences.—G. B.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of The Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in The Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

ANNUALS FOR AUTUMN SOWING.—F. G., Bromley: Please give me a list of the best kinds of hardy annuals suitable for autumn sowing in a fairly sheltered and well-cultivated garden.—The following are suitable kinds of hardy annuals for summer sowing: Calendula, candytuft, cornflower, erysimum, eschscholtzia, larkspur, linaria, nemophila, nigella, platystemon, Shirley poppies, sweet peas, viscaria, and Virginian stocks.

GALL WEEVILS IN CAULIFLOWER ROOTS.—T. F. F., Amesbury: I send you some cauliflower roots on which are numerous galls. Many of our plants have flagged badly during the dry weather, and some have died; all those pulled up have shown the same kind of galls on the roots. Is there any remedy for this trouble?—The galls on the cauliflower roots are the result of the irritant action set up by the grubs of the Cabbage-gall Weevil. This weevil (Centorhynchus sulcicollis) lays its eggs in spring and early summer, sometimes later on also, on the roots of all kinds of brassicas; the eggs hatch out in about ten days, feed upon the roots, and so cause the gall-like swellings. If a gall is cut, a grub will be found inside it. Wherever there is danger of an infestation it is an excellent plant to make a thick mixture of water, clay, soot, and sulphur, and dip the roots of young plants into it, as soon as they are lifted from the seed-bed and just prior to planting. Lift and burn all infested plants, and also lift the roots of cabbages and cauliflowers as fast as the heads are cut, as there may be grubs at the roots, though not enough to kill the plant.

ASPARAGUS BEETLE.—R. A. F., Dudley: We experience some trouble from the asparagus beetle, and shall be glad to know a handy cure or remedy for an attack.—The asparagus beetle (Crioceris asparagi) is frequently a destructive pest, and therefore every care should be taken to dispose of an attack. Dissolve 1lb. of soft soap in some hot water, and then add warm water to make up eight gallons; syringe the growths and the surface of the bed with this solution, and follow it by a dusting with soot. Both soot and newly-slaked lime are very useful in combating this pest, and should be dusted over the bed and growths when these are moist with dew or rain.

BORDEAUX MIXTURE AND POTATO DISEASE.—J. B., Forfar: What is the best time of year to spray potatoes with Bordeaux mixture, and how often should the spraying be done, and at what intervals?—Spraying with Bordeaux mixture twice in July, with an interval of ten days or a fortnight, is the most effective preventive of potato disease, and, even though the weather may not be favourable to the spread of the disease, it always pays to be on the safe side. Should the weather be wet a third spraying may be necessary.

STERILE STRAWBERRIES.—P. F., Frodsham: I have two rows of a certain variety of strawberry, and only two plants have flowered and fruited; all the rest showed no signs of flowering, although to the best of my recollection most of them flowered and fruited a little last season. Would it be safe to propagate from this stock?—We should certainly not propagate from a stock that is sterile, or so nearly so as yours. All varieties of strawberries give sterile plants sometimes, and some do so more frequently in certain soils than in others, but no runners should ever be taken from sterile plants, or even from those that are below the average of productiveness, because the risks of utter

Steps to a Perfect Garden
ABOL
R.H.S.
TRIALS AT WISLEY.—
The "Abol" Patent Syringe
and Knapsack Sprayer received, at
the above Trials on May 3rd,
TWO HIGHEST AWARDS.
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¼ pt., 1/-; pt., 1/6;
qt., 2/6; ½ gall., 4/-;
gallon, 7/6.
No. 4 (1 x 14), 8/6
No. 5 (1 x 20) 10/6
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Bend, 1/6 extra.
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MEDALS & AWARDS.
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INSECTICIDE & PATENT SYRINGES

failure another season would be very great. Do not propagate even from the two plants which fruited, except for experimental purposes, but get a new stock, or, better still, try a variety that has proved successful in your neighbourhood.

ROSE LINA SCHMIDT MICHEL.—G. R., Walton: I saw some good examples of the decorative rose Lina Schmidt Michel at the City of London Rose Show last week, and was much struck by its beauty. Can you tell me whether it makes a good pillar rose, or what special merit it has in the garden?—In our issue of July 6, 1912, we published a very interesting account of this rose. It is a variety which takes two or three years to thoroughly establish itself, and then, under generous treatment, it will clothe a 10ft. or 12ft. pillar with deep-green, bronzy-tinted foliage and cream-pink vermilion-budded flowers. It is brighter than Dawn, and flowers well in the autumn.

HYBRID BETWEEN PRIMULA BULLEYANA AND P. PULVERULENTA.—D. B. J., Royston: Can you tell me whether a hybrid has been yet raised between Primula Bulleyana and P. pulverulenta? I know it must be very difficult to keep track of these primula hybrids, but you answer so many interesting questions that I ask this in the hope of answer.—We had a dim recollection of such a hybrid appearing last summer, and after some difficulty we found that Professor I. Bayley Balfour, Keeper of the Edinburgh Botanic Gardens, exhibited several primula hybrids before the Scientific Committee of the Royal Horticultural Society on June 4, 1912, and one of these hybrids was P. Inverleith, a hybrid between the species named above. The same hybrid may have been raised elsewhere, but we do not find any further record of it.

NAMES OF PLANTS.

N. S. E., Cheriton.—1, Oxytropis Halleri; 2, Jasminum floridum.

C. L., Abingdon.—1, Cistus monspeliensis; 2, C. ladaniferus maculatus; 3, C. villosus.

L. L., Plymouth.—1, Francoa appendiculata; 2, Hydrangea aspera; 3, Daphne laureola.

B. J., Bradford.—1, Odontoglossum crispum, a very good form; 2, Cattleya gigas; 3, Renanthera Imschootiana.

E. C. W., Romford.—1, Michauxia Tchihchatchewi; 2, Campanula alpina; 3, Leptosyne Stillmani; 4, Eryngium alpinum.

GREEN-FLY,

Frog-hopper, Caterpillar, Red Spider, Thrip. Mealy Bug and any insect pests that infest plants can be

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To make	10 gallons	1/0	post free	...	1/3
,,	20 ,, ...	1/6	,,	...	1/10
,,	40 ,, ...	2/6	,,	...	2/10
,,	80 ,, ...	4/6	,,	...	5/0
,,	160 ,, ...	8/6	carriage paid.		
,,	320 ,, ...	16/0	,, ,,		

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Horticultural Chemists,

17, LEATHER LANE, E.C.

MARKETS.

COVENT GARDEN.

Flowers.

Carnations are cheap, and so are roses; supplies are fairly heavy, and the demand good.

		s.	d.		s.	d.
Adiantum cuneatum ...	per doz. bun.	3	0	to	4	0
Asparagus plumosus ...	per doz. bun.	10	0		18	0
,, Sprengeri	per doz. bun.	8	0		12	0
Campanulas	per bun.	2	0		4	0
Carnations	per doz.	1	0		1	6
,, ...	per doz. bun.	4	0		8	0
,, Malmaison	per doz.	4	0		6	0
Cattleyas	per doz.	9	0		12	0
Coreopsis	per doz. bun.	1	3		1	6
Cornflowers	per doz. bun.	0	6		1	3
Croton leaves	per bun.	1	0		1	6
Delphiniums	per doz. bun.	5	0		8	0
Eucharis	per doz.	2	0		4	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	1	0		2	0
Gerberas	per doz.	1	0		1	6
Gladioli	per doz. bun.	4	0		10	0
Gypsophila	per doz. bun.	2	0		3	0
Lilium auratum	per bun.	3	0		4	6
,, speciosum	per doz.	1	6		2	0
,, longiflorum	per bun.	1	3		2	0
Lily of the Valley	per doz. bun.	9	0		15	0
Marguerites	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	2	0		3	0
Pæonies	per doz. bun.	4	0		8	0
Pelargoniums	per doz. bun.	3	0		8	0
Pinks	per doz. bun.	1	0		1	6
Poppies	per doz. bun.	1	0		2	0
Pyrethrums	per doz. bun.	2	0		3	0
Roses	per doz.	0	9		3	0
Smilax	per doz. trails	1	0		1	6
Spiræa	per doz. bun.	4	0		6	0
Stephanotis	per gross	6	0		8	0
Stocks	per doz. bun.	4	0		6	0
Sweet Peas	per doz. bun.	1	6		3	0

Fruits.

The strawberry supply has been very heavy, and is still good. Cherries and currants realise good prices, and so do raspberries.

		s.	d.		s.	d.
Apples, Australian	per box	14	0	to	18	0
,, Tasmanian	per box	14	0		18	0
Apricots	per box	1	6		3	0
Bananas, Canary	per bun.	7	0		12	0
,, Jamaica	per bun.	3	0		5	6
Cobnuts	per doz. lbs.	4	6		6	0
Cocoanuts	per 100	18	0		23	0
Cherries	per peck	4	0		8	0
Cranberries	per case	8	0		9	6
Currants, Black	per ½ sieve	8	0		9	0
,, Red	per ½ sieve	8	0		9	6
Dates	per doz. boxes	2	9		3	6
Figs	per doz.	1	6		8	0
Gooseberries	per ½ sieve	3	0		4	6
Grape Fruits	per case	12	0		22	0
Grapes, English	per lb.	1	6		7	0
,, Guernsey	per lb.	2	0		3	0
Lemons	per case	10	0		30	0
Mangoes	per doz.	6	0		8	0
Melons	each	1	0		3	0
Nectarines	per doz.	4	0		21	0
Oranges	per case	8	0		44	0
Peaches	per doz.	4	0		21	0
Pears, Tasmanian	per case	10	0		12	0
Pineapples	each	3	0		5	0
Raspberries	per doz. pun.	5	0		8	0
Strawberries	per basket	0	10		1	6
,, ...	per doz. pun.	3	6		6	0
,, ...	per peck	2	0		4	0

Vegetables.

Lettuces, turnips, and radishes are dearer than usual owing to the dry weather. Tomatoes are cheaper, and so are peas.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	2	0
,, Ground	per bush.	3	0		4	0
Asparagus	per bun.	1	6		3	0
Beet	per bush.	2	0		3	0
Beans, Guernsey	per lb.	0	6		1	0
,, English	per lb.	0	8		1	0
,, Broad	per bush.	2	0		3	0
Cabbage	per tally	2	0		3	0
Carrots	per doz. bun.	3	0		6	0
,, French	per doz. bun.	6	0		8	0
Cauliflowers	per doz.	2	6		4	0
Chicory	per lb.	0	2		0	4
Cucumbers	per doz.	2	0		4	0
Endive	per doz.	1	6		3	6
Horseradish	per doz. bun.	10	0		12	0
Lettuce, Cos	per doz.	0	9		1	0
Marrows	per doz.	2	0		4	0
Mint	per doz. bun.	2	0		4	0
Mushrooms	per doz. lbs.	4	0		7	0
Onions	per bush.	2	0		2	6
,, Spanish	per case	6	0		7	0
Parsley	per doz. bun.	2	0		3	0
Peas	per bush.	2	6		4	0
Rhubarb	per doz. bun.	0	10		1	6
Radishes	per doz. bun.	0	10		2	0
Spinach	per bush.	1	6		3	0

LONDON POTATO MARKETS.

New potatoes are plentiful, and home-grown tubers have begun to arrive. Jerseys will soon be over.

		s.	d.		s.	d.
Scotch	per ton	80	0	to	95	0
Dunbars	per ton	120	0		130	0
Jersey	per cwt.	7	0		8	0
St. Malo	per cwt.	7	0		8	0
Teneriffe	per cwt.	7	0		9	0
Kents	per cwt.	7	6		9	0

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. JUNE 22 TO JUNE 28.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
June 22—Sunday	10 0	66	61	73	4[illegible]
,, 23—Monday	2 54	58	54	64	51
,, 24—Tuesday.....	1 30	57	51	62	50
,, 25—Wednesday..	4 30	56	51	66	49
,, 26—Thursday....	8 12	60	54	69	50
,, 27—Friday.....	9 45	58	51	66	51
,, 28—Saturday.....	9 35	64	56	76	48
	(total)				
Means	46 26	59	54	68	4[illegible]

DATE. 1913. JUNE 22 TO JUNE 28.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	[illegible]
	ins.	deg.	deg.	deg.	deg.
June 22—Sunday	—	61	59	57	55
,, 23—Monday	0·02	63	60	57	41
,, 24 Tuesday.....	—	61	59	57	55
,, 25—Wednesday..	—	60	59	57	39
,, 26—Thursday....	—	61	59	57	55
,, 27 -Friday	—	62	59	57	57
,, 28 Saturday	--	61	59	57	39
	(total)				
Means ...	0·02	61	59	57	56

FORTHCOMING ENGAGEMENTS

NEXT WEEK.

TUESDAY, July 8.—Royal Scottish Arboricultural Society at Paisley; four days.
Wolverhampton Floral Fête; three days.
Baltic Rose and Sweet Pea Show.
WEDNESDAY, July 9.—Ealing Horticultural Society.
Dover Flower Show.
Elstree Flower Show.
Saltaire Summer Show.
Woodbridge Summer Show.
Formby Horticultural Society.
Hemel Hempstead Flower Show.
Hereford Rose Show.
Sidcup Flower Show.
Beckenham Horticultural Society.
THURSDAY, July 10.—Potter's Bar Flower Show.
Weybridge Horticultural Society.
Eltham Rose Show.
Finchley Rose and Sweet Pea Show.
Helensburgh Summer Show.
Hereford Summer Show.
Malvern Summer Show.
Liverpool Summer Show.
FRIDAY, July 11.—Manchester Rose Show; two days.
SATURDAY, July 12.—National Amateur Gardeners' Association.
Edgware Horticultural Society.
Congleton Summer Show.
Purley Flower Show.

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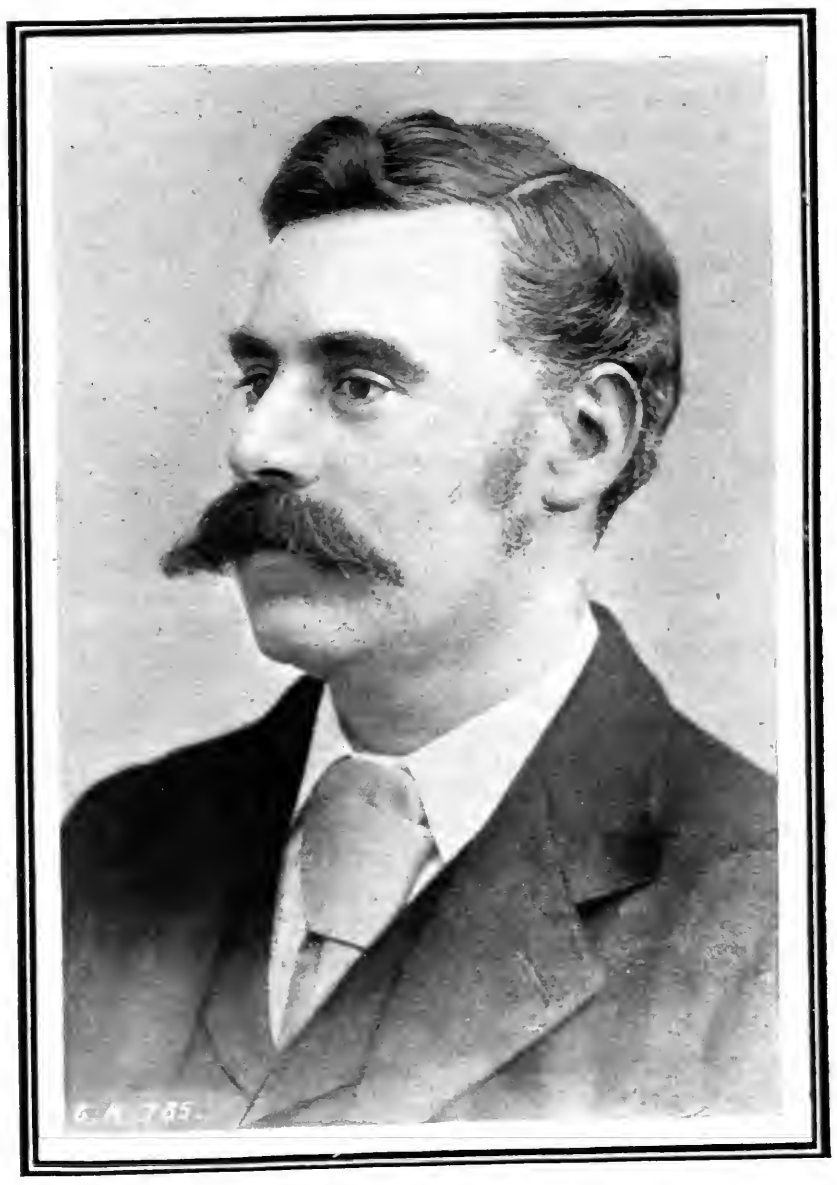
VOL. LVI.—No. 3,115. SATURDAY, JULY 12, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Season of Roses.

The season of roses is once more with us, and so prodigal are its gifts that few indeed of those who have a whole-hearted love for these gloriously beautiful flowers, and have lavished care and affection upon their plants, have cause to complain of the return that has been given them either in the abundance or the quality of the flowers. Indeed, so bountiful has been the season, that those who are acquainted with the cultural requirements of the rose, and have made strenuous endeavour to comply with them, have their gardens full of flowers that charm the eye by their diversity of form and exquisite colouring, and load the air with their delightful perfume. The season is somewhat of a surprise even to those who are skilled in rose culture, and are so closely observant as to be fully acquainted with the conditions under which the most successful results are obtained. There were periods in the spring season in which rosarians were very pessimistic with regard to the probable growth and flower development of their roses, and there appeared to be some justification for the fears that were entertained with regard to the effects of the unfavourable conditions to which the plants had been subjected. Did not the brown pith that extended far down the principal shoots indicate imperfect maturity of the wood as the result of the cold, wet weather experienced in the previous autumn, and some injury from frost during the winter? Were not the plants so precocious in starting into growth as to occasion some perplexity in determining when to prune, and to give rise to some anxiety as to the effects of the spring frosts on the tender shoots? Again, did not aphis settle upon the young shoots and multiply amazingly when they were checked in development by the period of cold weather that had so injurious an effect upon the plum crop? These questions must be answered in the affirmative, and wood less mature than usual, activity of the plants at an exceptionally early period, and severe attacks of insect pests at the early stages of the growths on which the flowers are produced, are matters that might well give rise to grave misapprehension on the part of even the most experienced rosarians. Happily the fears have not been realised; the season has been somewhat of a surprise, and gardens wherein good cultivation obtain are—



MR. P. O. KNOWLES.

"Full of roses, roses red and white,
Reddest roses summer ever grew,
Whitest roses ever pearled with dew,
And their sweetness beyond delight."

Everywhere roses are in flower production considerably above the average, and have for some time past contributed with remarkable liberality to the charms of the garden, and greatly enhanced the attractions and the interest of the summer flower shows. In no season that we can call to mind has the value of roses for exhibition purposes been so strikingly shown as in that through which we are now passing. In many of the provincial shows that we have had an opportunity of visiting during the past few weeks there have been wondrous displays of fragrant flowers. At its metropolitan exhibition, held a few days since, the National Rose Society established a record by holding the largest, the finest, and the most beautiful rose show the world has yet seen. All the chief groups into which cultivated roses are divided were shown in immense numbers and in a manner that did credit to the large body of rosarians who took an active part in the competition, and almost every conceivable form of exhibiting roses was demonstrated. Thousands of exhibition blooms were arranged in serried ranks in boxes of the orthodox type, which are unsurpassed for the display of flowers in which individual development is of prime importance. Many exhibition blooms were also staged in vases, and these have the merit of giving increased variety, and huge numbers of garden roses were arranged in bold vases, and produced glorious colour effects. The method of exhibiting both decorative and exhibition roses in wicker baskets of simple design is steadily increasing in popularity among the exhibitors at the National Rose Society's shows; and on this occasion the baskets of roses formed a great and highly-attractive feature. The basket of finely-developed blooms of the new hybrid tea rose Mrs. Carnegie, which we figure on another page, admirably represents this method of showing roses, and we specially commend it to the attention of those who are concerned with the management of provincial horticultural societies, but have not as yet seen roses shown in a similar manner. These baskets are admirably adapted to the requirements of those who do not exhibit largely, for they are inexpensive, not difficult to arrange, and light to carry about. The classes for bowls of roses are also rapidly increasing in favour, and the entries both for exhibition and decorative varieties were very numerous, and it was no light honour, as in the case of the first prize bowl of blooms of a decorative rose, also illustrated in this issue, to obtain the premier award. The groups of roses

occupying a specified area were finer than usual, and produced a distinct and beautiful feature, but unfortunately the exhibitors did not, as in previous years, attach sufficient importance to the stipulation that the judges have to give special consideration to the representative character of the groups, and consequently they contained fewer sections than could have been desired. New roses formed, as usual, a great feature. The number was larger than on any previous occasion, and there was an increase in the exhibitors, two points of interest, as showing the extension which the creation of new roses is undergoing. There was certainly no abatement in the interest evinced by visitors in the new roses, for although the length of the tent was doubled, it was thronged throughout the whole time it was open with long queus outside at either end waiting for admission. It is satisfactory to have evidence of the increased encouragement that is being given to roses at the exhibitions held by the smaller provincial societies. It would be still more so were the value of garden roses in the production of colour displays at exhibitions more fully appreciated. It is too frequently the case when additional rose classes are provided to devote them to specimen blooms of exhibition varieties. These latter, when shown in a high state of development, invariably afford so much pleasure to visitors, that an endeavour should be made to obtain an adequate representation of them. At the same time, the claims of garden or decorative roses for a prominent place in the local flower show should be recognised. Their usefulness for the embellishment of the flower garden and the supply of flowers for decorative purposes in the house fully justify their receiving liberal encouragement, and the majority of those who do not give special attention to exhibition roses find it much easier to stage a few vases of garden roses than they do a stand of exhibition blooms.

Mr. P. O. Knowles, steward and head gardener to Sir Frank Crisp, Bart., at Friar Park, Henley-on-Thames, is such a modest man that it was with some difficulty we persuaded him to send us his portrait, so that readers of THE GARDENERS' MAGAZINE might see the features of a man whose work is known personally to so many, and by reputation practically to every garden lover in the United Kingdom. Mr. Knowles commenced his gardening career in 1874, when he entered the gardens of Claremont, Esher. Here he remained three years, and subsequently served in two other horticultural establishments in the Esher district, the first of these being the gardens of the residence of Mr. Justice Wills, and the other those of Glenhurst. From the last-named place Mr. Knowles went to Greenlands, the residence of the Hon. W. F. D. Smith. In 1889 Mr. Knowles was appointed head gardener to Sir Frank Crisp, Bart. (then Mr. F. Crisp), and within a comparatively short period he afforded ample evidence of his having taken full advantage of his opportunities for becoming acquainted with the details of the gardening art during the course of his training. We first made Mr. Knowles's acquaintance in 1898, eleven years after the gardens were designed by Mr. Milner, and an illustrated account of the many interesting features appeared in our issue of July 9 of that year. Since then we have had many opportunities of observing and admiring the work accomplished by Mr. Knowles in carrying out the extensive alterations and additions that have been made during the past fourtten years. Friar Park possesses the most wonderful rock garden to be found in this country, and the whole, with the exception of bably about one-tenth, has been formed by Mr. Knowles. The collection of plants grown on this remarkable rockery is a most comprehensive one, and most kinds, even rare sorts, are grown in large masses. Although Friar Park is best known for its rock and water gardening, these features form but a small part of the work Mr. Knowles has to control. A fine collection of conifers, trees, and shrubs in great variety, a flower garden, a Dutch garden, a big kitchen garden, a score or more of glasshouses, and estate work, give Mr. Knowes ample scope, and everyone who has visited Friar Park, which Sir Frank Crisp so frequently, generously, and hospitably opens to horticultural, charitable, and political societies, knows full well how admirably Mr. Knowles fulfils the onerous duties that devolve upon him. We may re-echo the wish expressed in these columns fifteen years ago—i.e., "It is earnestly hoped the present proprietor will long live to enjoy his country home, and that his able steward, Mr. Knowles, may long continue to enjoy the support and goodwill of his present generous employer."

Masters Memorial Lecture.—Professor R. H. Biffen, M.A., will give the ninth Masters Memorial Lecture at the afternoon meeting of the Royal Horticultural Society on Tuesday next, the 15th inst. The subject of the lecture will be "Some Factors in the Prevention of Disease in Plants," and the chair will be taken at 3 p.m.

A New Farm and Garden School has been opened at Madryn Castle by the Carnarvonshire County Council. Madryn Castle is an old country seat, and the estate, extending over about 2,240 acres, was purchased for small holdings two years since by the above-named Council at a cost of £45,000. The castle, with eighteen acres of land, has been appropriated for the purposes of the school, and accommodation is provided for thirty-five resident students, together with the members of the staff. The principal is Mr. R. H. Evans, formerly assistant director of agriculture at the University College, Reading. The fruit and vegetable gardens have an area of three and a-half acres, and there will be a winter course in horticulture, and two summer courses for elementary school teachers.

Horticulture and Agriculture.—Encouraged by the splendid successs achieved by the Royal Agricultural Society in holding a flower show in conjunction with their annual exhibition, several other agricultural societies have included a horticultural exhibition in the programme of their annual gathering. We have before us the schedules of three of the agricultural societies who are holding a flower show, and it is interesting to note that these societies have not only followed the example of the first-named body in associating the products of the garden with those belonging to the farm, but they have placed the flower show arrangements in the charge of Mr. Peter Blair, Trentham Gardens, Stoke-on-Trent. This is not altogether surprising, seeing the success achieved by Mr. Blair at the "Royal" shows. The first of these exhibitions will be held by the Lincolnshire Agricultural Society at Lincoln, on the 17th and 18th inst., when £20 will be offered as the first prize for a group of plants, £15 as the premier award for 18 stove and greenhouse plants, and £10 as a first prize for begonias. This is followed by the exhibition of the Yorkshire Agricultural Society at York, on the 23rd inst. and two following days, when £25 will be offered as the first prize for a group of miscellaneous plants, £12 as a first for hardy herbaceous plants and flowers, and £10 as the first in each of the classes for stove and greenhouse plants, orchids, and tuberous begonias. The third show is that of the Royal Lancashire Agricultural Society, which will be held at Burnley on July 31 and August 1, 2, and 4. The schedule is comprehensive, and the most notable class is that for a group of plants with four prizes aggregating £70.

Knole, the Kentish seat of Lord and Lady Sackville, which has been prominently before the public during the past few weeks, is one of the most delightfully-situated and interesting baronial mansions in the country. It was one of the sixteen palaces at one time possessed by the See of Canterbury The estate was purchased in 1456 from Lord Saye and Sele by Archbishop Bouchier, who rebuilt the house, enclosed the park, and left the whole estate to the see. His successor, Cardinal Morton, enlarged the palace, and received visits from Henry VII. By subsequent owners Henry VIII. and Queen Elizabeth were frequently entertained at Knole. The flower garden and pleasure grounds are in keeping with the character of the building, and with their beds and borders of shrubs and hardy flowers they afford a fine example of what may properly be described as Old English gardening. Knole Park has an area of about 1,000 acres, and is highly picturesque, many of the trees with which it is so richly furnished being of great beauty. For many years the exhibitions of the Sevenoaks Horticultural Society have been held in the park, and this year's show will be held on the 23rd inst., when the mansion of Knole, with its remarkable treasures, will be open to the visitors to the exhibition.

Royal Horticultural Society's Daffodil Show, 1914.—We are informed by the Rev. W. Wilks, V.M.H., that the Royal Horticultural Society's daffodil show in 1914 will be held on Wednesday, April 15 and 16, and not on April 21 and 22, as previously notified. The fixing of dates a week in advance of those previously announced is likely to prove highly advantageous to all concerned, for the third week in April is rather late for daffodils grown in the south.

Roses and Dahlias at Kew.—Roses have been particularly attractive at Kew during the past fortnight, and much of their beauty continues, both in the rose garden round the palm house, and in the rose dell and the rose collection near the pagoda. The Lady Gay roses hanging over the stonework round the pond, between the palm house and the museum, are fast expanding their blooms, and there are many interesting ramblers in bloom on the pergola between the rock garden and the herbaceous grounds The summer bedding alongside the Broad Walk is already gay, and in the philadelphus and cistus collections many fine shrubs are flowering. The advice we have so frequently given respecting dahlias—i.e., to secure strong, vigorous plants, ready to put out as soon as frost is over, is borne out in the practice at Kew, where, during the first week of July, a large bed of Kaiserin Augusta Victoria was already white with its numerous large blossoms, and in a neighbouring bed the single variety Miss Roberts was producing numerous flowers. These plants will increase in size and beauty for many weeks to come, and will continue to be a fine feature until autumn frosts close their season.

WOLVERHAMPTON FLORAL FETE.

The show that opened at Wolverhampton on Tuesday, July 8, and continued until Thursday, deserves to be styled as one of the best all-round shows in the country. Excellence was the prevailing characteristic of every section, and from one end to the other there was that which was capable of maintaining the interest and admiration of the visitors, whom, it is pleasant to state, came in gratifying numbers. As has always been the case at Wolverhampton, the organisation and arrangement of the show left no room for improvement, and, as we have stated before, this show offers a pattern to horticultural societies as to how a flower show should be managed.

FIRST PRIZE COLLECTION OF BORDER AND PERPETUAL CARNATIONS,
Shown by Mr. C. Wall, Bath, at Wolverhampton.

GROUPS.

The one-time leading feature of flower shows—groups and trained specimens of stove and greenhouse plants—is steadily declining. Entries decrease, and year by year there is less evidence of the skill and painstaking care involved in producing fine crotons, dracænas, ericas, bougainvilleas, and other plants of this class. Still, in spite of this reluctantly admitted fact, the groups at Wolverhampton this year, three in number, were something to be proud of. The exhibitors deserve high compliment, the society may be congratulated, and British horticulture may take comfort that not yet is the art of growing stove plants a thing of the past. For a miscellaneous group covering 30ft. by 14ft., Messrs. Cypher and Sons, Cheltenham, added another to their long list of highest awards. The group was a grandly arranged mass of plants of great beauty and rare quality. Towering high over a broad arch in the background was a magnificent Kentia Fosteriana supported by elegant cocos, and the tall crotons used skilfully to break the level were underclothed by charming dendrobiums, ixoras, origanum, dictamnus, and splendid alocasias, anthuriums, and caladiums. There seemed to be in this group every plant that could add an item of beauty, and everything was placed just in the best possible position. Mr. J. V. Macdonald, gardener to Sir G. Kenrick, Edgbaston, Birmingham, who came second, had a most praiseworthy exhibit. His crotons were very fine, and he had beautifully-flowered miltonias, cattleyas, and odontoglossums, and other orchids, used with great taste. Dieffenbachias, pandanus, and Nandina domestica figured among the foliage plants, and quite in the foreground Nertera depressa, particularly well berried, and the small Caladium argyrites did good service. Mr. W. A. Holmes, Chesterfield, made a very good effort, and, although placed third, his group, in what may be termed ordinary competition, would have stood well, for it must be recorded that highest opinion expressed itself that these three groups reached highest watermark.

Messrs. Cypher and Sons led the way again in the group of foliage plants. Here the colours of the crotons and caladiums were as rich as any flowers, and the nephrolepis, adiantums, and selaginellas were fittingly used as a setting for the brighter things. Mr. Macdonald again ran very close for second place. There was real quality in every plant shown, and the arrangement was the work of an artist. Third place was taken by Mr. W. A. Holmes, Chesterfield, who had a pleasing variety of the most useful decorative plants, which were well arranged. Mr. W. R. Mannay, Dudley, was fourth with an excellent exhibit. An interesting class that has had a place for several years in the Wolverhampton schedule was for a group of one kind of flowering plant occupying ground space of 50ft. There were five exhibits, and first prize was awarded a group of Clerodendron fallax staged by Mr. J. F. Simpson, gardener to Sir C. Mander, Tettenhall Wood. The begonias staged by Messrs. Blackmore and Langdon, Bath, were placed second, but the opinion was strongly and freely expressed that this fine exhibit should have obtained the premier award. Third prize went to Mr. J. E. Knight, Wolverhampton, who showed standard ivy-leaved pelargoniums.

For twenty plants in pots not exceeding ten inches, Messrs. J. Cypher and Sons won with some effective specimens of Anthurium Scherzerianum, Statice intermedia, Erica ventricosa Bothwelliana, and several good foliage plants. Mr. J. F. Simpson, gardener to Sir C. Mander, Tettenhall Wood, Wolverhampton, was second; his collection included Gloriosa superba, Croton Weismanni, Allamanda Williamsi, Fuchsia triphylla, and Hydrangea Mdme. Moulliére. Mr. C. Weaver, gardener to H. Mander, Esq., Tripull Manor, Wolverhampton, was third.

ROSES

are always well shown at Wolverhampton, and this year was no exception. Entries were strong, and quality very good. The leading class for seventy-two varieties occupied a side of the tent, and Messrs. B. R. Cant and Sons, Colchester, won well with a stand that was representative of the best

roses in cultivation. Mrs. J. H. Welch was immense; Horace Vernet, an old favourite, was good, and so was Her Majesty. Newer varieties were Lady Helen Vincent, Mrs. Geo. Shawyer, Mrs. Cornwallis West, and St. Helena, all of delicate tints. Second place was taken by Messrs. R. Harkness and Co., Hitchin, who had good colour and substance in their flowers, which were just a wee bit smaller than the winners. Gloire de Chedane Guinoisseau was perfect in shape, the Lyon was of correct colour, and Horace Vernet was very rich. Messrs. Perkins and Sons, Coventry, who were third, had Lady Ursula, White Killarney, Mdme. Segond Weber, and Ethel Malcolm in good form. Fourth prize was awarded the King's Acre Nurseries, Lim., Hereford.

Quite a distinct method of showing roses was encouraged by provision of a class for nine circular baskets, not exceeding fourteen inches diameter. There was a good entry, Messrs. Hugh Dickson, Lim., Belfast, scoring highest honours. They had Golden Gem, Archie Gray, Mrs. Mona Hunting, Blush Queen, and William Cooper among an extra good set of new varieties. Mr. J. Mattock, Headington, Oxford, was second, Harry Kirk, Rhea Read, and J. B. Clark being very good on his stand. King's Acre Nurseries were given equal second, and Mr. W. H. Frettingham, Nottingham, received fourth. Mr. W. H. Frettingham, Nottingham, headed the prize list for thirty-six blooms with a very even, fresh lot of flowers. The lemon-coloured Mabel Drew, the dark velvety Lord Macaulay, and White Killarney were very nice. Messrs. B. R. Cant and Sons were second with another fine display; and Messrs. R. Harkness and Co., Hitchin, third. Messrs. H. Dickson's set of twelve varieties not in commerce previous to 1910 was awarded first prize. Leslie Holland (rich crimson), Mrs. Foley Hobbs (cream), and Berthe Gaulis were splendidly shown. Messrs. B. R. Cant and Sons' second prize lot were just a bit weather-beaten, but the varieties were all good, George Dickson was wonderfully rich in colour, as also was that grand-petalled rose Edward Mawley. Messrs. H. Dickson, Lim., again scored for five baskets, the varieties being Sir W. Ewart, Mrs. Jas. Lynas, Mrs. W. Bentley, Countess of Lonsdale, and Archie Gray. Mr. Mattock took second prize. For single basket of a dark variety, Messrs. Hugh Dickson won with Brilliant, an aptly-named, dazzling scarlet rose. For a basket of a light variety the same exhibitor scored, using Mrs. James Lynas.

A VASE OF FINELY-DEVELOPED DELPHINIUMS,
Shown by Messrs. Blackmore and Langdon in their first prize exhibit of these flowers at Wolverhampton.

Mr. Mattock had the lead for eighteen tea roses, showing splendidly such varieties as W. R. Smith, Mrs. E. Mawley, Mrs. Foley Hobbs, and The Bride. Second place was taken by Messrs. F. Cant and Co., Colchester; and third by King's Acre Nurseries, Lim.

For a collection of decorative and garden roses, occupying 12ft. by 4ft., Messrs. Gunn and Sons, Olton, Warwickshire, took first prize. Their exhibit was simply magnificent. Juliet, The Lyon, Marquise de Sinety, Liberty, and Richmond in the foreground, and Rayon d'Or, Irish Elegance, and Lady Hillingdon on tall pillars were backed up by arches of ramblers and big mounds of Frau Karl Druschki, G. C. Waud, etc. Mr. Mattock received second, and had Marquise de Sinety, Simplicity, Betty, and a number of other good things in capital form.

CARNATIONS

were a splendid feature, the entries occupying almost the whole length of one of the big tents. The class for a stand, 12ft. by 4ft., of cut blooms, excluding malmaisons, brought Mr. C. Wall from Bath in strong force. He was worthily awarded first prize, and both for quality of bloom and effective arrangement his exhibit merited great praise. Mrs. C. W. Ward, the lovely rose-pink variety, was grand; Mandarin, one of the best yellow fancies, Pathfinder, and Brilliance, among the borders, were extra good; and Elizabeth Shiffner provided rare colour as well as finely-grown blooms. Messrs. Blackmore and Langdon, Twerton, Bath, were second, their central vase of White Wonder being particularly fine. Third prize was secured by Mr. J. E. Knight, Wolverhampton. Mr. F. Green, Gardener to Lady Grey, Enville Hall, Stourbridge, was awarded first prize for a nice group of cut Malmaisons, including good vases of Maggie Hodgson, crimson, Princess of Wales, pink, and the scarlet Horace Hutchinson. Second prize was taken by Mr. J. B. Lowe, gardener to Capt. Lubbock, Warminster.

HARDY FLOWERS.

Three competitors staged in the collection of hardy herbaceous flowers, occupying 15ft. by 5ft. of staging. Messrs. Harkness and Sons, Bedale, were winners, their display of Oriental poppies, verbascums, delphiniums, gaillardias, etc., being simply gorgeous. Papaver orientalis Mrs. J. Harkness was wonderfully charming; Gladiolus Crimson Gem, and Lupinus polyphyllus roseus were among the most telling subjects used. Second prize was awarded Messrs. G. Gibson and Co., Bedale, who staged Delphinium Rev. Lascelles, Verbascum J. M. Burnie, Scabiosa caucasica, and a variety of other bright and useful things. Messrs. F. Smith and Co., Woodbridge, were third, and on their stand there were many things of more than ordinary merit. Some magnificent delphiniums were staged in the class for a collection occupying 9ft. by 3ft., the winners being Messrs. Blackmore and Langdon, Twerton Hill Nurseries, Bath. Conspicua, Daniel Osiris, Statuaire Rude, Perfection, and Lamartine were varieties of outstanding merit. Messrs. Harkness and Sons' second prize group was an excellent display. Messrs. G. Gibson and Co. were third, their varieties being good, but spikes rather small.

A new class was provided this year for a model garden of original design, it being left to exhibitors to adopt whatever style they desired. Unfortunately, only one exhibitor was forthcoming—Mr. J. E. Knight, Wolverhampton, who had a lily pool surrounded by rough paving, which was reached through a rose-covered arch. Small beds of begonias, dwarf polyantha roses, Verbena Miss Willmott, and early chrysanthemums were cut in a sward of fine grass, each bed being centred with standard heliotropes or fuchsias. The background was

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NEW PLANTS AND FLOWERS.

ROSES.

Queen Mary.—This fine new H.T. rose was one of the great attractions of the show. The flowers are of fair size, and the broad petals make up a shapely bloom. The colour is a lovely shade of yellow, with glorious pink shading, this deepening over the yellow towards the tops of the petals. It has a great deal of the colouring of Juliet, but more yellow in it, and it should make a capital garden rose. Gold Medal, N.R.S., July 4. Messrs. Alex. Dickson and Sons, Newtownards.

Mrs. James Lynas.—A grand hybrid tea rose, with full blooms made up of fairly broad petals that are cut square across the top in the bud. The colour is a lovely shade of deep pink blush, with delicate rosy fleshing. Sweetly scented. This will probably make the finest exhibition rose in the set shown at Regent's Park, for at 5.30 p.m. on July 4, every flower was as fresh and firm as possible. Gold Medal, N.R.S., July 4. Messrs. Hugh Dickson, Lim., Belfast.

Brilliant.—This grand hybrid tea rose has very broad and flattish petals, and makes up a fine bloom. The colour is most vivid scarlet-crimson all over, and the colour does not seem to fade out badly, as is the case of many brilliant roses. Gold Medal, N.R.S., July 4. Messrs. Hugh Dickson, Lim., Belfast.

Mrs. Ambrose Ricardo.—A fine full rose of large size and globular shape, broad-petalled, with recurving margins. Colour pale cream, with lemon-yellow flushing in the base of the petals. Very sweetly scented, and a good lasting variety. Silver-gilt Medal, N.R.S., July 4. Messrs. S. McGredy and Son, Portadown, Ireland.

Wm. Cooper. — Another enormously-petalled rose, a hybrid tea variety of fine appearance. The colour is deep reddish-rose, the red being very bright in the just opened bloom. Some of the flowers suggest that the colour may not be so "fast" as one could wish, but if the shade holds good in trying weather, the violet-rose tinting will make this a welcome rose. Silver-gilt Medal, N.R.S., July 4. Messrs. Hugh Dickson, Lim., Belfast.

Mrs. J. W. Parker.—A lovely delicate peach-blush coloured hybrid tea rose; it has large flowers and the broad petals curl a little, and so make up a slightly-pointed and very elegantly-shaped flower. Silver-gilt Medal, N.R.S., July 4. Messrs. Hugh Dickson, Lim., Belfast.

Ulster Gem.—This is a very distinct addition to the decorative single roses. It is of robust growth, has dark foliage and large single flowers of bright sulphur-yellow colouring, with brighter yellow stamens. Silver-gilt Medal, N.R.S., July 4. Messrs. Hugh Dickson, Lim., Belfast.

Muriel Dickson.—A glowing rich rose-carmine hybrid Austrian briar rose, with enormously broad petals, though comparatively few of them, but the bloom is of large size and finely scented. Of robust growth. Silver-gilt Medal, N.R.S., July 4. Messrs. Hugh Dickson, Lim., Belfast.

Red Letter Day.—A large substantially-petalled hybrid tea rose that has a bud like Liberty, but is practically single, with an extra petal or two. The petals are very broad and thick, and of a glowing crimson-scarlet colour, with a few dull yellow stamens in the centre. Very free, and should make a very effective garden rose. Silver-gilt Medal, N.R.S., July 4. Messrs. Alex. Dickson and Sons, Newtownards.

Conway Jones.—A brilliant hybrid tea rose with large petals that make up a big bloom. The colour is rich soft scarlet, with soft rose shading over the central petals. The outer petals reflex prettily. Sweetly scented. Silver-gilt Medal, N.R.S., July 4. Messrs. Alex. Dickson and Sons, Newtownards.

Mrs. George Norwood.—This fine deep rose-pink H.T. variety we have previously described and illustrated. It is large and finely scented. Silver-gilt Medal, N.R.S., July 4. Mr. E. J. Hicks, Hurst, Twyford, Berks.

Duchess of Abercorn.—A big, full hybrid tea rose, the beautiful flowers of a soft, creamy-buff or creamy-peach colour. Petals very wide, slightly rolled back at the apex, and sufficiently plentiful to make up a very substantial flower. Card of Commendation, N.R.S., July 4. Messrs. Hugh Dickson, Lim., Belfast.

Mrs. Godfrey Brown.—A charming hybrid tea rose, of large size, and with very wide petals. The colour is a pleasing and lovely shade of rose-pink with a flush of palest salmon in the base. Flowers rather pointed. Card of Commendation, N.R.S., July 4. Messrs. Hugh Dickson, Lim., Belfast.

J. F. Barry.—This is a very bright, light yellow rose of medium size and with a pretty bud. It is a highly perfumed hybrid briar variety, and the shade of colouring is particularly effective; apparently a free bloomer. Card of Commendation, N.R.S., July 4. Mr. G. W. Piper, Uckfield, Sussex.

Naarden.—A pretty hybrid tea rose of Kaiserin Augusta Victoria style; of fine size and shape, soft cream-white, and highly tea-scented. Card of Commendation, N.R.S., July 4. Mr. G. A. Van Rossem, Naarden, Holland.

Mrs. Moyna.—A beautiful hybrid tea rose with delicate fragrance. The wide-petalled flowers are very solid and shapely, white with a faint rose tint on the margins of the inner petals. Card of Commendation, N.R.S., July 4. Messrs. Alex. Dickson and Sons, Newtownards.

Mary Green.—A new H.T. variety of lovely shape and beautiful pale lemon-tinted yellow colouring. Tea-scented. Card of Commendation, N.R.S., July 4.

Pink Pearl.—A beautiful new single and slightly semi-double rose that we have previously described and figured. The flowers are of large size, freely produced, and the long delicate peach-tinted pink petals surround golden stamens. Card of Commendation, N.R.S., July 4. Messrs. Hobbies, Lim., Dereham.

Freda Weller.—A pretty little single rose with small, neat foliage, very free; white, with a dense cluster of golden stamens. Card of Commendation, N.R.S., July 4. Mr. H. Weller, Lower Ashtead, Surrey.

Ophelia.—A charming hybrid tea rose, with long, pointed buds and broad petals. The colour is cream and flesh-pink, with a little yellow as the base of the petals. A.M., R.H.S., July 1. Messrs. Wm. Paul and Son, Waltham Cross.

H.T. ROSE QUEEN MARY.

Colour, yellow and rose; Gold Medal, N.R.S., July 4. Messrs. Alex. Dickson and Son, Newtownards.

Mrs. W. Sargent.—A very strong-growing hybrid tea rose, carrying substantial flowers on stout growths. The shapely-pointed flowers are teascented, and of a soft cream-white colour. Card of Commendation, N.R.S., July 4. Messrs. Hugh Dickson, Lim., Belfast.

Ulster Standard.—A very large and free-blooming single hybrid tea rose, with blooms five inches broad, and of a brilliant crimson hue. A.M., R.H.S. July 1. Messrs. Hugh Dickson, Lim., Belfast.

Mrs. Godfrey Brown.—A pretty rose, after the style of Mrs. W. J. Grant, but with flesh-tinted petals, shaded with rose on the outer surface. It has fine size and good form. A.M., R.H.S., July 1. Messrs. Hugh Dickson, Belfast.

Muriel Dickson.—A hybrid Austrian briar rose of decorative character. The flowers are large, but have comparatively few petals. The colour is bright reddish-rose or carmine. A.M., R.H.S., July 1. Messrs. Hugh Dickson, Lim., Belfast.

CATTLEYA MOSSIÆ DREADNOUGHT.

A wonderful variety, with petals about four inches across. Of fine form and size, it has also good colouring, the sepals and petals rose-pink, and the lip finely marked with crimson, purple and gold. A.M., R.H.S., July 1. Messrs. Sander and Sons, St. Albans.

CATTLEYA MOSSIÆ OLYMPIA.

A large variety, with blush-coloured, rosy-veined flowers, and a fine lip handsomely marked with deep purple. A.M., R.H.S., July 1. Messrs. Charlesworth and Co., Haywards Heath.

CATTLEYA SERENATA.

C. Whitei is the parent of this hybrid, and it lends substance to the broad and handsome flowers. The segments are of good form and coloured brilliant rosy-mauve. A.M., R.H.S., July 1. Messrs. Mansell and Hatcher, Rawdon, Leeds.

MILTONIA HARWOODI, FOWLER'S VAR.

A striking orchid derived from M. vexillaria and Cochlioda Noetzliana. The rosy-cerise flowers are very attractive, and the colouring is enhanced by the neat golden-yellow crest. M. Harwoodi gained an A.M. some time ago, but this variety is a great advance on the original. F.C.C., R.H.S., July 1. J. Gurney Fowler, Esq. (gardener Mr. J. Davies), Glebelands, South Woodford.

MILTONIA SANDERÆ.

An extremely beautiful miltonia; indeed, one of the finest ever seen. Its parents are M. v. Memoria G. D. Owen and M. St. Andre. The large flowers are white, with a lovely shading of soft rose-pink. On the broad lip the basal disc or "mark" is very dark, blackish purple, and the shortly radiating lines are as nearly black as possible. A fine spike of this superb hybrid was shown. F.C.C., R.H.S., July 1. Messrs. Sander and Sons, St. Albans.

ODONTIODA BREWI.

A wonderful secondary hybrid, obtained by crossing Odontioda Charlesworthi with Odontoglossum Harryanum. Only a small plant was shown, but its rich red-brown or bronzy-red colouring attracted all the orchid specialists. The shade of colour is very deep, and lightened by the spreading golden-yellow crest. F.C.C., R.H.S., July 1. Messrs. Charlesworth and Co., Haywards Heath.

ODONTIODA WILSONI THE PRESIDENT.

A pretty hybrid between Odontoglossum Pescatorei and Cochlioda vulcanica. The first-named parent has exercised great influence, as the flowers are of similar shape, but smaller, white, with rosy-violet markings. A.M., R.H.S., July 1. Messrs. Charlesworth and Co., Haywards Heath.

CARNATIONS.

The Baron.—A light yellow-ground fancy variety, with splashes of rose and lilac. The flowers are large and of good shape. A.M., R.H.S., July 1. Mr. Jas. Douglas, Great Bookham.

Virginia.—Another fancy, the buff ground colour shaded and flaked with rose-pink, and being but irregularly bordered with the same shade; a large, full flower. A.M., R.H.S., July 1. Mr. Jas. Douglas, Great Bookham.

ADIANTUM TRAPEZIFORME QUEEN MARY.

The type of this species is not now generally cultivated in private gardens, but the new varietal form should become fairly popular. It has tall spreading fronds carried on black stems, and rising about two feet high. The pinnules are closely set on the fronds, and depend instead of spreading flatly. Moreover, they are broadly fan-shaped, prettily crinkled and fringed at the margin. F.C.C., R.H.S., July 1. Messrs. H. B. May and Sons, Edmonton.

ADIANTUM SIEBERTIANUM.

A beautiful and graceful fern, that is a variety of A. Weigandi, but more slender and of lighter green hue. Should make a useful pot plant for decorating. A.M., R.H.S., July 1. Messrs. H. B. May and Sons, Edmonton.

POLYPODIUM MAYI CRISTATUM.

Sooner or later every fern largely grown seems to enter upon a crested or plumose form, and so the handsome P. Mayi, while retaining all its old beauty, has now added to its fringing, and become crested at the tops of the fronds. A.M., R.H.S., July 1. Messrs. H. B. May and Sons, Edmonton.

MAGNOLIA DELAVAYI.

This broad-leaved, large-flowered species from Southern China has been seen on several occasions, and now it has received the horticultural hall-mark. It is hardy in the southern counties, and makes a handsome shrub from a foliage point of view. The flowers are sparingly produced apparently; they are deep cream-yellow, with red-tinted stamens, and about six inches wide. F.C.C., R.H.S., July 1. Messrs. Jas. Veitch and Sons, Chelsea.

ERIGERON PINK PEARL.

A pleasing and distinct form, much smaller than the finer forms of E. speciosus, but free and of bright pink colour. A.M. R.H.S., July 1. Mr. Amos Perry, Enfield.

NEPENTHE ATROPURPUREA.

A grand pitcher plant, with foot-long pitchers of fine bronzy-crimson colour, with a wide and brighter crimson-frilled rim. N. sanguinea and S. Curtisi superba were the parents. A.M., R.H.S., July 1. Messrs. Jas. Veitch and Sons, Chelsea.

NEPENTHE LEWIS BRADBURY.

A magnificent hybrid between N. mixta and N. sanguinea. Some years ago this would have made a great furore, but stove plants have not the same interest now as then. The big cylindrical pitchers are light crimson, shaded green, and blotched with crimson. Though not so brilliant, it is larger than N. atropurpurea. A.M., R.H.S., July 1. Messrs. Jas. Veitch and Sons, Chelsea.

IRIS KÆMPFERI MORNING MISTS.

An exquisitely beautiful single variety of wonderful size and lovely colouring. The standards are pure white, and the frills are also white, with a little yellow on the claw, and beautifully shaded with light blue on the upper half. A.M., R.H.S., July 1. Messrs. R. Wallace and Co., Colchester.

Orchids for Amateurs.—This is the title of a practical guide to the culture of sixty easily-grown cool, and fifty warm house kinds adapted for small mixed greenhouses. The book is very well illustrated, and can be procured by post for 2s. 10d. from the Publisher, 148-9, Aldersgate Street, London, or through any bookseller, price 2s. 6d. net.

FEEDING LAWN AND SHRUBBERY TREES.

From time to time readers of THE GARDENERS' MAGAZINE are presented with illustrations of single specimen trees, and those grown to form groups on lawns and in shrubberies. One cannot look at these excellent reproductions without experiencing a certain longing to possess such specimens as they represent. One finely-grown tree will afford a great amount of pleasure, and it is really worth more in a garden than a dozen badly-grown specimens.

Too often a visitor to a garden can detect faulty planting, followed by faulty treatment, as regards many kinds of ornamental trees and shrubs. In the first instance (especially where deciduous subjects are planted in association with evergreen ones) overcrowding is evident.

The principal trees and shrubs ought always to be planted first, and in positions where, when fully grown, they will stand clear of all others, and not encroach on drives, paths, or fences. Where possible, the location of the main trees should be decided by the planter while he looks from the windows of the dwelling-house. Having judiciously planted, and, in after years, taken out all those specimens used at first for filling-up solely, the cultivator should feed the permanent ones before they become stunted.

It is frequently the case that every leaf in a shrubbery is raked out in the winter time. I have seen soil so well raked from the surface as to lay bare many roots. If soil was wheeled in and fallen leaves covered by it, in some seasons, the trees and shrubs would derive an immense amount of benefit therefrom.

I saw a photograph recently of a coniferous tree growing on a lawn, and the photograph was taken about forty years ago. A recent photograph had also been taken, and the tree presented much the same appearance in both photographs. It looked as good a specimen forty years ago as it does now. No feeding had ever been done, and now the specimen will begin to deteriorate.

No doubt it is a very wise plan to feed the trees in the autumn and winter time, but much assistance may be given them now. In cases where the grass is allowed to grow right up to the stem of the tree, much attention to cutting and trimming is necessary. It is different with specimens that have basal branches sweeping the lawn evenly and gracefully.

There should, in many instances, be a neat circle cut around the trees, within which they can be fed; and the diameter of the circle must be in proportion to the size of the tree: one 20 feet high should have a circle with a diameter of about eight feet. If the soil on the surface is very poor, and quite devoid of roots, it should be removed down to the main roots, and a rich mixture of fibrous loam, in a rather lumpy state, with rotted manure, be applied. If this added compost be regularly watered throughout the summer or the early part of autumn, if dry, new roots will become fairly plentiful by next spring, and every two years or so fresh soil should be put on. Good soakings of clear water must be given, occasionally followed by diluted liquid manure.

According to the quality of the soil and the way in which it has been prepared, young trees will thrive for a number of years, but their progress should be watched so that food may be given before they show signs of weakened growth.

G. B.

DELPHINIUMS.

The prominence given to delphiniums during the last few years is a very satisfactory mark of progress in the hardy plant world. Few other subjects contribute so charmingly to the beauty of the summer garden, and they are certainly not surpassed by any in the matter of decorative effect.

The splendid improvements which have resulted from the work of the florists is indeed very noticeable, and, added to a glorious range of colourings, we get magnificent spikes and fine, bold blossoms. In the herbaceous borders delphiniums are usually a conspicuous feature, and, if given good attention in the matter of culture, and plenty of space for development, success is assured.

Undoubtedly the best soil for delphinium culture is a deep, retentive loam, well worked to a depth of at least two feet. In poor, shallow, or sandy soils they are never so luxuriant, but no soil is so poor that it cannot be greatly improved by judicious manuring and tillage. Cow manure is most essential on light, dry soils, and no other manure gives quite such satisfactory results, as it provides a cool and lasting food material.

Points worth noting in the race for success are the necessity for removing all flower spikes as soon as the blossoms fade, and the value of keeping the hoe going. The first operation ensures the production of a good second crop of blossom, and the busy hoe aerates the soil and retains the moisture during summer, and in addition secures free movement for the roots.

With us delphiniums are freely used in the semi-wild garden. In free, open spaces out upon the sloping banks they create brilliant sweeps of colour, a veritable glow of varied blues upon the landscape. One can obtain some grand contrasts by massing soft blues against dark blues and purples. By the contrasting of our subjects with golden lupins, scarlet Oriental poppies, or pale-coloured irises, some first-rate effects are obtainable.

A chat concerning varieties is somewhat a difficult matter, for varieties are listed nowadays by the hundred, and there is a certain amount of overlapping among the efforts of the florists. Such forms as Rev. E. Lascelles, King of Delphiniums, Lizzie Van Veen, Statuaire Rude, Moerheimi, etc., are not easily duplicated, but forms of less outstanding merit are easily matched in the same or in a neighbouring collection. For garden decoration few types of delphiniums are the equal of Belladonna and its fine varieties. The light, graceful spikes of pale blue, and the splendid branching habit, makes it a beautiful plant for any garden. The type is easily raised from seed, and plants can be grown and flowered as annuals in one season from an early sowing under glass. Persimmon, Semi-plena, and other varietes are perpetuated by cuttings or division.

With us seedlings of the second generation vary more than those of the first, and we are able to pick out very good forms, some giving exquisite shades of pink mingled with the blue. Furthermore, these seedlings of Belladonna are more continuous than the ordinary run of delphiniums, which is of the greatest importance to those who are desirous of securing a long season of beauty. P. S. Hayward.

H.T. ROSE MRS. JAMES LYNAS.

Blush pink; Gold Medal, N.R.S. Messrs. Hugh Dickson, Lim., Belfast.

INSECT ENEMIES IN THE FLOWER GARDEN.

When we consider the insects which harass the gardener in the pleasure grounds and flower garden, we quickly realise that they pay more than a fair attention to one particular plant, the rose. Before the winter's frosts have gone, greenfly prey on any shoots which may be "soft," and at pruning time the aphis are usually quite established, so that by the time summer arrives, unless stern measures are persisted in, the bushes are sucked dry. Under glass aphis seldom has an opportunity of showing what they really can do, and their potentialities are really appalling.

During the early spring the eggs, which have lain dormant throughout the winter hatch after a few mild days, and the resultant aphides quickly mature, and lay eggs which hatch even more quickly, and so brood after brood becomes fertile. But once summer really sets in this hum-drum method of propagation is far too tame and slow for the greenfly. Discarding the common habit of egg-laying, they rise superior to the average winged insect, and turn viviparous, and produce young insects at a surprising rate. Hence the enormous number which are produced in so surprisingly short a time.

It is not usually possible to treat the outdoor insects in the manner practised under glass, and to kill them by fumigation, or by cyaniding. It seems remarkable that some enterprising garden sundriesman does not evolve a cheap and handy form of adjustable tent, of varying sizes, for outdoor fumigating purposes. This, in conjunction with a simplified method of cyaniding with hydrocyanic acid gas, would be a "boon and a blessing to (garden) men," and by their means we could easily keep in check the many hereditary foes. But at present we have to rely, in our endeavours to restrict the ravages of greenfly, on repeated syringings with quassia extract. Weak petroleum emulsion is sometimes used, but there is an element of risk, which all do not care to take, attached to its use on the tender foliage of roses. Red-spider and thrips also do much damage to roses, and the latter insect is recorded to be particularly fond of the petals of light-coloured roses in certain gardens, although, fortunately, this form of injury is not general.

The attacks of red-spider and thrips are often induced by the practice of mulching rose beds with strawy stable litter, which, during hot weather, becomes very dry, forming a suitable breeding ground for these insects. The summer mulching material should be moisture-holding, and it should not be allowed to become thoroughly dry. If these insects obtain a footing on the roses the under-sides of the leaves should be syringed with a solution of flowers of sulphur and soft soap.

The ordinary scale insects of glass-houses do not often affect roses, but the woolly scale, so common in the Mediterranean region, has put in an appearance in some western gardens. Although this kind possesses a hard scale-covering, it lacks the adherence of the better-known species, and is not so difficult to remove; spraying with petroleum emulsion is an efficient remedy.

These are the chief of the sucking insects which trouble the rose-growers; the biting insects are extremely numerous, and include such as the Rose Chafer, a handsome beetle, which feeds on the pollen of the flowers, and thus spoils them; the pith-borers, caterpillars which bore into the stems and eat the pith; another species of sawfly eats the foliage of roses; the Upholsterer Bee, which cuts semicircular portions from the leaves for lining her nest; and then there are the grubs of the Tortrix Moth, which twist and roll the leaves together with their threads, and later on pierce the rose buds. Many of these grubs and beetles must be hand-picked and destroyed, but where they have previously caused damage the bushes should be sprayed with Paris green, to check them, early in the season. Paris green should always be purchased in the form of paste, to be used at the rate of 1oz. in twelve gallons of water, and, being very poisonous, must be used with extreme care. London Purple, mixed at the rate of 1oz to sixteen gallons of water, is also to be recommended.

The insects above-noticed are common to many other plants in the flower garden, and earwigs, which particularly affect dahlias, are frequently a pest; these should be trapped and killed. Occasionally the larvæ of the iris fly burrow in the leaves, somewhat after the manner of the marguerite leaf-miner, and the remedy is much the same; the larvæ must be killed by pressure, and the foliage rendered distasteful to prevent the fly laying fresh eggs. The carnation grub may be similarly dealt with, and these plants are also subject to greenfly, thrips, and red-spider.

CECIL AUBREY.

ROSE MARECHAL NIEL.

Although there has been a number of really good additions to yellow roses of late years, no yellow climber can compare to Maréchal Niel, which is still head and shoulders above them all. Probably it is the most popular rose under glass, although not so generally grown as was the case some years back.

Maréchal Niel has apparently deteriorated to some extent. We seem to miss the rampant and healthy vigour so characteristic of this Noisette in the past; but with more care in selection when increasing stock, avoiding propagation from an old plant that is obviously on the decline, and striving for a few generations of quite clean, healthy, younger stock, I feel we might still do much to obtain an improved strain.

To grow this rose satisfactorily in the open air we need a warm wall and sheltered position that is almost the equal of cool greenhouse treatment. One of its characteristics being a quantity of rampant growth late in the autumn, necessitates a much better ripening than can be secured in the open. This is not all, for it is one of the first to come into new growth, and so needs extra protection early in the spring.

Providing it is not exposed, I would even prefer a north aspect to one facing due south, and open to the full influence of sun. In the latter case we invariably have a quantity of precocious growth, and, however well sheltered, a few cold days give a serious check. But on a north wall, with shelter from biting winds, the growth is later, and has a much better opportunity to come through without such extreme changes as must necessarily occur when subject to a bright sun just after a cold, frosty morning. The above is the reason why Maréchal Niel is only suited for a few highly-favoured positions in the open, and it is more particularly as a cool greenhouse or conservatory climber that I would treat it.

Canker and mildew are its two worst enemies, and perhaps canker is more prevalent upon this variety than any other. There unfortunately seems to be no certain or reliable cure for this serious disease, and our most indefatigable and scientific workers among roses have apparently failed in even discovering the real cause of it; hence it is less wonder we cannot combat it so effectively as we would wish.

The writer has made numerous and somewhat costly experiments, resulting in disappointment after good prospects of success. Prepared soil of various kinds, selection of stocks, working it upon another variety of rose, and growing upon its own roots, have all failed. The plants may be in the very best of health, and suddenly the enemy puts in an appearance. We know of many things that appear to encourage its development, and may even flatter ourselves we have discovered a palliative measure, but it does not prove sufficiently effective to be classed as a cure.

As a matter of fact, half-a-dozen plants may be treated exactly alike, yet the resulting growth be widely different; so we cannot say for certain that such-and-such a system is truly the means towards a good or unsatisfactory end.

A sudden check to growth will upset the balance between the action of root and top, and induce a tendency to canker. Then we very often find canker prominent at the junction of the stock and rose when foster roots are made use of. That the stock is solely responsible for this I do not credit after my many experiments, but I do think it is more prevalent in cases where stock and rose do not swell evenly at this critical point.

Some of the best specimens I have had in the open were upon the De la Grifferaie stock; also some surprising results from budding upon the Penzance sweet briers; not using these as a purely dwarf stock, but budding in the barrel of stout shoots after the manner of our Continental growers when raising standards. But, after all, I cannot claim that either of these stocks will produce a rose entirely immune from attacks of canker.

Maréchal Niel varies somewhat in colour, and while not so much so as in the case with another grand yellow climber, William Allen Richardson. From my own experience it would seem impossible to correct this variability, as under similar conditions a plant will produce both pale primrose-yellow and the deep golden-yellow flowers.

There can be little doubt that the long-rod system of culture produces the best results, for unless we can secure some good rods of healthy and well-matured wood, satisfactory blooms cannot be forthcoming under any treatment. Too drastic use of the knife is not reasonable when we bear in mind that the roots must naturally be at their greatest activity at this period, and this is why I prefer a more steady, although complete, removal of all wood that has flowered, giving every encouragement to vigorous rods for next season's supply.

If any show signs of failing health, or develop canker, cease to harbour them, and try with fresh plants.

A. P.

THE STORIES OF SOME SHRUBS.

A gardener views his possessions with more interest when he has learnt their histories, legends, and symbols, as well as the methods of their cultivation. We need not despise the least of the poetical fancies that have clustered around trees, shrubs, and plants, since all had their origin in the intellect or the sympathies, all have been preserved from generation to generation, and are now equally in danger of being lost in the passing of the years. Nay, not all, perhaps; it will be long indeed before the oak ceases to be typical of British character and supremacy, the holly of Christmastide; but other charming tales and imaginations exist that are already unfamiliar.

Take the arbutus, or Strawberry Tree, as an example; it is difficult to discover a garden owner or tender who is aware that it is the emblem of unconquerable love. Its fruits used to be generally eaten in Spain and Italy in the early ages, yet the name of the berry, "unedo," is said to have been given it by Pliny, because it signifies that "only one" could be consumed at a time owing to the biting flavour. Horace and Virgil often mentioned arbutus as used at funerals and also festivals; a later poet named it the Generous Shrub, because it offers leaves, flowers, and berries on the same boughs; hence, too, came the lines:

> "The leafy Arbute spreads
> A snow of blossoms, and on every bough
> Its vermeil fruitage glitters to the sun."

Why, it may be asked, is the gorgeous broom the symbol of humility? The most probably explanation is that contained in the story of a prince of the House of Anjou, who, having killed his brother out of avarice, and then repented, scourged himself every night with a rod made of the fibrous stems of this shrub, reminding himself that for gold, as fleet to vanish as its blossoms, he had sinned so grievously. The French name of it is Genêt, from which is derived that of Plantagenet, or planta genista.

In the year 1234 King Louis IX. of France chose the broom as a badge to be worn by the members of a newly-created order of knighthood; the knights had each a chain composed of imitation broom-florets and white fleur-de-lis, from which was hung a golden cross, bearing the motto "Exaltat humiles."

The myrtle is said, in mythological lore, to have gained its name from Myrsine, an Athenian maiden, who was transformed into this shrub, but we are also told that when Venus sprang up from the foam of the sea she was crowned with a garland of the perfumed blossom, for which reason it has always been held as emblematical of love, except with the Jews, who give it instead the signification of peace. In connection with this we are reminded how when the prophet Zechariah beheld the angel who predicted the restoration of Israel, the celestial visitant was standing in the midst of a myrtle grove. The Arabs are devoted to the myrtle, and have a tradition that it is the one shrub that Adam personally carried with him as a souvenir out of the garden of Eden. The Romans used to infuse myrtle berries in their wine, to gain rich flavour, and employed them also in medicines, while myrtle thickets were planted around the baths of great ladies. It is interesting to learn that myrtles were grown in warm parts of England long before greenhouses were invented, but this is in no wise remarkable considering the great dimensions to which the shrub grows now in Sussex, Devonshire, and Cornwall.

Of the gorse, or whin, we know little, except the great love borne to it by the chief of all botanists, Linnæus, who, according to tradition, fell upon his knees in rapture when he first beheld it covering a common near London. He attempted, but in vain, to induce this shrub to flourish in his native Sweden. Elizabeth Barrett Browning has poetically recorded his appreciation.

> "Mountain gorses, since Linnæus'
> Knelt beside you on the sod,
> For your beauty thanking God,—
> For your teaching ye should see us
> Bowing in prostration new.
> Whence arisen, if one or two
> Drops be on our cheeks, O worlds! they
> are not tears, but dew!"

It is stated that the plant is known as gorse in the north, whin in the east, and furze in the south.

It was Linnæus who conferred the classic name of Andromeda, in memory of the nympth who was rescued from the ocean. He said that the shrub is found on some hillock rising out of a swamp, as Andromeda was chained to a rock in the sea, the water bathing its roots as it washed her dainty feet. The Germans consider it emblematical of the question, "For whom do you wait?" but the usual signification, in the Language of Flowers, is "Will you help me?"

Of all the stories of the laurel we may select for remembrance how the Grecian medical students were crowned with its berried branches, from which come the terms both of laureate and bachelor, from the Latin, "Vacca lauri," or fruits of the laurel. The students were not allowed to marry, hence the use of the word that has descended to this day.

M. H.

ODONTIODA HARWOODI FOWLER'S VARIETY.

Colour, rose-cerise. F.C.C., R.H.S., July 1. J. Gurney Fowler, Esq., Glebelands, South Woodford.

STRAWBERRIES.

Young strawberries should be raised yearly from a healthy stock of plants that have been planted expressly for the purpose of propagation, as from these we obtain the strongest crowns, and the best crops the first year after planting. Royal Sovereign, raised early, and planted for the production of an early crop, leaves little, if anything, to be desired, but it is necessary on some soils to renew the stock, and then a change of stock may be desirable every few years for the production of healthy plants and heavy fruits.

When layering use good soil, and keep the plants well watered. If the land or beds that have been utilised for strawberries for some years is to be replanted, remove a few inches of the top soil, and add a little fresh, with a good sprinkling of soot, bonemeal, and wood ashes. Remove the old plants as soon as they have ceased bearing; make the land ready, and plant whenever the runners are fit. These remarks apply especially to warm borders, suitable for an early supply.

H. Markham.

Wrotham Park, Barnet.

GERMAN IRIS IN THE KITCHEN GARDEN.

The forms of Iris germanica are among the brightest and most attractive of our hardy border flowers, providing a display in the garden during May and June. The earliest varieties bloom at the same time as Darwin tulips, while the later sorts carry on the display until the middle of June. German iris do not call for frequent planting, but when this is imperative or the making of a new border necessary, the present season is most opportune for the work. This is explained by the fact that just now the young growths are being developed from which flowers will be produced the next season, consequently when the plants are established in their new quarters, soon after flowering, there is small chance of losing a season's display.

Planting being only necessary at long intervals, it should be done in a thorough manner, the ground being trenched and manured beforehand. In planting do not bury the rhizomes, as with other subjects, but lay them horizontally and at no greater depth than one inch beneath the surface. The roots, however, should be buried to their greatest depth, and the soil made quite firm about them. Should a dry period follow, soak the border at least once a week with water until it is seen that the plants are growing freely. The illustration shows a double border planted with varieties of Iris germanica treated as advised. Originally the plants were overcrowded and starved, and were transferred to this position in July, 1912, the photograph being taken on June 2 of this year.

German iris are divided into groups, and a representative selection from each includes:

Germanica varieties. — Kharput, an immense early-flowering variety with blue-black falls and dark-blue standards; Atropurpurea, also early, with rich dark-purple flowers.

Amœna varieties.—Calpyso, S., white; F, white and blue; Mrs. H. Darwin, white, reticulated violet, very fine in flower; Penelope, white-veined rosy lilac; Victorine, S., white; Falls, violet and white.

Aphylla varieties.—Innocenza, S., white; F., white with orange; Mdme. Chereau, white, suffused azure blue; Queen of the Belgians, S., white, flushed purple-blue; F., white with purple lines and dots.

Neglecta varieties.—Cordelia, S., rose lilac; F., crimson suffused rose; Cottage Maid, S., silver blue; F., white, reticulated violet; Shelford, S., dark lavender-blue; F., dark crimson-purple, reticulated white at base; Virginie, S., pale-blue; F., blue.

Pallida varieties.—Dalmatica, immense flowers, deep lavender-blue; Garibaldi, rosy mauve; Her Majesty, S., rosy pink; F., light crimson; Oporto, rich purple mauve, yellow blotch on fall; Pallida, S., pale lavender-blue; F., rosy lavender; Queen of May, rosy lilac, nearly pink; Sir Michael Foster, fine shade of mauve; Frantlieb, a uniform shade of pale rose.

Squalens varieties.—Bronze Beauty, S., yellow and maroon; F., white and maroon; Jacquiniana, S., bronzy-crimson; F., maroon; Khedive, shaded rose lilac; Newton, S., heliotrope; F., heliotrope and brown; Van Geerti, S., purple black; F., lavender.

Variegata varieties.—Aurea, rich golden-yellow; Foster's Yellow, citron yellow; Gracchus, F., crimson and white; S., white and primrose; Maori King, F., velvet crimson; S., golden-yellow; Mrs. Newbronner, rich golden-yellow, large, new.

Coombe Court Gardens. THOMAS SMITH.

BEAUTIFUL BORDERS OF GERMAN IRIS
In the kitchen garden, Coombe Court, Kingston-on-Thames.

SOME PERPETUAL-BLOOMING PILLAR ROSES.

For a long time the great drawback to the pillar roses was the fact that most of them failed to bloom satisfactorily more than once during the season. So great a demerit has now been lessened by the introduction of a number of varieties that are more or less continuous-flowering during three to four months of the summer, and a short list of some of the best may be helpful. Already not a few of the pillar roses are over, and only an occasional bloom can be looked for throughout the rest of the year.

A very beautiful pillar rose is found in Florence Haswell Veitch, a new hybrid tea from Waltham Cross. This is one of the brightest roses grown, a brilliant scarlet shaded with deep maroon. Not a large and cumbersome flower, but of good form and substance, with stiff petals that last well. It is remarkably sweet scented, and a most continuous bloomer. Sarah Bernhardt affords us another good dark rose for our special purpose. A little more than semi-double, with long, well-formed

buds in its early stages, opening and retaining its deep crimson colour, shaded with the deepest of scarlets. I have never known this rose burn in the hottest sun, while it is very hardy, and one of the sweetest scented of all. Gruss an Teplitz is well known for its deep crimson, shaded with a fiery velvety red. Its handsome foliage and fragrance also deserve mention.

William Allen Richardson gives us a rich orange yellow that is very good both early and late, also producing a goodly number of flowers between these two main crops. Madame Pierre Cochet is another good yellow that is almost orange in its younger stages, and a grand flower for the coat. The foliage of this variety is particularly pleasing. Climbing Mrs. W. J. Grant is an even better individual flower than the normal type, and can generally be found in bloom. A clear, rosy-pink of wonderful size and form.

Climbing Caroline Testout, while not quite so floriferous as its first type, is more continuous than many, and gives massive flowers of a clear bright rose, that have the additional merit of lasting well, both upon the plant and when cut. Climbing Lady Ashtown is a clear light rose with a shading of yellow at the base of its petals. Very large and well formed. Its rather drooping habit is not so much a drawback when used in its stronger form as a pillar rose.

Lady Waterlow, a clear salmon-rose, beautifully edged with carmine, is a particularly long-lasting flower, backed by the deepest green foliage, that with me it is as near mildew-proof as any pillar rose. Madame Charles Monnier does better as a pillar rose than in any other form with me. The body of this flower is rosy-flesh, shaded with yellow, salmon, and orange.

Madame Hector Leuilliot is difficult to surpass if a warm position can be given. A clear golden-yellow, shaded with ochre-red. Large, globular, and one that enjoys fine, sunny weather Rather upon the tender side, but deserves a selected spot in every collection. Madame Morreau is another coppery-yellow, deeper in the middle, and the reverse of outside petals a rosy-apricot; handsome copper and bronze foliage, and quite one of the best for pillars.

Papillon produces spreading trusses of small, pointed buds, varying in colour from pink, white, and coppery-salmon. A grand rose to last, and very free blooming. Trier favours the musk roses very much, if it does not belong to that class. A thoroughly perpetual bloomer, large, spreading trusses of creamy-white, semi-double blossoms, with prominent dark yellow anthers. Very hardy, and in bloom until the frosts set in.

Climbing Mrs. W. H. Cutbush is very valuable as a pillar rose, with its continuous trusses of clear but pale-pink blossoms that are almost always with us. In Graf Zeppelin also we have a good climbing form of brilliant coral-red in large trusses that somewhat favour Gruss an Teplitz, but is yet distinct.

A number of other pillar roses that were used in the past are not to be compared to the above, and unless a glorious display of colour were wanted at one time only, I would much prefer to replace them with those now enumerated. ROSARIAN.

FIRST PRIZE BOWL OF A DECORATIVE ROSE.
Shown by Mrs. J. Hicks, Twyford, Berks, at the N.R.S. Exhibition.

ASTER AMELLUS.

This is one of the European species of aster, and one of the first to be grown in this country, being introduced in the time of Queen Elizabeth. The species, perhaps, is not much grown now, but there are half a dozen or more varieties of it, though they do not differ very much from the type in their general habit and form of flower. Some of them are familiar to everyone with their comparatively short, erect growth, each stem bearing only a few large flowers, usually of a violet-purple colour. Some varieties are almost the first Michaelmas daisies to flower, reminding us every year soon after the middle of August that autumn is near. It does not increase so rapidly as most of the family, and on a wet clay soil does not always come successfully through a damp winter. It seems to thrive best on a rather light soil, rich in lime. It is a good plant for naturalising when the general conditions are favourable to it.

The best-known forms are Bessarabicus, with large, deep-violet flowers, and strong, erect habit: Distinction, of a rosy-mauve tint, carrying more flowers on the stem than the type; and Framfieldense, with flowers of a violet-blue shade. A. C.

A FINE BASKET OF H.T. ROSE MRS. CARNEGIE.
For which Messrs. Cocker and Sons were awarded the first prize for any variety other than a T., N., or H.P., at the N.R.S. Show.

TALL PERENNIALS.

Those who give up any considerable portion of their gardens to hardy perennials must often have felt that it is unfortunate that many of them grow so tall. This is especially the case with those of the late summer and autumn, which do so much to lighten up the garden in these seasons, when the occupants of the flower beds are at least past their best, and, moreover, prove such a stand-by as a source of cut flowers for the house. A small town garden, or what we usually understand by a suburban garden, has room for hardly any of these tall-growing plants in fitness, except so far as it is necessary to provide some kind of screen, and even gardens of a quarter to half an acre must not have very many of them unless the effect of the whole is to be marred. If they are in the front of borders they hide something else from every point of view, and if they are at the back they make the wall or fence behind them useless, while if they are in beds in the central parts of the garden they need to be used with great care.

In this matter we must exercise considerable restraint, growing few of these tall plants, but so using them as to produce the maximum effect. Many of them are but little branched, producing nearly all their flowers at or near the summit, and the sight of a small clump of one of the tallest varieties of helenium, echinops, perennial aster, sunflower, inula, senecio, achillea, or thalictrum, growing by itself, with plants of lower growth all round it, can scarcely be considered beautiful. If such plants are grown it should be recognised that the size of the clump or group should bear some proportion to its height, thus lessening its apparent height, and making the length of flowerless stem, and often sparse and unattractive foliage, less prominent. If this principle is adopted, it follows that only gardens of a certain size can grow any of these tall plants, and that it needs large gardens indeed to grow many different kinds. To grow such plants on a narrow border is out of the question, and to fill a small bed on a lawn is scarcely less so in the case of the tallest varieties. A few examples of their use for decorations may serve as suggestions for others.

That tall sunflower, Miss Mellish, made a very effective object last summer grown in a mass about six feet in diameter, reaching almost from the back of the border to the front, with some self-sown nasturtiums climbing amongst the outer stems and festooning them with gorgeous wreaths. A few stakes had been driven amongst the stems early in the summer, and most of the stems, at least all the outer ones, received some support from them, either directly or indirectly, and so kept the whole in an upright position—a necessary precaution with stems eight feet high, carrying leaves a foot in length. Aster cordifolius Ideal—a really tall variety—appeared quite low-growing by the side of it.

The golden rods have been relegated to the wild garden of the wildest type, but that variety known as Golden Wings—its species seems doubtful—made another fine display in the same garden as the above. A large clump a foot or more in diameter at the crown was put in a specially prepared bed on a lawn, where it had the run of good soil for three or four feet all round and quite two feet downwards. It grew quite six feet in height, and as the outer stems inclined outwards at an angle of 45 deg. the spread of the whole clump was not less than eight feet, while, all the stems being clothed with laterals, it produced the effect of a handsome flowering shrub during the greater part of August and September, and was not without beauty up till Christmas with its masses of fluffy seeds.

Hollyhocks are so different from all other tall plants, that they must be mentioned separately. Grown in masses even in the largest garden much of their beauty is lost. A group of three plants together is the utmost that should be allowed, and even two are enough if they are large plants, with three or four more main flowering stems each. The best way of all is as a double row, one on each side of a path, or even along one side only, as, for instance, along the margin of the kitchen garden. There they show off to perfection, for when coming up the path we see the whole of the plants at once.

The untidiness or unattractiveness of some tall plants after flowering may be effectively screened by a proper use of some of the later-flowering tall perennials. Not only will they grow up in front of, or alongside them, so as to mask them as summer advances, but some with less stout stems, such as Rudbeckia Golden Glow and Aster Novi-Belgii Wm. Marshall, may be trained horizontally over them. Less tall plants, such as Oriental poppies and Achillea ptarmica The Pearl, both untidy subjects after flowering, may be grown amongst gypsophila or some of the branching Michaelmas daisies, which will grow over them and completely hide them later in the summer.

It is, perhaps, as a screen that the greatest value of these tall perennials lies, and there are few gardens which cannot use some of them to advantage in this way. There are two important features in their cultivation which must not be neglected. They must always be given good cultivation, any attempt to grow them on starvation lines resulting in plants of poor weedy growth, which are but little better than the objects they are sometimes planted to hide, and the same applies for whatever purpose they are grown. People often condemn perennials because they spread so much or are weedy in appearance. Spreading can always be checked if the soil is properly cultivated among them, and many are better for being taken up and divided each autumn or spring, and some good rotted manure dug into the ground. They will never appear weedy then, especially if the weaker shoots are all pulled out in the spring. Even the old prairie sunflower, Helianthus rigidus, or harpalium as it used to be called, makes a handsome decorative plant when so grown. The other important feature is staking. If the stems are once allowed to fall down, and they are liable to do this very early in the summer sometimes, their beauty is marred, and it may even be spoiled for the rest of the season.

ALGER PETTS.

EDIBLE FUNGI.

A number of species of fungi that are of value as food are allowed to go to waste in this country. As a people we have been taught that every fungus, except the common mushroom, is poisonous, or at any rate the idea prevails, and every other form of fungi is looked upon with grave suspicion. The fact that in Continental countries many species are utilised in the preparation of toothsome dishes does not tend to destroy the prejudice that exists, and, although but few of us can reconcile ourselves to a wide selection, there cannot be two opinions as to the wisdom of our Continental friends in utilising more than one kind. Horticultural lecturers are doing a splendid work, under the auspices of the various County Councils, and I have often thought that they might, by ocular demonstration and description, give much useful information with regard to both edible and poisonous fungi. This knowledge, if not spread amongst a small body of persons in each district, would rapidly be disseminated, and in time the country dweller would become familiar with the characteristics and use of the native species.

We are all acquainted with the common mushroom (Agaricus campestris), and apart from natural supplies in autumn, they are produced artificially in enormous quantities at all seasons. Other edible forms of agaricus are seen in a tricholoma, familiarly known as toadstools, which, as children, we were told to carefully avoid. When well cooked they are very appetising and palatable, and the same applies to an astreatus which is generally found round the base of trees in September and October. The colour is dull white, and the species is commonly known as the oyster mushroom.

The basal part of elm tree trunks is often smothered with Agaricus ulmarius, and they are by no means to be despised. A. procerus is very popular in France, and is said to form very fine ketchup. The St. George's Mushroom (Agaricus gambosus) appears in enormous quantities in pastures in some districts, and takes the form of rings, and is characterised by its delicacy of flavouring. The Horse Mushroom (Agaricus arvensis) is sold in our great cities and towns as the common species. It attains to enormous dimensions, and, apart from being coarse, often causes stomach trouble if not well cooked.

Polyporus giganteus, as its name implies, also attains to a great size, and specimens have been known to weigh upwards of thirty pounds. When fully developed, it is leathery, but very good when young. Those of epicurean tastes will find much to admire in a dish of the Giant Puff Ball, whose botanical name is Lycoperdon giganteum. It must be gathered when young

Boletus edulis must not be forgotten, being one of the very best edible species, but great care must be exercised as to the proper time of gathering. Its chief characteristic is its brown cap, whose under surface is white, followed by a yellow hue, when it should be eaten. It is unfit for food during the last stage, which is marked by a dark-green colouring.

The genus Lactarius are known as the milky agarics, the best-known being L. deliciosus. It contains a considerable quantity of juicy fluid, which, in its first stages, is red, and later green.

I have simply touched upon a few of the more important species, and, if every country dweller were acquainted with these, many tons might be utilised as food every year.

WALTER H. AGGETT.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

AUTUMN-FLOWERING CATTLEYAS.—Such species as C. labiata, C. Warscewiczi (Gigas), C. aurea, and C. Boweringiana, among the autumn-flowering kinds, and the numerous hybrids, will have their new growths in different stages of development, and will require every care that will assist them. The earlier flowering kinds will be found to have the greatest tendency to produce what we term sappy or soft growth. This is only natural when we consider the amount of protection required by other occupants of the same house, to prevent strong light from disfiguring the foliage. This may be also considered detrimental to the plants, for it is rarely we obtain satisfactory flowers from the best forms, unless the growths are properly ripened before the flowers expand. It will also be found that immature growths, especially the early ones, have the greatest tendency to start into activity a second time, and unless we have very favourable conditions, such secondary growths are rarely induced to mature late in the season. In the case of C. Warscewiczi it was a common practice a few years ago to place the early plants in a cool, dry house, where they were subjected practically to full light. This is a very good method where space is available.

BLACK SPOT.—Some weeks ago a correspondent wrote asking what method could bulbs, or any portion of the leaf, appearing on his cattleyas. The black spotting, I am convinced, is the effect of two distinct diseases. There is one which attacks the bulbs, or any portion of the leaf, appearing first as a tiny spot, and rapidly developing into a large black patch, which very quickly causes the whole growth to become a black, rotten mass, which may kill the plant. This is caused by bacteria, and if we take a pin and prick the leaf affected, and then, without cleaning the pin, prick a leaf on a plant which is perfectly healthy, the effect will be apparent the following day, and the development will be so rapid that the disease spot quickly reaches the size of a shilling. I cannot advise anything better, with safety, than to cut off the diseased bulb, or leaf, as the case may be, and burn it. The other evil is a fungoid growth which spreads with a star-like appearance on the leaves. This had best be cut off whenever observed. We have been experimenting here with mercury, or ultra-violet, rays on these and some other pests, and the results have been most remarkable. Space does not permit of my dealing with the results that have been apparent from the use of this lamp, but I hope, with the Editor's permission, to submit an article on the subject for publication in the near future. [We shall be delighted to give publicity to the results of the experiments which Mr. C. Cookson and Mr. Chapman have been making with the electrical mercury lamp at Oakwood.—Ed.].—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

MALMAISON CARNATIONS. — To prolong the season of flowering the blinds must be left down all through the day. The floors and stages should also be sprinkled with water frequently on hot days to cool the atmosphere. Select some of the most promising of the one-year-old plants, and shift them into 8in. or 9in. pots. It is necessary to grow a good batch of these where large supplies of flowers are required. The potting must be done carefully and firmly, using a compost of fibrous loam, leaf-soil (which has not been fermented), coarse sand, and a little finely-broken old brick rubble. A small quantity of well-seasoned soot and crushed bones will meet their requirements in the matter of manure. For a week or two after potting the plants must be shaded from bright sunshine, and syringed two or three times daily with rain water. As soon as possible after flowering layering must be proceeded with. For this purpose a box frame should be placed on a south or west border. A good quantity of fine light soil will be necessary in which to peg down the young growths. This should consist of two parts loam to one of leaf-soil and a good sprinkling of sand. Keep the frames close and shaded during the hottest part of the day, and syringe the plants frequently. When the plants are rooted, gradually inure them to plenty of air and exposure to the sun.

CYCLAMEN.—As the plants become well rooted, a mild stimulant may be given them. This should take the form of a little weak soot water, which will not only strengthen the plants, but will also help to keep the soil free from insect pests. They should have an abundance of air at all times and during warm, congenial weather the lights may be removed for the night. Primulas, cinerarias, and bouvardias may be given similar treatment when they are established in the pots in which they are to flower.

CLIMBING PLANTS. — These are now making rapid growth, and in order to keep them within bounds it will be necessary to periodically thin them out, especially the stronger-growing kinds. Dead flowers must also be removed with as little delay as possible. Watering and feeding with manures must be carefully attended to. Some of the old-established plants also need an annual surface dressing of some rich materials. The young growths of climbing roses must be regulated and tied in as the case demands. These plants need abundance of moisture at the roots at this season. Give them a vigorous syringing every evening.—E. Harriss, Lockinge Park Gardens.

HARDY FRUITS.

SUMMER PRUNING PLUMS.—This work may now be taken in hand and pushed forward, so that light and air may assist in the formation of good fruitful buds, and the ripening of the wood for next year's crop. Do not shorten the young shoots too far back this time, but attend to the trees again in a month or six weeks' time and then shorten them to within a few eyes of the base. Preserve sufficient young pieces at intervals all over the trees, as very frequently these produce the best fruits the following season. Keep a look out for insects, and syringe well with quassia extract or some other approved insecticide, following this with clear water until the whole of the leaves and growths are clean. Many of the trees are very thinly cropped, and will make a more free growth than when bearing heavy crops, so that little or no feeding will be necessary. But water will be needed if the weather continues dry, and, when given, let the ground be thoroughly soaked. Train all leaders carefully, using soft material wherewith to fasten them in the required position, and give young trees that were late planted plenty of moisture at the roots, so that the growths do not become stunted. The ruin of many a young tree may be traced to a severe check during the first year or so after planting, caused by drought.

ORCHARD TREES.—Where these are growing on grass land keep the grass short, and allow, if possible, sheep to graze among the trees. We have an orchard planted over 20 years ago, in which poultry have had a run, and, although the soil is very light and gravelly, the growth of the trees, the crops of fruit, and colour, are all that could be desired. The failures in orchards laid down with grass are due chiefly to the grass being allowed to grow and then cut down for hay. With us this year apples of all sorts are heavily cropped, and thinning will have to be done.

GOOSEBERRIES.—If large fruits are required for dessert purposes, let the trees have a good soaking of liquid manure before covering them over with nets to protect the fruits. Cordons must have the young shoots not required for extension shortened to prevent a mass of useless wood, and to allow air, etc., to reach the fruits. Keep the foliage free from red spider and caterpillars, and maintain a free, clean growth and leafage.

MORELLO CHERRIES.—Lay in the shoots of Morellos, training them like the peach; give the roots a good soaking with liquid manure, to which a little lime has been added. Mulch well if the land is light, and net early. Cherries, like all stone fruit, should not be allowed to suffer at the roots during the stoning process, otherwise many fruits may drop.—H. Markham, Wrotham Park Gardens.

THE KITCHEN GARDEN.

CABBAGE.—Spring cabbages are so highly esteemed, and so much in demand, that every possible effort should be made to secure them as early as possible. Much depends upon the quality of the seed and the selection of varieties, and if more care were taken in these respects we should have less complaints of the plants bolting. It is advisable to make two, or even three, sowings, so that if one does not succeed there is a reserve to fall back upon. The first sowing should be made about the 18th of this month, other sowings to follow at intervals of a fortnight. The varieties Harbinger, April, and Flower of Spring can be thoroughly relied upon, the two first-named are small, but of the highest quality; Flower of Spring needs no further mention, being regarded as a standard variety. To those desiring a later and larger type of cabbage, Emperor is one of the finest varieties grown. The seeds should be sown broadcast in an open position on a moderately rich ground. If the soil be dry, give a thorough watering a day before sowing takes place, and afterwards as occasion requires. Watering is best done towards the evening. Net the beds securely against birds.

VEGETABLE MARROWS.—The plants should be examined once a week, and have all superfluous growths removed, and those retained should be pegged down, ample room being allowed for the young foliage to develop. An abundance of water is necessary during dry weather, and when the plants are fruiting, give an occasional dose of liquid manure. Remove the fruits as fast as they become fit for use, and if the weather be dull and cold it will be necessary to fertilise the female flowers.

TURNIPS.—Preparations should be made for sowing for the last crops. The first sowing should be made about the middle of the month, and others at intervals of two or three weeks, till the first week in September. It is preferable to make small and frequent sowings, the smaller roots being superior in flavour to large ones, and they keep the best when stored. The position of the beds in the present month should be cool, and the land should have been recently manured. The August and September sowings require land in good heart. The plants soon bolt or become a prey to the turnip flea, if the soil is dry. The turnip, when growing in well-drained land, is not damaged by a few degrees of frost, and in mild winters the roots may be left in the ground until the spring, when excellent "tops" may be taken from them. Before sowing, apply a dressing of soot and wood ashes, or slaked lime and wood ashes.—W. Messenger, Woolverstone Park Gardens.

EXHIBITIONS AND MEETINGS.

National Rose Society.

Although the day was not a promising one, especially in the early morning, July 4 turned out to be a first-rate day for a rose show. Rain kept off, occasionally the sun shone, but usually there was what a photographer calls "a good light," and a pleasant breeze. There were crowds of visitors, and the ladies put on their lightest and brightest summer frocks so that the scene, both in the tents and in the Royal Botanic Society's Gardens, was a very bright and animated one.

There was never a finer rose show than this one. Every one of the hundred and eleven classes was well filled, and in some cases there were more than a score of competitors for the place of honour. The flowers were bright and clean, and lacked nothing in size, and they were present in such abundance that they quite defeated the suggestion that this is a bad rose year. The comparatively cool day was in their favour, and they lasted well. The ladies' classes for arrangements of roses for floral decoration formed a very interesting feature, and incidentally demonstrated the high value of Irish Elegance rose for decorating, as it was by far the most popular rose with exhibitors.

New roses attracted general attention, and the Irish raisers had a great day. Four policemen had all their work cut out to keep the visitors steadily moving through the wide tent in a stream two or three deep. We think that, if the tabling had been about a foot or so higher, visitors would have been better able to see the blooms, because those on the outer side of the stream would then have had a view of the new varieties that was denied many of them (especially if of low stature) on this occasion. However, the arrangements for the new roses were better than before, and we refer our readers to our description of the medal varieties, and those commended, under "New Plants."

NEW ROSES.

The following were in competitive classes:

In the class for nine blooms of any new rose, Messrs. Jas. Cocker and Sons, Aberdeen, scored with Mrs. Andrew Carnegie, and Mr. G. Prince came second with the blush Mrs. Maynard Sinton.,

For a dozen new roses, Mr. G. Prince was placed first with Countess of Ilchester, Ethel Malcolm, Mrs. H. Hawksworth, Mrs. Muir Mackean, British Queen, Mrs. F. Hobbs, Elizabeth, etc.; Messrs. Perkins and Sons second; and Messrs. Alex. Dickson and Sons, third.

Mr. J. Mattock had the best nine vases of new decorative roses, and scored with Mrs. H. Taylor, A. R. Goodwin, Mrs. E. J. Holland, Walter Speed, His Majesty, Duchess of Wellington, Jas. Coey, Mrs. A. Tate, and Lady A. Stanley; Mr. E. J. Hicks second.

The Hammond Cup for six blooms of new roses was won by Mr. F. Dennison with Mrs. A. E. Coxhead, Mabel Drew, Alex. Hill Gray, Duchess of Westminster, Mrs. A. Hammond, and Mr. J. Welch; Mrs. R. Fortescue second.

SILVER MEDAL BLOOMS.

The society awarded silver medals to the following "best" blooms in the show:

Nurserymen. — H.T., G. Dickson, from Messrs. Frank Cant and Co.; H.P., Mrs. John Laing, from Messrs. R. Harkness and Co.; T. or N., Mrs. E. Mawley, from Mr. George Prince.

Amateurs.—H.T., Avoca, from Dr. Pallett; H.P., Horace Vernet, from Mr. Foley Hobbs; T. or N., Mrs. Foley Hobbs, from Mr. C. Eversfield.

NURSERYMEN.

The nurserymen's championship was won on this occasion by Messrs. Benjamin R. Cant and Sons, Colchester, from five competitors. This firm staged a fine set, and had particularly heavy blooms of Mrs. Sam Ross, Edward Mawley, Mdme. Jules Gravereaux, Mrs. T. Roosevelt, Caroline Testout, J. B. Clarke, Bessie Brown, Lieut. Chaure, Mildred Grant, Earl of Warwick, British Queen, White Maman Cochet, and the brilliant Augustus Hartmann. Messrs. Alex. Dickson and Sons, Newtownards, second with a beautifully bright set that contained a lot of red and crimson varieties; Messrs. Frank Cant and Co., Colchester, third; and Messrs. R. Harkness and Co., Hitchin, fourth.

First prize for forty trebles fell to Messrs. Alex. Dickson and Sons, Newtownards, for a famous set that included Denis, Mrs. David McKee, Lyon Rose, Bessie Brown, Mabel Drew, Mdme. Jules Gravereaux, and H. V. Machin in fine form; there were five competitors, and second place fell to Messrs. B. R. Cant and Sons, Colchester, who had heavy blooms; Messrs. Frank Cant and Co., Colchester, third.

The China Trophy for forty-eight blooms, distinct, had eleven competitors, and the lucky prizewinner was Mr. George Prince, Longworth, whose box of grand blooms contained superb specimens of Florence Pemberton, Mrs. Maynard Sinton, Mrs. Foley Hobbs, Mrs. L. Welch, Mrs. Miles Kennedy, Lyon Rose, G. C. Waud, Bessie Brown, F. K. Druschki, Countess of Caledon, and Mrs. T. Roosevelt; Messrs. Perkins and Sons, Coventry, came second with smaller and very clean flowers; Messrs. G. and W. Burch, Peterborough, third. There were nine entries of forty-eight blooms, distinct, and here Messrs. Chaplin Bros., Lim., Joynings Nursery, Waltham Cross, annexed the chief award with a heavy set of clean flowers; Mr. W. R. Hammond, Grovelands, Burgess Hill, second; and Mr. J. Mattock, Headington, third. The best set of sixteen trebles among six entries was from the King's Acre Nursery Company, Hereford, and this firm staged Horace Vernet, Mabel Drew, Mdme. C. Soupert, Bessie Brown, and Queen of Spain well; Messrs. G. and W. H. Burch, Peterborough, second; and Mr. W. H. Frettingham, Beeston, Notts, third.

NURSERYMEN'S TEA ROSES.

The Dombrain Cup for two dozen tea or noisette roses fell to Mr. George Prince for a glorious set, his finest examples being Mrs. E. Mawley, a superb flower; Souv. de Pierre Notting, Mdme. C. Soupert, Molly Sharman Crawford, Mrs. M. Kennedy, Boadicea, and Medea; there were six entrants, and second place fell to Mr. Henry Drew, Longworth; and third to Messrs. B. R. Cant and Sons. Mr. J. Mattock, Headington, scored for a dozen tea and noisette roses, and was followed in order by Messrs. J. Burrell and Co., Cambridge, and Mr. E. Hicks, Wallingford, Berks; there were twelve boxes staged. Sixteen trebles of tea or noisette varieties is a severe class, but there were six competitors, and Mr. H. Drew won, and showed Mdme. Jules Gravereaux, Mrs. Foley Hobbs, Mrs. E. Mawley, Medea, Mdme. C. Soupert, and White Maman Cochet finely; Mr. George Prince had to be content with second place, and Mr. J. Mattock came third.

Messrs. Frank Cant and Co., Colchester, led for twelve white and twelve crimson roses with F. K. Druschki and Gloire de Chedane Guinoisseau; Messrs. B. R. Cant and Sons second, and Mr. W. Bentley, Leicester, third.

ROSES IN VASES AND BASKETS.

A beautiful class was the one for a dozen vases of roses not more than six tea or noisette varieties, and out of six entries, Messrs. D. Prior and Son led with lovely flowers of Pharisaer, Lady Ashtown, Bessie Brown, Leslie Holland, Mdme. J. Gravereaux, Mrs. T. Roosevelt, White Maman Cochet, Mrs. J. Bateman, E. J. Hill, Lyon, Kaiserin A. Victoria, and Mrs. A. Coxhead; Messrs. Alex. Dickson and Sons second, and Mr. G. Prince third. Nine varieties of tea or noisette roses, seven blooms of each in vases, was a fine class, and a most effective one, but we could find no trace of a first prize winner, though we sought for some time after the public was admitted.

Five baskets of cut roses, baskets not to exceed 14in. in diameter, formed a magnificent class, as there were six competitors, and consequently thirty baskets of lovely blooms. The premier award fell to Messrs. Chaplin Bros., Waltham Cross, for grand flowers of Lyon, Mdme. Abel Chatenay, Duchess of Wellington, G. C. Waud, and Pharisaer; King's Acre Nursery Company second; Messrs. R. Harkness and Co. third.

Nine baskets of roses found four firms competing, and Messrs. Paul and Sons, Cheshunt, led the way with Marquise de Sinety, Mdme. Melanie Soupert, Mdme. A. Chatenay, Lady Ashtown, Molly S. Crawford, Harry Kirk, Lyon, Andre Gamon, and Joseph Hill; Messrs. D. Prior and Son second, and Mr. J. Mattock third.

Mr. George Prince had the best basket of any tea or noisette rose, his variety being Mrs. Foley Hobbs; Mr. J. Mattock second with Mrs. T. Roosevelt; seven entries. The baskets of Rayon d'Or were gorgeous, and prizes went in order to Mr. George Prince, Messrs. D. Prior and Son, and Mr. W. Bentley.

The Rev. J. H. Pemberton, Romford, showed the best three baskets of flowers, his varieties being Danae, Mrs. Alfred Tate, and Mdme. Abel Chatenay; Mrs. Wightman, Bengeo, Herts, second; and Mr. H. V. Machin, Worksop, third.

Mr. Eversfield beat Mr. G. A. Hammond in the amateurs' class for seven vases of five blooms each, and Mr. J. Hart, Little Heath, Potters Bar, beat Rev. J. B. Shackle, Dropmore, Maidenhead, for five vases of blooms. In other vase classes Dr. Panckridge; Mr. E. F. Brown, Sussex Place, Slough; Mr. D. Davies, Beaconsfield; and Mr. S. F. Jackson, Epsom, were other leading prize-winners.

All the basket classes were a huge success; for a basket of eighteen blooms of other than a tea or noisette or H.P. variety, Messrs. Jas. Cocker and Son, Aberdeen, scored with superb flowers of Mrs. Andrew Carnegie; Mr. W. Bentley second, and Mr. J. Mattock third; sixteen entries. Messrs. R. Harkness and Co., Hitchin, scored for a basket of H.P.'s; Messrs. F. Cant and Co. second; ten entries.

AMATEURS.

The competition for the amateurs' championship and gold medal for the best three dozen blooms was very keen. The winner was Mr. Franklin Dennison, Cranford, Leamington Spa, and he scored with glorious flowers, his finest being Oberhofgartner Terks, Gustave Piganeau, Florence Pemberton, Mrs. J. Welch, Mrs. Foley Hobbs, White Maman Cochet, Mabel Drew, Queen of Spain, Yvonne Vacherot, Mdme. Jules Gravereaux, J. B. Clarke, Mildred Grant, Duchess of Sutherland, and Princess Marie Mertshersky; Dr. T. E. Pallett, Earls Colne, Essex, was a close second, and Mr. C. C. Eversfield, Horsham, third; eleven competitors. In the open amateurs' class for two dozen blooms the awards fell in order to F. Dennison, Esq., who was in great form on this occasion; Dr. T. E. Pallett, and Tom Park, Esq., Askew Mill, Bedale. For a dozen trebles, Mr. Dennison continued his conquering way, and in this class he showed as finely as in the others; Mr. Conway Jones, Hucclecote, Gloucester, came second, and Mr. G. A. Hammond third.

For the best nine blooms of any rose other than a tea or noisette variety Dr. T. E. Pallett scored with Avoca, a rose he grows in superb style, as evidenced at Ipswich and Colchester last week; Mr. Alexander Hill

Gray, Beaulieu, Bath, second with Florence Pemberton, and Mr. F. Dennison third with the last-named variety The Hobbies Cup, open to growers of fewer than 3,000 plants, was won by Mr. W. O. Times, Hitchin, but some of his twenty-four flowers were rather weathered; Mr. W. Boyes, Leicester, second, and Mr. H. R. Darlington, Potters Bar, third. In this section Mr. C. C. Eversfield had the best nine roses of any but a tea or noisette variety with a splendid box of Dean Hole.

Captain W. Jarratt Thorp, Gransmore, Hucclecote, won the Ben Cant Memorial Cup for two dozen varieties, in the section open to growers of fewer than 2,000 plants; his Miss Foley Hobbs and Hugh Dickson were fine. Mr. H. L. Wettern, Waratah, Sanderstead, second, and Mr. G. Speight, Market Harborough, third. Mrs. Croft Murray, Perivale, Ryde, led for eighteen blooms, and Mr. G. Speight showed the best six blooms of one variety (Her Majesty) in this section. Dr. Chas. Lamplough, Kirkstall, Alverstoke, put up a splendid dozen flowers in his stand that won the President's Cup, open to growers of fewer than 1,000 plants; Mr. Lewis S. Pawle, Beaconsfield, second, and Mr. F. H. Cook, Birch, Colchester, third.

Mr. G. Curnock Sawday, Beechfield, Weybridge, and Mr. J. J. Williamson, Hawkshill, Walmer, and Dr. Chas. Lamplough were leading prizewinners in the section open to growers of fewer than 750 plants; while in the division for growers of fewer than 500 plants Mr. J. Smart, Mr. Sherwood, Stevenage, and Mr. F. H. Fieldgate, The Cottage, Shrubend, Colchester, were the leading prizewinners.

In the division for smaller growers we noticed that Mr. W. Moore, Priest Hill, Caversham; Mr. S. P. Page, Nottingham; Mr. H. Clinton Baker, Bayfordbury; Mr. B. J. Walger, Chatteris, Cambs.; Rev. J. T. Kershaw, Corsley Rectory, Warminster; Mr. A. Searle, Ashton Lodge, Bassett; Mr. H. F. Matthews, Stevenage; Mr B. Fortescue, Dropmore, Maidenhead; Mrs. M. M. Murray, Horsendon, Isle of Wight; Mr. G. B. Ash, Bushey Heath; and Mr. J. W. Roff, Wood Green, were among the successful competitors.

The Suburban Championship Cup for six roses grown within eight miles of Charing Cross, was won by Mr. L. W. Atkinson, Rosebourne, Palmers Green, with good flowers of Dean Hole, F. K. Druschki, Gloire de Chedane Guinoisseau, Mildred Grant, Wm. Shean, and Mrs. Foley Hobbs; Mr. W. E. Martin, Bromley Lodge, North Finchley, second, and Mr. Ramon d'Escofet, Kingsley Deane, Dulwich, third. Mr. G. W. Cook, Radstock, Whetstone, was first in the metropolitan class for six flowers.

Mr. Eversfield, Horsham, was first for twenty-four roses in the class open to those who have never won the Challenge Trophy. The Harkness Cup, for a dozen blooms, an open amateur class, was won by Dr. Chas. Lamplough with fine examples of Mdme. Jules Gravereaux, Mrs. M. Kennedy, Avoca, F. K. Druschki, and White Maman Cochet. Mr. F. Crawley, Luton, showed the best six blooms each of Mdme. M. Soupert and Lyon.

The Amateurs' Tea Rose Trophy was won by Mr. Alexander Hill Gray, Beaulieu, Bath, with a grand box of Medea, Lady M. Corry, Miss A. de Rothschild, Nita Weldon, A. Hill Gray, Mdme. J. Dupuy, Souv. de P. Notting, Mme. Leon Cambertini, Mrs. H. Taylor, Mrs. E. Mawley, Mdme, Jules Gravereaux, Muriel Grahame, White Maman Cochet, Molly S. Crawford, Mrs. Foley Hobbs, R. W. Smith, Mdme. C. Soupert, and Maman Cochet. Six entries. Mr. C. C. Eversfield Horsham, second, and Mr. B. Fortescue third. Mr. Eversfield scored for a dozen tea and noisette blooms, with Mr. A. Hill Gray second, and Mr. Conway Jones third.

The Prince Memorial Cup for eight trebles, teas and noisettes was won by Mr. Alex. Hill Gray, whose Maman Cochet, Souv. de Pierre Notting, Mrs. F. Hobbs, and White Maman Cochet were superb, Mr. Eversfield coming second. Mr. Hill Gray had the best six blooms of one tea or noisette rose, and led with perfect examples of White Maman Cochet in a close competition. Mr. F. Slaughter, Steyning; Mr. H. Balfour, Headington Hill, Oxford; Dr. Chas. Lamplough, Mr. J. Smart. Jun., Mr. A. Searle, Mr. G. C. Sawday, and Mr. W. Upton (Leicester) were other prize-winners in tea rose classes.

Mrs. H. Taylor was the tea variety that Mr. A. Hill Gray won a first prize with for a basket of bloom; Dr. Panckridge, Petersfield, second.

DECORATIVE ROSES.

Mr. J. Mattock led for eighteen bunches of perpetual decorative roses, and showed Duchess of Wellington, Mdme. M. Soupert, Mrs. H. Stevens, Lady Rossmore, and Mrs. P. Blair beautifully; Mr. John Pigg, Royston, second. Mr. W. Bentley, Belgrave, Leicester, led for nine varieties of perpetual decorative roses, with lovely flowers of Mdme. A. Chatenay, Jos. Hill, Molly S. Crawford, Duchess of Wellington, G. Shawyer, Mdme. M. Soupert, Koningen Carola, Lady A. Stanley, and Ethel Malcolm; seven entries. Messrs. Chaplin Bros. second, and Mr. E. J. Hicks third.

For twenty four varieties, five blooms of each, staged in a vertical line, Mr. Elisha Hicks, Hurst, Berks, was a good first, his flowers being Rayon d'Or, Lyon, Mrs. A. Tate, T. C. Waud, and Laurent Carle; Mr. J. Mattock second. Mr. J. Mattock won the Turner Cup for a display of three dozen bunches of decorative roses, and did so with a lovely exhibit and glorious bunches of Simplicity, Gen. MacArthur, Goldfinch, Crimson Damask, Lady Hillingdon, Marquise de Sinety, Irish Glory, etc.; Messrs. Frank Cant and Co., Colchester, second, and Messrs. W. Spooner and Sons, Woking, third.

Messrs. W. Spooner and Sons, Woking, led for eighteen bunches of summer roses, and their set included Celestial, Jersey Beauty, Helene, Gardenia, and Hiawatha. Mr. E. J. Hicks was first prize winner for eighteen bunches of decorative roses, and made a special feature of Blush Rambler, Edu Meyer, Coronation, and Moschata alba; Mr. Ernest Hicks, Wallingford, second.

A capital dozen bunches of polyantha roses won a first prize for Messrs. F. Cant and Co., and the chief varieties were Leonie Lamesch, Philippine Lambert, Perle d'Or, White Pet, Marie Pavie, and Perle des Rouges; Mr. G. Prince second; four competitors. For a dozen bunches of Wichuraiana roses, Mr. E. J. Hicks scored with such varieties as Jos. Billard, Jersey Beauty, Hiawatha, and Alberic Barbier; Messrs. F. Cant and Co. second, and Mr. J. Pigg third.

In the amateurs' division for decorative roses, the competition was keen. Mr. J. Hart led for eighteen blooms in not fewer than six varieties, and Mr. H. R. Darlington came second. Mr. H. Vessey Machin, Worksop, was a capital first for eighteen bunches of roses, and he had goodly blooms of Killarney and Lady Curzon; Rev. J. H. Pemberton second. The latter, however, showed the best seven bunches of seven blooms each.

Mr. Stevenson, gardener to E. G. Mocatta, Esq., Addlestone, put up a fine set of six bunches of decorative roses, and set up Gustave Regis, Trier, Harry Kirk, Irish Elegance, Aennchen Muller, and Carmine Pillar grandly; Rev. J. B. Shackle second. Mr. Stevenson was also first for fine stands of decorative roses, and here Alberic Barbier, Irish Elegance, and Orleans were fine. Dr. Williams, The Moat, Harrow, staged the best set of six bunches of Wichuraiana roses, and Mr. R. C. Nevill, Chislehurst, beat Mr. H. L. Wettern for a dozen bunches of decorative roses, with a beautiful set of Macrantha, Una, Gustave Regis, etc.

LADIES' CLASSES.

In the ladies' class for table decoration Miss E. M. Davies, Burgess Hill, was placed first for a capital arrangement of Irish Elegance. Mrs. Oakley Fisher, Egremont House, Sudbury, second, with Irish Elegance, and Miss Brill, Ivy Bank, Sutton, third. This class was for those who had not previously won a prize for table decoration at a N.R.S. Show.

In the table decoration class, where single roses were barred, Miss Maud West, Frith Dene, Reigate, scored with an arrangement of Richmond roses; Mrs. Sawday, Beechfield, Weybridge, second, with Mrs. Alfred Tate; Mrs. A. Robinson, Carshalton, third, with Mdme. Abel Chatenay. For a table decoration of single roses Mrs. E. M. Burrell, Holly Lodge, Westwood Road, Southampton, was first with a glowing design of the new single variety Irish Fireflame; Mrs. F. Peters Wood, Weybridge, second, and Mrs. J. W. Smith, Sparrows House Hall, third, each with Irish Elegance.

Lady amateurs showed baskets of roses very finely, and Mrs. E. F. Brown, Lynton, Slough, won capitally with Lyon Rose, elegantly set up; Mrs. Sawday second, with an erect vase-shaped basket of Irish Elegance. Mrs. Colston Hale, Virginia Lodge, Warminster, won first prize for a basket of roses, other foliage allowed, with a large design of Irish Elegance and Mrs. A. Tate; Miss J. B. Langton second, and Miss D. F. Brown, Brokes Lodge, Reigate, third, with a bold basket of Mrs. Sharman Crawford.

Mrs. Jane B. Langton, Rayment, Hendon, set up the best bowl of Wichuraiana roses, and used the soft pink Francois Jourauville; Mrs. E. B. Burrell second with René André. For a bowl of roses, any kinds, Mrs. F. E. Mead, Hemel Hempstead, led with Irish Elegance, finely set up; Mrs. A. Allen Hope, Addlestone, second, and Miss Brill, Sutton, third.

In an open class, Mrs. E. J. Hicks scored for a bowl of roses with the glowing Lyon, associated with Rosa rubrifolia foliage; Mrs. A. R. Bide second with Mrs. Mona Hunting, and Mrs. E. F. Brown, Slough, third, with Lady Flora Wilson.

The best bowl of exhibition roses was one of Kaiserin Augusta Victoria, arranged by Mrs. L. Courtenay Page, who was followed by Mrs. E. Burnett with Mdme. M. Soupert, and Mrs. J. Bide, Uxbridge, who staged the variety Mrs. G. Shawyer. In a somewhat similar class Mrs. A. Robinson, Carshalton, led with Mdme. Abel Chatenay; Miss J. B. Longton second with Dawn and Lina Schmidt Michel, and Mrs. L. Courtenay Page, Enfield, third, with Sunburst.

GROUPS OF ROSES.

Messrs. Hobbies, Lim., Dereham, secured the gold medal for a large display of pot and cut roses; they had weeping standards of Hiawatha and other Wichuraiana varieties, hanging baskets of the brilliant Rayon d'Or, and a groundwork of baskets of popular tea and hybrid tea roses, and stands of the pretty single variety Pink Pearl. Messrs. Paul and Son, Cheshunt, second; Messrs. A. J. and C. Allen, Norwich, third.

Premier award and gold medal for a big representative group of roses was won by Messrs. W. and J. Brown, Stoneford, with splendid stands of Lyon, Hugh Dickson, Frau Karl Druschki, Avoca, Mdme. Abel Chatenay, Crimson Rambler, Mdme. C. Soupert, Marquis de Sinety, and other fine varieties. There were seven fine displays in the class for a 10ft. high group of roses, and these contributions were a great feature. Messrs. G. Jackman and Son, Woking, won with a fine effort, and made free use of Frau Karl Druschki, Lyon, and Le Progrès; Mr. Karl Thirkildson, Old Southgate, second, and Messrs. Morse Bros., Woodbridge, third.

Gold Medal.—To Queen Mary (H.T.), from Messrs. Alex. Dickson and Sons, Lim.; to Brilliant (H.T.), and to Mrs. James Lynas (H.T.), from Messrs. Hugh Dickson, Lim.

Silver-gilt Medal.—To Mrs. Ambrose Ricardo (H.T.), from Messrs. S. McGredy and Son; to Wm. Cooper (H.T.), Mrs. J. W. Parker (H.T.), Ulster Gem (H.T.), single, Muriel Dickson (hybrid Austrian), and Mrs. Hugh Dickson (H.T.), from Messrs. Hugh Dickson, Lim.; to Red Letter Day (H.T.) and Conway Jones (H.T.), from Messrs. Alex. Dickson and Sons, Lim.; and to Mrs. G. Norwood (H.T.), from Mr. E. J. Hicks.

Card of Commendation.—To Duchess of Abercorn (H.T.), Mrs. Godfrey Brown (H.T.), and Mrs. Wm. Sargent (H.T.), from Messrs. Hugh Dickson, Lim.; to Naarden (H.T.), from Mr. G. A. van Rossen; to J. F. Barry (Austrian hybrid), from Mr. G. W. Piper; to Mrs. Moyna (H.T.), and to Mary Greer (H.T.), from Messrs. Alex. Dickson and Sons, Lim.; to Freda Weller (Wichuraiana), from Mr. Henry Weller; and to Pink Pearl (single H.T. climber), from Messrs. Hobbies, Lim., Dereham.

The Royal Show at Bristol.

The great show at Bristol, which opened under the auspices of the Royal Agricultural Society on July 1, and continued until July 5, was remarkable in every respect. The horticultural section occupied three large tents, and within them were fine displays of plants, flowers, fruit, and vegetables. A deputation from the Royal Horticultural Society attended the show on Wednesday, and expressed themselves well pleased with what they saw. Great credit is due to Mr. Peter Blair and the Hon. John Boscawen, who had control of this section.

PLANTS.

Three exhibitors staged in the class for a group of stove and greenhouse plants, and Messrs. J. Cypher and Sons, Cheltenham, secured the first prize with a very bright and effective arrangement. Tall, highly-coloured crotons formed an outstanding feature, orchids were freely distributed over a groundwork of small ferns and foliage plants, and tall kentias were used in the background. Mr. W. A. Holmes, West End Nurseries, Chesterfield, received second prize, his plants being rather flatly arranged, although some of the crotons were of good height. Polyantha roses were used, with white lilies, and a few examples of Verbena Miss Willmott. Mr. C. J. Ellis, Weston Nurseries, Weston-super-Mare, was third, his exhibit having many bright-coloured flowering plants which somewhat overpowered the foliage subjects that are undoubtedly most acceptable in groups of stove and greenhouse plants.

Messrs. Armstrong and Brown, Tunbridge Wells, secured first prize for a collection of orchids occupying 100 superficial feet. The plants were arranged in the form of a steep bank, long sprays of Odontoglossum crispum hanging from a great height at the back, with bulbophyllums, anguloas, and Cœlogyne pandurata among other rather uncommon orchids in the foreground, as well as good cypripediums, cattleyas, and oncidiums. Messrs. J. Cypher and Sons were second with a collection that contained a number of fine specimens of really good orchids, which, however, were staged at the side of a tent where they appeared to be rather cramped for room.

Mr. Charles Wall, Melrose Nursery, Bath, was the only exhibitor in the class for a group of carnations, flowers and plants combined. His exhibit was worthily awarded first prize. Perpetual-flowering varieties were shown in choice variety, and were well displayed over a groundwork of ferns. Messrs. Harkness and Sons, Bedale, Yorks, scored for a collection of hardy flowers arranged on the ground on a space 25ft. by 10ft. Oriental poppy Mrs. Harkness was grand, and some choice verbascums, delphiniums, and rich-coloured gaillardias were tastefully grouped with English irises, gladioli, and a host of useful and seasonable flowers. Messrs. G. Gibson and Co., Leeming Bar, Bedale, were second, Lilium davuricum, pæonies, Spiræa palmata rosea, and Verbascum Ivanhoe being among their best subjects. Messrs. W. Artindale and Son, Sheffield, came third. They had some fine examples of Eremurus Bungei in their exhibit. Messrs. Artindale received first prize for a model water garden planted with suitable bog and aquatic plants. Nymphæas occupied the pools, while the margins were planted with phormiums, bamboos, ferns, and spiræas, some dwarf alpines being used in the marginal band along the front.

Messrs. Blackmore and Langdon, Twerton Hill Nurseries, Bath, had the only group of begonias, receiving first prize. Needless to say, the quality of the flowers was up to high-water mark, one delicate salmon variety named Princess Victoria Luise attracting much attention.

CUT FLOWERS.

Messrs. Alex. Dickson and Sons, Lim., Newtownards, co. Down, were successful in obtaining premier honours in the class for 72 roses, with a fine set of the best of exhibition varieties. Lady Barham, Florence Pemberton, Mildred Grant, Lohengrin, and Mrs. Forde were a few of the best blooms. The second prize was secured by King's Acre Nurseries, Lim., Hereford, who had excellent flowers, Bessie Brown, Dean Hole, Miss A. de Rothschild, and Mildred Grant being the most noteworthy. Messrs. English, Lim., Gloucester, were third, staging some of the newest of varieties in good form.

There were four entries for a collection of sweet peas arranged on 20ft. by 5ft. of staging. Messrs. E. W. King and Co., Coggeshall, secured first prize, showing Scarlet Emperor, Empress, Barbara, Thos. Stevenson, Hercules, and many other good varieties in capital style. Miss Hemus, Holdfast, Upton-on-Severn, was second, her varieties being the best of the Paradise strain, shown in fine bunches and shower bouquets. Mr. J. Stevenson, Wimborne, had third prize. He showed Birdbrook, Agricola, Edith Taylor, and Elfreda Pearson in a set of up-to-date varieties.

Mr. Chas. Wall led the way with a group of cut carnations, in which were fine blooms of Carola, Cecilia, Mandarin, and a fine new perpetual variety named Lady Fuller, the colour of which is a particularly rich salmon-pink, and the flowers are delightfully clove-scented. The Duchess of Somerset, Maiden Bradley, Bath, was second, the exhibit being very strong in Malmaisons. Mr. C. Engelmann, Saffron Walden, was third. His Carola was well shown, as also was the yellow fancy Sunstar.

Mr. Rowland Adams, Whitewell's Nurseries, Bath, occupied the first place in the class for roses, arranged in decorative fashion. The blooms were shown in tall bamboo stands and on arches, and were finely developed. Lady Hillingdon, Marquis de Sinety, Kaiserine Augusta Victoria, Rayon d'Or, and Irish Elegance are the names of a few varieties that attracted special attention.

FRUIT.

This was not shown in great quantity, but that staged was very good. Mr. Jas. Gibson, gardener to the Duke of Portland, Welbeck Abbey, Worksop, obtained the premier award for thirty dishes on a table decorated with plants and flowers. He had some splendid Kentish Favourite and Royal Sovereign strawberries, some good melons, James Grieve apple, Hale's Early peach, and a nice lot of grapes. Mr. Gibson also secured first for four bunches of grapes, and again for two bunches of Madresfield Court and for two clusters of Black Hamburgh. Mr. John Ricketts, Batheaston, near Bath, took first for four dishes of strawberries, the varieties being Royal Sovereign, Sir Joseph Paxton, The Laxton, and President. The second prize was awarded to Edward Fisher, Esq., Batheaston. Mr. Gibson won firsts for both peaches and nectarines.

NON-COMPETITIVE.

The non-competitive exhibits formed an important section of the show, and were highly attractive and of much interest. Immediately on entering the main tent was a magnificent group of orchids staged by Mr. Alexander, grower to Lieut.-Colonel Sir George Holford, Westonbirt, Tetbury. Some splendid examples of Lælio-cattleya Canhamiana and Cattleya gigas provided some rich colour, while a good contrast was afforded by Miltonia vexillaria Constance Wigan, of which a very fine specimen was shown. Oncidium divaricatum, Ærides odoratum, Brasso-cattleya Heatonensis, and Brasso-cattleya Euterpe were also most noteworthy. Every specimen evinced skilful culture of a high order, and the arrangement of the group was faultless.

Messrs. John Waterer and Sons, Lim., Bagshot, exhibited shrubs and rhododendrons in choice variety. Kalmia latifolia was well shown in good, well-flowered plants, and some of the acers were very beautiful.

Messrs. Blackmore and Langdon showed delphiniums in quantity and choice variety. Robert Cox, Elsie, Henri Moissan, Ampere, and Moerheimi were especially good and quite distinct varieties that would make a good set to plant. Messrs. Mallett and Co., Cheddar, arranged a rock and water garden, on which were planted a choice lot of suitable alpine and moisture-loving plants. Œnothera serotina was very freely flowering, the clear yellow showing up remarkably well. Hypericum olympicum was another good yellow flower, and Dianthus graniticus was a good pink-flowered subject. Iris Kæmpferi, spiræas, and Zillema trifoliata were well used on the margin of the water.

Messrs. Jas. Carter and Co., Raynes Park, S.W., staged an attractive collection of choice vegetables. Seakale, beet, aubergines, kohl rabi, Brazilian beet, and asparagus lettuce were somewhat uncommon kinds, and attracted much attention. The King's Acre Nurseries, Lim., Hereford, staged fruit trees in pots. They had some fine trees of Lady Sudeley apple, Duke of York peach, standard gooseberries, Swan plums, etc., all grouped in attractive style, showing the fruit to best advantage. The same firm exhibited also a group of hardy flowers.

Mr. A. Chapman, gardener to Lieut.-Colonel Sir George Holford, exhibited a group of glorious hippeastrums, ranging in colour from pure white to richest velvety-crimson, with many delicate shades, and attractively marked varieties of grand quality. The size of the flowers was immense, and the exhibit justly received high compliment from the visitors, who were lavish in their expressions of admiration. Messrs. W. Cutbush and Son, Highgate, had carnations, dwarf polyantha roses, a few caladiums, coleus, etc., arranged with attractive foliage plants.

Messrs. Young and Co., Hatherley, Cheltenham, arranged a splendid exhibit of perpetual-flowering carnations. The quality of the flowers was excellent, and the tasteful arrangement was well up to the firm's high reputation. It was, in fact, of quite exceptional excellence.

Messrs. J. Jefferies and Son, Lim., Cirencester, staged a highly meritorious group of conifers. Messrs. Geo. Massey and Sons, Spalding, had a very effective exhibit of hardy flowers arranged in a natural and pleasing manner. A group of ornamental trees and shrubs came from Messrs. G. Cooling and Sons, Bath. Messrs. Stuart Low and Co., Bush Hill Park, Middlesex, had a group of orchids and a display of carnations. Messrs. Whitelegg and Page, Chislehurst, showed The Newberry, which was trained on an arch, and bearing abundance of fine fruit, the flavour of which is very pleasing.

Messrs. Sutton and Sons, Reading, contributed a remarkably fine collection of vegetables, which were made the more attractive by the tasteful use of sweet peas and small groups of gloxinias. The vegetables included excellent cauliflowers, Longpod beans, tomatoes, white Leviathan onions, and some fine aubergines. Melons of good quality were largely shown, the whole stand being extremely effective and interesting. A small group of choice orchids came from Messrs. A. J. Keeling and Sons, Westgate Hill, Bradford, and a group of schizanthus from Messrs. Garaway and Co., Bristol. Mr. C. J. Ellis, Weston-super-Mare, had an exhibit of alpines arranged in the form of a sloping bank.

Messrs. Rich and Co., Bath, showed border flowers and roses. Mr. W. J. Unwin, Histon, Cambridge, had a good bank of sweet peas. Messrs. H. B. May and Sons, Dysons Lane, Edmonton, contributed an interesting collection of ferns, Nephrolepis Willmottæ being very finely shown; Selaginella cæsia, and several fine platyceriums were good features. Messrs. W. Artindale and Son, Nethergreen, Sheffield, exhibited violas, roses,

CARDIFF AND COUNTY HORTICULTURAL SOCIETY.

GRAND QUARTER CENTURY FLOWER SHOW.

SOPHIA GARDENS, CARDIFF.

WEDNESDAY and THURSDAY, JULY 23 and 24.

Specially good Prizes in every section, amounting in money and plate to nearly £500. Tents lighted by electricity. Popular Prices.

Schedules from the Secretary, Mr. A. MAURICE BAILEY, 24, Duke Street, Cardiff.

LEICESTER.—ABBEY PARK FLOWER SHOW, 5th and 6th August next. Open Class, Group of Plants, £20, £15, £10, £6. Liberal prizes for Collections of Fruit, Displays of Roses; Silver Cup, Gold and Silver Medals for non-competitive exhibits. Schedules from JOSEPH BURTON, Supt.

ROYAL LANCASHIRE AGRICULTURAL SOCIETY.

GREAT HORTICULTURAL SHOW will be held at BURNLEY, on JULY 31, 1913, and following days. Liberal Prizes are given for Groups of Plants, Hardy Perennials, Carnations, Fruit and Table Decoration, etc.

Entries close July 14th. For Schedules apply—
PETER BLAIR.
Trentham Gardens,
Stoke-on-Trent.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

and sweet peas. Delphiniums were the chief feature of Messrs. Kelway's fine exhibit, Lord Napier, Dusky Monarch, A. C. Maclaren, and Somerset being a few of the best varieties. Mr. Vernon T. Hill, Mendip Nurseries, Langford, showed sweet peas and hardy plants.

A group of rock plants came from Messrs. Bowell's, Cheltenham; and a capital display of sweet peas was made by Messrs. Dobbie and Co., Edinburgh, who also had violas in considerable and excellent variety.

Messrs. W. J. Godfrey and Son, Exmouth, showed a splendid lot of their large-flowered Canterbury bells in shades of pink and blue, as well as pure white. Messrs. Jarman and Co., Chard, showed roses and sweet peas. Messrs. Isaac House and Son, Westbury-on-Trym, staged alpine plants in pans, and a large assortment of hardy flowers in vases. Mr. A. F. Dutton, Iver, Bucks, showed carnations, arranging them in ornamental baskets. The varieties represented being May Day, Carola, Marmion, Mrs. A. F. Dutton, Empire Day, and other useful varieties.

Messrs. Parker and Sons, Lim., Bristol, had The Lyon and Richmond roses in fine order. Zonal pelargoniums were extensively shown by Mr. Vincent Slade, Staplegrove Nursery, Taunton. Mr. H. N. Ellison's ferns from West Bromwich were a very choice selection. Nephrolepis Marshalli, Platycerium grande, some good gymnogrammas, and adiantums may be mentioned as leading features. From Mr. J. Milburn, Victoria Nursery, Bath, came an interesting little group of rock plants.

Mr. J. Macdonald, Harpenden, showed his grasses, samples of various species being exhibited as well as the growth on felt, which is Mr. Macdonald's speciality. Messrs. A. A. Walters and Son, Kensington Nurseries, Bath, were large exhibitors of weeping standard and pillar rambler roses, as well as flowers of hybrid teas and other sections. Olearia insignis on Messrs. R. Veitch and Son's stand, from Exeter, was a most interesting plant with thickly felted leaves and white daisy-like flowers. Celmisia Monroi, Leptospermum Nicholli, and Mitraria-coccinea were other rarities among a host of things but rarely seen. This was without doubt a most valuable exhibit from an educational point of view, and reflects great credit upon this well-known firm.

Messrs. E. Webb and Sons, Wordsley, Stourbridge, had a capital display of potatoes for this season of the year, and the swedes and mangolds represented the firm's well-known stocks. High-class seed corn was another item, and grasses once more figured in a capital and comprehensive exhibit. Messrs. Dicksons, Lim., Chester, made a brave show of hardy flowers, which might well have graced the horticultural tents, but farm crops, trees, and shrubs were also shown. Messrs. Dickson and Robinson, Manchester, always manage to make their stand highly attractive, and the roots, vegetables, seeds, and specimens of growing grasses were so arranged as to make an imposing display of high-class produce. Messrs. Dickson, Brown, and Tait, Manchester, decorated the pillar supports of their stand with crested nephrolepis ferns, and had also rambler roses, liliums, etc., to add colour and beauty to the less picturesque though eminently useful edible produce.

Some good things in the way of vegetables were seen on Messrs. J. K. King and Sons' stand, the Coggeshall firm of seed growers also showing capital samples of seed corn. Pot-grown examples of Scottish Chieftain oats showed wonderful cropping qualities. A good display of well-grown sweet peas was of purely horticultural interest, and a good many growers of our acquaintance paused to admire the long-stemmed, large-flowered examples of first-rate varieties. Sweet peas were also splendidly shown by Messrs. Harrison and Sons, Leicester, and culinary peas, potatoes, seeds of vegetables, and both dried and growing specimens of grasses and clovers were here seen staged in skilful manner.

Had time permitted of notes being taken of all the exhibits of horticultural buildings heating installations, garden implements and requisites, of the British-grown tobacco, and of the engrossingly interesting and highly instructive forestry exhibits, space, alas! would not be available to record the marvellous, extensive, and varied character of the really wonderful display; but it must suffice to say that, even from the point of view of the horticulturist or estate forester, the Royal Agricultural Society succeeds in bringing together probably a more valuable and meritorious exhibition than could be seen in any other country in the world.

Jarman and Co., for sweet peas, roses, etc.; Messrs. Isaac House and Son, for alpine, herbaceous plants, and sweet peas; Messrs. John Jefferies and Son, Lim., for conifers; King's Acre Nurseries, Lim., for pot fruit trees; Messrs. H. B. May and Sons, Lim., for ferns; Messrs. Stuart Low and Co., for carnations, roses, and orchids; Messrs. Young and Co., for carnations; Messrs. E. W. King and Co., for sweet peas; Mr. W. J. Unwin, for sweet peas.

Silver-gilt.—Messrs. J. Cypher and Sons, for group of plants; Messrs. G. Cooling and Sons, for roses, trees, and clematis; Mr. H. N. Ellison, for ferns; Messrs. J. Garaway and Co., for schizanthus, etc.; Messrs. W. J. Godfrey and Son, for Canterbury bells, etc.; Messrs. A. J. Keeling and Sons, for orchids; Messrs. Kelway and Son, for delphiniums; Messrs. Parker and Sons, for roses; Messrs. A. A. Walters and Son, for roses; Messrs. Robt. Veitch and Son, for rare plants; Mr. A. F. Dutton, for carnations; Mr. Jas. Macdonald, for grasses; Messrs. J. Waterer and Sons, for shrubs; Messrs. W. Artindale and Son, for violas, etc.; Messrs. Blackmore and Langdon, for delphiniums.

Silver.—Mr. E. C. Bowell, for alpine plants;

NATIONAL ROSE SOCIETY'S EXHIBITION, REGENT'S PARK.
Some of the visitors, and the Hon. Secretary (Mr. E. Mawley, V.M.H.).

MEDAL AWARDS.

Large Gold.—Lieut.-Col. Sir George Holford, for orchids, and also for hippeastrums; Messrs. Sutton and Sons, for vegetables, melons, etc.; Messrs. G. Mallet and Co., for hardy plants.

Gold.—Mr. Vernon T. Hill, Langford, for herbaceous and alpine plants; Messrs. J. Carter and Co., for vegetables; Messrs. Dobbie and Co., for sweet peas, violas, etc.; Messrs. A. Dickson and Sons, Lim., for roses; Messrs. W. Cutbush and Son, for carnations, etc.; Mr. C. J. Ellis, Weston-super-Mare, for miscellaneous plants; Miss Hemus, Upton-on-Severn, for sweet peas; Mr. John Milburn, for hardy plants; Messrs. Rich and Co., for hardy flowers; Messrs. Geo. Massey and Son, for hardy flowers; Messrs. Toogood and Son, for vegetables.

R.H.S. DEPUTATION'S AWARDS.

Gold Medal.—Lieut.-Col. Sir Geo. Holford, for orchids.

Silver-gilt Cup.—Sir Geo. Holford, for amaryllis; Messrs. Blackmore and Langdon, the Duke of Portland, Messrs. H. B. May and Son.

Large Silver Cup.—Messrs. J. Cypher and Son, King's Acre Nurseries, Lim., Messrs. Isaac House and Son, and Messrs. Sutton and Sons.

Silver Cup.—Mr. Wm. Holmes, Messrs. Harkness and Sons, Messrs. Stuart Low and Co.

Standard Cup.—Messrs. Mallet and Co., Messrs. J. Carter and Co., Messrs. G. Gibson and Co., Messrs. J. Jefferies and Son, Messrs. A. Dickson and Sons, Messrs. W. J. Godfrey and Son, Mr. C. Wall, Messrs. Armstrong and Brown, Mr. Hill.

Silver-Gilt Flora Medal.—Messrs. Dobbie and Co., Mr. Adams, Messrs. Young and Co.

Silver-Gilt Banksian Medal.—Messrs. E. W. King and Co., Messrs. Jarman and Co., Mr. W. J. Unwin, Messrs. Cooling and Son.

Silver Knightian Medal.—Messrs. Toogood and Son.

Silver Flora Medal.—Messrs. W. Artindale and Son, Messrs. A. A. Walters and Son, Messrs. J. Kelway and Son, Messrs. R. Veitch and Son, Mr. A. F. Dutton, Mr. H. N. Ellison, Messrs. Garaway and Co.

Silver Banksian Medal.—Messrs. A. J. Keeling and Son, Mr. V. Slade, Miss Hemus, Mr. Parker.

Ipswich.

The Ipswich and East of England Horticultural Society held its summer show under pleasant weather conditions in the spacious, well-timbered, and beautiful Christchurch Park. A good rain the previous night laid the dust and cleaned the foliage, and so the weather on Thursday, July 3, with a little sunshine and pleasant breezes, was just the thing for a flower show. The exhibition itself was a good one. Roses and sweet peas were in fine form, and, as the competition was fairly keen all through, the display in the numerous classes was a large one. Floral arrangements were of a fairly high order, vegetables were good, but not extensively staged, while the same may be said of fruit. There was nothing super-excellent in the plant classes, and there is need of more artistic ability in the group classes but cut hardy flowers made a capital feature. From a horticultural point of view, Ipswich has every reason to be pleased with its show.

ROSES AND SWEET PEAS.

Messrs. W. Prior and Son, Colchester, won the silver challenge cup for three dozen roses, and showed very clean examples of Lyon Rose, Madame Jules Gravereaux, Mildred Grant, White Maman Cochet, Gloire de Chedane Guinoisseau, Killarney, etc.; Messrs. B. R. Cant and Sons, Colchester, second, and Messrs. W. Crisp and Sons, Fordham Heath, third. Messrs. B. R. Cant and Sons led for twelve trebles, and they had lovely blooms of Mrs. T. Roosevelt, J. B. Clark, and Muriel Grant; Messrs. D. Prior and Sons second, and Messrs. W. Crisp and Son third. Messrs. D. Prior and Sons scored for a dozen teas and noisettes, and had first prize for six blooms of any H.P. or H.T., winning with the old favourite, Mrs. J. Laing. For six flowers of any tea or noisette rose, Messrs. D. Prior and Sons led with lovely clean examples of White Maman Cochet, and the same firm were second respectively for a dozen teas with Madame Jules Gravereaux, and for a dozen of any H.P. rose with the crimson and fragrant Gloire de Chedane Guinoisseau.

Dr. T. E. Pallett, Eden House, Earl's Colne, had the best two dozen roses in the amateur's section, and he won first place capitally with full, clean blooms, his Avoca, Florence Pemberton, and Mrs. T. Roosevelt being very good. The Rev. J. A. L. Fellowes second, and the Rev. Hugh Berners, third.

Dr. Pallett was also first for eight trebles, and here he had grand blooms of Frau Karl Druschki, Dean Hole, Hugh Dickson, Mrs. J. Laing, Avoca, Dr. O'Donel Brown, Francois Michelin, and Mildred Grant; Rev. F. L. Fellowes second.

Dr. Pallett had the best dozen teas and noisettes, and here he had Mrs. Foley Hobbs, W. R. Smith, Maman Cochet, and Molly Sharman Crawford in fine form; Rev. Hugh Berners second. For six blooms of any tea or noisette variety, Dr. Pallett scored with White Maman Cochet, a beautiful set.

Mr. Hammond, gardener to E. H. Taylor, Esq., Endscliffe, Corder Road, led for a dozen bunches of sweet peas with a glorious set of Birdbrook, Agricola, Mrs. Hardcastle Sykes, Mrs. E. Cowdray, Muriel Quick, Clara Curtis, Sunproof Crimson, White Queen, Anglian Fairy, R. F. Felton, Mrs. W. J. Unwin, and Wenvoe Castle; Mr. M.Cheveney second. In another class for a dozen bunches, Mr. Andrews led, and showed Barbara, Chas. Foster, and R. F. Felton in capital style. Mr. J. F. Cheesman, Barham, was first for a dozen bunches of sweet peas, arranged with gypsophila, and though he had good blooms he rather overdid the use of the added flowers. Mr. Roderick Dow, Mr. Andrews, Mr. Bradbury, and Mr. H. Hanson won in other classes, the latter showing large flowers well placed on long stems.

CUT FLOWERS AND DECORATIONS.

Messrs. Fred Smith and Co., Woodbridge, were the only exhibitors of three dozen bunches of hardy flowers, and they deservedly gained the first prize. Some of their best bunches were of Gaillardia Lady Rolleston, Anthemis Kelwayi, Campanula Moerheimi, Alstrœmeria aurantiaca, Malvia Olbia, and delphiniums. Mr. Andrews was placed first for a dozen bunches of hardy flowers, and he staged grand bunches of Spiræa Queen Alexandra, Campanula Moerheimi, Iris aurea, and Lilium pardalinum; Mr. W. Dunnett, gardener to Roderick Dow, Esq., Ipswich, second, and Mr. Luther Holden, Ipswich, third.

Messrs. F. Smith and Co. led for a dozen spikes of delphiniums, and Mrs. H. Barton had the best six spikes, winning in a close competition with the varieties Francis Fox and Rev. C. Lascelles. Six bunches of annuals was a popular class, and Mr. H. G. Haggis, The Laurels, Woodbridge Road, won first place, with Mr. A. G. Munford second; the former had good stocks, sweet peas, Statice Suworowi and Delphinium Blue Butterfly.

First prize for a table decoration was won by Miss M. Snell with Irish Elegance roses; Mrs. H. Barton second with Irish Elegance roses; and Mrs. W. L. Hubbard third with pale-pink carnations and lily of the valley.

For a round table decoration, sweet peas, Miss V. Clair, Hempson, with Barbara, and Mrs. W. H. Burroughs, with lavender and pink varieties, were placed equal first. Mrs. Barton third with cream-pink flowers. Mrs. Barton had the best bowl of roses, and Mrs. Burroughs staged the finest vase of flowers—a great sheaf of Blush Rambler rose.

FRUITS AND VEGETABLES.

Mr. Messenger, gardener to C. H. Berners, Esq., Woolverstone Park, Ipswich, won first prize for a decorated dessert table, and presented a fine collection of Brown Turkey figs, Dymond and Crimson Galande peaches, Pineapple nectarines, grapes, and melons, and used the lovely Irish Elegance rose as decoration. Second prize fell to Mr. Andrews, gardener to the Right Hon. the Speaker, Campsea Ashe, Wickham Market, and Mr. Moores, gardener to W. F. Paul, Esq., Orwell Lodge, came third. Mr. Messenger scored for black grapes with deeply-coloured Black Hamburgh, and was the only exhibitor of white grapes, winning the first prize with Buckland Sweetwater. Mr. Messenger had the best four dishes of strawberries, fine fruits of Gunton Park, Waterloo, Utility, and Givon's Late Prolific; Mrs. Andrews second. Currants, raspberries, cherries, and gooseberries were all well shown.

Messrs. Sutton's prizes for six dishes of vegetables fell to Mr. Messenger, who staged Magnum Bonum cauliflowers and Perfection tomatoes in fine style. Mr. Andrews a good second with capital onions and carrots. For Messrs. Webbs' prizes for six dishes of vegetables the competition between these same exhibitors was exceptionally close, and a double set of judges had to decide the merits of the two sets. Mr. Messenger led by 1½ points, scoring heavily on Early Mammoth cauliflowers and Midlothian Early potatoes; while Mr. Andrews' Duke of Albany peas, Ailsa Craig onions, and Champion Horn carrots were excellent.

GROUPS AND PLANTS.

Mr. Moores, gardener to W. F. Paul, Esq., was easily first for a group 9ft. by 5ft., and he set up a good display of crotons, Humea elegans, Kalanchoe flammea, coleuses, and campanulas; Mr. Chastney, gardener to V. D. Colchester, Esq., Ipswich, second. Mr. H. Southgate, St. Helens Nursery, was the only exhibitor in the large group class, and he made effective use of blue hydrangeas, white liliums, and scarlet pelargoniums.

For three hydrangeas Mr. Boughey, gardener to Rev. A. C. Johnson, Capel St. Mary, Ipswich, came to the front with very large freely-flowered specimens, and the same competitor scored for three fuchsias with large-flowered varieties. Mr. Moores put up the best three ferns in a keen competition, and he also had the best specimen foliage plant, showing a good croton in competition with ferns, asparagus, araucarias, maples, and coleus. Mr. Grout, gardener to Mrs. W. H. Burroughs, Burlingham, Ancaster Road, was easily first for six tuberous begonias, showing massive specimens freely flowered.

NON-COMPETITIVE DISPLAYS.

These were good in quality, and of fair size. The chief exhibitors were: Mr. R. C. Notcutt, hardy flowers, and large circular group of roses, carnations, palms, etc. (gold medal); Messrs. Buck, Ipswich, floral designs (silver medal); Messrs. J. K. King and Sons, Colchester, fine sweet peas (silver-gilt medal); Messrs. Thompson and Morgan, Ipswich, choice hardy flowers (silver-gilt medal); Messrs. E. Abbott and Sons, Ardleigh, sweet peas (silver medal); and Messrs. Morse Brothers, Woodbridge, roses (silver-gilt medal).

Cambridge Horticultural Society.

JULY 3.

This long-established and admirably-managed society held its annual exhibition in the grounds of Trinity College, and a more delightful site for a flower show could hardly be desired. The space was ample both for tents and visitors, the turf closely shaven and soft and elastic, and the fine trees, with their wide-spreading branches, are sufficient to afford shade, had shade been wanting. The weather, however, was dull, and there was therefore no occasion to seek the shelter of the trees. Hitherto, when the show has been held in association with Trinity College, the authorities have readily given permission for the Fellows' garden, with its wealth of choice trees and beautiful flowers, to be open to visitors; but this year they were apprehensive of the action of a certain section of the community, and thought it wise to avoid all risk by keeping the gates closed. Much interest is usually associated with instituting comparisons between the past and present exhibitions, but the pressure on our space in the present issue is such as to render the utmost brevity necessary. It must therefore suffice to say that the exhibition was thoroughly representative in character, and that the cultural skill evinced by the greater proportion of the products was remarkably high.

Roses, as usual, formed an important and highly attractive feature, although a few of those who are resident some distance from Cambridge had failed to fulfil their entries. We are not sure that we have seen the rosarians within the district quite so strong as on this occasion, but, however that may be, they produced a fine display of blooms. The principal open class was that for forty-eight blooms, distinct, and here Messrs. J. Burrell and Co., Cambridge, was a magnificent first, staging blooms, comprising both new and old varieties, that were remarkable for their large size, superb form, and splendid colouring. To particularise is hardly necessary, but special mention may with advantage be made of George Dickson, Mrs. E. Mawley, and Commandant Faure. Messrs. J. Burrell and Co. also occupied the post of honour in the class for thirty-six blooms, distinct varieties, and had a fine set, in which Duchess of Sutherland, Mabel Drew, and The Lyon were very conspicuous. The same firm were again first in the class for twelve teas or noisettes, with blooms exquisite in finish.

Very keen was the competition in the amateurs' class for twelve blooms, and at the head of the competitors was Mr. W. Dunn, with finely-developed blooms, which were tastefully set up as well as being finely grown. Mr. R. Coulson had a fine box of blooms for second place. Mrs. R. M. Biffen was successful in obtaining the premier position in the class for six blooms, staging superbly-developed examples of W. Shean, Dean Hole, and other varieties of much merit. Mr. W. Dunn and Mr. W. Hobbs were second and third respectively with finely-grown flowers.

In the members' class for six blooms Mr. Coulson was first with medium-sized blooms remarkable for their high finish; Mr. Dobbs was a close second, and Mr. W. Dunn and Lady Lucy Braybrook were placed equal third. The contest was keen in the classes open to amateurs not employing a regular gardener, and in that for six blooms, Mr. A. C. Dunn was a splendid first; and in the corresponding class for six teas or noisettes, Mr. W. Dunn occupied the premier position with a meritorious stand, in which the exquisitely coloured Madame Constance Soupert was especially well represented. The amateurs' classes for triplets were also well filled, and the blooms of much merit.

Groups for effect formed an attractive and interesting feature, and Mr. W. P. Neal obtained premier honours with a highly attractive arrangement, in which begonias, crotons, dracænas, and caladiums were of much merit. Mr. P. L. Hudson was a good second. Exotic ferns were finely shown by Miss Smith and Mr. P. L. Hudson, who were first and second respectively, the former staging fine examples of the Bird's Nest and Stag's-horn ferns. Mr. R. J. Hall had a fine set of specimens for first place in the class for six British ferns, those of Scolopendrium vulgare crispum and Lastrea filix-mas cristata being especially well-developed; Miss Smith second.

Tuberous begonias were largely and finely shown, and produced a rich display of colour. The chief prize-winners in the several classes were Mr. W. Dobbs, Mr. Matthew, Mr. R. J. Hall, Mr. W. P. Neal, and Mr. A. J. Hall. Miss Smith obtained premier honours in the class for six coleus, staging finely-coloured specimens, and was successful in the classes for zonal pelargoniums. Mr. P. L. Hudson obtained first place for six stove and greenhouse plants in flower, for six fine foliage plants, and for nine orchids. Mr. A. Briscoe had an excellent set of six plants for table decoration, and was a splendid first, Phœnix Rœbelini and the crotons being particularly noteworthy.

Cut flowers were of much merit throughout, and special mention must be made of the twelve vases of delphiniums shown by Mr. C. Smith, who occupied the post of honour in the class. For a similar number of vases of annuals, Mr. A. Briscoe scored with finely-developed flowers. In competition for the prizes for twelve vases of hardy flowers, Mrs. R. Burn and Mr. Matthew were very closely matched in point of merit, and the awards were made in the order of their names. Mr. Hiam was the most successful of the exhibitors of sweet peas, winning both for twelve and six vases, and Mr. Hawkes, who was second in each class, also staged well-developed flowers.

Fruit and vegetables were hardly so plentiful as usual at the summer exhibitions of this society, but the quality was decidedly high. The strawberries were almost marvellous as examples of cultural skill for the whole of the fruits were of quite exceptional size, and splendidly coloured. In the competition for four dishes of these fruits, Messrs. Jones and Sons were a splendid first with Royal Sovereign, Givon's Late Prolific, Utility, and Sir Joseph Paxton; Mr. A Lellicot was a capital second. The same exhibitors occupied similar positions in the class for a single dish, the variety in the first prize exhibit being Givon's Late Prolific, the fruits weighing about three ounces each. Mr. Lellicot obtained the premier award for a dish of strawberries for flavour, with Sir Joseph Paxton at its best. Peaches were finely shown, and the first place was occupied by Mr. E. Nyson, with large, finely-coloured fruits of Bellegarde, and in the class for nectarines he was first with Lord Napier, the fruits of exceptionally large size.

Vegetables were of a high order of merit, and in the class for a collection of eight dishes, Mr. W. A. Briscoe was first, the cauliflowers and tomatoes being of great excellence.

Beckenham.

The Beckenham Society has a fine record, for it has held a long series of excellent exhibitions; it holds meetings of educational value and interest regularly throughout the winter months, and has a horticultural library of its own. The exhibition held in the delightful Recreation Grounds at Croydon Road on July 9 was a good one, though scarcely so large as some of its predecessors. Roses, sweet peas, groups, plants, and floral arrangements were all well represented, the latter filling one large tent, the exhibitors being ladies.

Beckenham is fortunate in having secured Mr. T. J. Jackson as secretary, in succession to Mr. Thornton, who is now the treasurer. Mr. E. Burge, the chairman, is a tremendous worker, and the president, Rev. Canon Arnott, is an enthusiast who was taught botany by the famous Dr. Lindley. Mr. Henry Cannell was at one time a regular judge and exhibitor at Beckenham, and so the committee made a special effort on this occasion to help the fund being raised for his assistance. In this connection Mr. Thornton had reprinted and circulated our recent reference to the misfortune that has befallen the old Swanley florist.

Three good groups of miscellaneous plants were arranged, and chief honours fell to Mr. W. Lane, gardener to A. W. D. Oakes, Esq., Knockwood, Scotts Lane, for a pretty combination of clarkias, gloxinias, liliums, pink spiræas, and pancratiums; Mr. R. Robinson, gardener to M. Bartholomew, Esq., Grassington, Hayne Road, came second, and he made free use of francoas and Humea elegans; Mr. Hewitt, gardener to H. F. Ashton, Esq., Whitmores, Kelsey Park, third, with Trachelium cœruleum, used most effectively. For a group of ferns—a pretty class—Mr. Fane was first, and his arches of Lygodium scandens were charming, as was his large central specimen of Polypodium Knighti; Mr. A. Hewitt second. A capital group of carnations secured a first prize for Mr. A. E. Smith, gardener to A. F. Scott, Esq., The Firs, Blakeney Road; Mr. Smith is a single-handed gardener, and his carnations did him great credit.

Mr. J. Bedson, gardener to R. Barber, Esq., Southwood, South Hill, led for six miscellaneous plants, and had a good Sobralia macrantha in his set; Mr. Fane came second with a big variegated hydrangea and a large Anthurium crystallinum. Mr. Marshall, South Bank, Chislehurst, scored for a foliage plant with a huge Asparagus plumosus. Mr. Fane was an easy first in the open class for three specimen plants, with Begonia coccinea, a stephanotis, and a fine Aerides odoratum carrying eight good spikes.

Mr. A. L. Cole had the best fuchsia, Mr. Fane the best pair of ferns, that included a fine Adiantum cuneatum gracillimum; Mr. J. Bedson the best four gloxinias, a handsome set; Mr. J. Bedson scored for table plants, and Mr. W. J. Green for begonias.

In the amateurs' section Mr. C. Luff, Birkbeck Road, did well with pelargoniums, and won for a specimen plant in flower with a splendid zonal pelargonium. Mr. L. H. Hurst, Dunbar Road, scored for coleus, and Mr. C. Brewer, Clock House Road, scored for a pair of pelargoniums in a capital class. Mr. Brewer was also successful in several other plant classes.

Messrs. G. and W. H. Burch, Peterborough, scored for forty-eight roses, distinct, with fair-sized blooms of F. K. Druschki, Ben Cant, Mrs. T. Roosevelt, Lyon Rose, Comtesse de Raimbaud, Leslie Holland, Mrs. Myles Kennedy, and Mrs. Dudley Grant; Mr. E. Hicks, Wallingford, second, and Mr. F. J. Jefferies, Thornton Heath, third. The Messrs. Burch were also first for two dozen tea and noisette roses, and their best blooms were Innocenta Pirola, Mrs. Foley Hobbs, W. R. Smith, and Souv. de Pierre Notting; Mr. F. J. Jefferies second. Mr. W. G. Green, gardener to Major Bowater, Bickley, had the best dozen roses in the amateur class. Mr. Hicks led for a dozen blooms in an open class, and here he put up a capital set of Dean Hole, Mdme. Jules Gravereaux, Bessie Brown, and Mrs. S. Clark; Messrs. G. and W. H. Burch second, and Mr. F. J. Jefferies third. For six blooms of any variety, Mr. E. Hicks scored with Mrs. R. G. Sharman Crawford, Mr. F. J. Jefferies second with Wm. Shean. For a dozen vases of decorative roses, Mr. E. Hicks was an easy first, and his bunches of Rayon d'Or, Mdme. Ravary, A. R. Goodwin, Mdme. Abel Chatenay, Ecarlate, Lady Hillingdon, and Mdme. M. Soupert were splendid.

Mr. Julian Lemon, Brassfield, Godstone, Surrey, was a fine first for a dozen vases of sweet peas, using with splendid effect vases of Edrom Beauty, R. F. Felton, Dobbies' Thos. Stevenson, John Ingman, Etta Dyke, Hercules, Dobbies' Cream, Dobbies' Sunproof Crimson, Mrs. C. W. Breadmore, Gladys Burt, and Melba; Mr. C. Jackson, gardener to F. D. Bolton, Esq., Haimer, Bickley, second. Mr. Julian Lemon was the only exhibitor of eighteen bunches of sweet peas in nine varieties, and here he had superb flowers of Dobbies' Cream, Nubian, Hercules, Melba, Sunproof Crimson, Dobbies' Thos. Stevenson, R. F. Felton, and Etta Dyke.

In a very keen competition Mr. F. Wells, gardener to the Misses Roberts, Rosenberg, Bromley, led for six bunches of sweet peas; Mr. W. J. Green, gardener to Major Bowater, Bickley, came second; and Mr. J. Jordon, gardener to W. Howard Wood, Esq., Homewood, South Eden Park, third. Mr. L. P. Purton, The Avenue, led for six bunches of hardy flowers, and Mr. F. Wills was a good first for a dozen bunches of hardy flowers in a close competition. Mr. Frostick, Thornton Heath, was well to the front for cut carnations.

In the class for a table decoration of roses, Mrs. A. E. Brown, Brokes Lodge, Reigate, was first with a charming design of Irish Elegance; Miss Bashford second with small blooms of Mdme. Abel Chatenay; and Mrs. Trossell, Albemarle Road, third with Mdme. Abel Chatenay and Lady Gay. In a local class Miss Bashford scored with blush carnations; Mrs. A. G. Brown second with sweet peas; and Mrs. Stevens third with carnations.

In the local class for a table decoration, any flowers, Mrs. Trossell scored with blush carnations and gypsophila; Miss L. W. Grantham, Thornbury, Shortlands, second, with a daring and original design of Alstrœmeria aurantiaca; and Miss E. Higinbotham, Vernon House, Albemarle Road, third, with a pretty combination of carnations and sweet sultans. Mrs. A. A. Stewart, Shaftesbury Road, led for an epergne of sweet peas; and Miss Potter, Elmside, Lawn Road, was successful for a bowl of sweet peas, with Mrs. L. Wheeler, Woodhall Gardens, a close second, with crimson blooms and small sprays of ramblers. Miss Hilda Brown, Brokes Lodge, Reigate, was a capital first for a fine bowl of flowers, and Miss Bashford second.

In the vegetable classes, Mr. D. Gardner, gardener to Sir Harry Oram, K.C.B., St. Arvans, Bromley; Mr. J. W. Harrison, gardener to R. Girvan, Esq., Ashbourne, Sydenham; Mr. P. Field, gardener to Mrs. Munro, Bromley Road; Mr. E. H. Marshall; and Mr. T. W. Stevens, gardener to W. H. Stone, Esq., Donnington, Sydenham, were the leading prize-winners in the vegetable classes.

Mr. Mark Webster, gardener to E. J. Preston, Esq., Kelsey Park, put up a large and artistic group of grandly-grown and beautifully-flowered standard specimens of Acalypha hispida, their scarlet tails

attracting a great deal of attention; a few Oncidium flexuosum underneath rendered the group additionally attractive. A Silver-gilt Medal was deservedly awarded to this non-competitive display. Mr. G. Reuthe, Keston, and Mr. Lakeman, each put up good non-competitive displays, the former staging choice hardy flowers, and the latter some excellent border carnations. Mr. Currey and Mr. C. J. Dicks, both of Beckenham, contributed respectively succulent plants and alpines.

Scottish Horticultural Association.

JULY 1.

The monthly meeting of this association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on the 1st inst. Mr. King, the president, was in the chair, and there was an attendance of 60 members.

The evening was devoted to the reading of short papers by juniors on subjects of their own selection, for which prizes were offered by the President. There were eleven entrants, and the judges, Dr. Smith and Messrs. Highgate and Pirie, awarded the prizes as follows: First, W. H. Allan, Edinburgh, subject, "Soil Sterilisation"; second, E. G. Extence, Stoke Bishop, Bristol, subject, "Onions"; third, John Smith, Castlemilk, Lockerbie, subject, "Begonia Gloire de Lorraine"; fourth, Peter Kerr, Mauldslie Castle, Carluke, subject, "Hardy Fruit Interest"; highly commended, C. T. Mackintosh, Quarter House, Stirlingshire, subject, "The Gardener: An Artist"; commended, F. G. Barrie, Gosford, East Lothian, subject, "Culture of Cyclamen in Pots." The first prize, a gold medal, was presented to the winner by Mrs. Whytock, and, on the motion of Mr. C. Comfort, a cordial vote of thanks was given to the President for providing the prizes, a similar vote being accorded to the judges. The papers were thereafter read to the meeting.

The exhibits were: Crassula coccinea, from Mr. F. Fulford, Montgomerie Castle Gardens, Talbolton, Ayrshire; hydrangea, from Mr. John Whytock, Edinburgh; single white pink, from Messrs. James Grieve and Sons, Edinburgh.

At the meeting on August 5 a paper on "Villa Gardening from the Professional Gardener's Standpoint," will be read by Mr. John Highgate, Hopetoun Gardens, South Queensferry.

Wolverhampton Floral Fete.

(Continued from page 516.)

also occupied by standard heliotropes, ivy-leaved pelargoniums, etc., with bamboos.

Mr. A. R. Dempster, Kidderminster, showed violas very well, winning first prize in the class for a collection arranged effectively on 7ft. by 3ft. of tabling. With a mirror at the back, and tall epergnes in the foreground, the arrangement was very attractive, and such varieties as Monarch, C. B. Murrey, Mrs. Mason, and A. J. Bastock were shown in well-grown flowers. Messrs. Pemberton and Son, Bloxwich, came second, showing good masses of flowers, third prize going to Mr. J. Bastock, Birmingham, with whom the yellow Moseley Perfection was a strong point.

SWEET PEAS

had practically a tent to themselves, what with the exhibits on stages, and the extensive array of table decorations. The leading open class was for eighteen vases of twenty-five stems, the winner being Mr. A. E. Usher, gardener to Sir R. S. Baker, Blandford, who showed in his own splendid style. Barbara was grand, and so, indeed, were Lavender George Herbert, Maud Holmes, Marks Tey, and all the other varieties put up. Mr. T. B. Lowe, gardener to Captain G. Lubbock, Warminster, came second, Flora Norton Spencer, Stevenson's White, Melba, and Florence Nightingale doing good service on this stand. Mr. F. G. Bealing, Southampton, came third with quite a nice exhibit.

The sweet pea table decoration found Mrs. T. Batchelor, Hampton-in-Arden, at the head of the winners, her effort certainly being most charming. Long trails of selaginellas were used with the peas to good purpose. Mrs. W. Marple, Wolverhampton, was second, showing exceedingly well-grown flowers of Anglian Pink and Mrs. Routzahn, arranged with capital taste. Third prize was secured by Mr. T. Cope, Birmingham, there being no less than thirteen entries in this very fine class. In the other table decoration class, admitting any flower, Mr. J. V. Macdonald scored a good win, using miltonia, phalænopsis, and Oncidium flexuosum with great judgment. Mrs. Greaves, Wolverhampton, came second with cattleyas, pancratiums, francoa, etc.

FRUIT.

This section was not extensive, neither was quality exceptionally great. There was only one entry in the big class for a decorated table of thirty dishes, and this came from Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton, Chester, who received first prize for his exhibit. The grapes shown were Black Hamburgh, Madresfield Court, Muscat of Alexandria, and Buckland Sweetwater. Mr. Barnes also had Brunswick figs, splendid Royal Sovereign strawberries, Jefferson plums, James Grieve apples, and a number of other fine dishes on his table. Two entries in the class for twelve dishes of fruit found Mr. J. Doe, gardener to Lord Saville, K.C.V.O., Ollerton, in first position. He had very good black grapes and fine fruits of Early Gros Mignonne peaches, a beautiful melon, etc. The other exhibitor was Mr. S. Sims, Borrowash, Derby, who was awarded fourth prize.

Mr. Doe took the lead for four bunches of grapes, and for two bunches of black, Mr. N. F. Barnes scoring for two bunches of white.

VEGETABLES.

The prizes in the vegetable classes were provided by seedsmen, Messrs. Webb and Sons' class for eight dishes finding Mr. A. R. Searle, gardener to the Marquis of Northampton, to the fore. Stourbridge Marrow pea was splendidly shown. Early Mammoth cauliflower was very good, and other dishes were Defiance Intermediate carrot, Colonist potato, Emperor tomato, and Reliance Globe beet. Mr. J. R. Tooley, gardener to H. Anderson, Esq., Winchcombe, was second with a well-grown lot of useful vegetables.

Mr. Searle again took the lead in Messrs. Sutton and Son's class for six dishes, showing White Leviathan onion, Centenary pea, Purity cauliflower, Sutton's Favourite carrot, May Queen potato, and Sutton's Perfection tomato. Mr. E. Winchester, Birmingham, was second; and Mr. E. Deakin, Hay Mills, Birmingham, third. There were a large number of classes set apart for amateurs, gentlemen's gardeners, and cottagers, and some grand exhibits were staged in these sections.

NON-COMPETITIVE EXHIBITS

were present in great number and variety, and in point of quality, there was no question as to their equality with anything prevously seen at Wolverhampton. Our space admits of nothing more than the briefest description of the outstanding features of the efforts of the trade, but it must be admitted that the material was worthy of infinitely greater praise and descriptive record.

Messrs. Sutton and Sons, Reading, confined themselves to sweet peas, occupying a large stand, on which big vases of the best of present-day varieties were well displayed.

Miss Hemus, Upton-on-Severn, was an exhibitor of sweet peas on a large scale, her best varieties being shown in big masses with great effect. The tasteful arrangement of the exhibit of sweet peas from Messrs. E. W. King and Co., Coggeshall, justly received high compliment from the visitors, and it may be added that the flowers evinced such quality as can only result from expert culture.

Messrs. W. H. Simpson and Sons, Birmingham, were also sweet pea exhibitors, their stand being very attractively arranged with the aid of tall pyramidal stands, and also dwarf vases. Messrs. W. J. Godfrey and Son, Exmouth, showed a splendid lot of Canterbury bells. The firm have brought these flowers to a wonderfully high state of perfection, and the colours, as well as the size of the flowers, were very pleasing. Ferns were finely shown by Mr. H. N. Ellison, West Bromwich. Polypodium glaucum crispum, P. Knightæ, and P. phylloides were very noticeable on account of the length and beauty of their fronds.

Messrs. John Forbes, Lim., Hawick, Scotland, showed phloxes, pentstemons, and delphiniums, as well as a fine lot of border carnations and show pansies. Salvia dealbata was a distinct plant staged, and Hedysarum multijugum was also a bright spot on the stand. Messrs. Young and Co., Hatherley, Cheltenham, showed perpetual carnations, the quality of which was first-class. May Day, one of the best-formed flowers among the perpetuals, was well shown, as also were Mikado, Scarlet Glow, Cecilia, and other well-known varieties.

The Key Fertilizer Company, Starling Place, Norwich, showed a model lawn of fine, even grass, grown by the aid of their special lawn manure. Miss S. S. Thompson, Handsworth, Birmingham, had an interesting collection of cacti and other succulent plants, some of the specimens being wonderfully developed, and the whole exhibit being of great merit and interest.

Messrs. E. Webb and Sons, Wordsley, put up one of their fine stands, which included floral and vegetable products of great merit. Webbs' New Emperor tomato, melons of several good varieties, and some excellent (for so early a date) potatoes were particularly noteworthy, and among the floral features were gloxinias, begonias, sweet peas, arranged on a series of arches, and some grand Clarkias. Messrs. Dickson's, Lim., Chester, put up hardy flowers in choice variety. English iris were distinctly good. Lilium Hansoni, Campanula Burghalti, and Galega Lady Wilson being other good things noted. Messrs. Dobbie and Co., Edinburgh, made a bold display of sweet peas, their flowers being very fine, and the colours were as bright as could be imagined. Thomas Stevenson, Red Star, Ruby Palmer, and Sunproof Crimson were among the brightest, Blue Picotee, Lady Knox, and Dobbie's Cream, all of delicate tints, affording pleasing contrast. Zonal pelargoniums provided much rich colour on Messrs. Jarman and Co.'s stand from Chard, Somerset. Their roses, sweet peas, and centaureas were also of good quality.

The most extensive, and, in its way, the most noteworthy, exhibit in the show was the rock and water garden arranged by Messrs. Pipers, Bayswater. The design was clever, artistic, and as pleasing as any flower show garden we have seen. The subjects used were good in quality, and suitable in character. We could not overlook Spiræa palmata, its colour was so good, and the spikes of Astilbe Venus were also fine. To name the choice alpines used on the rockery would occupy more space than can be spared, but those who affirm that rockeries cannot maintain floral dress after midsummer should have seen the masses of blue, pink, yellow, and white on Messrs. Pipers' exhibit. Mr. W. A. Manda, St. Albans, had a group of cacti, orchids, and ferns, and Messrs. H. J. Jones, Lim., Lewisham, showed a big group of phloxes, which were well arranged on the ground.

MEDAL AWARDS.

Large Gold Medals.—To Messrs. Pipers, Bayswater, London; Messrs. Sutton and Sons, Reading.

Gold Medals.—To Mr. A. F. Dutton, Iver; Messrs. Dobbie and Co., Edinburgh; Messrs. Webb and Sons, Wordsley.

Silver-Gilt Medals.—To Messrs. J. Forbes, Lim., Hawick; Mr. W. Lowe, Beeston; Messrs. Dickson's, Lim., Chester; Messrs. E.

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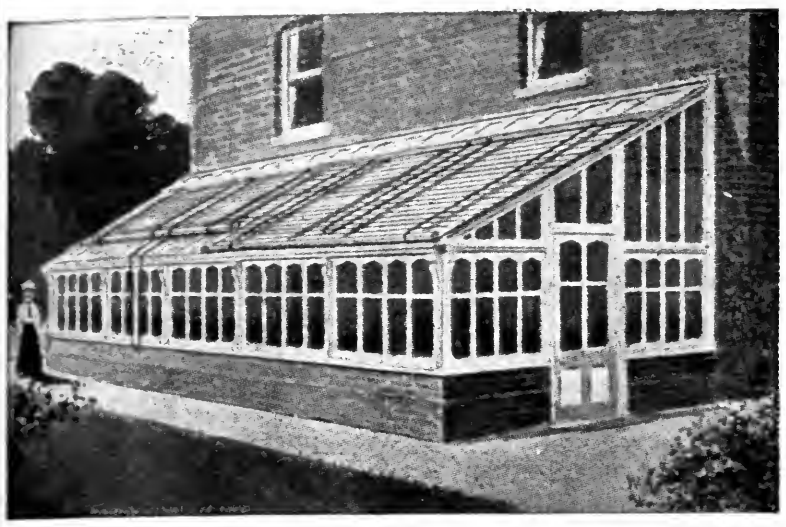

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Silver Medals.—To Mr. H. N. Ellison, West Bromwich; Messrs. Jarman and Co., Chard; Lady Grey, Enville; Messrs. W. H. Simpson and Sons, Birmingham; Miss Hemus, Upton-on-Severn; Messrs. W. J. Godfrey and Son, Exmouth.

Award of Merit.—To a new bronze sunflower, exhibited by Messrs. Sutton and Sons, Reading.

OBITUARY.

MR. LIVINGSTONE S. REID.

Mr. Livingstone S. Reid, gardener to Mrs. Rogerson, of Marchmount, Dumfries, died in the Dumfries and Galloway Royal Infirmary on July 2, and was interred in St. Michael's Cemetery, Dumfries, on July 5. Mr. Reid was well known in the Lanark district as a successful gardener, and only went to Dumfries about six months ago, when he entered the service of the late Mr. Rogerson as gardener. He did good work while at Marchmount, and was rapidly becoming a favourite with his fellow horticulturists when his death occurred. He was keenly interested in horticulture, and was an active and valued member of the Dumfries and Galloway Gardeners' Association, and contributed an excellent paper to the association. He had suffered for some time from a painful internal malady, but was able to attend to his duties until two or three days before his death. Mr. Reid is survived by Mrs. Reid and three young children, for whom much sympathy is felt.

GARDENING ENGAGEMENTS.

Mr. J. Davis, for ten years head gardener to Colonel E. R. Stuart Richardson at Ballathie, Perthshire, has been appointed head gardener to Sir Felix Schuster, Bart., Verdley Place, Fernhurst, Sussex.

Mr. T. W. Smith, foreman for five years at Wych Cross Place Gardens, Sussex, has been appointed head gardener to H. K. Lethbridge, Esq., at Wood, Okehampton, Devon.

Figs.—Fruits from the earliest trees having been gathered, the trees should be thoroughly cleansed prior to starting them to swell the second crop. The reduction in moisture at the roots during the ripening of the fruits gives the trees a little rest. Red spider or other insects, which affect the fig, may have increased, and these must now be got under by thorough syringings with soft water and occasional syringings with insecticide. Give the trees a dressing of artificial manure, and water occasionally with liquid manure, the best of all stimulants for fig trees.—F. JORDAN, Warter Priory Gardens.

ANSWERS TO CORRESPONDENTS.

YELLOW ASPARAGUS SEEDLINGS.—F. D., Crowborough: I am forwarding a few plants of seedling asparagus. About three weeks ago they commenced to go off, and I can find no trace of grub or wireworm attacking them. I shall be very grateful if you will kindly tell me what is wrong, and what remedy to apply.—We should like to receive a few more specimens. In those sent the roots appear to be quite healthy, and, though the growth is slightly paler than usual, and has a yellow tinge, it does not suggest disease. At the ground-line or collar of the plant, however, there is a slight constriction, caused probably by the soil settling hard and baked around the tender seedlings. Thin the seedlings, give abundance of water, and keep the surface soil loose by hoeing.

INFESTED GOOSEBERRY LEAVES.—Y. W., Abinger: You will very much oblige me by saying what is the matter with the gooseberry leaves I am enclosing. The bushes do not look at all happy, although they have carried fairly good crops of fruits, all of which were picked green. If you can tell me the cause and cure of the trouble I shall be very grateful.—The leaves sent were badly infested with the gooseberry red spider, a pest which often does a great deal of damage by sucking out the sap of the leaves, and thereby reducing the vitality and cropping power of the trees. Gooseberries so infested should be marked in some way so that they may be readily observed, and receive special treatment. During May and June, and also July, the gooseberry red spider is very busy laying its tiny, shining, red-coloured eggs, which are easily seen, by the aid of a hand magnifying-glass, on the twigs and in the tiny nooks and crannies around the remains of the old bud-scales. Not until the following spring do the eggs hatch, and the young, which closely resemble their parents in general appearance, come forth. It is of the greatest importance that this infestation should be promptly dealt with directly it is observed. Should a single bush show the least trace of red spider it must be cleared at once, or it will become a centre for the pest to spread from the following year. Where the mites are already known to be in possession of a bush, the best means of combating and destroying them is by spraying the infested bushes with the summer insecticide and fungicide wash. This should always be done after nine a.m., when the leaves are dry and the sun is shining brightly, as the majority of the mites will then be at work upon the surface of the leaves. On the leaves sent the spiders can be seen plainly without the aid of a glass, but under a lens they are rendered very obvious as well as the tiny silky webs they weave. Spray with kerosene emulsion made by dissolving ½lb. of soft soap in a gallon of water, and while this is still boiling add 2 gallons of kerosene oil. Stir the mixture vigorously, and while it is still hot pass it through a sprayer or spray syringe, so that a proper emulsion is secured. Bottle this mixture for general use, and use it at the rate of one part to 30 parts of water for spraying the bushes. Try one branch or bush first, because under certain conditions the leaves may be too tender, and a weaker solution be necessary.

DAMAGE TO ROSES.—E. M., Upminster: I am sending you some branches of roses which are troubled with some disease. I shall be much obliged if you will kindly let me know, through the "G.M.," what is the cause and remedy, so that I may prevent further attack and failure. The soil the roses grow in is light and warm, and the disease is most prevalent where the plants receive the full power of the morning sun. I have used no insecticide.—The chief cause of trouble, though, perhaps, not the only one, is the rose slugworm (Eriocampa rosæ), a sawfly that does no end of harm to roses in some districts. This pest devours the green part of the leaves and works from above, and soon renders the leaf useless for the fulfilment of its proper functions, and consequently the growths suffer more or less from starvation, and the whole plant loses vitality. The flies are shiny black with smoky wings, and the grubs are yellowish-

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STOCK SIZES IN INCHES.

12 x 10	16 x 12	16 x 14	20 x 16	20 x 18
14 x 10	18 x 12	18 x 14	22 x 16	22 x 18
14 x 12	20 x 12	20 x 14	24 x 16	24 x 18

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green with an orange-coloured head. The grubs fall to the ground when full fed and pupate in the soil. There are two broods, possibly three, in a year, hence the great need for a patient and persistent fight against the pest. Spraying with a nicotine or hellebore wash will kill the pest, but the surface soil must be removed and burned to destroy the pupæ, fresh soil being placed over the roots. Cut back the badly damaged growths and encourage the new growths, so that they may be kept clean and become properly ripened in the autumn. Use pure nicotine 1oz., and soft soap 2oz., to 10 gallons of water.

POTTING ODONTOGLOSSUMS. — F. L. J., Matlock: I have some odontoglossums that need potting, as the pots are filled with old pseudo bulbs, and the new growths have little chance of doing well. I did not pot in the spring, as there were numerous spikes showing. When would be the best time to pot? I have had little experience with orchids, but so far have managed very well with those under my charge, thanks to your notes under "Work for Week."—Odontoglossums should not be potted in hot weather; it will therefore be best to leave the matter until August has well advanced, but you will receive full instructions in due course under "Work for Week," which, by the way, we are pleased to hear has been of such value to you.

RUST ON VIOLAS. — E. G., Daventry: The viola growths I enclose seem to be affected by a kind of rust. Please tell me how to get rid of this disease.—The growths sent show an attack of rust that is closely akin to the disease which so often attacks mint. In the latter case, as with violas, we have noticed that the disease is most likely to obtain a footing where the plants have been propagated for several generations from division of the roots, and where the same crop has been grown on the same site for a considerable period. Lift and burn all the affected plants, propagate a clean stock from the cuttings of healthy specimens, and in due course plant the youngsters on a new site. Be sure to lift the diseased specimens and burn them, root and branch.

NAMES OF PLANTS.

A. P., Westmorland. — Gloriosa superba.

H. H., Bury.—1, Skimmia japonica; 2, Ligustrum chinensis; 3, Escallonia macrantha.

L. B. H., Manningtree.—1, probably a Phyteuma, send again; 2, Saxifraga hypnoides.

S. E. R., Harrogate. — 1, Campanula rapunculus; 2, Sedum rupestre; 3, Hypericum Coris.

G. A., Cowes.—1, Stachys grandiflora; 2, Dianthus deltoides; 3, Chrysogonum virginianum; 4, Taxodium distichum.

B. R., Guildford.—1, Mesembryanthemum tricolor; 2, Olearia macrodonta; 3, Cotoneaster horizontalis; 4, Hydrangea aspera.

N. G. W., Sandy.—1, Campanula persicifolia Moerheimi; 2, Thalictrum flavum; 3, Sedum acre; 4, Gaultheria procumbens.

F. G. C., Oswestry.—1, Dianthus alpinus; 2, a Saggitaria leaf; 3, Nuphar lutea; 4, Selaginella Emileana; 5, Fuchsia Riccartoni.

C. M. B., Peterborough.—1, Dryas octopetala; 2, Gentiana septemfida; 3, Veronica spicata; 4, V. incana; 5, Escallonia macrantha.

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MARKETS.

COVENT GARDEN.

Flowers.

Hardy flowers are fairly plentiful, consequently prices are easier.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	3	0	to	4	0
Asparagus plumosus	per doz. bun.	10	0		18	0
,, Sprengeri	per doz. bun.	8	0		12	0
Campanulas	per bun.	2	0		4	0
Carnations	per doz.	1	0		1	6
,,	per doz. bun.	4	0		8	0
,, Malmaison	per doz.	4	0		6	0
Cattleyas	per doz.	9	0		12	0
Coreopsis	per doz. bun.	1	3		1	6
Cornflowers	per doz. bun.	0	6		1	3
Croton leaves	per bun.	1	0		1	6
Delphiniums	per doz. bun.	4	0		8	0
Eucharis	per doz.	2	0		4	0
French fern	per doz. bun.	2	6		4	0
Gardenias	per doz.	1	0		2	0
Gerberas	per doz.	1	0		1	6
Gladioli	per doz. bun.	4	0		10	0
Gypsophila	per doz. bun.	2	0		3	0
Lilium auratum	per bun.	3	0		4	6
,, speciosum	per doz.	1	6		2	0
,, longiflorum	per bun.	1	3		2	0
Lily of the Valley	per doz. bun.	9	0		15	0
Marguerites	per doz. bun.	1	0		2	0
Odontoglossums	per doz. blms.	2	0		3	0
Pæonies	per doz. bun.	4	0		8	0
Pelargoniums	per doz. bun.	3	0		8	0
Pinks	per doz. bun.	1	0		1	6
Poppies	per doz. bun.	1	0		2	0
Pyrethrums	per doz. bun.	2	0		3	0
Roses	per doz.	0	9		3	0
Smilax	per doz. trails	1	0		1	6
Spiræa	per doz. bun.	4	0		6	0
Stephanotis	per gross	6	0		8	0
Stocks	per doz. bun.	4	0		6	0
Sweet Peas	per doz. bun.	1	6		3	0

Fruits.

Currants are somewhat dear, and gooseberries continue to realise good prices. Strawberries are still fairly plentiful, and raspberries are a good supply.

		s.	d.		s.	d.
Apples, Australian	per box	14	0	to	18	0
,, Tasmanian	per box	14	0		18	0
Apricots	per box	1	6		3	0
Bananas, Canary	per bun.	7	0		12	0
,, Jamaica	per bun.	3	0		5	6
Cobnuts	per doz. lbs.	4	6		6	0
Cocoanuts	per 100	17	0		23	0
Cherries	per peck	4	0		8	0
Cranberries	per case	8	0		9	6
Currants, Black	per ½ sieve	6	0		9	0
,, Red	per ½ sieve	6	0		9	6
Dates	per doz. boxes	2	9		3	6
Figs	per doz.	1	6		8	0
Gooseberries	per ½ sieve	3	0		4	6
Grape Fruits	per case	12	0		22	0
Grapes, English	per lb.	1	6		7	0
,, Guernsey	per lb.	2	0		3	0
Lemons	per case	10	0		30	0
Mangoes	per doz.	6	0		8	0
Melons	each	1	0		3	0
Nectarines	per doz.	4	0		21	0
Oranges	per case	8	0		44	0
Peaches	per doz.	4	0		21	0
Pears, Tasmanian	per case	10	0		12	0
Pineapples	each	3	0		5	0
Raspberries	per doz. pun.	4	0		8	0
Strawberries	per basket	0	10		1	6
,,	per doz. pun.	3	6		6	0
,,	per peck	2	0		4	0

Vegetables.

Salading is in great demand, and there is a regular request for peas, tomatoes, and cauliflowers.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	2	0
,, Ground	per bush.	3	0		4	0
Asparagus	per bun.	1	6		3	0
Beet	per bush.	2	0		3	0
Beans, Guernsey	per lb.	0	6		1	0
,, English	per lb.	0	8		1	0
,, Broad	per bush.	2	0		3	0
Cabbage	per tally	2	0		3	0
Carrots	per doz. bun.	3	0		6	0
,, French	per doz. bun.	6	0		8	0
Cauliflowers	per doz.	2	6		4	0
Chicory	per lb.	0	2		0	4
Cucumbers	per doz.	1	6		4	0
Endive	per doz.	1	6		3	6
Horseradish	per doz. bun.	10	0		12	0
Lettuce, Cos	per doz.	0	9		1	0
Marrows	per doz.	2	0		4	0
Mint	per doz. bun.	2	0		4	0
Mushrooms	per doz. lbs.	4	0		7	0
Onions	per bush.	2	0		2	6
,, Spanish	per case	6	0		7	0
Parsley	per doz. bun.	2	0		3	0
Peas	per bush.	2	6		4	0
Rhubarb	per doz. bun.	0	10		1	6
Radishes	per doz. bun.	0	10		2	0
Spinach	per bush.	1	6		3	0

LONDON POTATO MARKETS.

Potatoes are good, and coming in fairly good quantities from various sources.

		s.	d.		s.	d.
Scotch	per ton	80	0	to	95	0
Dunbars	per ton	120	0		130	0
Jersey	per cwt.	7	0		8	0
St. Malo	per cwt.	7	0		8	0
Teneriffe	per cwt.	7	0		9	0
Kents	per cwt.	7	6		9	0

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

DATE. 1913. JUNE 29 TO JULY 5.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
June 29—Sunday	14 12	68	60	78	52
,, 30—Monday	5 12	61	56	73	49
July 1—Tuesday	8 48	59	54	70	49
,, 2—Wednesday	6 42	61	56	71	53
,, 3—Thursday	4 48	58	55	67	55
,, 4—Friday	1 6	61	58	69	51
,, 5—Saturday	1 0	56	53	66	52
Means	(total) 41 48	60	56	70	51

DATE. 1913. JUNE 29 TO JULY 5.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
June 29—Sunday	—	63	60	57	38
,, 30—Monday	—	64	60	58	38
July 1—Tuesday	—	64	61	58	37
,, 2—Wednesday	0·12	65	61	58	42
,, 3—Thursday	—	64	61	58	52
,, 4—Friday	trace	63	61	58	38
,, 5—Saturday	0·07	63	61	58	48
Means	(total) 0·19	63	61	58	42

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, July 14.—United Horticultural Benefit and Provident Society; Committee meeting.

TUESDAY, July 15.—Royal Horticultural Society: Committees meet at 12 o'clock; Ninth Masters Memorial Lecture on "Some Factors in the Prevention of Diseases in Plants," by Professor R. H. Biffen, M.A.; Scientific Committee at 4 o'clock.
National Rose Society's Provincial Show at Gloucester.
Southampton Summer Show; two days.

WEDNESDAY, July 16.—Reigate Summer Show.
Nottingham Summer Show; two days.
Birmingham Rose Show.
Bishops Waltham Rose Show.
Luton Summer Show.
Harrogate Flower Show; two days.

THURSDAY, July 17.—National Sweet Pea Society's Exhibition at the Royal Horticultural Hall, Westminster.
Dunfermline Summer Show; two days.
Dulwich Flower Show.
Lincolnshire Horticultural Exhibition; two days.

FRIDAY, July 18.—National Carnation Society at the Royal Horticultural Hall.
Ulverston Rose and Sweet Pea Show.
Birmingham Summer Show; two days.
National Sweet Pea Society's outing to Messrs. J. K. King and Sons, Coggeshall.

SATURDAY, July 19.—Blackburn Flower Show.
Gourock Rose Show.

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VOL. LVI.—No. 3,116. SATURDAY, JULY 19, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Control of Plant Diseases.

Although in dealing with some of the factors in the prevention of plant diseases at the meeting of the Royal Horticultural Society on Tuesday, Professor Biffen referred with greater fullness to the agricultural side of the subject than to that with which horticulturists are the more immediately concerned, his lecture was of immense interest to those who are engaged in garden management, and contained much information with which they should be fully acquainted. The lecture, which attained to a high level, was essentially practical in character, and its value was greatly enhanced by the clearness with which both scientific truths and cultural points were stated. At the outset reference was made to the divergence in the views held with regard to the increase or otherwise of fungoid diseases of plants, and Professor Biffen stated that, in his opinion, they were increasing, and with some degree of rapidity, one good reason for this increase being the extension of the practice of growing plants in larger masses than was at one time the case. It will be readily understood by those who have some acquaintance with the biological characteristics of parasitic fungi, and are well versed in cultural methods, that when large numbers of the same, or allied, kinds are grown in the same or contiguous plots or quarters, they are more liable to suffer from diseases of fungoid origin than are those widely distributed, because of the greater facilities they afford for the spread of the spores of the fungi. This increase is likely to continue so long as intensive culture obtains favour, and is more or less progressive. Considerable attention had, it was pointed out, been given to fungicides, but unfortunately much has to be learnt about their action upon the plants liable to infection and the biological characteristics of the parasites before they can be used to the best possible advantage. Bordeaux mixture is considered by Professor Biffen to be the most useful of the fungicides, but it is not, in his opinion, a specific for all plant diseases. It has the drawback of requiring skilful preparation, and there is a risk of it being otherwise than satisfactory where those responsible for its use do not prepare the supplies themselves. This fungicide has also the drawback, in the case of potatoes, for which it is the most largely used, of delaying the maturation of the crop, and thereby preventing the lifting of the tubers until the late autumn rains, and thereby increasing the risk of deterioration in quality. If fungicides cannot be used with a full measure of success, cultivators must, observed Professor Biffen, find substitutes, and, as recognised by observant cultivators, attacks of fungi can in many cases be prevented by suitable modifications of cultural methods. Cucumbers were mentioned as affording a concrete example of what can be accomplished in this direction. In their culture under glass for commercial purposes the practice is to liberally enrich the beds with nitrogenous manures, to maintain a high temperature and a humid atmosphere. Under these conditions the growth is very rapid, and the fruits tender and delicate in flavour; but the stems and leaves are soft and sappy, and should the leaf spot fungus (Ceriospermium melonis), for example, attack the plants, they are quickly destroyed. With a more moderate use of nitrogenous manure, and less warmth and moisture, the risk of any considerable damage to the crop can be prevented. In like manner, the attack of the "Damping-off Fungus," which sometimes inflicts heavy losses upon growers of small salading, can be prevented by growing the crop under drier conditions. While it is not possible to control plant diseases in the open so readily as can be done under glass, it is, in Professor Biffen's opinion, possible to do so to a marked extent. Scientists do not, he said, fully appreciate the influence of food supplies on plant life in relation to the diseases to which they are more or less susceptible, but there could be no question that the highly-fed plants are the most likely to suffer severely from the attacks of parasitic fungi. The experienced cultivator will call to mind many proofs of this that have come under his notice in the course of his practice, and a most conclusive proof was mentioned that had been found in the plots devoted to wheat at the Rothamsted Experimental Station. On one set of plots wheat had been grown for upwards of fifty years with the aid of several manures. In these plots there was a considerable difference in the intensity of the attack of the common rust, and, with a view to determine the relative severity of the attacks, he marked the plot in which the wheat was the most badly attacked as 10. On the unmanured plot there was no disease, and the plot was marked as 0. In that where mineral manures were alone used there were sufficient traces of rust to justify the attack being estimated at 2. The plot on which the mineral manures had been supplemented by sulphate of ammonia showed an increase of rust of 50 per cent., and the number allotted was 3. Where the dressing of the latter was doubled the rust had increased to 4, and

MR. HARRY BOSHIER,
Hon. Secretary of the Croydon Gardeners' Association.

where quadrupled to 5. In the plots which had received applications of nitrate of soda, the disease was so rampant as to justify estimating the intensity of the attack at 10. Some experiments in water culture that had been conducted at Cambridge, with a view to obtaining further evidence of the effect of the food supply upon the susceptibility of plants to disease, were described, and these were of interest as confirming the results obtained at Rothamsted, where the manuring had been continuous over a period of more than 50 years. Barley was used in the water culture experiments, and the plants grown with nitrate of soda and sulphate of ammonia were very badly affected with rust, which gradually decreased with the substitution of phosphates and potash. By cutting down the food supplies to one-half and one-quarter there was almost complete immunity from disease. Much the same result followed from the addition of lithium to the other constituents, and as not more than 1 per cent. is necessary, Professor Biffen thinks it probable that lithium might be employed commercially in crop production. Reference was also made to the possibilities of rendering crops immune by judicious cross-breeding and careful selection, and to the remarkable results that had been obtained in Western Australia in connection with wheats. For a long period it was hardly possible to grow wheat in the colony owing to the prevalence of rust, but with the rust-proof varieties that had been obtained, all exceptional difficulties had vanished. It will not be easy to make any considerable progress in the breeding of garden plants because of the many factors that have to be taken into consideration, the most important of all being, perhaps, public taste. No potato, however great may be its disease-resisting powers, will be grown unless it is of high quality, and lovers of roses will certainly not buy varieties immune from mildew, unless their flowers possess the attributes of beauty in a marked degree.

Mr. Harry Boshier, the hon. secretary of the Croydon and District Horticultural Mutual Improvement Society, has seen his society grow from small beginnings to be one of the strongest in the country, and, following Mr. J. Gregory as hon. secretary, he has very largely helped to make the association the successful educational body it now is. Mr. Boshier turned his attention to farming after his schooldays were over, but found farm work too slow, and entered service with Mr. Henry Deverill, of Banbury, to whom he was apprenticed for three years. Seeking further experience, he came to London, and was with the One and All Association for three years. Later on he became manager to Messrs. E. M. and S. Rogers, corn and seed merchants, of Croydon, a position he still occupies. Mr. Boshier was chiefly instrumental in securing the union of Horticultural Improvement Societies in affiliation with the Royal Horticultural Society. He is a member of the executive of the Croydon Horticultural Society, and this year organised a sale of flowers in connection with the famous show. The sale realised £6 2s., which was handed over to the Royal Gardeners' Orphan Fund. Mr. Boshier is a capital organiser, and a very popular man among the horticultural fraternity of the Croydon district.

Horticulture at Cambridge.—From the report recently issued by the Syndicate for the management of the Cambridge Botanic Garden we learn that there has been considerable activity among those engaged at Cambridge in experimental work connected with horticulture. The Professor of Genetics has rented four allotments for experimental purposes, and experiments in plant breeding have been carried out by several workers. Miss Saunders has continued her researches in the cross-breeding of stocks and other plants. In the experiments pit Mr. Gregory has continued his investigations of Primula sinensis, with special reference to the development of giant races. Insufficiency of space prevented more than a small proportion of the previous crop of seeds saved being sown, but the plants raised did remarkably well, and gave good results. Miss Gairdner has continued her experiments with tropæolums, with a view to obtain definite information relating to the transmission of variegation in these plants, and is investigating an abnormal type of wallflower. Miss Killby, Mr. Compton, and other investigators have been busily engaged with research in other plants of interest. The forestry students have, we learn, made free use of the Botanic Garden, and the Reader has given instruction of a practical character there.

Perpetual Flowering Carnation Society.—Mr. T. A. Weston, of Floradale, Orpington, the society's secretary, writes: "Owing to the fact that our financial year closes on October 31, my committee desires me to announce that all new subscribers after this date will be covered by their subscription until October 31, 1914. New members will thus receive the current season's Year Book, and will be entitled to all privileges of the society until the date above mentioned."

Mr. J. S. Chisholm, who has for some years past occupied the position of horticultural instructor for Northumberland, has been appointed chief lecturer in horticulture to the Edinburgh and East of Scotland Agricultural College, and adviser in horticulture to the twelve counties in association with the college. Mr. Chisholm, who thus succeeds Mr. J. P. Berry in both the appointments he vacated on his taking up the duties of general horticultural inspector in the Horticultural Branch of the Board of Agriculture, has done splendid service in the position he occupied under the county of Northumberland, and his retirement therefrom is regarded as a loss to the county.

A Lady Lecturer at London University.—Dr. Marie C. Stopes, Fellow of University College, has been appointed lecturer on fossil botany at the London University.

Bicentenary of St. Petersburg Botanic Garden.—The bicentenary of the Botanic Garden of St. Petersburg, which was founded by Peter the Great, has been celebrated in a manner befitting so important an occasion. The functions commenced in the evening of the first day by a special service in the cathedral, at which delegates from kindred establishments at home and abroad and the garden staff were present. At this service a wreath of roses was laid on the tomb of Peter the Great. On the second day there was a great gathering at the Botanic Garden in a building contiguous to the old herbarium, at which several Princes, members of the Russian Government, and a host of scientists were present. The meeting was opened by M. Kriwoshen, the Minister of Agriculture, and the announcement was then made that the Emperor of Russia had commanded that the garden should in the future be known as the Imperial Botanic Garden of Peter the Great. Professor A. Fischer von Waldheim then gave an address in which he dealt with the history and objects of the garden, and at its close there was a reception of the delegates followed by the presentation of medals and other mementoes of the bicentenary. The third day was devoted to an inspection of the Botanic Garden, a visit to Peterhof, and an operatic performance. The garden has an area of about fifty acres, and is well provided with grass structures, and the herbarium, library, museum, and laboratory are spacious and admirably equipped. The directors of the garden, who in the past specially distinguished themselves, included F. E. L. Fischer, Trautvetter, E. Regel, and C. Maximowicz. The present Director, Professor A. Fischer von Waldheim, has occupied the position he holds since 1897, and during the sixteen years that have elapsed, he has so completely reorganised the establishment as to immensely improve it in every way, thereby greatly increasing its capacity for good work, and to obtain the warmest expression of praise from the botanists taking part in the bicentenary celebration.

Horticultural Club Outing to Friar Park.—It has been found necessary to change the date of the annual club outing from July 16 to Thursday, July 24. On the latter date the club will be entertained, on the kind invitation of the president, Sir Frank Crisp, Bart., at Friar Park, Henley. The party will leave Paddington in special saloon carriages at 9.57 a.m., and proceed to Marlow Station. The president's launch will be in waiting there to convey the party by river to Henley, where the president will entertain the members at lunch in the boat-house. After lunch an inspection of the gardens will be made, and, after tea has been taken, the president's launch will convey the party to Reading, where saloon carriages will be in waiting for the return journey to Paddington, which will be reached at 8.58 p.m. The price of tickets, including all charges, will be 11s. It being necessary to limit the number of guests, members should apply for tickets not later than July 16, to the hon. treasurer, Sir Harry J. Veitch, East Burnham Park, Slough, Bucks, who has kindly undertaken to make the necessary arrangements.

"**Botanical Magazine.**"—The following interesting plants are figured in the issue of this publication for the current month: Podachænium eminens, a distinct composite introduced from South America about seventy years ago, and for some time known as Ferdinanda eminens. The plant is rather straggling in growth, but it can be kept in shape by frequent stopping, and when grown in comparatively small pots, the flowers, which are white with yellow disk, are freely produced. Sedum pilosum, a charming stonecrop of small growth and bearing a profusion of bright rosy flowers; it is a native of the Caucasus, and is found at an altitude of between 4,000 and 5,000 feet. Cunonia capensis, a handsome tree, producing elegant spikes of small white flowers, and described as fairly abundant in the forest tracts of South-eastern Africa. It has long been in cultivation in this country, and in the days when Cape and New Holland plants were appreciated, fine specimens were to be met with at Syon and other of the great gardening establishments. Crotolaria agatiflora, a handsome shrub, producing in a wild state "long racemes of large greenish-yellow, but nevertheless brightly-coloured flowers"; the species is a native of Uganda and British East Africa, and has been grown for the first time in this country in the gardens of Pylewell Park, Lymington, the residence of Ingham Whitaker, Esq.

where, under the care of the gardener, Mr. W. F. Hamilton, it has grown and flowered most satisfactorily. Vinca difformis, a distinct and pretty species, extending over a wide range in Southern Europe, and bearing lavender-blue flowers; it is similar in character to V. major and V. minor, but is not so hardy

R.H.S. Daffodil Year Book.—Lovers of daffodils will be interested in hearing that the Royal Horticultural Society is publishing, the first week in August, a Daffodil Year Book. The cost, in cloth covers, is this year fixed at 2s. 6d., but, if sufficient support is afforded to the venture, it is hoped next year to be able to lower the price. It will contain papers by several eminent growers, together with lists of varieties recommended for various purposes, and notes on new and recent introductions. Reports of all the chief daffodil shows throughout the country, with lists of the winning flowers, will also be a feature of the publication.

Proposed Purchase of Box Hill.—An offer has been made by a gentleman, whose name has not been disclosed, to provide the money for the purchase of Box Hill, or the more important part of it, with a view to handing it over to the National Trust, or some other public body, to be preserved in perpetuity.

Visit to Escrick Park Gardens.—A few evenings since about sixty of the members of the Ancient Society of York Florists visited Escrick Park, the residence of Urban H. Broughton, Esq., for the purpose of enjoying the charms of the beautiful gardens. Much that was noteworthy was seen and appreciated by the members of the party in their walk through the gardens and plant and fruit houses, but the fine displays of roses and violas appeared to attract the most attention. These, in common with other features, testified in no uncertain manner to the cultural skill of Mr. W. Stanton, the head gardener, who acted as guide to the visitors.

New Classification of Chrysanthemums.—The "Transactions" of the National Chrysanthemum Society for the current year are of quite exceptional interest, and can hardly fail to receive a warm welcome from the members, and, indeed, from all who are concerned with chrysanthemums. Of special importance is the text, with illustrations, of the lecture given by Dr. E. J. Russell at the conference held on November 20, 1912, on "Chrysanthemum-growing in Partially Sterilised Soil." Not less deserving of attention is the report on the new classification of chrysanthemums, which was adopted last year with much success. In the new classification there are six sections—namely, Incurved, Japanese, Anemones, Pompons, Singles, and Spidery-plumed and Feathery, and in each of the sections provision is made for both large and small-flowered varieties. The section for incurved varieties is, for example, divided into two sub-sections, one to include the large-flowered varieties, such as Buttercup and Duchess of Fife; and the other the medium and small-flowered varieties, as Daisy Southam and Mrs. G. Rundle. The Japanese are grouped under the sub-sections of Japanese, Incurved Japanese, and Hairy Japanese; and the Japanese sub-section is divided into three groups, comprising large-flowered, as Lady Talbot and F. G. Vallis; medium-flowered, as R. F. Felton and Cranford Pink; and small-flowered, as Roi des Blancs and Source d'Or. In the Incurved Japanese there are two groups, the large-flowered with Mrs. Gilbert Drabble and Mrs. A. T. Miller as types, and the medium and small-flowered as Mrs. Roots and Le Pactole. The anemone section contains two groups, one including varieties with blooms three inches or more in diameter, as W. W. Astor and Sir Walter Raleigh; and small-flowered varieties, with blooms of a diameter less than three inches. Of the pompons there are two groups, one containing such large-flowered varieties as Mdlle. Elise Dordam and William Westlake, and the other such small forms as Snowdrop and Anastasia. There are three sub-sections of singles, the first to include the varieties with one or two rows of florets, the second with three to five rows of ray florets, and the third with anemone centres; and in the first and second there are two groups, one for varieties with blooms having a diameter of three inches, and the other for varieties with blooms of a diameter less than three inches. The new classification should at no distant date effect an appreciable change in the character of chrysanthemum shows, and bring into prominence the many beautiful varieties with blooms of moderate size.

The People's Palace Horticultural Society will, by permission of the King, pay a visit to the Royal Gardens, Windsor, on the 26th inst. His Majesty has expressed his intention of entertaining the members of the society to tea on the occasion of their visit.

The Crystal Palace Purchase.—The appeal made by "The Times" for £90,000 to complete the sum required for the purchase of the Crystal Palace met with so generous a response that the whole amount was obtained within a fortnight. The sum of £24,900 has yet to be raised to complete the total of £230,000, the purchase price of the Crystal Palace and grounds; but this apparent deficit is mainly due to the fact that certain local bodies and several of the City Companies have not yet met to consider the donations that the Lord Mayor has reason to expect from them. "The Times" fully completed its task, and may be heartily congratulated on the splendid results.

Vacant Land Cultivation Society.—This society was formed in London in 1908 for the purpose of affording facilities to men who are wholly or in part out of employment to profitably utilise their spare time in the cultivation of vegetables and flowers on the vacant land within the Metropolis. According to the report of the society for 1912-13, which is now before us, the total area of vacant building land in the county of London is 14,000 acres, and the method of procedure is to select such properties as are suitable for the cultivation of garden crops, and obtain permission from the owners for the loan of the land on the condition that the tenure may be terminated at any time on a week's notice being given. The society then proceeds to prepare the land, under the direction of Mr. R. L. Castle, the superintendent, and allot plots thereon without any charge for rent to the applicants, who, it may be added, are largely in excess of the available plots. The report states that the weather of 1912 suited the greater part of the land admirably, and with the improvement effected by four years' continuous good cultivation, the crops surpassed any previously obtained. It is further stated that the gross retail value of the produce on all the plots during the past year exceeded £3,000, and that during the summer months the rows of vegetables and flowers on the whole of the area would have formed a continuous line 200 miles in length. The gross retail value of the produce raised and used, or sold, during the five years over which the operations extended is stated to have been £9,000. During this period the income of the society has aggregated £2,000. Mr. Joseph Fels, 39, Wilson Street, E.C., is the hon. secretary.

Fairy Rings.—In the course of her investigations of fairy rings Miss Baylis has obtained satisfactory evidence that Clitocybe gigantea and Marasmius oreades, by which the rings are formed, are parasitic on the roots of the grasses, which are killed by the toxic substance secreted. Some secretion, whether the same as that which destroys the grass, is not clear, is toxic to the fungi, and effectually prevents their growing in the same position for three consecutive years, with the well-known result of an increase in the extension of the rings. The great increase in the growth of the grass on the inner and outer margins of the rings, as compared with that of the ring itself, is due to the increase in the additional nitrogenous food that is set free by the action of the fungi.

Mr. James Gibson, of Welbeck Abbey Gardens, like many other gardeners, is good at bowls. At the Nottinghamshire meeting recently he won a forty-guinea challenge cup and the championship gold medal in fine style.

Enclosure and Regulation of Commons.—The Select Committee of the House of Commons, appointed in March last to inquire into the existing requirements of the law as to the procedure prescribed in connection with the enclosure and regulation of commons, and to report whether any alterations are desirable, have issued their report as a Parliamentary Paper (85). With regard to the area of commons in England and Wales the committee state that, in their opinion, the return of 1874 (3,368,465 acres) is inaccurate, but they assume that the area of common or waste land still remaining unenclosed approaches 2,000,000. The total area of common land regulated is 48,373 acres. Briefly summarised, the recommendations of the committee are as follows: (1) That procedure for enclosure should substantially be left to be dealt with by the machinery of the present Acts. (2) That an Act be passed complete in itself containing procedure for regulation. (3) This new Act should contain the following provisions: (a) No change should be permitted in the legal estate of any interested party; (b) the method of applying for regulation should be simplified; (c) the procedure of the Act of 1899 should be adopted with the necessary modifications; (d) the absolute veto of any person or group of persons upon a scheme of regulation should be abolished; (e) where agreement between interested parties, including the local authorities, can be arrived at, recourse should not be had to Parliament; (f) where no agreement can be arrived at the usual procedure of a Provisional Order Bill should be adopted with the modification that the Select Committee on Commons should be substituted for the Provisional Order Bill Committee; (g) increased regard should be given to the rights or privileges of the "labouring poor," and to the rights exercised by the neighbouring public over commons which are not part of manors; (h) where no one can prove a title to a village green, this should be vested in the Parish Council; (i) the present provisions as to the confirmation of bye-laws should be altered.

Mons. Albert Truffant, of Versailles, one of the most widely-known of Continental nurserymen, has been honoured by election to the rank of Officer of the Order of Mérite Agricole.

AMONG OLDEN ROSES.

Modern roses reflect the greatest credit upon horticulturists, but the question has long been raised whether too many new varieties are not annually named and distributed. Roses with great distinctive qualities are rare; roses of too great similarity are plentiful. In consequence flower-lovers are paying more and more attention to the older varieties and species; and when these can be discovered, usually in far-away country spots, and removed to the pleasure grounds, the result usually proves that our ancestors knew well what are the good points of a rose. Probably florists would find a ready sale for old-world favourites, if they were to advertise them as such when the winter planting season comes again.

The globular shape was once more in request than the high-pointed one chosen by modern taste; however, it would be wise to allow hybrid perpetuals to retain the former conformation of petals, which certainly better conserve the scent, and require only the elegance seen in the spicily perfumed teas and hybrid teas.

Take the ancient Alfred Colomb for example; it yields a brilliant light carmine that does not quickly fade, it is of superb, round, closely-petalled shape, and probably no other rose so reproduces the true rose fragrance. For perfect cup shape, long-lasting qualities, and delightful flesh-pink shade, can any rose surpass Baroness Rothschild? This has, too, that sturdy, compact growth that defies gales, the closely-studded stems that keep it almost immune from caterpillars and grubs, and the kindly habit of raising each bloom erect so that the beauty is fully seen. Fill vases with blossoms of Baroness Rothschild, others with Madame Abel Chatenay, and, though the latter is admirable in lasting qualities among modern roses, the former will be looking beautiful still when all the others are faded and limp. In some old catalogues Charles Lefebvre is described as otto-scented; the perfume is undeniably distinct, and when care is taken to grow this for all it is worth the colour is unequalled, and the size immense. Unfortunately it is seldom a free bloomer.

A cottage garden path, edged on either side by a hedge of Commandant Beaurepaire, is a vision that will dwell in memory. This is a striped rose, an improvement on the old York and Lancaster, having a peculiar wealth of attractive foliage; altogether it can be cordially recommended for ordering for autumn planting wherever strong and striking boundary lines are required. It has been said that Countess of Oxford is one of the best hybrid perpetuals to experiment with for the production of a blue rose; its bright carmine petals are always shaded with violet at the base, and this hue overruns them as soon as the richer hue begins to fade. The effect of a bush the first glory of which has departed is a quite new one in the lawn beds, but the effect is, of course, seen most where whole borders are given up to this useful hardy variety. It is a large rose, too, with a pronounced cup.

Amateurs have lately been curious as to the relationship that an old hybrid perpetual named Danmark bears to La France de '89—if any. Danmark used to be described as "in the way of La France, but deeper in growth, and with stouter wood." The colour was very fine, and long lasting, and the foliage had that vigour that the leaves of the two La Frances too frequently lack.

What has become of Emilie Gonin, a remarkable tea rose indeed? The white petals were gradually shaded with yellow that reached actual orange, and each of those petals showed a broad edge of carmine. No visitor to a garden ever passed this beauty by without inquiries as to name and class, yet now it is looked for in vain. We still cultivate Madame Falcot, but Emanuel Geibel, a sport from it, with deeper and brighter colour, a fuller rose, too, is seldom seen.

The hybrid perpetual Eugène Appert was always recognised among scarlet-crimsons by reason of its rich dark foliage. Heinrich Schultheis could be trusted to flourish almost anywhere, and expand quantities of its large, sweet, full, pale pink blossoms. Henriette de Beauvan deserved to live on instead of the shy and eccentric Duchesse d'Auerstaedt that it so closely resembled; Johanna Sebus, a hybrid tea of cherry-rose, and satin finish, shot with yellow, of unfading tints, and a wonderful autumn bloomer, should be in every garden.

Thirteen years ago a rose catalogue gave this description of La France de '89: "Climber. Exhibition H.P. Brilliant red, sometimes lined with white, of enormous size, almost like a pæony; free flowering, and very vigorous." The question naturally arises in the mind—Is the La France de '89 now in commerce of similar parentage? With all its merits, it can scarcely claim to be lined with white, and enormous as a pæony. Lastly, it may be suggested that the hybrid perpetual Mrs. Rumsey supplied a true rose-pink of immense size. E. G.

COLOUR GARDENS.

Gardens of symmetry, gardens of natural grace, gardens of prize plants with blossoms of the largest, gardens of novelty, all have their merits, but it is to be doubted if any give as much delight as does the garden of colour. It may be great or small, established at cost of many tens of pounds or of but few shillings, yet it is bound to be regal in its beauty. A wealth of colour, we say—and truly there is no wealth like it. When the summer is dawning is the time to create new colour masses inexpensively and easily. There are other methods, of course, for we may plant dozens of costly bedding subjects, or we may wait to introduce in autumn hundreds of rare perennials; but at present we will consider the quick and fairly cheap ornamentation by gay hues of such portions of the pleasure grounds as look dull and lifeless.

One simple expedient is sowing carmine candytuft among the shrubs, varied by the flesh-rose and the lilac varieties. Long before summer is passing the stretches of flower will be glorious, while next year self-sown seedlings will be there in myriads. Seeding must not be permitted too soon; one of the gardener's frequent tasks later on must be visiting the annuals, scissors in hand, to cut off all those dead sprays that are turning the vigour of the plants into seed-forming and so checking further bud production. The candytufts under copper beech and Prunus Pissardi trees, or near Berberis aquifolium, will be found especially charming, yet one way to gain a gorgeous display that will linger in memory is to use the carmine kind alone wherever golden shrubs can form a background. There are other annuals to use similarly, godetias and clarkias, for example, and the single and double Jacobæas are singularly generous with magenta, violet, mauve, and rose shades; in many gardens these Jacobæas will spring up, and reappear season after season, as surely as does the wild groundsel to whose family they belong, but they are only reckoned half-hardy, and will not flourish everywhere.

Snapdragon planting is a rapid method of locating colour; they can be purchased in yellow or scarlet for a few pence the score, and it is unusual for an antirrhinum to fail to thrive anywhere when it is once set; the fact that they bloom incessantly till winter should further recommend them. Many an insufficiently filled, poor, dry border against a wall, either of the house or the boundaries, could be turned into a glorious bank of snapdragons if a barrow-load of loam was thrown down so as to raise the back of the bed, and the slope is left sufficiently abrupt to prevent the foreground plants from hiding the others.

The golden bedding calceolaria is another of the flowers most precious to the gardener who values colour. It makes a magnificent display if used to cover both summits and sides of banks among the shrubs usually there. Front gardens can be made striking by this means, and, should there be two prominent banks one may be devoted to the brown calceolaria, the terra-cotta hue of which gives quite a leading note in sunshine.

For brightening shady borders nothing can excel day lilies, which can be planted early in summer, without preventing their season's yield of bloom, so long as the soil is rich and moist about their roots and handling is tenderly done. With golden euonymus behind them, and a carpet of one of the many reliable kinds of giant yellow bedding pansies, they will give a result of supreme charm. One of the most vivid colour shows ever witnessed was made last year with a mingling of orange African marigolds, and orange English calendulas, near a house of lime-washed walls: here and there edging groups, as distinct from stiff lines, had been arranged of dwarf royal blue cornflowers and Phacelia campanularia.

To stock a big garden with permanent plants of colour merit is the simplest summer work, considering that delphinium seed will germinate out of doors, and the seedlings grow on quickly where they arise. Care must be taken not to sow thickly, and to provide a two-inch layer of good compost above well-forked and manured garden ground. Seed of rose and red Michaelmas daisies can also be cordially recommended for outdoor sowing. A five-shilling collection of herbaceous phlox plants of any vivid rosy hue bought now will give flower in the autumn. Sometimes the clumps sent admit of immediate division, but in any case they can be lifted in late October, split up, and the stock increased then. These pink phloxes are seen at their best with an edging of white violas, or near silver-foliaged shrubs. Hollyhock seed should be sown in nursery beds, for this noble plant offers remarkable hues raised to such a height that the whole landscape is affected by them. For quick gain of somewhat similar hues the giant double annual poppies can be sown in the vacant spaces that the hollyhocks are to eventually occupy.

Early-flowering chrysanthemums are as willing to flood the land with gold and bronze, rose, mauve, scarlet, and lemon here as in the eastern countries famed for their splendour. A collection of one of the orange-scarlet varieties should be set by any dark evergreens, the yellows may be used lavishly near purple and mauve clematises that may be counted on for late flowering, and the rose shades are successful alternated with lemon African marigolds, sunflowers, and dahlias. M. H.

HARDY AZALEAS.

To the botanist there are no Azaleas, for the plants which were at one time included in that genus are now grouped with the rhododendrons, because the chief difference (that of the number of stamens found in the flowers, namely, 5 for azalea and 10 for rhododendron) has broken down in species which have been introduced since the founding of the genus Azalea. But to the owner of a garden there will always be azaleas, for, in addition to the two names being very useful to distinguish between deciduous and evergreen species, there are certain kinds which appeal to him under the one name with greater force than under the other. Therefore, so far as horticulturists are concerned, it seems unlikely that the deciduous species will ever be known to him by any other name than Azalea.

Originally, the name was applied to certain species from North America and one from the Caucasus, and to the evergreen Indian Azalea; but later years have brought others in the Chinese A. mollis, or A. sinensis, as it is often called, certain Japanese kinds, etc. Then there are the hosts of hybrids and garden varieties which are spoken of collectively as Ghent Azaleas, and better known than the species, and this group is likely to go on increasing for many years to come. It is, in fact, to the garden hybrids and varieties that the group owes its popularity, for among these may be found many of the most brilliant and delicate shades of colouring produced by any flowers grown in the outdoor garden. Moreover, so well do the various shades tone with each other, that in a mixed collection it rarely happens that a discordant note is struck, even though many shades of yellow, orange, pink, red, and white are mixed indiscriminately. That the flowers have a delicious perfume is another point in their favour; while in autumn, previous to the fall of the leaves, there are few more brilliant plants.

Azaleas require similar cultural treatment to rhododendrons. In moist, but well-drained soil, which is fairly free from lime, they thrive, but they abhor heavy, water-logged ground, and also very limey soil. Peaty soil is often suggested for this class of plant, but it is not essential to growth; in fact, if peat is not the natural soil of a district it is inadvisable to introduce large quantities for azaleas, but rather mix a little peat with the natural soil of the place. By filling beds with peat, it is liable to turn sour or decay before the roots can take advantage of it, and in the end acts as poison rather than food. Azaleas thrive both in sunny and moderately shady places, the most satisfactory results being obtained from plants which obtain a fair amount of sun. But in several large gardens they answer quite satisfactorily when planted as an undergrowth to thin pine woods, and such plantations are very charming when the plants are in flower. Named varieties are raised by cuttings, grafts, and layers; but, except in the case of species, it is not necessary to obtain these, for quite as good results are to be obtained from mixed seedlings, which may be purchased in large quantities from nurserymen who make a speciality of ericaceous plants. Of the various species of azalea the following are suitable for general cultivation:

A. calendulacea.—This is found on the mountains of Pennsylvania, Carolina, Georgia, etc., growing in fairly moist situations either in thin woods or in the open, often covering considerable areas. Growing from 3 to 8 feet high, it forms a rather dense bush, and produces orange, orange-scarlet, or reddish flowers. It has been used largely by the hybridist, and from it some of the richest-coloured hybrids have been obtained.

A. pontica (R. flavum) is a Caucasian plant noted for its large, fragrant yellow blossoms. Mature specimens may be found 6 or 8 feet high, though plants 4 to 5 feet are more common. Its influence may be traced in those forms which have large yellow or orange-coloured blossoms. As it forces easily it is often used for that purpose.

A. nudiflora, the Pinxter Flower of North America, is widely distributed from Canada to the Southern United States. Of similar size to A. calendulacea, it differs from that species by having white, pink, or red flowers. From it many of the best of the light-coloured kinds have been raised, and, with calendulacea, it has been responsible for the production of many reds.

A. mollis (R. sinensis).—Of late years this Chinese and Japanese species has been grown in enormous quantities for forcing, while it is also grown extensively in the outdoor garden. It is distinguished from the North American kind by its stiffer and more upright habit and its larger flowers, which more closely approach

AN EFFECTIVE GROUP OF HARDY AZALEAS.
In the garden of Kenview, Highgate.

the shape of those of the large-leaved evergreen rhododendrons than do those of the American kinds. The flowers show a remarkable range of colouring, for there are many delicate shades of red, yellow, and pink. All the forms blossom with remarkable freedom, but they lack the fragrance of the American and Caucasian hybrids. For outdoor culture they are scarcely so useful as the other kinds, for they bloom during the early part of May, a fortnight or so in advance of the others, and are sometimes injured in consequence by late frosts. Crossed with the American kinds, some lovely hybrids have been obtained. Plants for forcing are usually grown for that purpose in Holland and Belgium, and examples carrying from 30 to 40 heads of flower may be obtained through English nurserymen for a small sum each in the autumn.

A. viscosa (R. viscosum), sometimes called the Swamp Honeysuckle, is another North American species. It grows about 4 feet high, and blossoms in July. This species and its progeny may be distinguished from others by their lateness of blooming, and by their viscous shoots and flowers.

A. occidentalis and A. arborescens are two North American species, the former from California and the latter from Pennsylvania, Carolina, Tennessee, etc. They are of upright habit, growing 8 or 10 feet high, and produce white or pink flowers in June. Crossed with other kinds, and particularly with A. viscosa, a number of late June-flowering hybrids have been obtained which prolong the flowering season by several weeks.

In addition to the above-mentioned kinds, which are those usually grown, the following rarer sorts are worth attention:

A. ledifolia (R. ledifolium).—This is a native of Japan, China, etc., and is closely allied to the well-known Azalea indica, although much hardier than that species. It is distinguished by its evergreen, hairy leaves, which are 2 to 2½ inches long and ¾ inch wide, and by its white flowers, which are about the same size as those of A. mollis. Hardy in the neighbourhood of London, it is an excellent shrub for the southern counties. The variety narcissiflorum has double pinkish flowers.

A. linearifolia (R. linearifolium) is a Japanese species, remarkably distinct by reason of its long, narrow, hairy leaves, and by the long narrow petals of its rosy-purple flowers. Of rather low stature, it forms a spreading bush in the south of England, and is well worth growing on account of its distinct character.

A. quinquefolia (R. quinquefolium). — This is one of the rarest of the Azalea group. It is distinguished from other kinds by reason of its leaves being in whorls of five. The leaves are very pretty when young, for they are bronze at first, then for two or three weeks, after the centres have turned green, the margins retain a bronze or brownish shade. Flowers have rarely been produced in this country, but they are of a reddish hue.

A. rhombica (R. rhombicum).—This is a showy and interesting Japanese species. Growing three feet or so in height, it bears large rosy-purple flowers during late in April and early in May.

A. serpyllifolia (R. serpyllifolium), an interesting species from Japan, is of rather weak growth, and peculiar by reason of its tiny leaves. The flowers are rosy-purple in colour.

A. Vaseyi is a very pretty species from the mountains of North and South Carolina. Attaining a height of 3 to 4 feet, it bears shapely white, pink-flushed, or wholly pink flowers, in profusion during early May.

A. indica.—The only variety of A. indica which can be relied on for outdoors is the variety Amœna, and that does remarkably well in many places. The double-flowered balsaminæflora also does well in some gardens, whilst the allied Kæmpferi from Japan can be compared with Amœna for hardiness. The latter is very showy, and bears red or reddish-purple flowers.

Kew. W. Dallimore.

NOTES FROM SCOTLAND.

The genial weather of the past month has exercised a most beneficial effect upon hardy fruits, and, with few exceptions, good average crops of the earlier kinds are now being secured.

Strawberries.

These promise to be a record crop, both in quantity and quality, providing the weather continues favourable for ingathering. The week ending July 6 saw the first of the Scotch-grown crop placed upon the Glasgow market, though an abundance of the English-grown fruit had been in evidence for some ten days previous. The extent to which this trade has grown may be estimated by the statement, made public by the firm most largely engaged in the dessert fruit trade in the city of Glasgow —Malcolm Campbell, Lim.—that 14,321 baskets of strawberries, amounting to upwards of twenty-five tons weight, were thus received, and disposed of at the various retail places belonging to the firm, but mostly from the depot at 18, Gordon Street. The fruit is packed entirely in chip baskets, a method new to the northern city, and so well is this done, and the means of transit carried out, that very few of the berries show signs of bruising or other injury when opened out.

This, of itself, is remarkable, as the bulk of this fruit, being grown in the neighbourhood of Southampton, would have a long railway journey, and, afterwards, several hours in possession of the firm before it could be disposed of, and was then quite fresh, and almost unblemished in appearance.

Raspberries.

Various accounts have from time to time been issued as to this crop in Scotland, and reports from the principal district—Blairgowrie—were, a few weeks ago, not at all promising. The first large consignment for the open market reached Glasgow Bazaar on Tuesday, July 8, when, in the early morning, a couple of lorry loads, packed very neatly in the afore-mentioned chip baskets, and having a clean and very business-like appearance, awaited the opening of the building. As stated, this was the commencement of the season by some of the larger growers, and if the same high quality can be maintained, the crop is admittedly a heavy one, and not much complaint will be heard of the at one time feared shortage.

Gooseberries.

The crop is variable—in places very heavy, but in others meagre. The samples of fruit so far exposed for sale have been somewhat uneven in size, but a marked improvement in this respect has been noticeable during the past week.

Market Methods.

The chip basket referred to supplants the one of wickerwork so long used. In future the former only will be used for soft fruits—strawberries, raspberries, currants, and a few others, and they are made in sizes varying from two to six pounds as holding capacity. The great convenience of these is at once apparent, as the fruit is never in large bulk, and escapes any manipulation after being once placed in the receptacle, while the speedy and easy manner in which large quantities are worked through a market stall or shop, as well as the convenience of conveyance therefrom by the purchaser, commend the system to all. The old adage of first come best served may also apply in this case, but, on the other hand, in the case of strawberries, those who purchase in the evening do so at a considerably reduced price to that paid by others earlier in the day, and there is no material difference in the quality of the fruit.

Glasgow. James Day.

MESEMBRYANTHEMUMS.

Mesembryanthemums are not everybody's flowers, for there are but few spots in this country where they will succeed permanently in the open. A mild temperature, gritty, porous soil, and propinquity to the sea appear indispensable to their well-doing. All the best collections are grown close to the salt water. That in Tresco Abbey Gardens, Isles of Scilly, where about a hundred and twenty species are grown, is surrounded by the sea. At Abbotsbury Castle, in Dorsetshire, there is another very fine collection. The spot where they are growing in these gardens is situated just above the Chesil Beach, and in westerly gales the plants are drenched with the flying spindrift. At Kingswear, at the mouth of the Dart, they also thrive exceedingly well on the rocks overhanging the salt water.

The commonest species is Mesembryanthemum edule, commonly called the Hottentot Fig. This is a weed in the Scillies, and at Kingswear drapes the cliffs, and in the summer is bright with thousands of its large yellow flowers. A handsome species is M. acinaciforme, which bears deep, rose-coloured flowers about four inches across. This, in Start Bay, veils the rocks to a height of over twenty feet, its lower growth resting on the pebbly beach.

Much uncertainty exists in the nomenclature of the mesembryanthemums. In many cases the published descriptions of species are entirely dissimilar to the plants grown under the same names in the best collections. The following are handsome species: M. aurantiacum, deep orange; M. aureum, yellow; M. caulescens, deep red; M. curvifolium, flesh; M. inclandens, rose; M. lepidum, white; M. lineolatum, pink; M. productum, rosy-purple; M. roseum, bright rose; M. rostratum, yellow; M. tenuifolium, scarlet; and M. tigrinum, chiefly remarkable for the fiercely-spined leaves that suggest a tiger's open jaws. Mesembryanthemums are difficult to procure in the trade, the enquiry for them being so limited that nurserymen seldom find it worth their while to stock them.

Wyndham Fitzherbert.

Turneria ulmifolia elegans.—

This uncommon shrub might be taken for a member of the mallow family, but in reality it belongs to the order Turneraceæ. It will flower freely in an intermediate house when about eighteen inches high, forming as it does a branching shrub, clothed with oblong-lanceolate, coarsely-serrated leaves, of a rather thin, harsh, texture. The flowers, freely borne, are upright, fully two inches across, and of a bright yellow colour. Those that are suggestive of the flowers of Linum trigynum are the best forms of T. ulmifolia, a species which varies considerably. It is of easy propagation and culture.—W. T.

CLERODENDRON THOMSONÆ.

This lovely stove climber is probably seen at its best when grown on a wall, or covering a good space of trellising, and is useful as a vase plant for house decoration when grown on a balloon-shaped frame or trained evenly on five or six slender stakes carefully placed around the sides of the pot. Moreover, if started according to the time it is required to bloom, and given warmer or cooler conditions, as may be deemed necessary, it may be flowered at any time from April until August. Such plants now flowering require to be kept in the intermediate house until the flowers are past their best, when they may be relieved of useless wood and flower spikes, and be given stove conditions to ensure sufficient strong, healthy growth for the production of flowers next year. A topdressing or a little assistance from artificial manure will be of material assistance. One or two young plants rooted in the spring will afford a good display of flowers within two years, and such plants grown in a ten-inch or twelve-inch pot will remain in a healthy, free-flowering condition for several years.

Hatfield House Gardens. H. Prime.

CREEPING SNAPDRAGONS.

To the majority of cultivators the genus Antirrhinum stands expressly for the richly-coloured forms of A. majus, and so varied are the bright and attractive flowers of the varietal forms that they have attained a degree of popularity that makes their presence in every garden almost a necessity.

In addition to these erect forms, there is a charming group that partakes of the character of alpines, having prostrate or procumbent stems, bearing soft, downy, grey-green leafage, and from whence spring delightful minature flowers of true snapdragon form. The flowers of these dwarf species do not exhibit the wide range of colour that is so prominent a feature in the erect forms; they are usually white or cream, with delicate pencillings of purple upon the lip or upper segment; they are also exquisitely modelled and characterised by great refinement, and their beauty instinctively appeals to one, from the manner in which the flowers nestle among the hoary leaves.

These alpine snapdragons present no serious difficulty in cultivation, provided their special requirements are recognised and an endeavour made to meet them. They are extremely susceptible to excessive moisture in winter, hence a light soil and well-drained position are necessary, and they usually succeed best in the hottest exposure the rock-garden affords. The greatest success I have had with them was as dry-wall plants; here rooted cuttings and seedlings were used, and inserted in the wall, usually in quite a small state, and their subsequent behaviour was entirely satisfactory, the plants passing through several winters without the slightest injury, and presenting a display of their attractive flowers that lasted from May till September.

Of the creeping snapdragons, A. asarina is probably the best known. It is an Italian species, having rounded leaves and large, creamy-white flowers; it is larger in its parts than the others, but is an attractive species, and a good dry-wall plant. A glutinosum is a most captivating species, having soft, downy leaves, and pretty creamy-white flowers, that are borne erect and crowd the slender branches during June and July; an attractive feature in the flowers are the fine veins, suffused with purple, that traverse the lips of the flowers.

A. molle and A. sempervirens are two species having much in common, and like glutinosum, they are partial to the hottest exposure the rock-garden affords. In A. molle the flowers are white, the lip being yellow, with darker veins of purple; the leaves and also the slender procumbent branches are densely clothed with fine woolly hairs. In A. sempervirens the flowers are almost pure white, the leaves and stems being hirsute like the others.

These species of antirrhinum succeed in any light soil, but all are partial to that containing an appreciable quantity of limestone or chalk; they are readily propagated by seeds or cuttings, the former sown as soon as ripe in pans of sandy soil, and the seedlings wintered in a frost-proof structure, planting them out permanently in the succeeding spring. If sown during March, in the ordinary way, and the resulting seedlings grown exposed from the start, strong plants will result, and be ready for permanent planting by the beginning of August of the same year. Cuttings of the young shoots, taken during July and August, and inserted in pots of sandy soil, will root readily if kept moderately close for a few weeks, when they can be potted up singly, and treated in the way advised for seedlings.

Thomas Smith.

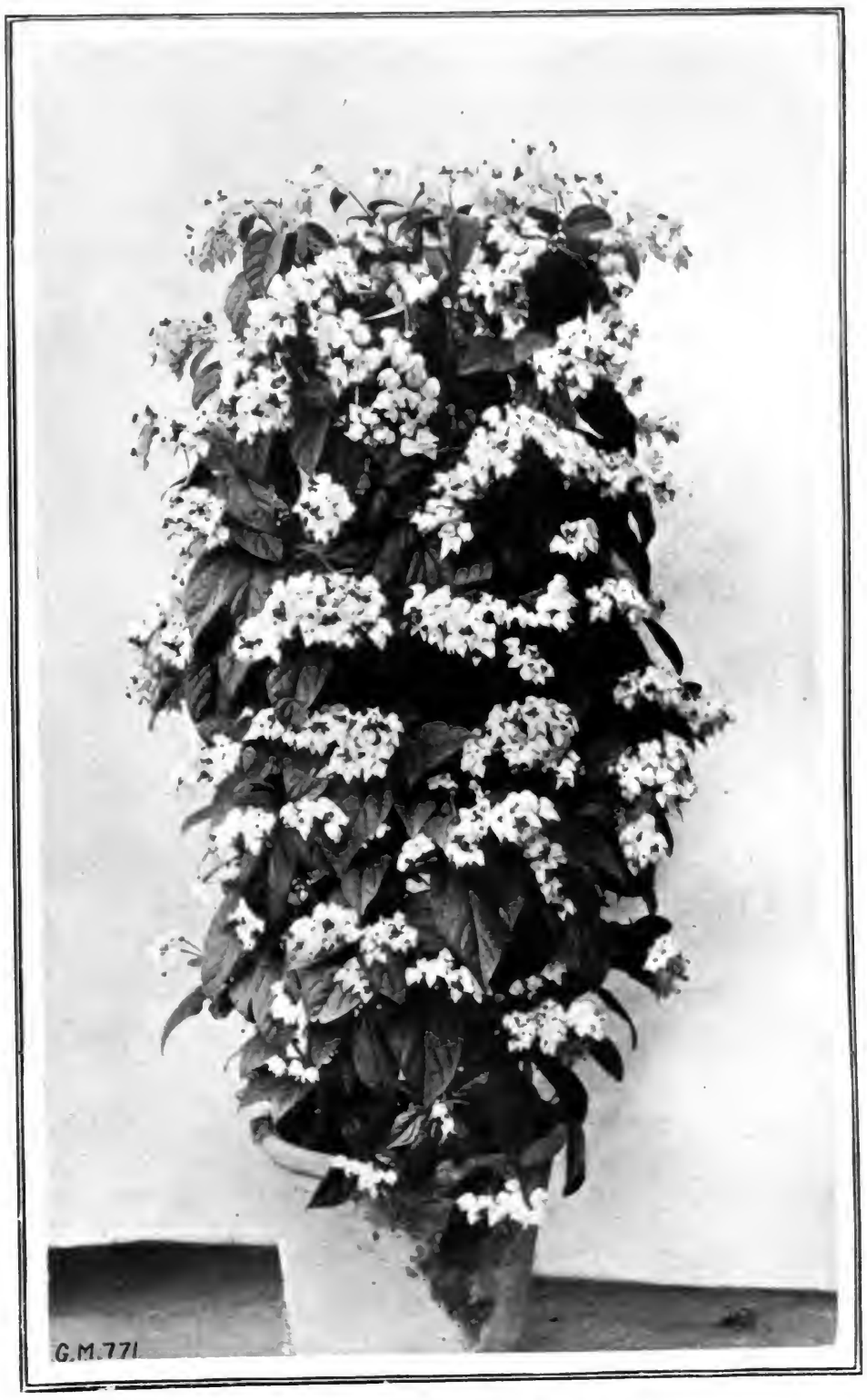
Coombe Court Gardens.

LIBONIA FLORIBUNDA.

The final potting of the main batch of plants should be done as soon as possible now, so that everyone will form a good specimen before the flower-buds show. If retained too long in smaller pots the buds form prematurely, and then the best attention as regards re-potting and feeding will not have the desired effect.

Cool treatment at this season is good for the plants. When newly potted in an open compost made moderately firm the lights of the frame should be closed all night, and only opened a few inches during the daytime for about ten days. Afterwards gradually give more ventilation until full exposure is reached. When the nights become cooler put on the lights. This treatment, coupled with judicious feeding after the pots are well filled with roots, will result in the growth of grand plants, bearing richly-coloured flowers.

M. L.



CLERODENDRON THOMSONÆ.

A finely-flowered specimen, as grown for decorative purposes by Mr. Prime, Hatfield House Gardens.

Spinach Beet.—In many places the ordinary winter spinach cannot be relied upon to provide pickings throughout the winter and early spring, and where this is so it is advisable to sow a good breadth of the perpetual or spinach beet. A sowing may be made forthwith on well-manured and deeply-dug land. Draw the drills 15 inches apart, and thin out the plants to 9 inches apart.—W. Messenger, Woolverstone Park Gardens.

AMONG THE ALPINE FLOWERS.

"The sunshine at our waking
Is still found smiling by;
With beamingness and earnestness,
Like some beloved eye;
And all the day it seems to take
Delight in being wide awake."

Leigh Hunt

In these bright days it is almost incredible to us that the "longest day" has come and gone, and that we are fast coming to the time when our alpine flowers will be fewer than in the early part of the year. That is a sad meditation, however, and it is well for us to enjoy to the full what Flora has poured out for us from her chalices of beauty, and to delight in the bright blossoms of the present. Bright, indeed, are they, and, though to many of us who are lovers of the alpine plants spring is by far the most winsome season, we are almost lured from our allegiance by the charms of the flowers of to-day. So far, it has been for a long time a gladsome season for the alpinist. Seldom over a long period has one had so much reason to "rejoice and be glad" in the beautiful flowers which have come to fill us with delight as they glow among the slopes and crevices of the rock garden. Swift as the days fly, the flowers have lasted longer than is oft-times their wont; and we have abundant reason to be grateful for the light they shed into our lives. Happy do they seem in the sunlight, and we are churls indeed if we do not respond to their efforts to woo us from dullness and gloom. It is impossible to wander among them and not to feel that we are the better for their companionship, and that our little ministrations to their welfare are rewarded tenfold.

Campanula Raddeana.

What a fine alpine plant is this! As it grows in size we are all the more enamoured of its beauties and its real value. It is absolutely hardy to all appearance; and on a flat part of the rock garden, or in the moraine, it is a gem. From nine to twelve inches high, and soon making a good plant, it looks extremely handsome with its delightful foliage and its large, open, cup-shaped flowers of deep purple-blue, whose colouring is enhanced in a high degree by the way in which the yellow styles project from the cups. In a light soil of loam, sand, and grit, and with a few chips about it, C. Raddeana increases at the roots so that it soon forms a good plant indeed. Here it has become associated in one part with a good plant of a charming little masterwort called Astrantia gracilis, and the combination is very pleasing indeed.

Astrantia gracilis.

So far as I can recollect, I have not mentioned this masterwort until now in these notes. It found its way here about two years ago, a small plant, recommended as being prettier than the far from common Astrantia minor, for which much larger plants are sometimes substituted, by the way. Astrantia gracilis has thriven, and the little crown has now spread into a goodly plant for an alpine of its character, and is now giving a shower of its dainty little blossoms of that curious form which shows us that in the masterworts we have members of that strange and generally unattractive natural order of the umbelliferæ. Compared, however, with the larger masterworts, Astrantia gracilis is elegance indeed, and we can appreciate this plant from Carniolia (not to be confused, as has been, however, with A. carniolica). Here it is a better grower than A. minor, and has more plentiful and whiter flowers than those of that species. In front of Campanula Raddeana, at a little lower level, its showers of feathery-looking blooms look graceful, and quite justify the name of "gracilis." It came to me from a noted Yorkshire garden, and is growing here on one of the lower levels of the rock garden, and in soil of loam, with a little leaf-soil, sand, and grit. It is about nine inches high here, and has stood the two last winters without the slightest injury.

Dianthus neglectus.

Opinions differ as to which of the great choice of alpine pinks is the best. It is safer, perhaps, not to be compelled to choose one out of so many lovely flowers, but among the first half-dozen I should be inclined to place very highly the beautiful Dianthus neglectus. But this must be done with a saving clause, as there are individuals known by the name of D. neglectus which are very inferor to others of the same appellation. It is rarely indeed that one meets with the old type of D. neglectus, which was a very low-growing dianthus with spiny leaves and large flowers rising but little above the plant, and of a deep yet brilliant rose, with nankin colouring on the backs of the petals. It is now many years since the writer grew this form, which was unfortunately lost in the convulsions of removal to another garden, and it is but seldom that he has come across an almost equally good one. The cause of this is that it is now largely raised from seeds, and that the seedlings, good, bad, and indifferent, are put into the market by those who raise them. To see a stock raised from seeds is to notice a vast difference among the plants, as a rule. Some are too long in the stem for a choice alpine; some lack the brilliant colouring; many are without the nankin backs, and wonderfully few possess all the good qualities of the real Dianthus neglectus of the olden days. We want a wholesale holocaust of many of these plants. There is no great difficulty in cultivating D. neglectus in sand, grit, and loam in the rock garden, in the moraine, or in the wall garden.

Other Flowers.

Many glowing and softly beautiful pinks meet us as we walk along. Some of them are species, but a number are hybrids and seedlings. Wonderfully beautiful are they for the rock garden, where the single varieties seem more in consonance with the genius of the place than the doubles. Yet all are so fine that we can hardly dispense with either form. Then there are campanulas galore, now very beautiful indeed; there are potentillas and geums; late-flowering Alyssum sinuatum, coarse, perhaps, but giving sheets of gold; helichrysums, such as the yellow rupestre, or the dainty little white H. frigidum; violas in the most amazing variety; æthionemas, androsaces, helianthemums, lithospermums, arenarias, erodiums, geraniums, alpine, Iceland, and other poppies, coronillas, astragaluses, and many other flowers which have come to greet the July days and to add to the garden's "pomp," as the poet called it, though with a winsomeness and modesty hardly in accord with the term.

S. Arnott.

JULY ROSE GOSSIP.

From this time onwards there is important work to be done among pot roses, and unless we give them careful attention now we shall not reap the desired success later on. All should be in the open air, and upon a warm border.

Bad autumnal weather often interferes with the efficient ripening of plants in the open ground, but with a little care in the matter of watering there should be no difficulty with pot roses. Too often this is left to chance, but more depends upon judicious watering than many apparently imagine.

Let any necessary repotting be done at once, and be sure to have efficient drainage. If the pots are half plunged upon a worm-proof base it will be better for them in many ways. Weak liquid manure may be given freely, and will do more good than an occasional dose at greater strength, which is often a little too powerful for the young roots. Nor should any liquid stimulant be supplied to newly-potted plants, these being much better if the roots are allowed to thoroughly permeate the soil first. Keep the centres of normal growers open and uncrowded. Climbers, and those of extra vigour, will throw better flowers, as a rule, from a smaller quantity of long growths, provided this can be properly ripened.

During the first few days of exposure to the open air, more than usual care must be given to the watering, for pot plants dry up very rapidly when first exposed, and one parching of the roots does much harm. I would not cease to use the syringe as freely as when under glass, for, above all, we must have clean growth to obtain anything like satisfactory results when forcing for winter bloom. Stop flowering to a great extent, and thin out indifferent wood. It is from now onwards that we are endeavouring to afford our pot plants something like an equivalent to natural autumn ripening, and the nearer we can attain to this the better will it be.

I feel that not a few growers do more harm than good by unduly withholding water with the idea of inducing a more rapid ripening of the wood. If kept too dry the roots must naturally suffer. Frequent syringing of the wood will be a great help, and save much of the strain upon their roots.

In the case of climbers, standards, and weepers, some method should be found of keeping them from wind waving and chafing each other. Two or three stout strings stretched horizontally will afford a good support, and allow plenty of air to circulate among them.

Rosarian.

Tacsonia insignis.—Most of the tacsonias and their near allies, the passion flowers, have leaves more or less lobed, but in this species they are entire, or nearly so. These leaves, which are dark green above, are, in common with the young portions of the shoots, clothed on the undersides with a rusty tomentum. It is a native of the Andean region of South America, and, like many plants from that district, is, under cultivation here, very liable to be attacked by red spider. Where it thrives, however, it is a particularly showy climber, the large, pendulous flowers being violet-crimson in colour.—T.

TWO NEW SINGLE ROSES.

Among the score and one roses that gained awards at the National Rose Society's exhibition at Regent's Park on July 4, there were two which merited close attention from those who love garden roses, and make a feature of rose decorations in the home. One was Red Letter Day, a vivid velety-crimson, hybrid tea rose, almost single, but with a few extra and broad petals that give the blooms more "staying power" than singles usually have. The brilliance of this variety commands attention, and in the garden it should be very fine. This was raised by Messrs. Alex. Dickson and Sons, Newtownards. The other rose was Ulster Gem, a true single hybrid tea, with very large straw-yellow or lemon-yellow petals; it is a fine thing, and should be especially useful in large cut-flower decorations, for association with other colours. This was from Messrs. Hugh Dickson, Lim., Belfast. Both varieties were fully described in our previous issue, and both gained a Silver-gilt Medal from the N.R.S.

ROSE ULSTER GEM.

A decorative single variety; flowers, sulphur-yellow. Silver-gilt Medal, N.R.S., July 4. Messrs. Hugh Dickson, Lim., Belfast.

QUERCUS DENTATA.

This Japanese oak is remarkable on account of the large size of its foliage, for it is not unusual to find leaves a foot or thirteen inches long and eight inches wide. It is known to the Japanese as "Kashiwa," and is sometimes found under the botanical name of Quercus Daimyo. Mature trees sometimes attain a height of 80 feet, but Japanese travellers tell us that as a full-grown specimen it is by no means imposing, the branch system being of a loose character, and lacking the symmetry which is usually associated with the head of a full-grown oak.

Professor Sargent, in the "Forest Flora of Japan," says that he found it growing on high mountains in Central Houdo, but that it is more abundant towards the more northerly parts of the island, where it is found on dry, gravelly hillsides at a comparatively low elevation. He gives an illustration of old trees growing in the vicinity of Sapporo, and these trees certainly give one the impression that a mature specimen is much inferior in beauty to a moderately well-developed common oak. As a young tree, however, it is worth including in the decorative part of the garden, for its leaves are very imposing, while another distinct feature is noticed in the large number of loose, narrow, brownish scales which surround the rather large terminal buds.

The species is better adapted for the southern than the northern parts of the country, and must be planted in good loamy soil to ensure a full development of its distinctive characteristics. W. D.

SUMMER PRUNING OF FRUIT TREES.

The practice of summer pruning fruit trees has much to commend it, but, on the other hand, if it is not properly carried out it is capable of causing much harm. One of the greatest mistakes is to commence the work too soon, and if this is done a considerable amount of growth is sure to be made afterwards, and if the basal buds do not actually break into growth, they are sure to be unduly excited. lation of sap throughout the tree. The growths proceeding from the spurs should be shortened back to about five leaves or buds from their base; it is not advisable to cut them any closer until they are pruned in winter.

Sweet cherries are treated on similar lines, and should be attended to at an early date. Plums usually make a good deal of growth, and in dealing with these, or other buds break into growth, and next year's fruit prospects are ruined.

Pear trees on walls can be dealt with next, and, in their case, the treatment is very similar. Cordon apples may be pruned towards the end of July. August is soon enough to summer prune bush and pyramid trees of apples and pears, with the exception of very early varieties, that may be done a little sooner. When training young trees leave a growth wherever it can be done without overcrowding, providing, of course, that it is well placed, as this will help to build up a good foundation. Old trees that are somewhat thin, as certain varieties of spreading growth are liable to become, are greatly improved by having shoots retained full length in blank spaces, and I have found this a means of greatly increasing the fruit-

ROSE RED LETTER DAY.

A decorative single variety; flowers glowing crimson-scarlet. Silver-gilt Medal, July 4. Messrs. Alex. Dickson and Sons, Newtownards, Co. Down.

The advantages of summer pruning are that it assists in the formation of fruit buds, and allows the wood that is retained to become more fully ripened owing to it being more exposed to light and air. It also assists the fruit to swell by directing the sap from the superfluous growths into the fruit.

One of the first trees to receive attention is the apricot, and in dealing with this it is important to lay in young growths in various parts of the tree where this can be done without overcrowding, as the finest fruit is usually produced on these young growths.

The shoots at the ends of the main branches should be preserved their full length, as this encourages a free circu- kinds of trees that are inclined to make more vigorous growth towards the top, it is preferable to prune the upper portion of the trees first, so as to allow the branches near the base to attain a greater development, as under the circumstances they would receive a greater proportion of sap. After the upper parts of the trees have been pruned about a fortnight the work may very well be finished off. Endeavour to keep the trees furnished with young wood towards the base, where they are so liable to become bare if care is not taken to lay in growths when summer pruning, and, moreover, do not cut back the later growths too hard, as more trees are probably ruined from this cause than any other; the basal bearing capacities of such trees. Unless the growths of apples and pears are very strong it is preferable to leave the main growths full length; by this means the balance of sap is better preserved, and it is an easy matter to shorten the branches to the desired length at the winter pruning.

J. GARDNER.

Batsford Park Gardens.

French Plum Crop.—The crop of plums in France is as unsatisfactory as in England, Germany, and other parts of Europe, and the French growers will not be able to contribute otherwise than sparingly to the supplies in the English markets. The crops of mirabelles and prunes are very poor.

OZOTHAMNUS ROSMARINIFOLIUS.

An extremely beautiful shrub, that hails from Australia and Tasmania, is Ozothamnus rosmarinifolius, and it is one that deserves wider cultivation, especially in southern gardens, where it becomes extremely beautiful when in flower. The rosemary-like leaves make the shrub always interesting, the small white, daisy-like flowers being produced very thickly in dense clusters along the upper part of the branches. From four feet and upwards in height, sometimes up to ten feet, it is only when in a sunny position that its greatest beauty is developed. The fragrance of the flowers is an added grace, and the hawthorn-like odour is delicate and pleasing.

The specimen figured was one of the features of Mr. F. M. Elgood's garden at The Close, Northwood, Middlesex, three weeks ago, and the plant was very greatly admired by those of Mr. Elgood's friends who enjoyed his hospitality on the occasion of the Northwood Rose and Sweet Pea Show. Mr. Elgood is chairman of committee of the local and enthusiastic amateurs' society, and his garden is full of interest. Roses were very much in evidence on the occasion referred to, and Solanum jasminoides was blooming on the garden front of the house while dianthuses were perfect pictures on the rock garden, and Nierembergia rivularis was a charming plant, flowering in a moist spot.

C.

OZOTHAMNUS ROSMARINIFOLIUS.

A beautiful white-flowered Australasian shrub in the gardens of F. M. Elgood, Esq., The Close, Northwood, Middlesex.

SOME EFFECTS OF THE BLIGHT.

We use the word blight in its comprehensive sense, just as it is used in rural places, as an inclusive title for every insect pest that fruit tree life is heir to, and we would point out how blight, as in many a past and gone year, has very considerably altered the outlook for the season's fruit crops. For the purpose of our illustration, we will take a big mixed fruit plantation of upwards of a hundred acres, where the promise only a short time ago could hardly have been more fair. We saw this plantation when the plum trees in it were sheets of living blossom, pearly white, fully open and vigorous, and the general verdict was that if no frost came there would be a record crop. Up to a point climatic conditions were favourable; no frost came, the flowers set, the white petals flickered to the ground, and tiny plums were left in place of the blossom. So far all things promised well, healthy-looking leaves protected the infant fruits, and then a change came. The skies cleared, warm days, cold days, cloudy days, and sunny days followed each other, the green plums began to turn yellow, the leaves curled, the shoots became twisted and distorted, while the plum aphis, which took possession of the trees, multiplied by the thousand. And what a change now! Just an odd plum or two here and there, but not half a crop, and foliage, where it has not fallen, blackened, twisted, and distorted. Why weren't they sprayed? Some of them were, but before the whole area could be dealt with the leaf-curling aphis was safely protected by the folding of the leaves, and the fluid had little effect. This is a picture of one plantation after the blight, but it is representative of a score of others, and in the locality of which we write what promised to be one of the most prolific plum crops on record is now changed entirely, and fortunate are the growers whose trees did not get the worst of the plague of blight.

In the plantation referred to apples are intermixed with the plums, and we saw these, too, when in bloom, after the stone fruit flower had gone, and when the rosy-pink of the apple blossoms made one of the prettiest sights we have ever seen. From an adjacent hillside we looked a short time since over the plantation, when every apple tree could be detected, not by the bright green of its foliage, or the rosy-pink of its flowers, but because it was brown and seared, and looked as if it had been scorched with fire. A near approach and a close examination revealed the wreck and the ravage of the blight. Most of the enemies had gone, but they had left the traces of their deadly work behind them, and the trees looked as if it would take them all their time to recover. On most of the twigs there were lacerated leaves on which the caterpillars of the winter moth had fed, at the end of several shoots cob-webs and skeletonised foliage showed where the caterpillars of the lackey moth had been at work, and withered brown flower trusses, which fell off when you touched them, all pointed to the ravages of the apple sucker.

Here and there was a flower stalk on which the petals, instead of expanding and falling, had turned brown and curled inwards, and when we removed them there was nothing inside, because the essential organs had made a meal for the grub of the apple blossom weevil. The points of many shoots, white, powdery, and curled, bore evidence of the apple mildew, and here and there an apple was swelling into maturity, but how few they were when compared to that beautiful blossom. But perhaps, worst of all were the ravages of the apple aphis. Black leaves, yellow leaves, brown leaves, fallen leaves, twisted leaves, curled leaves, they all bore evidence of this particular blight, and, as we unfolded the locked-up foliage, there we saw the insects in their thousands sheltered from harm by the leaves that accommodatingly curled over them.

Nor was that all, for on more than one of the trees there were colonies of American blight, raising warts and swellings on the shoots, and the aphides hung in bunches, protected by the woolly substance from which they take their name. These are the pests, then, that have crippled and checked, if not nearly killed, hundreds of apple trees this season, and growers, except those of the most enlightened order, class them all under the common heading of blight, and it is a word, by the way, which has a terrible meaning this season, for the above is no mere pen picture.

There is a bottom as well as a top crop in the plantation of which we write, and the former consists mostly of black currants and gooseberries. Blight again is the story, for, after the bud mite had prevented hundreds of the black currants from breaking into shoots, aphis had come in a swarm, infesting leaves and shoots, and, in spite of spraying, the fruits were falling wholesale, and what were left were probably sticky and dirty when the time came to pick them. We could not help thinking that, if the quassia and soft soap remedy had been tried for the big bud, whatever had been its effect on this enemy, it must have been helpful in keeping the aphis down. Gooseberries had mostly escaped the caterpillar, and the little spider that often sucks the juices from the leaves, so there was something to be thankful for, as the gooseberries looked green and healthy, and the bushes were bearing good crops of fruit.

But wait a little; there is another story to be told, for this particular plantation is an infected area within the meaning of the Act. Government inspectors visit it from time to time, and serve notices about pruning and picking, and all the rest of it. We saw the unmistakable white mildew on many of the berries, and some of the twigs, and the former had to be picked and destroyed by a certain date by Government orders. Dear, dear! And what an anxiety to see that the pickers did not drop some of those tainted berries into the baskets, and drag the owner into the risk of having to appear in the Court and pay for the error with a fine.

This latest blight, the American Gooseberry Mildew, is costing much money, and giving a host of trouble, and it is quite likely that the mildew, or the Order, or a combination of both, will lead to a reduction of the area under gooseberries, because growers of bushes that are affected seem disposed to grub up their trees and plant other crops rather than be hampered by the restrictions under the Act. A question also that is being asked is whether, as the result of legislation, we are getting any nearer to the eradication of the disease, and even is it being materially reduced?

The natural question that arises, in conclusion, is how much of this general—shall we say national—havoc in our orchards and plantations through blight could have been avoided by spraying? Many occupiers of orchards and plantations do spray, and some crops, as we have reason to know, have been saved this season by the process, but there are scores of others who do not spray, either because they have yet to be convinced of its value, or else they hope that the fruit will be pulled through, and then will be saved the expense, until it is too late. Spraying is, of course, expensive; but, as a grower put it to us the other day, if by spending ten pounds you can save fifty pounds' worth of fruit, it is worth doing, and when a crop has been ruined through the blight, there is nothing coming in to help pay rent and taxes. Whatever legislation may do for gooseberry mildew, it is obvious that the introduction of appliances and insecticides, and the spread of technical knowledge, have done little to prevent attacks of blight, though we have better means of fighting it than our forebears ever possessed, and they doubtless looked on these troubles as being something that could not be avoided. A living example of the necessity of fighting blight is the hop-grower. He buys a sprayer or washer as being part of his apparatus, and uses it as an item of the cultural routine, because he knows that, in an average season, he cannot grow hops unless he sprays.

The experience of 1913 rather points that fruit-growers generally will have to fall in line with the hop-grower, and spray by rule. Perhaps if we had a coalition of fighters, we should be less troubled with blight.

FRUIT GROWER.

LIFTING NARCISSI AND TULIPS.

Bulbs of narcissi and tulips that are to be lifted this season, if not already dealt with, should receive attention without delay, or they will commence making new roots. Dealing with narcissi first, some varieties become crowded in much less time than others. The small-flowering types are usually most susceptible to this, as those of the large trumpet class do not produce offsets so freely; but, nevertheless, it is advisable to lift all varieties every third season. This procedure enables the ground to be worked and enriched to better advantage, and prevents the less robust kinds from deteriorating. The bulbs, when lifted, should be thoroughly dried, and afterwards stored in a dry, airy shed, laying them out thinly. Previous to replanting again early in the autumn, the bulbs must be graded, selecting first all those of flowering size, as these will give an effect the following spring, and can be utilised wherever required for that purpose, while the small bulbs can be planted back, in beds, to develop. Tulips require similar treatment, but they should be lifted every second season, otherwise they soon go back, especially in heavy, cold ground. Undoubtedly the finest flowers are produced from bulbs lifted annually, as young bulbs are produced each season, and consequently they soon become crowded, a condition adverse to fine blooms with plenty of substance.

T. B. FIELD.

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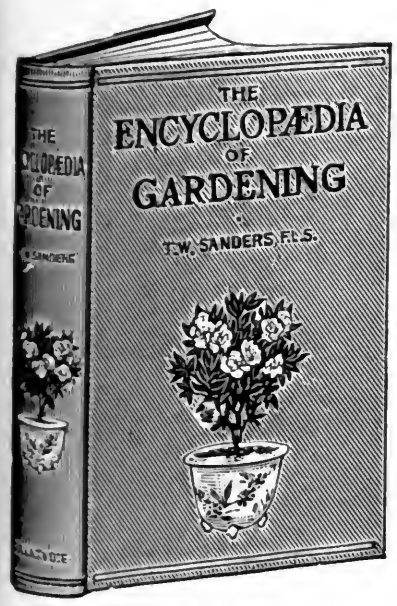

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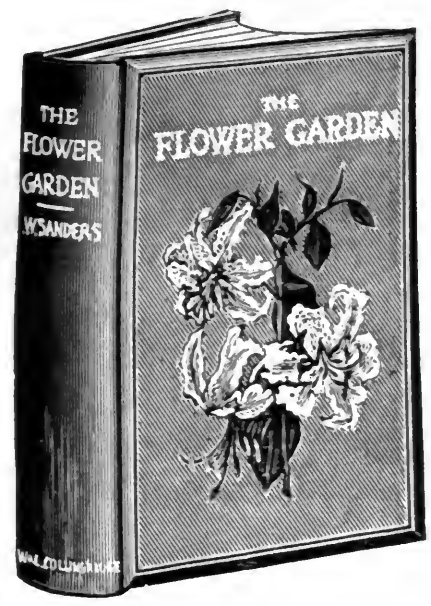

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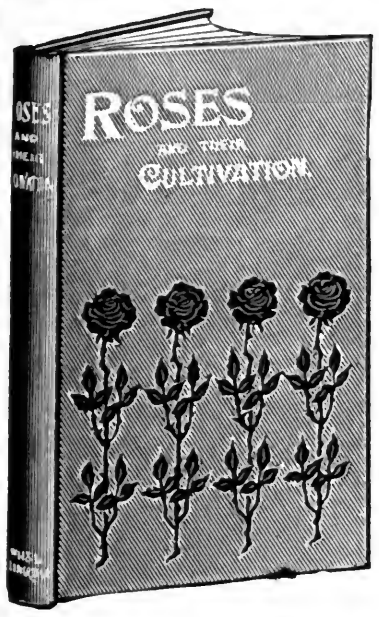

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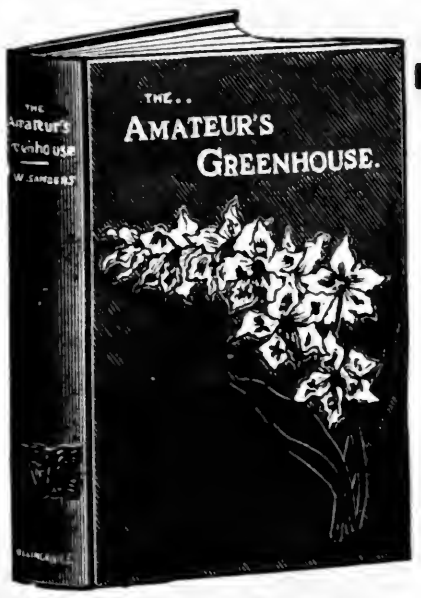

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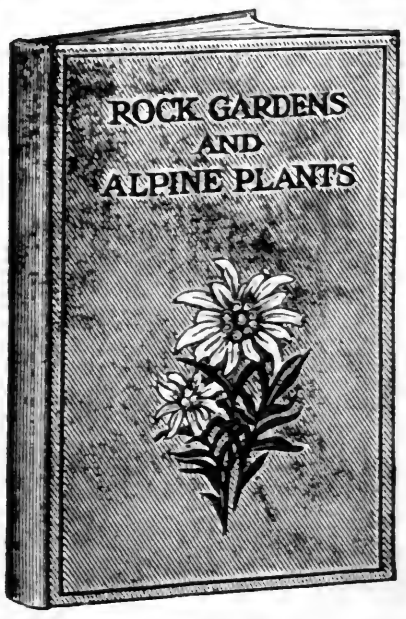

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CARNATIONS AT HOLLAND HOUSE SHOW.

Perpetual carnations form a fine feature at the late spring and early summer shows, and exhibitors show considerable taste and enterprise in the manner of displaying their blooms. A particularly pleasing exhibit at the great exhibition at Holland House, a fortnight ago, was the one arranged by Mr. Bertie Bell, Guernsey. A suitable background was provided, and the fine blooms produced in the sunny Channel Isles were skilfully disposed in artistic baskets, and in vases of varying height and size. In this manner, not only were the flowers and the varieties seen to full advantage, but visitors saw what beautiful and varied arrangements could be made by the use of carnation flowers and carnation foliage. Mr. Bell secured a Silver-gilt Flora Medal for his exhibit.

AN ARTISTICALLY-ARRANGED GROUP OF PERPETUAL CARNATIONS.

Exhibited by Mr. B. E. Bell, Guernsey, at Holland House, on July 1 to 3, and described in the report which appeared in our issue of July 5. The award of a Silver-gilt Flora Medal was made.

Francoa ramosa.—This most useful and beautiful greenhouse plant is now in full bloom, and to maintain it in a flowering state, the greater part of the summer months the roots must be kept well supplied with moisture. Stimulants also must be given for assisting in the development of later spikes of flowers. When the plants have finished flowering the largest specimens may be cut up for propagating purposes. Plants grown from cuttings make much larger specimens than do those raised from seed. The smaller plants may be shifted into larger pots, and will make fine specimens capable of carrying eight or ten flower spikes next season. Young plants raised from seed sown in the spring may now be placed in cold frames.—E. HARRISS, Lockinge Park Gardens.

PROPAGATING ZONAL PELARGONIUMS.

Usually the bulk of the zonal pelargonium cuttings are inserted during the month of August, or in September, the tendency being to delay the work as long as possible so as not to mar the beauty of the flower-beds. This is, of course, a great consideration, especially in some establishments. There are, however, many surplus plants grown in most gardens from which cuttings may be taken, then the flower-beds are not much interfered with.

But I wish to advocate the insertion of small cuttings in open borders in July. Many inexperienced cultivators coddle their cuttings too much, and then lose them in winter-time through the damping off of the more sappy specimens.

When, as a youth, I worked on my father's farm, I also had a flower garden, one devoted to bush fruits and vegetables, and an unheated greenhouse. Zonal pelargoniums were my favourite bedding-out plants in those days, and I was always very eager to put in cuttings. It was this eagerness, and not experience, which induced me to take off quite young slips from the central or the lower parts of the plants, and just dibble them into the soil between their parents. I commenced to insert the cuttings in this way early in July, at noon, or in the evening, and found slips suitable to my purpose.

I rarely lost a single cutting. I was, of course, eager to find out whether roots had formed, and directly they had the young plants were lifted and transferred to boxes and pots. Of course, since that time I have found that many good, experienced gardeners insert cuttings so, and had done so for many years previous to my efforts in this direction. But in these days cuttings are not treated in similar fashion to any great extent, yet it is an excellent plan. They make beautiful sturdy plants before the severe weather of winter comes, and amateurs and others would do well to stock their greenhouse shelves or frames with them in due course. GEO. GARNER.

GRAPE LADY HUTT.

This very distinct white grape will prove to be, I feel sure, a good one for amateurs to grow where they fail with Muscat of Alexandria, and wish to have a good late white variety to follow Foster's Seedling. I have Lady Hutt growing in a house which has not been quite closed since last March, neither has any heat been turned on, although pipes are laid from the boiler, and I could not wish for a variety to do. The vine was pruned in the same way that Black Hamburghs usually are, and nearly every shoot carries bunches of grapes, some having two. The berries set very freely, and give good promise of finishing satisfactorily if a little artificial heat be given during the ripening stages. Last autumn, when the pipes were kept cool for a time, the berries discoloured a little, but they will not do so if they receive a little artificial heat. B.

Grape Culture.—An illustrated guide to the culture and management of vines is published at GARDENERS' MAGAZINE Office, 148, Aldersgate Street, London, price 1s. net (by post 1s. 2d.), or bound in cloth 1s. 6d. (by post 1s. 8d.).

WORK FOR THE WEEK.

THE ORCHID HOUSES.

ODONTIODAS.— The numerous hybrids derived from Cochlioda Noetzliana or C. vulcanica and different species of odontoglossums are unquestionably proving the most desirable additions to cool house orchids we have had since the introduction of Odontoglossum crispum in quantity. The plants are very easily grown, and the attractiveness of their flowers is combined with durability in almost all cases, and this renders them not only suitable for lending colour to our odontoglossum collections, but extremely serviceable also for exhibition, and for all cut flower purposes. The plants are now plentifully distributed in gardens, and, as they are daily becoming more numerous, they are easily procurable at a modest outlay. They are worthy of every consideration, and should be well represented in all gardens where orchids are appreciated. The hybrids and varietal forms are too numerous to be listed here, but I might add that the flowering season is considerably prolonged by having a selection of kinds derived from the various species of odontoglossums which flower at different seasons of the year. The later the odontoglossum parent flowers the same or about the same period will the odontioda seedling produce its flowers also. I might mention, as an illustration, O. Charlesworthi, derived from C. Noetzliana and O. Harryana. This hybrid flowers in late summer, say, from July onward, and O. Harryana is flowering at the present season.

THE TREATMENT OF ODONTIODAS is similar to that for odontoglossums, but the temperature of the house in which they grow should not fall below 50 deg. at any season of the year. Very cool, moist treatment results in spotted and decayed leaves. When the plants are in active growth and well rooted, they require a liberal supply of root moisture. Potting requirements are best attended to immediately after the plants pass out of flower. The roots of the odontiodas are in most cases much finer than those of the odontoglossums, and thus a compost of a more fibrous nature is desirable. We find a mixture of about two parts fibrous peat, the remainder consisting of broken oak-leaves, chopped sphagnum moss, broken crocks and sand, a good one. The pots selected should be large enough to contain the plants, and be comfortably drained to about one-third their depth with clean broken crocks and chopped bracken roots. The compost should be pressed moderately firm. Give a good watering as soon as potting is completed, and keep shaded from strong light until the roots push into the fresh material. Spray the plants daily overhead in warm weather, and retain ample moisture about the plants at all seasons Increase of stock is secured in the same manner as for odontoglossums, by severing the rhizome connecting the back pseudo-bulbs —H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

PLEROMA ELEGANS.—Since its flowering season is now over, this beautiful rich blue-flowering plant is now commencing to grow freely, and should receive such attention to potting or top-dressing as is necessary to encourage the production and thorough maturing of the growths to yield next season's flowers. The soil most suitable is a mixture of loam and peat in good fibrous condition, with the addition of a little sand and dried cow manure or sheep manure passed through a sieve. The longest growths may be stopped once or twice during the growing season to keep the plant shapely, and attention must be given to keeping it clean and free from insects. Propagation may be effected by means of cuttings inserted now in small pots, and kept close until rooted.

PLEROMA MACRANTHA.—This requires cooler treatment, and is suitable for training on a wall or trellising of the intermediate house, or warm conservatory. It is grown best if planted out or in large tubs or pots. Attention should be paid to keeping the growths fairly thinned, tying as is necessary, and keeping them clean and free from insects.

MEDINILLAS. — These lovely plants, flowering usually in May and June, will now be commencing to make the growths which are to produce the flowers of next season, and should also be top-dressed or repotted. The soil they prefer consists of equal parts fibrous loam, peat, and well-decayed leafmould, with the addition of about a sixth part of silver sand. Cuttings of the young growths may be taken when large enough, and kept very close until rooted. During the growing season medinillas revel in a moist atmosphere and high temperature. The variety magnifica has beautiful rosy-pink, pendulous racemes of flowers, while amabilis has more erect panicles of flowers of nearly the same colour.

APHELANDRA ROEZLI.—Raised from seeds as previously recommended, the plants should by this time be ready for their flowering pots; soil as recommended for medinillas will suit very well. Pot firmly, and see that the pots are well drained. An open position in the stove or on the shelf will suit it.

SCUTELLARIA MOCCINIANA.—This is a very pretty and useful plant, which bears racemes of bright orange-scarlet, tubular flowers, each two inches or so in length. It is propagated by cuttings taken in the spring. The plants should by this time be ready for their flowering pots, into which they should be placed fairly firmly, using a similar compost to that above recommended. —H. PRIME, Hatfield House Gardens.

THE FLOWER GARDEN.

ROSES.—So far the present season is proving favourable to roses, and for some time they have been giving a wealth of blossom. Among those grown either as dwarfs or standards, varieties of the tea and hybrid tea sections are deservedly the most popular, alike for their elegantly shaped flowers of innumerable tints, and their charming foliage, as well as their perpetual flowering habit. Apart from picking off all old blossoms regularly, the plants should be examined occasionally, and the growths which have borne flowers be shortened; this encourages back buds to break more freely, and it is from these that we obtain young shoots which flower almost continuously until late in the year. Frequent applications of liquid or artificial rose manure do much to maintain the vigour of the plants, which in some free-flowering varieties is in danger of becoming overtaxed. In districts where the soil is not particularly suited to rose culture, feeding the plants is important, and the manure which should be used for the purpose can soon be determined by the results. Many failures in rose growing can be attributed to mildew, and I am convinced that it is not recognised by many as being so far-reaching in its effects as it really is. A plant once attacked by it is weakened constitutionally if the malady is allowed to pursue its own course, and is thus more liable to become a victim to other diseases and pests. Sudden changes in the weather and temperature at this season are usually followed by attacks of mildew, in districts where it is prevalent, and at the first indication every effort should be made to check it. Spraying with a solution of sulphide of potassium (1oz. in one gallon of water) will be found very effective, and as a preventive it can be used periodically from a week to ten days throughout the season, as I advised in a previous calendar.

SPRING BEDDING PLANTS.—Many of these raised from seeds sown last month are now far enough advanced to be planted out, choose an open position in which to plant them, as the need for sturdy plants capable of withstanding rough, wintry weather must be kept in view. In preparing the ground dig in a good dressing of light rotten material, as to this the roots will adhere, and so the plants can be lifted with a good ball of earth attached when being transferred to the beds and borders in the autumn.—T. B. FIELD, Wych Cross Place Gardens.

FRUITS UNDER GLASS.

PINEAPPLES.—The months of May and June were, on the whole, highly favourable to the swelling of early fruits, and, under favourable influence, the early Queens made good progress. Bright, highly-flavoured fruits cannot be obtained without the aid of strong solar heat, light, and air. Therefore, as the fruits change colour, increase the circulation of air and reduce the supply of moisture; indeed, root-watering must almost cease, and atmospheric moisture be gradually decreased. The next set of fruiters will now be making rapid progress, and daylight having reached its limit, the temperature may be about 75 degrees at night, falling to 70 degrees in the morning, with 85 degrees throughout the day, and 95 degrees after closing with sun heat and moisture. Do not syringe the plants overhead in the morning, only damp the beds and other available places, but lightly spray them overhead at closing time in the afternoon. High feeding is necessary when the pots are full of roots, and a great deal can be accomplished by syringing weak liquid manure and guano water into the axils of the leaves, and by filling the evaporating pans, and also sprinkling the floors at closing time with the same. At all times the Queens require the greatest care in watering. Cayennes and others are more robust, and naturally require a larger quantity of stimulating liquids. Remove all gills as they appear, support the fruits, and do not allow more than two suckers to remain on each plant.

SUCCESSIONAL PINES.—Plants to be started early next year should now be growing fast, and must be encouraged to make steady progress by generous treatment with weak stimulants and other careful attention. A little fire-heat may be necessary, but solar heat is best, and early airing and early closing should be the rule.

SUCKERS.—These should be regularly examined and drawn out for a shift before they become too pot-bound, for, as not infrequently happens, they require a shift before one is aware of it. Shading is necessary, but it must be of a light character, as pines with plenty of roots rarely scald, and, of two evils, it is better to have them a little brown than drawn and soft in texture.

MELONS.—A constant relay of fresh young plants must still be kept in readiness for use as vacancies in pits and frames occur. Seeds cost little, and germinate as freely as marrows, and young plants give the best results when put out early; but for quick succession it is necessary they should be established in their fruiting pots and be 2ft. to 3ft. high by the time the last fruits are cut from their predecessors. For frame culture late in the summer and autumn, the compost should always be rather poor, as it is easier to feed than to repress strong growth. Melons in hot, dry summers will stand any reasonable quantity of water, but should always be watered with care, fed moderately when swelling, and what they lose in size they will gain in flavour.—F. JORDAN, Warter Priory Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

Tuesday, July 15, was the first "off day" at the Royal Horticultural Hall this season, and, comparatively speaking, the exhibition was a small one, while visitors were few owing to the weather, and the large number of people now out of town. Mr. W. Atlee Burpee was over from Philadelphia, and early visitors included The Speaker, Colonel M. Lockwood, and Sir Randolf Baker, Bart., M.P. Hardy flowers were the chief subjects on view; orchids were not numerous, but pot fruit trees and standard fuchsias made capital exhibits. The orchid exhibitors who only brought a plant or two with them evidently thought it not worth while to stay, for they and their plants had mostly disappeared before four o'clock—which things should not be.

At the afternoon meeting the first of the two Masters Lectures for the current year was given by Professor R. H. Biffen, of the Cambridge University. The subject was "Some Factors in the Prevention of Plant Diseases."

HARDY PLANTS AND FLOWERS.

A large and capital exhibit of hardy plants was well arranged by Mr. Jas. Box, Lindfield, Haywards Heath. A central lily pool was a pretty feature, and round this were Japanese irises, the lovely deep pink Spiræa Venus, backed by Thalictrum flavum, astilbes, agapanthus, and verbascums. There were flanking groups of phloxes, Gladiolus princeps, heleniums, galegas, and the bold Salvia turkestanica. In the group of hardy flowers from Messrs. G. Bunyard and Co., Maidstone, Platycodon Mariesi and P. M. alba were prominent, and there were capital bunches of Campanula lactiflora, Astilbe Silver Sheath, the deep-hued Heuchera Shirley, the lovely Romneya Coulteri, Spiræa venusta magnifica, a beautiful pink shade, and some good vases of pentstemons of the Newbery Gem type.

Mr. G. W. Miller, Wisbech, had a quite pretty exhibit of hardy flowers, and used Spiræas Venus, Ceres, Rose Perle, and Brunhilde effectively with delphiniums, the popular Pyrethrum Queen Mary, and varieties of Chrysanthemum maximum. Mr. G. Reuthe, Keston, had many interesting subjects, such as Romneya Coulteri, Escallonia Ingrami, a fine bush of Desfontainea spinosa in full bloom, the pink Asclepias speciosa, etc.

A bank of hardy flowers from Messrs. T. S. Ware, Lim., Feltham, included a good selection of popular border kinds, and we made note of Isatis glauca, Lysimachia vulgaris, Eryngium Oliverianum, Spiræa palmata elegans, and Lupinus Moerheimi as specially good. Very well staged were the hardy flowers from Messrs. Fred Smith and Co., Woodbridge. This firm had grand sheaves of Chrysanthemum maximum, The Speaker, Phlox Aurora Borealis, Verbascum Caledonia, Romneya Coulteri, Bocconia cordata, Alstrœmeria aurantiaca, Eremurus Bungei, Scabiosa caucasica, and the golden Anthemis Kelwayi.

Mr. Maurice Prichard, Christchurch, had a fine lot of hardy flowers, and in his group the leading features were Astilbe Vesta, A. Salmon Queen, Japanese irises, the double Delphinium Curiosity, Spiræa palmata, Lavatera Olbia, and the fragrant Clematis recta. Messrs. Fells and Son, Hitchin, submitted a low rock garden exhibit with pretty colonies of Campanula rotundifolia, C. pusilla alba, Silene armeria, Œnothera speciosa alba, and the golden Œnothera riparia.

CARNATIONS AND VIOLETTAS.

Very splendid were the border carnations shown in large vases; the varieties were of tip-top style, and the flowers marvellously fine. Firefly (A.M.), a deep scarlet-red; Bookham White (A.M.), large and white; Rosy Morn, Elizabeth Shiffner, buff yellow; Cecilia, bright yellow; Hercules, maroon; Amy Robsart, white; Agnes Sorrel, maroon crimson; and Jean Douglas, scarlet, were all grand, and shown in the finest condition. Mr. L. R. Russell, Richmond, showed hardy flowers, and a fine lot of well-berried plants of Nertera depressa. Messrs. H. Cannell and Sons, Swanley, brought up a bright lot of cut pelargoniums, and also some cut roses.

Among the dainty violettas exhibited in pans by Mr. Howard H. Crane, Highgate, Chloris, Sulphurea, and Rock orange were the best yellows; Vestal, Violetta, Sweetness, and Estelle are white or pale blush; Adeline, Celeste, Iva, Eileen, and Rhona, blue shades; and Cynthia, Forget-me-not, and Larinca, pink or rosy-lavender. These are charming plants for the rock garden. Messrs. Carter Page and Co., London Wall, were also exhibitors of violas, and set their fresh, clean flowers up in low bowls in pleasing fashion.

Choice ferns were well displayed by Messrs. H. B. May and Sons, Upper Edmonton, but even more attractive than the ferns were the standards of Thalia and Coralia, both beautiful hybrids from Fuchsia triphylla. The plants were about 3ft. to 4ft. high, with good heads of pendulous clusters of long-tubed, orange-coloured flowers. These varied in age, but averaged three or four years old, and they were very beautiful. Messrs. W. Cutbush and Sons contributed greenhouse flowering plants, including liliums, blue hydrangeas, Fuchsia coralle, Justicia carnea, Coleus cordelia, and verbenas.

A very free flowering hardy border carnation, named Downer's Pride, was very finely shown by Messrs. G. and A. Clark, Dover; it has white flowers, and carries these freely on very wiry, erect stems. It is fragrant, but only faintly so. A few bunches of border flowers made a setting for the carnations. Among the good roses from Messrs. Hobbies, Lim., Dereham, we noticed Lemon Queen, a cross between Frau Karl Druschki and Mdme. Ravary; Effective, a crimson, fragrant pillar rose; Lady Bird, the lovely single Pink Pearl, Lyon Rose, Decorator, and Rayon d'Or.

ROSES, SWEET PEAS, ETC.

Roses were shown somewhat extensively by Messrs. G. Bolton and Son, Buntingford, Herts. Both stands and boxes were used to display the flowers. The leading varieties were Mrs. A. Munt, Avoca, Mrs. D. Jardine, Hugh Dickson, Lyon Rose, Mrs. Leonard Petrie (yellow), the pink Mrs. Wakefield, Christie Miller, and Mrs. Joseph Hill, the latter a lovely thing. The roses from Messrs. Stuart Low and Co., Enfield, consisted chiefly of the varieties Lady Pirrie, Miss Alice de Rothschild, Pharisaer, Hugh Dickson, the famous Rayon d'Or, Mdme. Melanie Soupert, Lyon Rose, and Mdme. Abel Chatenay, all set up in large stands.

Messrs. Dobbie and Co., Rothesay, evidently do not believe the sweet pea is losing popularity, for they staged bunches of varieties they propose to send out in 1914, and bunches of selected seedlings for 1915-16. Of the former, Ruby Palmer, Blue Picotee, Mrs. McIlwrick, King White, Grey Lavender, and Margaret Atlee—an improved Constance Oliver. Among the "futurists" there was a fine bluish-mauve, a lovely coral pink, a Stirling Stent seedling, and a seedling a shade brighter than Dobbies' Scarlet.

Thladiantha dubia, a quaint cucubit with oval crimson fruits, was shown by Mr. Bagg, gardener to Colonel Mark Lockwood, Bishops Hall, Romford, three large specimens in pots being shown. Delphinium Van de Weyeri, a white, sparsely-flowered, fragrant species, came from Mr. W. Van de Weyer, Corfe Castle, Dorset. Delphinium Mrs. W. J. Sanderson, from W. J. Sanderson, Esq., Eastfield Hall, Workworth (gardener, Mr. Sage), gained an A.M.; it is a vividly brilliant blue variety with white centre, and the spikes are very shapely, with close-set flowers.

ORCHIDS.

Messrs. Charlesworth and Co., Haywards Heath, presented an interesting group of orchids, their hybrid odontoglossums being very fine. The orange-coloured Lælio-cattleya Ceres, Dendrobium Dearei, the quaint Paphinia cristata (A.M.), and the handsome Sophro-cat.-lælia Anguloa Cliftoni were among the good things shown. From Gatton Park, Reigate, Sir Jeremiah Colman sent Anguloa Cliftoni, very fragrant, and the pretty Odontioda papilio Gattonense. A small group of orchids staged by Messrs. Stuart Low and Co., Enfield, contained Cattleya Harrisonæ, Miltonia Bleuana, odontiodas, and Renanthera Imschootiana.

A large Aerides odoratum, with eight spikes, noticed the other day in our Beckenham Show report, was exhibited by Mr. W. Fane, gardener to A. W. D. Oakes, Esq., Shortlands, Kent; the specimen was imported in 1908. Mr. Davidson, Orchid Dene, Twyford, brought up Odontioda Thwaitesi Coombe var. (A.M.), carrying a fine spike of large magenta-purple flowers. Odontioda Cooksonæ venustum (A.M.) was a beautiful richly-coloured form with white-tipped lip, exhibited by Mr. H. Alexander, grower to Sir George Holford, Westonbirt, Gloucester. Dendrobium Dearei McBean's var., a fine-flowered form, with its white blooms in racemes, gained a F.C.C. for Messrs. A. and J. McBean, Cooksbridge.

Vanda cærulea, the pretty and graceful Saccolabium Blumei, Odontioda Magali Sander, Dendrobium Dearei, and Cattleya Mossiæ Wagneri Snow Queen were a few of the chief features of the group of orchids from Messrs. Sander and Sons, St. Albans.

FRUITS.

Messrs. Jas. Veitch and Sons, Chelsea, put up a superb lot of fruit trees in pots, grown at their Feltham nurseries. Trained standards of Crimson Galande and Early Alfred peaches were finely fruited, and so were the bushes of Souv. du Congrès pears, and Lady Sudeley and Jas. Grieve apples; but more splendidly cropped than these even were the wonderful trees of Early Transparent gage, Jefferson's and Denniston's Superb plums, which were grandly cropped. It was altogether a fine group of highly-cultivated plants.

Splendid fruits of Waterloo and Givon's Late Prolific strawberries made a tempting exhibit from Mr. Metcalfe, gardener to Lady Wernher, Luton Hoo, Beds. There were seven boxes of fruits, and the fruits were of wonderful size, and represented splendid cultivation.

CERTIFICATES AND AWARDS.

First-class Certificate.—To Dendrobium Dearei McBean's var., from Messrs. A. and J. McBean, Cooksbridge.

Award of Merit.—To Odontioda Thwaitesi Purple Emperor, from Mr. E. H. Davidson, Orchid Dene, Twyford; to Odontioda

Cooksoniæ venustum, from Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester; to Paphinia cristata, from Messrs. Charlesworth and Co., Haywards Heath; to Delphinium Mrs. W. J. Saunderson, from W. J. Saunderson, Esq., Warkworth, Northumberland; to Carnations Firefly and Bookham White, from Mr. Jas. Douglas, Great Bookham; to Strawberry Laxton's 1904, from Lady Egerton, Thame.

MEDALS.

Gold.—To Messrs. Jas. Veitch and Sons, Chelsea, for pot fruit trees.

Silver-gilt Banksian.—To Mr. Jas. Box, Lindfield, for hardy flowers.

Silver Knightian.—To Mr. A. Metcalfe, gardener to Lady Wernher, Luton Hoo, for strawberries.

Silver Banksian.—To Messrs. G. Bunyard and Co., Maidstone, for hardy flowers; to Messrs. Dobbie and Co., Rothesay, for sweet peas; to Messrs. Stuart Low and Co., Enfield, for roses; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids.

Silver Flora.—To Mr. Jas. Douglas, Great Bookham, for carnations; to Messrs. H. B. May and Sons, Edmonton, for ferns and standard fuchsias; and to Messrs. Fred Smith and Son, Woodbridge, for hardy flowers.

Bronze Flora.—To Messrs. G. and A. Clark, Dover, for carnations, etc.; to Messrs. Carter Page and Co., London Wall, for violas, etc.; to Mr. Maurice Prichard, Christchurch, for hardy flowers; and to Messrs. T. S. Ware, Lim., Feltham, for hardy flowers.

Bronze Banksian.—To Mr. G. W. Miller, Wisbech, for hardy flowers.

AWARDS AT WISLEY.

At their meeting on Tuesday last (July 15) the Council of the Royal Horticultural Society approved the following recommendations for awards, made by the Fruit and Vegetable Committee at Wisley on July 7, to the subjects indicated:

First-Class Certificate. — To Strawberry British Queen, from R.H.S. Gardens.

Awards of Merit.—To Strawberries Cropper, *Fillbasket, Progress, and Rival (of these, Fillbasket has already received an Award of Merit), from Messrs. Laxton, Bedford. To the following peas: *Alderman, from Messrs. Dickson, Newtownards; and Messrs. Dobbie, Edinburgh; *Exhibition, from Messrs. Wheeler, Gloucester; Favourite, from Messrs. J. Veitch and Sons, Chelsea; Masterpiece, from Messrs. Sutton and Sons, Reading; *Premier, from Messrs. Bell and Bieberstedt, Leith; *Quite Content, from Messrs. Dobbie and Co., Edinburgh; Sir Arthur Bignold, from Mr. Holmes, Tain; Warriston Wonder, from Messrs. Bell and Bieberstedt, Leith.

Highly Commended.—To Peas *America (Holmes), Battleship (Carter), Best of All (Wheeler), Discovery (Dickson), *Harvestman (Carter), *International (Carter), *Laxtonian (Hurst), *Magnum Bonum (Sutton), Marquis of Stafford (Holmes), *Peerless (Sutton), *Prodigy (J. Veitch), The Clipper (Sydenham), Up-to-Date (Sutton), *Victor (J. Veitch), and Orwell (Staward).

Commended.—To Pea *Ideal (Sutton).

The varieties marked (*) have already received awards.

The National Rose Show at Gloucester.

The National Rose Society is to be congratulated on the success of its provincial show, which took place at Gloucester on Tuesday, July 15. Not only did the Gloucestershire Rose Society welcome the National to its midst, but saw to it that the arrangements were excellent, and thanks for this are largely due to Mr. Conway Jones and Mr. W. H. Pickford, the hon. secretary of the local society. The number of entries, i.e., 353, was a record for the provincial shows of the N.R.S., nearly 1,000 feet of tabling were required for their accommodation, and, with the exception of the new seedling roses, the whole of the exhibits were accommodated in one large tent.

All the way through the competition was good, as also were the blooms in most of the classes, while the numerous visitors who passed through the tents showed by their enthusiasm that a National Rose Show is appreciated in Gloucester. Mr. Edward Mawley, the veteran hon. secretary of the National Society, was, of course, in attendance, but all the arrangements appear to have been so well made beforehand that he did not even look busy. The Mayor of Gloucester, Councillor Jas. Bruton, kindly entertained a large party of officials and friends to lunch.

NURSERYMEN.

In the class for thirty-six blooms, distinct varieties, the Nurserymen's Jubilee Challenge trophy, gold medal, and first prize were won by Messrs. Hugh Dickson, Lim., Belfast, with a remarkably fine stand of flowers. Every specimen was fresh and well-formed, and the varieties most admired were David Gilmour, Mrs. James Lynas, Mrs. George Shawyer, Mabel Drew, Mrs. James Williamson, Queen of Spain, Mrs. Foley Hobbs, Brilliant, and Archie Gray. Both weight and quality were represented in this stand. Very creditable to Messrs. B. R. Cant and Sons were the flowers which won second prize, and here we thought the colour was better than in the first prize stand, though the size was not so great. We looked in vain for a weak bloom, and fine in colour and form were Charles J. Grahame, Horace Vernet, J. B. Clark, Ben Cant, Florence Veitch, and Mabel Drew. Messrs. A. Dickson and Sons, Newtownards, who won third prize, also had some very fine flowers, and indeed, the competition between these three exhibitors was remarkably keen, so close, in fact, that all the rosarians who gathered round the stands did not agree with the awards of the judges.

There were five entries in the class for seventy-two blooms, distinct varieties, and here Messrs. A. Dickson and Son, Lim., Newtownards, were placed in the front. With a few exceptions, the flowers were clean and bright, the most telling specimens being George Dickson, Mrs. Chas. Hunter, Koningin Carola, Gustave Piganeau, and Victor Hugo. Messrs. B. R. Cant and Sons, Colchester, were awarded second prize, and, in placing the two, no one could disagree with the decision of the judges. Messrs. Hugh Dickson, Lim., Belfast, took third prize with flowers that were large, but somewhat loose.

There was a very keen competition in the class for twenty-four trebles, and here Messrs. A. Dickson and Sons, Lim., Newtownards, led the way with a fine stand, in which The Lyon, Mrs. Cornwallis-West, Mrs. Foley Hobbs, H. V. Machin, Horace Vernet, and George Dickson were very good. Messrs. H. Dickson, Lim., Belfast, were a good second in this class, their best flowers being Archie Gray, Kate Read, J. W. Parker, and David Gilmour. Messrs. B. R. Cant and Sons, Colchester, were a good third.

A beautiful box of blooms won for Mr. George Prince, Longworth, the first prize in the class for thirty-six blooms. Freshness was a characteristic of the flowers, and the specimens mostly admired were Charles J. Grahame, Lyon Rose, Bessie Brown, Mrs. T. Rooseveldt, George Dickson, and one or two others that were unnamed. Mr. John Mattock, Oxford, won second prize with a nice lot of flowers; and Mr. E. Hicks, Wallingford, Berks, came third. Mr. George Prince, Longworth, had the best sixteen trebles, his finest flowers being The Lyon, His Majesty, George Dickson, and Hugh Dickson. The second prize was won by Messrs. English, Lim., Gloucester, with a very second-rate lot of blooms.

For eighteen tea and noisettes, Messrs. D. Prior and Son, Colchester, won with a good stand, in which there were large and shapely blooms of White Maman Cochet, The Bride, Mrs. Edward Mawley, Bridesmaid, and Mrs. Herbert Stevens. Mr. George Prince was a close second in this class, and Mr. Henry Drew, Longworth, third. For twelve blooms in this section, Mr. John Mattock, Oxford, won first prize, his best flowers being Mrs. Herbert Stevens, Maman Cochet, and Mrs. Foley Hobbs. Mr. E. Hicks, Wallingford, was a moderate second; and Messrs. J. Jefferies and Son, Cirencester, third.

NURSERYMEN AND AMATEURS.

In the class for twelve new roses, distinct varieties, Messrs. A. Dickson and Son took the leading place, and in this stand were fine flowers of Mrs. A. E. Coxhead, George Dickson, Sunburst, and Mrs. A. Hammond. In Messrs. B. R. Cant and Sons' exhibit, Colchester, which won second prize, there were fine specimens of George Dickson and Edward Mawley; and the third award went to Messrs. Hugh Dickson, Belfast. For twelve blooms of any new rose, Messrs. B. R. Cant and Sons won with fine flowers of Helena; and Messrs. Perkins and Sons, Coventry, came second with British Queen. Messrs. B. R. Cant and Sons had the best twelve blooms of any H.P., winning with good flowers of A. K. Williams. The King's Acre Nursery Company, Hereford, were second with Horace Vernet; and Messrs. F. Cant and Co., Colchester, third with Hugh Dickson.

Messrs. D. Prior and Son had the best twelve blooms of any rose other than H.P. or T., or N., winning with Dean Hole. Messrs. H. Dickson, Lim., were second with Mrs. J. Lynas; and Messrs. B. R. Cant and Sons third. Mr. George Prince, Longworth, won, in a keen competition, the first prize for twelve blooms of any tea or noisette, showing White Maman Cochet; Messrs. F. Cant and Co. were second, with the same variety; and Mr. H. Drew, Longworth, third.

For twelve distinct trebles, teas and noisettes, Mr. George Prince, Longworth, was a good first, his best flowers being Molly Sharman Crawford; Messrs. D. Prior and Son, Colchester, second; and Messrs. F. Cant and Co. third.

The Challenge Cup for nine blooms of Harry Kirk in a vase was won by Mr. George Prince, but the class was not particularly attractive. The nine baskets of cut roses made a very effective display, and Messrs. H. Dickson and Son won with beautiful masses of Lady Pirrie, Sunburst, Mrs. George Gordon, Brilliant, Evening Glow, etc.; Messrs. J. Mattock, Oxford, were second. Mr. E. J. Hicks had the best five baskets of cut roses, Messrs. W. Spooner and Son, Woking, coming second.

In the class for decorative roses, eighteen distinct varieties, Mr. John Mattock, Oxford, was placed first, the flowers of Simplicity, Mrs. H. Stevens, and Lady Pirrie being very good; Messrs. F. Cant and Co. came second, and Messrs. J. Jefferies third. Messrs. W. Spooner and Son, Woking, had the best twelve distinct varieties, Mr. E. J. Hicks second, and Rev. J. H. Pemberton third. Messrs. F. Cant and Co. won with twelve varieties of dwarf polyantha roses, followed by Messrs. W. Spooner and Sons, and Mr. E. J. Hicks in the above order.

AMATEURS.

There was a keen competition in the trophy gold medal class for twenty-four blooms, and the judges awarded pride of place to Mr. Tom Park, Bedale, who had some finely-formed flowers, including a grand bloom of A. K. Williams. Mr. F. Dennison, Crawford, Leamington, was a very good second, and Dr. E. Pallett, Colne, third. There were eight entries in this class. For thirty-six blooms, open to all amateurs, Mr. Tom Park was again to the front, the Rev. J. H. Pemberton being second, and Dr. T. E. Pallett third. Mr. Tom Park had the best eight trebles in this section; Mr. Conway Jones, Hucclecote, second, and Dr. T. E. Pallett third. For nine blooms of any variety, Mr. Tom Park won with Mildred Grant; Mr. R. Foley Hobbs second, with Her Majesty; and Rev. J. H. Pemberton third, with Earl of Warwick.

In the class open to growers of less than

2,000 plants, the first prize for the best eighteen blooms was won by Mr. W. Jarratt Thorpe, Hucclecote; Mr. W. J. Nash, Coventry, coming a good second, and Mr. G. Speight, Market Harborough, taking the third award. For six trebles, Mr. G. Speight was the first prize winner; and for six blooms of any one variety, Mr. W. Jarratt Thorpe was first with the Lyon, and Mr. G. Speight second with His Majesty.

In the class for growers of fewer than 1,000 plants, Mr. H. Balfour, Oxford, had the best twelve roses, followed by Mr. M. Whittle, Belgrove, Leicester. Mr. W. Reed, Flaxley, showed the best nine blooms; and in the class for growers of less than 500 plants, Mr. W. Upton, Leicester, had the best twelve blooms. Mr. F. G. Hayes, Dunster, Somerset, second, and Mr. R. G. Rolt, Hereford, third. Mr. J. Dodwell, Hereford, had the best six blooms in a good competition, Mr. J. W. Kaiser, Penarth, coming second, and Captain Kilbee Stuart, Newbury, third.

In the class for twelve teas and noisettes open to any amateur, Mr. Conway Jones led the way, followed by Mr. Tom Park. Mr. F. Dennison, Leamington, had the best nine blooms of one variety, showing White Maman Cochet; Mr. Tom Park coming second, and Mr. H. V. Machin third. The first prize for nine blooms, open to growers of less than 500 plants, went to Mr. M. Whittle, Leicester; and in the class for six teas and noisettes, Mr. F. G. Hayes was the leading exhibitor.

Mr. Conway Jones had a fine stand, which won the first prize for six trebles, teas and noisettes; and for six blooms of any one variety, Mr. W. Upton, Leicester, was easily first.

In the decorative rose classes, Mrs. Gordon Canning, Hartpury House, Gloucester, won first prize with a splendid collection; Mr. Conway Jones second, and Mr. H. V. Machin third. Mr. F. A. George, Worcester, was to the front with six varieties, followed by Mrs. Ancrum Upton, St. Leonards, and Mr. H. A. Gerhold, Penarth, third. Roses in decoration were well shown. Mrs. C. Hall, Warminster, won with a bowl of roses, showing Lady Pirrie; Mr. G. W. Cook, Whetstone, second; and Mr. H. A. Gerhold, Penarth, third. For a vase of cut roses, Mr. F. A. Gerhold came out on the top, followed by Mrs. C. Hall, Warminster; and for a basket of cut roses, the last-named exhibitor was first prize winner. For a decoration of cut roses for a dinner table there were four exhibitors. The first prize was given to Mrs. W. G. Cook, Whetstone, N., who made up her decoration with Irish Fireflame; Mrs. C. Hall, Warminster, won second prize with the Old Gold rose; and Miss E. E. Riddle, Cranham, Stroud, won third prize with a pleasing decoration.

NEW ROSES.

A keen interest was taken in the classes for new seedling roses, and for an exhibit of any new seedling or distinct sport grown in the open, Messrs. S. McGreedy and Son, Portadown, Ireland, sent a number of varieties, which included Mrs. Franklin Dennison, Edith Part, a lovely rose, Edgar M. Burnett, Irene Osgood, The McClintock Moore, a rich crimson but wanting in scent, Florence Forrester, white, and Maud Davis, beautiful in the bud. Rev. J. H. Pemberton sent his new rose Danae, also Moonlight and Ceres.

Gold Medals were awarded to Gorgeous, Mrs. Archie Gray, and Countess Clanwilliam, shown by Messrs. H. Dickson, Belfast; Messrs. A. Dickson and Sons showed several new roses, including Dennis, a new H.T.; G. A. Hammonde, Janet, a new H.T.; and Mrs. Wakefield Richardson.

MEDALS FOR BEST BLOOMS.

In the nurserymen's section medals for the best blooms were granted to: Messrs. A. Dickson and Sons, Newtownards, for H. V. Machin; to Messrs. D. Prior and Son, for Mrs. E. Mawley; and to the King's Acre Nursery Company, for A. K. Williams. In the amateurs' section J. H. West, Esq., had the best tea in Mrs. Foley Hobbs; Mr. H. G. Rolt, Hay, had the best H.T., George Dickson being given the honour; and Mr. Tom Park, Bedale, was awarded the Medal for the best H.P. for a fine bloom of A. K. Williams.

THE LOCAL SECTION.

Naturally the interest in the local classes was overwhelmed by the National Show, but in the chief local class for thirty-six varieties, that well-known grower, Mr. Conway Jones, won the solid silver challenge bowl with a fine lot of flowers; Mr. W. Boyes, Middleton-on-the-Wolds, was a good second; and Mr. R. Foley Hobbs, Worcester, third. Mr. W. Jarratt Thorpe, Hucclecote, won the challenge cup for twelve varieties, and Mr. C. R. Bonnor, Barnwood, had the best nine teas. Mr. B. W. Price, Gloucester, had the best six vases of roses, and Mr. J. G. Orpen won the amateurs' challenge cup open to the City of Gloucester. Classes were also arranged for novices and cottagers, in each of which good roses were shown, but the show was a fortnight too late for Gloucester flowers.

SWEET PEAS.

For several years past sweet peas have figured conspicuously at this show, and, in spite of the roses, they attracted a good deal of attention, for no other reason perhaps than the fact that Gloucestershire people are keen on sweet peas. The premier award for twenty-four distinct varieties was won by Mr. A. Moring, gardener to A. W. Goring, Esq., Goring-on-Thames, who had a splendid lot of flowers in which all the best varieties were represented. Mr. W. Jarratt Thorpe, Hucclecote, and Mr. E. R. James, Wroxton Abbey, were put equal first prize for a collection of twelve varieties with very fine collections in each case.

Mr. E. R. James had the best vase of white peas, showing Moneymaker, and in the yellow or buff class the same exhibitor won with Dobbies' Cream. Again Mr. James won in the cream-pink class with Mr. R. Spencer, and also in the best pink class with Hercules. Mr. A. W. Stirling had the best orange flowers, winning with Helen Grosvenor, and Mr. E. R. James won in the rose class with John Ingman. Quite dazzling were the Scarlet Empress in the class for scarlets, which won first prize for Mr. A. W. Stirling, and the same exhibitor was first for crimsons. Mr. A. E. Usher, gardener to Sir Randolf Baker, Blandford, had the best vase of maroons, showing Tom Bolton, and the same exhibitor was first with lavenders, showing R. F. Felton. Mr. Usher was again to the front with blues, and in the picotee-edged section Mr. E. R. James was to the front. The last-named exhibitor also won with bicolours, showing Mrs. C. W. Breadmore; and for a red-flaked variety Mr. A. E. Usher was to the front.

A very interesting class was that for a display of sweet peas, and here Mr. E. Horwood, gardener to C. P. Allen, Esq., Stroud, was first; and Mr. H. Prentice, Hartpury House Gardens, second. In the local amateurs' and cottagers' classes the sweet peas were remarkably good as a whole, and the competition quite keen. Indeed, it may be said that a better sweet pea show has not been seen in Gloucester.

Manchester.

The Royal Botanical and Horticultural Society has this year provided a liberal schedule for its patrons, and a splendid hall for the exhibitions. The schedule for July 11 and 12 comprised twenty-five classes for roses, five for sweet peas, nine for plants and cut flowers, and generous awards for non-competitive exhibits. The Exhibition Buildings, Rusholme, are unusually roomy and well lighted, and admirably suited for the purpose.

NURSERYMEN.

The class for 60 roses, distinct, brought a splendid display of fine blooms, and Messrs. Hugh Dickson, Belfast, secured the chief position with fine flowers richly coloured, the most noteworthy being William Cooper, Mrs. George Gordon, Mabel Drew, Countess of Gosford, Mrs. Geo. Shawyer, Mdme. Jules Bouche, Rhea Reid, Brilliant, Gorgeons (fine colour), Mrs. Foley Hobbs, Rosy Morn, and Edward Mawley; Messrs. A. Dickson and Sons, Newtownards, followed closely with fine massive blooms; Messrs. W. and A. Frettingham, Beeston, third. For thirty-six, distinct blooms, the Irish contributors still held their own, with Mr. G. Prince as third.

For twenty-four teas or noisettes, Mr. G. Prince occupied the position of honour, staging excellent blooms, and he was followed by the Newtownards firm. The first and second places for twelve teas or noisettes were similarly held, with Messrs. W. and J. Brown taking the remaining award.

Twelve of any white or yellow roses found Mr. George Prince first with White Maman Cochet; Messrs. H. Dickson second with Mrs. Archie Gray; and Messrs. A. Dickson and Sons third with Mrs. Cornwallis West. For twelve of any other light rose, Messrs. A. Dickson and Sons scored with Mrs. Theodore Roosevelt; Messrs. Hugh Dickson second with Gorgeons; and Messrs. W. and H. Frettingham third with Lyon Rose. Twelve of any crimson found Messrs. A. Dickson and Sons first with J. B. Clark, highly coloured; Messrs. W. and H. Frettingham second with Horace Vernet; and Messrs. Hugh Dickson third with Sir W. Q. Ewart.

AMATEURS.

In the class for twenty-four distinct roses, Dr. T. E. Pallet, Earl's Colne, Essex, came first with telling flowers of Avoca, Charles Lefebvre, C. J. Graham, Mrs. Foley Hobbs, Edward Mawley, etc.; Mr. F. Dennison, Leamington, second, with a fine box, the remaining award going to Mr. Foley Hobbs. For twelve blooms, distinct, Mr. F. Dennison, Dr. T. E. Pallett, and Mr. T. Park, Bedale, were placed as named; while for eighteen teas or noisettes Mr. T. Park and Mr. Foley Hobbs came first and second.

For twelve teas or noisettes, distinct, the prizetakers were Messrs. T. Park, F. Dennison, and Foley Hobbs. For any twelve white or yellow roses, Mr. F. Dennison scored with Frau Karl Druschki, Mr. Foley Hobbs and Dr. T. E. Pallett taking the remaining prizes. For any other twelve light roses, Mr. R. F. Hobbs led with Her Majesty, while for any twelve crimson blooms Dr. E. T. Pallett scored with Avoca.

For a display of roses, Messrs. W. and J. Brown led with a well-arranged collection. The best tea or noisette bloom in the show was White Maman Cochet, from Mr. G. Prince; the best H.P. or H.T. was a large H. V. Machin, from Messrs. A. Dickson and Sons.

SWEET PEAS.

For the best collection, not less than fifty, or more than 100 vases, Messrs. Castle Bros., Carnforth, came first; Mr. R. Wright, Formby, second; and Mr. J. A. Robinson, Styal, third. For a collection of not less than twenty-five vases, Mr. J. S. Procter, Altrincham, was successful. In the class for the best exhibit of sweet peas, Mr. O. Robinson was first, and Mr. W. J. Garner second.

GROUPS.

The best miscellaneous group of plants arranged for effect came from Messrs. J. Cypher and Sons, and was a fine group of crotons, palms, ixoras, etc.; Mr. W. A. Holmes, Chesterfield, second; and Mr. W. J. Garner third. For the best display of herbaceous cut flowers, Messrs. Harkness and Son, Bedale, won with a grand collection. For ten stove or greenhouse plants, Messrs. J. Cypher and Sons were the first, and the only exhibitors, with fine specimens of Erica ventricosa Bothwelliana (2), Statice intermedia (2), S. profusa, Allamanda nobilis, Ixora Duffi, Clerodendron Balfouri (2), and Bougainvillea Sanderiana. For six fine foliage plants the Cheltenham firm again led.

NON-COMPETITIVE.

Some fine collections were contributed which enhanced the beauty and interest of the exhibition. Gold medals were awarded to Messrs. E. Webb and Sons, Stourbridge.

for sweet peas, liliums, vegetables, and fruits; Mr. A. G. Dutton, Iver, for carnations; Messrs. Bakers, Wolverhampton, for delphiniums, etc. Messrs. Dickson and Robinson, Manchester, for herbaceous flowers and lawn grass; Mr. W. J. Unwin, Histon, for sweet peas; Mr. R. W. Lee, Heywood, for fruit trees in pots; Mr. A. J. A. Bruce, Chorlton-cum-Hardy, for sarracenias and allied plants.

Silver-gilt medals were awarded to Mr. L. Broadhead, Huddersfield, for a rock garden; and Messrs. Caldwell and Sons, Knutsford, for delphiniums, etc.

Dr. McLeod, Manchester, staged orchids, and the Rev. J. H. Pemberton sent his new decorative roses Danae and Moonlight.

Finchley Horticultural Society.

JULY 10.

The fifty-fourth annual exhibition of this society was held on the 10th inst. in the beautiful grounds of the Manor House, Finchley, the residence of A. W. Gamage, Esq., and, as usual, the three or four huge marquees were filled to their utmost capacity with plants, flowers, fruits, and vegetables of the highest quality. Unfortunately, the weather was unfavourable, and the heavy rain that fell during the greater part of the afternoon must have seriously affected the financial results. The society has for some years past made special features of roses and sweet peas, and, as usual, they were splendidly shown. In giving special encouragement to these fragrant flowers the executive have not overlooked the claims of the many other subjects usually shown at this season of the year, and, as the result of this wise policy, the exhibition was comprehensive in character and rich in interest.

There were thirteen classes for sweet peas, and the first prizes included a silver challenge shield of the value of twenty-five guineas and two ten-guinea silver challenge cups. The first of the several classes was for twenty bunches distinct varieties, open to trade growers only, and the premier award comprised the "Monro" challenge cup and a cash prize. The entries were hardly so numerous as might have been expected, but the flowers staged were of high quality. Mr. H. D. Tigwell, Harrow View, Greenford, occupied the post of honour with superbly developed flowers of Hercules, Mrs. Hugh Dickson, John Ingham, White Queen, R. F. Felton, Sunproof Crimson, T. Stevenson, and other of the finest varieties, new and old.

Mr. A. E. Usher, gardener to Sir Randolf Baker, Bart., Ranston, Blandford, showed magnificent flowers in the collection he staged in the class for eighteen bunches, and was the winner of the "Leicester" silver challenge cup, offered with a sum of money and the certificate of the National Sweet Pea Society as the first prize. The stems were of good length and stout, but free from coarseness, and few indeed were those carrying less than four flowers, which were large in size and splendidly coloured. Conspicuous among the several varieties were Barbara, Elsie Herbert, Hercules, Audrey, Crier, Mrs. Routzahn, Clara Curtis, Marks Tey, and Anglian Pink.

Of quite exceptional merit were the flowers with which Mr. A. E. Usher won the "Gamage" silver shield, offered with a silver medal and cash prize as the premier award in the class for twelve bunches. The varieties included those mentioned above and Edith Taylor and Mrs. Cuthbertson, both at their best. Mr. G. P. Highatt, Stanley Road, East Finchley, occupied the second place with large, finely developed flowers that had evidently suffered somewhat from a heavy rain. Mr. Clark, High Barnet, also staged flowers of great excellence. Mr. A. E. Usher and Mr. H. Tigwell were successful in winning the first and second prizes in the class for nine varieties, and Mr. A. F. Dunkley, North Finchley, was third, the flowers being throughout of much merit. For six bunches Mr. A. W. Ball, Stoneleigh Park, New Barnet, was a splendid first, and Mr. H. Auckland, who was second also staged flowers of a high order of merit. The cottagers' classes for sweet peas were all well filled with excellent flowers.

Fourteen classes were provided for roses, and in all of them there was a spirited contest, and blooms that did credit to the cultural skill of the exhibitors. The most important class was that for twenty-four blooms in not less than twelve varieties, the premier award being the "Fisher" cup and a cash prize. The competition was keen, and Mr. G. Speight, Market Harborough, was successful in obtaining the premier position with a fine box containing Her Majesty, Lyon, Avoca, J. B. Clark, Mrs. J. Laing, C. W. Waud, and other well-known varieties in a high state of development. Mr. G. P. Highatt and Mr. C. Ames, Friern Park, who were second and third, also exhibited blooms of excellent quality.

The more successful of the exhibitors in the several classes for twelve, six, and four blooms were Miss B. H. Langton, Raymead, Hendon; Mrs. G. W. Cook, Radstock, Whetstone; Mr. J. W. Rolf, Wood Green; Mr. G. P. Highatt, Mr. C. Ames, Mr. Kennedy Jones, Knighton, East Finchley, and Mr. A. Wilkinson. The competition in the classes for vases and bowls of roses was very keen, and the large array of arrangements formed an immensely attractive feature. For a vase of cluster roses, Miss Langton and Mrs. Cook were first and second, with Blush Rambler and American Pillar respectively, and these exhibitors were first and second also for a bowl of roses with Caroline Testout and Frau Karl Druschki. In a strongly contested class for decorated dinner-tables, without restriction as to the kind of flowers used, Mrs. G. W. Cook was successful in obtaining the premier award with an exquisitely beautiful arrangement of Irish Elegance rose, the flowers being sufficient to produce a good effect without there being one too many. Mrs. G. W. Cook was equally successful in the class for baskets of flowers, and occupied the first place with a basket of roses that was as near perfection as we can hope to see, it being the most beautiful basket of these flowers we have seen this season. Mrs. Dunkley had a charming basket of flowers of annuals and perennials. Border flowers were admirably shown, the most noteworthy collection being that of twelve vases, for which Mr. J. Westwood, Oakdene, East Finchley, was awarded the first prize.

The tents devoted to plants were admirably filled, but the groups arranged for effect were hardly so numerous as usual. Here, two classes are provided for groups, one for plants remarkable for the beauty of their foliage and the other for plants in bloom. In each class Mr. Kennedy Jones, East Finchley, was first with an arrangement that did much credit both to the cultural skill and taste of his gardener, Mr. T. Aley. In the group of flowering plants zonal pelargoniums were admirably utilised. Zonal pelargoniums, in fours, were of much merit, as shown by Mr. J. Westwood and Mr. J. D. Carr, Ryhope House, Woodside. Fuchsias were also of great excellence, as shown by the exhibitor last named and Mr. T. Simmons, North Finchley, who were first and second. Mr. Dunkley scored for six fuchsias, and included a finely-flowered pyramid of the brilliantly coloured Fuchsia triphylla in his set. Mr. Carr also obtained premier honours for four stove and greenhouse plants in bloom, in which Clerodendron Thomsonæ was especially well represented. The same exhibitor was first also for six celosias, and Mr. Windbrook won for the same number of caladiums.

There was a keen competition in the class for six ferns, and Mr. J. Turk, Fairlawn, Totteridge, was well in advance of other competitors, with splendidly developed specimens of well-known kinds. Mr. R. E. Cooper, Muswell Hill, followed closely for second place with a set that contained a magnificent specimen of the Stagshorn fern. Coleus were well shown by Mr. J. W. Gregory, whose specimens were large and well coloured.

Fruits and vegetables were strongly represented, and in competition for the prizes offered for collections of fruit, Mr. J. Turk and Mr. C. Ames were the most successful. There were numerous classes for collections of vegetables, but space will not permit of their being particularised. It must therefore suffice to say that the entries were numerous, and the produce of excellent quality. The competition in the class for salads was particularly keen, and Mr. J. Townsend was successful in occupying the first place.

The silver cup presented by Mr. G. Munro, jun., for a rock and water garden, was awarded to Messrs. Piper, Bayswater, for a charming arrangement. Mr. Amos Perry, Hardy Plant Nursery, Enfield, filled the end of one of the large tents with a large collection of finely-developed delphinium spikes, which were tastefully arranged, and proved highly attractive.

The general arrangements were, as usual, admirably carried out under the direction of Mr. J. Speller, the secretary.

Liverpool.

The society held its summer show on July 10 in the well-lighted Corn Exchange, and, although the weather has been somewhat against growth, most of the classes were well filled, sweet peas being the exception.

For twenty distinct vases of sweet peas, Mr. N. Hughes, gardener to R. R. Anderson, Esq., led with a meritorious collection; especially fine were Thomas Stevenson, Mrs. Hugh Dickson, May Campbell, R. F. Felton, Edrom Beauty, Earl Spencer, Nubian, Dobbies' Cream, Nellie Jenkins, etc. Mr. W. Davies, gardener to Dr. J. E. Phillips, also staged well for second place.

For twelve distinct vases, Mr. Davies secured the chief award. For twelve, distinct, with waved standards, Mr. W. Bond, gardener to J. R. Heron, Esq., took the lead; and for twelve vases, distinct varieties, Mr. E. Smith, gardener to B. C. Harrison, Esq., was to the fore. In the amateurs' section Mr. Joseph Roberts was successful in the three classes for twelve vases, and two of six vases.

Roses showed an improvement on former years. Twelve hybrid teas, distinct, found Mr. J. R. Ball, gardener to Joseph Booth, Esq., in the coveted position, having good blooms of Mrs. W. J. Grant, Mdme. Melanie Soupert, Arenburg, Gen. McArthur, etc.; Mr. C. Smith was second with good blooms. For eighteen blooms, distinct, Mr. J. George, gardener to Thomas Henshaw, Esq., led with fair blooms; for twelve blooms, Mr. J. R. Ball was again successful; for six distinct varieties, Mr. A. Griffiths, gardener to J. Watson Todd, Esq., took the lead; and for two vases hybrid tea or tea, Mr. J. George was successful. In the amateurs' section, Mr. Loo Thompson was to the fore with good blooms, and Mr. Edgar M. Allen won for six distinct blooms.

In the class for twelve vases hardy herbaceous flowers, Mr. J. George won with heavy bunches. Mr. G. Haigh, gardener to Sir W. H. Tate, Bart., proved successful in the three classes devoted to carnations and picotees, with excellent blooms of the Countess of Lathom.

Miss Newsome proved the winner in the sweet pea table decoration class; and Mrs. Edgar M. Allen led for the table (orchids excluded), which was tastefully arranged with roses, the variety being Irish Elegance. Mr. J. Gilbourne was successful for herbaceous cut flowers, Mr. J. Macfarlin for single begonias, and Mr. A. B. Spence for double varieties. Mr. H. Lunt led for six carnations and one vase of carnations.

Some pleasing collections were staged not for competition, to which the following awards were made:

Gold Medals.—Messrs. A. Dickson and Sons, Newtownards, for the finest feature of the show, a large display of roses; Mr. H. Middlehurst, for sweet peas; the Liverpool Orchid and Nursery Company, for a bank of orchids.

Silver Medals.—Mr. R. Manson, Messrs. Jones Bros., and Mr. W. Rowlands, for cut roses; Messrs. R. P. Ker and Sons, for stove and greenhouse plants and gladioli.

The Elstree Horticultural Society.

This society was again most fortunate when they held their fifth annual show on July 9, the weather being all that could be desired. As in former years, Aldenham Park was kindly lent to the society for the purposes of its exhibition by Lord Aldenham, and the gardens, which prove such a great attraction, were again thrown open to the public by the Hon. Vicary Gibbs, the society's president. This year's show far exceeded anything previously held, the number of entries in the cottagers' and amateurs' classes being a record; while the number of visitors also was a record.

This year the society offered for the first time two additional silver cups, one in open competition for sweet peas, the other for roses. The former was won with a truly magnificent display from Lord North, Wroxton Abbey, Banbury (gardener, Mr. E. R. Janes), and was acknowledged by many horticulturists present to be one of the most remarkable for size of bloom and quality yet seen. In addition to the cup, the exhibition was also awarded a gold medal. The twelve varieties were as follows: Mrs. Cuthbertson, Moneymaker, Tennant Spencer, Thos. Stevenson, Mrs. Routzahn, Melba, Edith Taylor, Clara Curtis, Nubian, Mrs. C. W. Breadmore, Florence Nightingale, and Maud Holmes. The Rose Cup was won by J. B. Wellington, Esq., Elstree (gardener, Mr. G. Allen), with remarkably even and well-grown blooms. H. F. Thomas, Esq. (gardener, Mr. Bates), was second, staging fine blooms.

The cup for roses previously competed for was again won by Messrs. Frank Cant and Co., Colchester, with a fine exhibit, most tastefully arranged. Among the many fine blooms, particularly conspicuous were the pyramids of Rayon d'Or, Juliet, General McArthur, The Lyon, and Frau Karl Druschki. The exhibit from Messrs. V. R. Harkness and Co., Hitchin, who were second, was also very pleasing, and contained splendid blooms of well-known varieties. Messrs. Wm. Cutbush staged polyantha and other choice varieties in good form, and were awarded a gold medal. From Messrs. Paul and Sons, The Old Nurseries, Cheshunt, came a fine exhibit of cut roses, and the award of a silver medal was made.

Facing the entrance to the tent of honorary and trade exhibits was a large collection of vegetables from the President (gardener, Mr. E. Beckett, V.M.H.), comprising some hundred dishes, all of which were in the highest state of development, a few of the more conspicuous being Early Giant cauliflower, Duke of Albany pea, Sutton's Table Dainty vegetable marrow, King Edward and May Queen potatoes, sugar peas, Perfection tomatoes, globe artichokes, Sutton's Black beet, Kohl Rabi, King George cucumber, Canadian Wonder French bean. The award of a large gold medal was awarded the exhibitor.

From Mrs. Vasmer, Caldecote, Aldenham (gardener, Mr. Paul), came a most artistically and well-arranged group of orchids and stove flowering and foliage plants. Amongst the principal subjects were Cattleya gigas and other orchids, nepenthes, gloriosas, streptocarpus, caladiums, etc. Awarded a large silver medal.

From K. Edgcumbe, Esq. (gardener, Mr. Eggleton), came a good exhibit of fuchsias, coleus, begonias, etc. (silver medal); and from G. W. Atkins, Esq. (gardener, Mr. Lawrence), another prettily-arranged group of flowering and foliage plants (silver medal). Hardy plants were shown by Messrs. Thomson and Charman, who had a nice exhibit with several novelties, well arranged. Mr. H. Newman, of Watford, showed a nice group of hardy alpine and herbaceous. Messrs. M. Gleeson and Co., of Watford, showed floral decorations, and also herbaceous.

Other interesting exhibits were those in the classes for queen wasps, the winning exhibit comprising no fewer than 375. Table decorations brought together eight competitors, the first prize table being a novel arrangement of nemesias by Miss Leach.

Formby.

The annual summer show of this society was held in the grounds of Briars Hey, by the kind permission of W. Rockliff, Esq., on July 10. The large marquee was well filled with exhibits, the three most popular sections being roses, sweet peas, and decorated tables. The queen of flowers worthily held her own both in quantity and quality, and the day being cool and dull, the charm of the flowers was well sustained throughout.

Twenty classes were devoted to roses, and eight cups were offered as first prizes, these being generous gifts of gentlemen residents. For twelve distinct varieties, Mr. A. E. Gunson held the premier position with flowers of high merit, and amongst them were notable blooms of Richmond, Dean Hole, Mrs. W. J. Grant, and Caroline Testout; Mr. Joseph Booth occupied the second position, having in his stand a fine William Shean, which was selected as the best bloom in the show. For twelve blooms, in six varieties, the leading award went to Mr. W. Rockliff, who had excellent examples of Mrs. W. J. Grant and Mrs. Theodore Roosevelt. For the box of twelve blooms, in four varieties, Mr. W. Rockliff was again successful; and for six distinct varieties Mr. T. Carlyle led, having a brilliant J. B. Clarke. The latter exhibitor also scored in the class for six light roses in three varieties. For six dark roses, Mr. George Lunt led with smart flowers; and for six of any one variety Mr. E. M. Allen won with well-coloured Lyon Roses. Mr. W. Rockliff was to the front with two vases, and Mr. Joseph Booth for one vase; Mr. A. W. Arden led for one vase cluster roses, whilst Mr. Loo Thomson led in the minor section for six dark, six light, and six distinct roses.

The sweet pea section was slightly down in quantity owing to the lateness of the season. In the class for twelve vases, Mr. E. M. Allen stood well out, having long stems carrying fine flowers of intense colouring; his best varieties were Melba, Mrs. Cuthbertson, Edith Taylor, King Edward Spencer, Hercules, Thomas Stevenson, and Mrs. Cowdy. Mr. J. K. Heron was second. For nine vases Mr. A. Rushforth scored with a good collection; and for six vases Mr. J. Gilbourne had the leading lot; while for three bunches Mr. T. B. Burnett was successful.

Mr. H. S. Hodgkinson and Mr. J. Booth were first for six double and six single begonias. Mr. Joshua Rea had the leading double geraniums, and Mr. F. C. Calthorp led for violas in two classes; while Mr. J. Gilbourne scored for hardy and half-hardy cut flowers.

Mr. Joseph Booth won for three single zonal pelargoniums with good plants, and also for three petunias. For three stove or greenhouse ferns, Mr. A. Storey led with good specimens, Mr. W. Rockliff having the leading hardy kinds. Mr. H. S. Hodgkinson scored for gloxinias, and Mr. J. Booth for single begonias. Mr. H. S. Hodgkinson was first for a single plant in bloom with a good odontoglossum.

Among the non-competitive exhibitors were Messrs. A. Dickson and Sons, Newtownards, roses; Mr. Karl Thirkildsen, roses; Mr. H. Middlehurst and Mr. R. Wright, sweet peas; Messrs. Woodward and Cuthbert, herbaceous cut flowers.

Bougainvilleas.—These are now practically at their best, and where growing on trellising or rafters in a warm house provide a very effective display. The creamy-white and green of the foliage of the B. Sanderiana variegata affords a beautiful contrast to its rosy mauve-coloured bracts. It is very useful for cutting purposes, as also are B. Sanderiana and B. glabra, and each may be grown successfully as a trained pot plant. After flowering they will require rather drier conditions to assist in well maturing the wood. These all require fairly severe pruning before starting in the spring. B. spectabilis, in direct contrast to the others, flowers on the wood made the preceding year, and should be pruned as soon as the flowers are over.—H. PRIME, Hatfield House Gardens.

ANSWERS TO CORRESPONDENTS.

HARDINESS OF NIEREMBERGIAS.—S. S., Henley.—Please let me know how many of the nierembergias are hardy in this country. I have A. rivularis, and believe there are other pretty species.—As the years go by we become less inclined to be dogmatic concerning the hardiness or tenderness of many subjects because we have seen reputed tender plants growing well under conditions that did not appear suitable. Broadly speaking, there are no perfectly hardy nierembergias, but N. rivularis seems to be the hardiest, as it is one of the best of the several species. In a semi-shaded spot, in moist sandy soil, it is quite a success in many gardens, but a failure in others. It comes from South America, and needs shelter from cold winds and draughts. N. frutescens, from Chili, is shrubby, and has blue, white-edged flowers. It is hardy in many gardens in the south, but succumbs in a severe winter, consequently a few cuttings should be struck every year to maintain a stock of plants. N. filicaulis, with lilac and yellow flowers, and N. calycina, with white and yellow flowers, come from Buenos Ayres, and are best raised from seeds sown in heat in February, the seedlings being duly hardened off, and planted out at the end of May or in June.

SCALE ON APPLE TREES.—J. S. N., Margate: On some espalier trees in my garden there are scaly little bodies adhering to the bark. I enclose a few specimens, and should like to know whether they are injurious insects, and, if so, what I had better do to get rid of them.—The scaly bodies are specimens of the apple mussel scale (Aspidiotus conchiformis), and when a tree is badly infested considerable damage may be done. Very little can be done at this season of the year because remedies strong enough to kill the scale would kill the foliage. After leaf fall the stems and branches must be scrubbed with a stiff-haired brush and warm soapy water, followed by a spraying with a paraffin emulsion. Write us again in the autumn.

ROYAL HORTICULTURAL SOCIETY'S EXAMINATION.—J. K., Roade: Will you kindly inform me which is the best course to take with a view to obtaining the Royal Horticultural Society's Certificate for Gardeners, and would the examination be open to anyone living in South Africa?—If you apply to the secretary of the Royal Horticultural Society, Vincent Square, Westminster, enclosing a stamped addressed envelope, you will receive particulars of the society's examination, and a printed list of books recommended for study. This will help you considerably. Attend classes for horticulture and elementary botany, if possible, and pay the keenest possible attention to the work of the garden in which you are employed, using a diary to record times of planting, sowing, etc., soil, methods of culture, results obtained, trees and shrubs that do particularly well and those that do badly, with reasons for their behaviour. Use your powers of observation to the fullest extent in the gardens of the district, and do not be afraid to ask questions when you want to know "the reason why" of things. At the same time, pay attention to your general education, because carelessness in regard to weights and measures, orthography, etc., may mean the difference between success or failure. Learn to express yourself clearly in diagrams, where these apply, and make yourself familiar with remedies for plant pests and diseases, as well as with the life histories of the chief insect and fungus pests with which a gardener has to deal. Make a time-table for your own use, so that your studies may be properly regulated. Let recreation have its proper place in your time-table, but let cricket, football, etc., be used only as a means of keeping you fit, physically and mentally. From the R.H.S. offices you can obtain the sets of questions set at the various examinations, for 2s. post free; these

questions will give you a good idea of the style and scope of the examinations, and attempts to answer the questions set in previous years will be excellent practice, especially if you can persuade some competent person to examine and correct the answers for you.

CASSINIA FULVIDA, OR GOLDEN HEATH.—M. E., Aldershot: The shrub, of which I enclose a specimen, is very beautiful here. We know it as the golden heath. Kindly say what the correct name is, and how the plant can be propagated. Some of our specimens are a bit leggy, and we should like to raise some new stock if that is not a too serious business.—The golden heath is correctly Cassinia fulvida, but it is very commonly cultivated in the south under the name of Diplopappus chrysophyllus. It is not a difficult matter to raise new stock from cuttings. The latter should be half-ripe, flowerless shoots, and August or early September are the best months to insert them. Use a sandy mixture of peat and loam, insert the cuttings firmly, and cover them with a bellglass or handlight until well rooted. Keep them in a cold frame the first winer. Seeds sown as soon as ripe, in sandy peat and loam, in a cold frame, germinate well, and the seedlings must be potted separately as soon as possible, and then treated as in the case of cuttings Plant out late the following spring.

PEACH EARLY BEATRICE.—B. I., Worcester: We have an old tree of a peach named Early Beatrice, which has fair-sized fruits of good quality that are now almost ripe out of doors. This variety I have not seen growing elsewhere. Can you tell me its history? —Early Beatrice Peach was raised by the late Mr. Rivers, of Sawbridgeworth, and was obtained from a stone of Rivers' White Nectarine; it first fruited in 1865, and the fruits ripened on July 4 of that year. It was named in honour of Princess Beatrice, now Princess Henry of Battenberg, and mother of the Queen of Spain. It is a very hardy and very early peach. The larger Early Rivers which came into being a few years later was probably responsible for the decline of Early Beatrice, but where the latter does well it should certainly be retained.

FAILURE WITH GYPSOPHILA SEEDLINGS.—G. A., Axminster: I sowed seeds of Gypsophila paniculata in a warm place in April, and, not long ago, pricked out the seedlings into another bed, proposing to transplant them to permanent quarters in the autumn. But by far the greater number of seedlings have failed utterly, and I am at a loss to account for such loss. The soil is in good condition, and contains a fairly good percentage of lime, and some plaster rubbish was crushed and added to the soil before the seedlings were pricked out.—Under specially favourable conditions of weather seedlings of Gypsophila paniculata may be transplanted with fair success from a seed bed, but losses are often considerable when conditions are unfavourable. The better plan is to pot each seedling separately as soon as it can be conveniently handled, giving additional root room as necessary until the plants can be placed in their permanent quarters with practically no root disturbance. The trouble in this connection is that the gypsophila makes tap roots rather than a number of fibrous roots, and so transplanting the seedlings becomes a very risky matter as the size of the plants increases.

PROPAGATION OF ROCK ROSES.—H. J. H., Carisbrook: Kindly tell me the best method of increasing a stock of rock roses or cistuses, and the best time to proceed?—Propagation of rock roses is effected both by cuttings and layers. The former should be inserted in sandy, peaty soil in early autumn, selecting firm growths three or four inches long. Cover with a handlight, or place in a cold frame. Layering may be done at any time, and is a capital method where only a few extra plants of certain sorts are needed. It is a quite easy matter to raise a stock of seedlings from seeds sown in a warm greenhouse in early spring; the seedlings must be potted singly when a couple of inches high, and as soon as established a process of hardening off must be commenced. In favoured localities autumn planting may be successful, but in most cases it pays to pot the seedlings once or twice and keep them in a cold frame the first winter, planting them out soon after they are a year old.

MOSSY POT PLANTS.—T. G. W., Leicester: For certain of our indoor decorations it is necessary to use a very low-growing plant of mossy character, and, of course, we use Selaginella denticulata freely, but I should like to know the names of other subjects that would be similarly useful.—We think all the following would be of use to you: Helxine Solieroli, Selaginella apoda (S. apus), S. azorica, S. conferta, and S. helvetica.

NAMES OF PLANTS.

A. E. P., Chipping Norton.—Adlumia cirrhosa.

T. G., Bletchley.—1, Liriodendron tulipifera; 2, Spiræa palmata.

H. H., Clifton.—1, Aciphylla squarrosa; 2, Rosa centifolia; 3, Cuphea miniata.

E. W. H., Ware.—1, Œnothera biennis Lamarckiana; 2, Gaura Lindheimeri.

F. S. G., Saltaire.—1, Helonias bullata; 2, Dactylis glomerata variegata; 3, Cystopteris fragilis.

C. N. K., Shields.—1, Abies nobilis; 2, Gladiolus byzantinus; 3, Lilium pardalinum; 4, Chelone barbata; 5, Eryngium alpinum.

O. S., Radnor.—1, Lathyrus grandiflorus; 2, Clianthus puniceus; 3, Campanula garganica; 4, Francoa sonchifolia; 5, Pratia angulata.

E. K., Driffield.—Both the specimens sent are Centranthus ruber, a plant that varies a good deal in the colour of its flowers, from white to red.

L. N. A., Caversham.—1, Gentiana asclepiadea; 2, Galega officinalis; 3, Chenopodium atriplicis; 4, Alternanthera paroychioides major aurea.

NAMES OF FRUITS.

G. W. S., Horncastle.—Such soft fruits as strawberries are very difficult to determine, especially after a long journey. We believe your variety is Bedfordshire Champion.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1913. July 6 to July 12.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
July 6—Sunday	1 0	58	54	62	50
,, 7—Monday	4 42	57	52	63	49
,, 8—Tuesday	4 48	54	49	64	43
,, 9—Wednesday	1 30	57	52	64	46
,, 10—Thursday	—	59	56	63	54
,, 11—Friday	5 42	59	55	67	50
,, 12—Saturday	4 48	66	59	74	50
Means	(total) 22 30	58	53	65	49

Date. 1913. July 6 to July 12.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
July 6—Sunday	0·07	62	61	58	46
,, 7—Monday	—	61	61	58	40
,, 8—Tuesday	—	60	60	58	32
,, 9—Wednesday	0·06	60	60	58	35
,, 10—Thursday	0·03	61	60	58	50
,, 11—Friday	—	60	60	58	41
,, 12—Saturday	—	61	60	58	43
Means	(total) 0·16	60	60	58	41

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

TUESDAY, July 22.—Southampton Summer Show; two days.
WEDNESDAY, July 23.—York Agricultural Society's Flower Show; three days.
Leamington Flower Show; two days.
Cardiff Summer Show; two days.
Tunbridge Wells Flower Show; two days.
Haywards Heath Summer Show.
THURSDAY, July 24.—Roehampton Flower Show.
St. Quentin's Horticultural Society.
FRIDAY, July 25.—Cheadle Summer Show; two days.
Belfast Show.
SATURDAY, July 26.—Swindon Rose and Sweet Pea Show.

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FIG. 1.

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THE GARDENERS' MAGAZINE may be obtained by order from all Newsagents, price Twopence, every Friday. If any difficulty be found, a copy will be posted weekly direct from the Publisher, 148 and 149, Aldersgate Street, London, on the following terms: Twelve Months, 10s. 6d.; Six Months, 5s. 6d.

INDEX to Volume LV. may be obtained through any Newsagent, price 2d.; or 2½d. post free from the Publisher.

BINDING CASES for binding the 12 months' numbers, green cloth, ornamented in gold, price 2s., post free.

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VOL. LVI.—No. 3,117. SATURDAY, JULY 26, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Wood.

To the horticulturist or general garden lover wood appears as the least interesting feature of plant growth, a mere accretion of material to form a framework for the foliage, fruit, or flowers, which constitute their peculiar cult. Many of the plants indeed, which are prized for their floral merits, form little wood proper, or even none, merely fleshy stalks and stems sufficing to carry and display their leaves and flowers during the period necessary, and then sharing their fate by dying down to the ground and disappearing altogether. This is the case with all annuals and bulbous plants, but it is very different when we turn to robust vegetation of the tree and shrub type. In all these we find the formation of wood to be a constant and esential feature. It falls naturally into two distinct categories, known to botanists as exogens and endogens. The exogens embrace the major part of the trees with which we are familiar in the temperate zone, and as their name, which means "outside growers," implies, form annually just beneath the bark a ring of new wood, while the "endogens" increase their girth by internal additions, and not by forming rings, nor is there any bark proper on the outside, though this is usually harder and tougher by virtue of special cell arrangement. In many endogens, such as palms and tree-ferns, the trunk is contributed to by the persistent bases of the otherwise dead leaves or fronds, or, in the latter case, by the accumulated roots which spring from the crown and traverse the trunk on their way to the soil. The bamboos give us a typical form of endogenous wood of quite another kind, which forms no sort of trunk, but is in reality identical in structure, on a maybe gigantic scale, with a common grass stalk., viz., a tube with knots at intervals, hollow in the centre, and very hard on the surface. It is, however, in the woods of exogens that we find the greatest diversity. Every species and every variety of exogenous tree has its own particular peculiarity of texture, hardness, colour, and other characters, which only the actual users of such woods can properly appreciate. The woods of the various pines and conifers are, perhaps, predominant commercially, constituting as they do the commonest builders' material and the inner fittings of our domiciles. In our furniture, however, we find a large use for very different woods, mostly of exotic origin; and we have only to examine finely-cut and polished specimens of these to note what beautiful and varied grains and intricate designs are revealed by their section at different angles. Take, for instance, a panel of high-class birdseye maple, and see how far its internal cellular structure must depart from what we may term the common straight up and down run of an ordinary pine plank. Many woods indeed are so pervaded by variant possibilities in the ornamental direction, that they are only used as veneers little thicker than paper; and by judicious selection of these and their juxtaposition, most beautiful symmetrical designs can be produced, which no artist could imagine for himself. Nevertheless if we study the genesis of any exogenous tree, it appears to be of so simple a character as to preclude such an eventual display. A tree commences as a tiny twig developed from the seed, a tiny centre of wood protected by a ring of bark. The second year we find that a larger ring, or rather really, a slender, conical cylinder of wood, has grown over the first, the ring of bark expanding to encloso it. This is the simple process, and as the tree grows the same thing continues, as if, it has been said, a fresh cone of larger diameter and taller growth were slipped annually over the previous ones. In the meantime, however, this simplicity has been modified by the fact that from lateral buds on the original twig, now commencing to show as a trunk, other twigs have sprung, and acted independently on precisely the same lines of annual growth; so that, however old a tree may be, we can easily ascertain the age of any branch or twig by a section showing the number of rings it contains, precisely as if we fell the tree to the ground level we shall find its age revealed by the number of rings, by assuming that the centre point is the surviving centre of the original twiglet produced from the seed. Now this process of growth and lateral budding varies in every tree, and is affected by climate, environment, and seasonal changes. Of these lateral buds a large number perish as the tree develops, but their existence is permanently registered within the tree at the point of original generation by the consequent modification of the cell-growth. We see this in the obvious form of knots where they have formed branches before being lopped or destroyed by overgrowth or other causes.

MR. E. A. EBBLEWHITE, J.P., F.S.A.,
Clerk of the Worshipful Company of Gardeners.

Mr. E. A. Ebblewhite, J.P., F.S.A., whose portrait we have the pleasure of giving herewith, is fully entitled to a prominent position in the fraternity of gardeners, for if he is not actually engaged in the practical work of the craft he,

as Clerk of the Worshipful Company of Gardeners, is rendering splendid service in the cause of gardening. To have materially assisted in resuscitating an old guild that, through the apathy of those engaged in the industry with which it was closely associated, had been allowed to remain in abeyance for a long period, was no small achievement, and to place it in the forefront of horticultural institutions has been an accomplishment deserving of the heartiest congratulations. About twenty years have elapsed since measures were taken to revive the Gardeners' Company and place it in a position that would enable it to resume its activities in the advancement of good gardening, and during about one-half of this period Mr. Ebblewhite has occupied the important position of Clerk, and by his well-directed efforts, in association with other of the chief officers, has so materially improved the status of the company, and increased its capacity for work as to enable it to render substantial aid in the furtherance of horticultural progress. This achievement is all the more deserving of attention from the fact that, unlike many of the City guilds, the Gardeners' Company is not a wealthy body. Indeed, its only funds have been raised since the revivification of its activity, rather more than two decades since. This reference to the Gardeners' Company reminds us of the fact that 300 years ago gardeners were as fully alive to the importance of those engaged in garden management being thoroughly trained as are the most advanced members of the craft at the present time. The Gardeners' Company was incorporated by James I., in 1605, on the petition of the gardeners carrying on their avocation within a distance of six miles of the City, who were greatly hindered in selling their produce by outsiders. Eleven years later King James gave the company further powers and privileges; but it appears that considerable difficulty was experienced in carrying out the provisions contained therein, owing to the opposition of unqualified persons. At the commencement of the reign of Charles II. (1660) matters had become still more unsatisfactory, and both the skilled master gardener and the journeyman gardener felt the unfair competition of the large numbers of labourers imported by the designers of large gardens in and around London, for these, on the completion of the contracts, donned the blue apron, and settled down as professional gardeners. Thirty years later this evil was increased by the importation of many hundred labourers from country districts for assisting in the work of laying out the grounds of Hampton Court and Kensington Palace, and numerous great gardens. In 1699 a committee was formed for the purpose of dealing with the difficulties experienced by the professional gardeners owing to the competition of unqualified men, and as the result of their labours a Bill was presented to the House of Commons in 1700, and this, it was hoped, would improve matters, but it failed to pass. It will thus be seen that the chief object of the Company since its incorporation has been to encourage efficient training in gardening, and to protect the skilled gardener against the unskilled. Since its revival the Company has done much to promote horticultural education, chiefly by providing scholarships for the most successful candidates in the examinations held under the auspices of the Royal Horticultural Society. From this brief reference it will be seen that the Gardeners' Company has done useful service, and that it has possibilities difficult to estimate. It is therefore cause for much satisfaction that it has for its Clerk a gentleman possessing the ability and enterprise of which Mr. Ebblewhite has given such conclusive proofs. It should be added that Mr. Ebblewhite by no means limits his energies to the affairs of the Gardeners' Company, as evidenced by the fact that he is a barrister-at-law of the Middle Temple, a member of the Welsh Circuit, a J.P. for Middlesex, and Deputy-Coroner, ex-Mayor of Hornsey, Clerk of the Company of Tinplate Workers, and Hon. Fellow of the Royal Botanic Society.

Birmingham Parks.—The Birmingham parks, and Mr. Mortar, the able superintendent of the parks and other open spaces belonging to the Corporation of the city, received a full measure of praise at the luncheon in connection with the flower show held in Handsworth Park on the 18th inst. Sir Harry Veitch, who, with other members of the R.H.S. deputation, had made a tour of the parks, described them as unsurpassed by any public parks he had seen, and congratulated the Corporation in having so able an officer as Mr. Mortar. In view of the high keeping of the existing parks, it is a matter of considerable interest that the Parks Committee of the Corporation have, since the date mentioned, issued a report in which they recommend the purchase from Lord Calthorpe of 87 acres of land surrounding Perry reservoir to be utilised as a park for the northern part of Birmingham for the sum of £6,983. The purchase is also recommended of Bilberry Hill, with an area of 50 acres, from Lord Plymouth, for £3,400. The land round the Perry reservoir possesses great natural advantages, and it is proposed to sow the arable portion with grass seeds, and, as far as practicable, leave the area in a natural state. Bilberry Hill has during the past twenty-one years been held on a lease from Lord Plymouth, and been open to the public, and much appreciated. In the first case the cost will be £80 per acre, and in the other £68 per acre, which is not an excessive price for land within a penny tram-ride of the centre of Birmingham.

The Future of the North of England Society.—With reference to the future of the N.E.R.S., the Rev. J. Bernard Hall, Rawdon, Leeds, writes: "Allow me, as a private individual, to intimate to the gardening fraternity in general, and northern horticulturists in particular, the opportunities that exist at present for development. The cards have been dealt, and the call for trumps has been given. Has it been noticed, and will the response be forthcoming? There are two grand openings lying right in front of the N.E.H.S., and it would appear that too much caution may prevent an advance through these open doors. Without going into details, which are being thoroughly overhauled by legal and other interested persons, there is undoubtedly a crying need for a northern school of horticulture. The general idea is a Government Garden Institute, with the N.E.H.S. co-operating, with the object of training horticulturists capable of developing the economic resources of the soil at home or in the Colonies. There is another clear call—the establishment of a N.E.H.S. rock garden. Such a Mecca for lovers of rock gardens would be popular and useful. To me one thing is certain. When, at a general meeting, to be called shortly, the music is faced, the tune will be played, for it is preposterous to think that the many enthusiasts who have sacrificed, gladly and willingly, their time and money, will allow this northern movement to end in failure. It is not as if cash was not forthcoming. All that is required is a strong lead, and similar enthusiasm such as was displayed over the new R.H.S. hall and the R.H.S. gardens. Notwithstanding deaths and withdrawals, the N.E.H.S. still increases its membership. Several Fellows and members have proved by their withdrawal their ignorance of elementary forces in nature. A seedling cannot be forced without harm being done.

Royal Botanic Society.—In reply to a question asked by Mr. Mac-Callum Scott, Mr. Runciman stated that the Royal Botanic Society had not so far as he was aware extended the educational advantages of the gardens, and the scheme for the formation of a botanic institute (which would have involved the erection of more buildings) fell through. Bona-fide students from recognised schools or colleges are admitted to the gardens by passes granted free of charge for the purpose of study, and a large number of botanical specimens are given away annually by the Society to students and others. The Office of Woods had no reason to consider the present financial condition of the Society unsatisfactory. No consent in writing appears to have been given to the Office of Woods to the use of the gardens otherwise than for the purpose of a botanic garden, but it is known that for a long period the gardens have been used for some other purposes not interfering with the main purposes of the gardens, and no objection has been taken by that Department. He was not aware that there are any botanists with degrees or diplomas on the Council of the Society.

A Giant Foxglove.—Lady Dorchester, Grovewell, Hants, writes: "I have just been watching my gardener measure a common foxglove growing in a partially shaded border. It stands 10 feet 3 inches high, and along its stem are 172 seed cases, and 33 blooms yet to be developed.

Cowper's Parlour at Olney.—The Trustees of the Cowper and Newton Museum, Olney, Bucks, have published an etching by Mr. Philip Pimlott of "Cowper's Parlour at Olney," which is especially deserving the attention of those who are interested in Cowper and his poetical works. In this room were written many of Cowper's principal poems, and on the left is seen the stairs leading to his bedroom, in which was written "John Gilpin." Through the doorway on the right can be seen the hall, in one of the walls of which is a porthole (not shown in the picture), through which Cowper's hares were admitted to their evening gambols in the hall and parlour. The objects in the parlour include Newton's chair and Mrs. Unwin's spinning-wheel. This exquisite etching is being sold for the benefit of the museum, and as the price of artist's proofs is only 5s., the number that has been printed should be quickly sold.

Roses at Saughton Park, Edinburgh.—At the present time the rose garden in Saughton Park, one of the most attractive of the open spaces belonging to the Edinburgh Corporation, is aglow with flowers, and affords visitors an opportunity of enjoying one of the most noteworthy feasts of roses that has been provided in the United Kingdom. The rose garden is situated on the northern side of the grounds, and contains upwards of 13,000 plants, all of which are flowering freely, and produce a glorious colour effect. About thirty varieties are grown, and these have been selected by Mr. J. McHattie, the superintendent of the Edinburgh Parks, with special reference to their adaptability to the conditions that obtain. Conspicuous among them are Caroline Testout, Frau Karl Druschki, Captain Hayward, J. B. Clark, Hugh Dickson, Ecarlate, Richmond, Madame Ravary, Mrs. John Laing, Mdme.

Abel Chatenay, Betty, General McArthur, and Pharisaer. The effect is greatly enhanced by the varieties being planted in separate beds. The rambler roses, which are largely planted, are just coming into bloom, and will be highly attractive for some time hence. The Old English garden as Saughton, with its ancient yews, will be highly attractive at no distant date, for the magnificent masses of antirrhinum and pentstemons give promise of flowering in the most profuse manner.

Gift of Orchids to Kew.—The Kew collection of orchids has, we learn from the "Kew Bulletin," been greatly enriched by the gift of about 150 large plants of cattleya, lælia, lælio-cattleya, brasso-cattleya, cymbidium, and cypripedium by Lieut.-Colonel Sir George Holford, from his famous collection at Westonbirt. While the collection of orchids cultivated at Kew must be essentially botanical, its main object being to represent the family in as comprehensive a way as possible, the great progress made in recent years in the breeding of hybrids, many of which are botanically interesting as well as possessed of exceptional claims as garden plants, necessitated the addition of a selection of them to the collection. Increased accommodation was provided last year by the erection of an intermediate house adjoining the T Range, and, thanks to Sir George's generosity, Kew now possesses some of the best of the cattleyoid hybrids.

Wart Disease of Potatoes.—We are informed by the Board of Agriculture that cases of wart disease of potatoes (Synchitrium endobioticum, Percival) have occurred in Lancashire, and asked to remind growers that they are required to report the presence of this disease to the police or other officers appointed for the purpose, under penalty of a fine. Notifications may be sent to the Secretary, Board of Agriculture, 4, Whitehall Place, London, S.W.

BEGONIA KING GEORGE.

A new and beautiful variety, with flowers of a rich orange-salmon colour, exhibited by Messrs. T. S. Ware, Lim., Feltham, in their Gold Medal collection of Begonias at Birmingham. (See page 570.)

NATIONAL CARNATION SOCIETY.

This society held its London show on July 18, and the competition was fairly good, and the flowers of good average quality. Not much interest was taken in the show varieties on boards, but the flowers shown in vases received a great deal of attention, and were very beautiful.

Many of the traders who exhibited sweet peas at the great show of the day previous left their exhibits in position, notably Messrs. R. H. Bath, Aldersey, Jones and Son, J. Box, E. W. King and Co., J. Carter and Co., G. Stark and Son, W. J. Unwin, S. Bide and Son, Webster, J. Stevenson, and Williams, while Messrs. Frank Cant and Co. sent roses; Mr. M. Prichard contributed hardy flowers; Mr. J. Douglas, carnations; Messrs. Phillips and Taylor, Bracknell, carnations; Mr. Lakeman, carnations; and Messrs. W. Cutbush and Son, perpetual, Malmaison and border carnations to make up, with palms, etc., a large central group.

FLOWERS SHOWN AS GROWN.

A series of classes was provided for flowers shown as grown, nine blooms to be staged in a vase. For nine of a pink or rose self Mr. W. H. Parton, Moseley, led with the rich-hued Rosy Morn, and Mr. Jas. Douglas was second with Miss Berkeley; four entries. The best vase of nine white blooms came from Mr. Jas. Douglas, who staged Bookham White in fine form; Mr. H. Lakeman, Thornton Heath, second; six entries. For a dark red or maroon self Mr. Jas. Douglas scored with superb flowers of Mrs. George Henwood, a splendid variety; Mr. Lakeman second. Yellow selfs were good, and from six entries Mr. Jas. Douglas scored with Daffodil, of a fine colour; Mr. H. Lakeman second.

Mr. Jas. Douglas secured first place for a red or scarlet self with capital specimens of Fujiyama, a fine flower that shows occasionally a few pale specks; Mr. H. Lakeman second with Cardinal. Mr. Lakeman was the best exhibitor of a terra-cotta variety, and gained the first prize with Elizabeth Shiffner; Mr. J. Douglas second with the same variety. Mr. Jas. Douglas was placed first for "any other colour," and won with Purple Emperor; Messrs. A. R. Brown, Lim., second. Mr. Jas. Douglas won first prizes monotonously, and led for yellow-ground picotees with John Ruskin; Mr. W. H. Parton second. Yellow or buff ground fancies were fine; Mr. J. Douglas had the best vase of nine blooms, and he was well ahead with Edenside, heavily marked with deep crimson; Mr. Hayward Mathias, Medstead, second. For white ground fancies Mr. J. Douglas scored with the beautiful scarlet marked Daisy Walker, a lovely flower.

In the seedling classes, the flowers had to be raised by and in the possession of the exhibitor; there were few entries, and names of varieties were chiefly conspicuous by their absence. Mr. H. Mathias had the best self, a rose-pink; he was also first for a fancy with a buff-ground, rose-coloured flower of good size; Mr. H. R. Taylor, Cheam, scored for a yellow-ground picotee with Aureus, with a wire edge.

Mr. Jas. Douglas scored for three flowers, each of four distinct self varieties, in vases, and won with Basuto, Daffodil, Miss Willmott, and Farthest North; Mr. C. Blick second; and Mr. H. J. Payne, Rudgwick, Surrey, third. Mr. Douglas had the best four varieties of fancies, three blooms of each, and here he scored with gorgeous flowers of Edenside, Pasquin, Queen Eleanor, and Lord Steyne; Mr. H. Mathias second; and Mr. C. Blick third; this was a good class.

Premier award for four varieties of white-ground carnations was awarded to Mr. J. Douglas for The Bride, Montrose, Mrs. Percy Ower, and Milly; Mr. C. Blick second; and Mr. Payne third. Four yellow-ground varieties, three blooms of each, made a good class; Mr. Douglas was again first, and scored with Onward, Togo, John Ruskin, and Mr. J. J. Keen; Mr. Blick second; and Mr. Payne third.

In the series of classes of similar character, but for three blooms instead of six, Mr. W. H. Parton scored for a rose self; Mr. J. Fairlie for a white self, with Farthest North; Mr. C. A. Linzee for a maroon with W. H. Parton; and Miss Shiffner, Lewis, for a yellow self with Daffodil; Mr. R. Morton, for a scarlet self, with Miss Willmott; Mr. Morton, for a yellow-ground picotee, with John Ruskin; Mr. H. W. Frostick, Thornton Heath, for a terra-cotta self, with Elizabeth Shiffner; Mr. J. Fairlie, for "any other colour," with Irme, a purple flower; Mr. J. A. Fort, for a fancy, with Pasquin, very fine.

MARTIN SMITH CLASS.

Probably the most important class, and certainly the one that interested the public most, was the competition for the Martin Smith Challenge Cup. Twelve varieties are needed, three blooms of each, in vases, representing selfs, fancies, and yellow-ground picotees. There were three competitors, and once more Mr. R. H. Morton, Woodside Park, N., won the cup, and did so with fine examples of Donald Macdonald, Basuto, Lord Steyne, Bookham White, Linkman, Margaret Lennox, Miss Willmott, Onward, Cardinal, Skirmisher, and Santa Claus; second prize went to Mr. W. H. Parton, Moseley; and third to Mr. J. Fairlie, Acton.

FLOWERS ON CARDS.

Mr. Jas. Douglas, Edenside, Great Bookham, led for a dozen bizarre and flaked varieties — the old-fashioned carnations — with bright flowers of good size; Recorder, Torchlight, Meteor, Master Fred, and J. S. Headerley were his best varieties; there were four entries; Mr. C. Blick, Hayes, second; and Messrs. A .R. Brown, Lim., Birmingham, third.

Mr. Jas. Douglas was a capital first for a dozen selfs, and here he had lovely blooms of Bookham White, Mrs. George Marshall, Bookham Yellow, Cardinal, May Day, Maud Allen, Basuto, Miss Schiffner, Ruby, Robt. Bruce, Mrs. Guy Sebright, and Miss Willmott; Mr. Hayward Mathew second, and Messrs. A. R. Brown third.

Mr. C. Blick was first for fancies, and led with handsome examples of Lord Steyne, Victory, Bombardier, Thomas à Becket, Skirmisher, Capt. Scott, Mohawk, Rosamond, Stella Carol, Linkman, Hercules, and Prince Albert; Mr. H. Mathias second, and Messrs. A. R. Brown, Lim., third; and Mr. Jas. Douglas fourth. Mr. Douglas came to the front again in the class for a dozen white-ground picotees, and here he had Harry Kenyon, Fair Maiden, Fortrose, President, and Mr. G. Chaundy in fine form; Mr. C. Blick second. The premier set of yellow-ground picotees came from Mr. C. Blick, whose Her Majesty, Neil Kenyon, Onward, John Ruskin, and Miss Winifred were capital; Mr. J. Douglas second.

In the second division, for flowers on cards, in boxes, six flowers of the various kinds were required. Mr. H. R. Taylor, Cheam, led for flakes and bizarres with some good flowers; Mr. J. Fairlie, Acton, coming second; and Mr. C. A. Linzee, Alresford, third. For selfs, Mr. Taylor again took the lead, Mr. Linzee second, and Mr. J. A. Fort, Winchester, third. Mr. Taylor scored for fancies, and here he had Nobleman, Lord Steyne, Erle King, Linkman, Hidalgo, and Queen Eleanor in good condition; Mr. Fort second, and Mr. Linzee third. Mr. J. J. Keen, Southampton, Mr. H. R. Taylor, and Mr. Fort took the awards for white-ground picotees; and Messrs. Taylor, Parton, and Linzee were the winners for yellow-grounds.

In the small growers' section, Mr. W. Thornton, East Cowes; Mr. E. M. Painter, Brentford; Mr. E. Walters, Newbury; and Mr. E. W. Folkes, Norbury, were the leading prize-winners.

PREMIER BLOOMS.

The best self in the show was Mrs. George Marshall, shown by Mr. Jas. Douglas; premier fancy, Linkman, from Mr. H. R. Taylor; premier light-edged picotee, Eclipse, shown by Mr. H. R. Taylor; premier white-ground fancy, Daisy Walker, shown by Mr. Jas. Douglas; premier bizarre, Robt. Houlgrave, from Mr. J. Douglas. On cards.—Premier flake, Gordon Lewis, from Mr. Jas. Fairlie; premier show self, Mrs. George Marshall, from Mr. C. A. Linzee; premier fancy, Linkman, from Mr. Jas. Douglas; premier heavy-edged white picotee, John Smith, from Mr. J. J. Keen; premier light-edged white, Melita, from Mr. C. Blick; premier heavy-edged yellow picotee, Her Majesty, from Mr. C. Blick; and premier light-edged yellow picotee, Eclipse, from Mr. H. R. Taylor.

EXHIBITING PLANTS AND CUT FLOWERS.

There is, at the present time, a tendency on the part of exhibitors to break away from the orthodox manner of arranging plants and cut flowers at horticultural exhibitions. Such efforts are to be commended. For many years past it has appeared surprising to me that they could rest content with commonplace and inartistic styles. But, perhaps, they were not content, but had to follow custom owing to circumstances over which they had no control. For my own part, when arranging exhibits in competition from private gardens, I always tried to introduce fresh features so as to make them look more attractive and to gain points for general effect.

The many excellent illustrations of groups, etc., which have appeared in the pages of THE GARDENERS' MAGAZINE have shown clearly the splendid advance that has been made in the art of arrangement on the part of trade exhibitors. This advance, to my mind, is too slow, but, of course, there are many obstacles in the way over which neither the exhibitor nor the show officials have any effective control. The members of up-to-date councils are fully aware of the great importance of presenting the various objects to public notice in a tasteful manner, and do all they can to assist the exhibitors. The character of each exhibit must be taken into account, and the effect should not be marred in order to follow out some fantastic idea. On the contrary, all plants and flowers should be so arranged as to present an appearance at once natural and tasteful. In staging fruits, what a splendid improvement has been made during the past few years. At the leading London and provincial exhibitions, the contributions to the great classes for collections of dessert fruits on decorated tables at once arrest general attention and enhance the beauty of the whole show. Similar efforts should be made at smaller shows, and where, necessarily, smaller prizes have to be given. Even vegetables, especially collections, are now staged in much better style than was the case ten years ago. There is not a wide scope here for the exhibitor, but in the case of flowers, groups of flowering and foliage plants in pots and cut flowers combined with pot plants, there is an unlimited opportunity for the display of taste.

Trade exhibitors often have so many plants or flowers at home which are so good that they wish to present them to public notice that they are tempted to bring too many. Frequently they exhibit all to the detriment of the exhibit through overcrowding. More exhibits should be staged on the ground, or on stages not more than 1ft. high. It is a great mistake to pile up, say, such flowers as delphiniums and phloxes on a stage from 3ft. to 4ft. high. The same remark applies to chrysanthemums with long stems in tall vases. With regard to hardy border flowers, there should be a distinct line between each variety, as well as each kind. This may be accomplished without stiffness of arrangement. Groups and borders of herbaceous flowers, arranged on the ground, after the style of grouping adopted in the case of stove and greenhouse plants, would be effective. In a word, exhibitors of these and like flowers may, with advantage, follow the methods of exhibitors of rock gardens. It is not very expensive to make such displays of the lovely hardy flowers now becoming more and more popular with the general public.

G. B.

NEW PLANTS AND FLOWERS.

CARNATIONS.

Firefly.—An attractive border variety, with large, scented flowers of a fine red-scarlet shade. Good stems and calyx, and apparently a very good grower, but scarcely refined enough for show purposes, though none the less useful on that account. A.M., R.H.S., July 15. Mr. Jas. Douglas, Great Bookham.

Bookham White.—A very fine white border carnation, of good form and size, and robust habit. It was greatly admired when shown at Holland House, and it was included in several stands of exhibition blooms at the Carnation Show last week. A.M., R.H.S., July 15. Mr. J. Douglas.

NEW BORDER CARNATION BOOKHAM WHITE.
Flowers pure white. A.M., R.H.S., July 15. Mr. J. Douglas, Great Bookham.

PAPHINIA CRISTATA.

Though long known in gardens, this dwarf orchid is now rarely found in collections. The flowers are generally produced in short horizontal spikes, generally carrying two blooms. Each flower has a spread of about four inches; the colour is rich wine-red, with white lines, and a white fringed tip to the purplish-red lip. A.M., R.H.S., July 15. Messrs. Charlesworth and Co., Hayward's Heath.

ODONTIODA THWAITESI PURPLE EMPEROR.

A handsome, distinct, and strong-growing form of the hybrid between Odontoglossum Harryanum and Cochlioda vulcanica. The large purple flowers, each with lilac-purple, white-spotted lip, were borne on a closely-branched spike, and there were thirty-five of them on the one inflorescence. A.M., R.H.S., July 15. Mr. E. H. Davidson, Orchid Dene, Twyford.

ODONTIODA COOKSONIÆ VENUSTUM.

A very beautiful orchid, the flowers shapely and well set on a graceful spike. The colour

is brilliant scarlet-red, with a yellow crest and white apex to the lip. A.M., R.H.S., July 15. Sir George Holford (grover, Mr. H. Alexander), Westonbirt, Tetbury.

DENDROBIUM DEAREI McBEAN'S VAR.
A splendid variety of a well-known white-flowered species. The flowers are of larger size than usual, of fine form, and carried in good raceme-like spikes. F.C.C., R.H.S., July 15. Messrs. J. and A. McBean, Cooksbridge.

DELPHINIUM MRS. W. J. SANDERSON.
A beautiful and particularly effective variety, with shapely flowers set closely on a tall and ample spike. The colour is very rich bright blue of a very pure shade; a white centre further increases the effectiveness of this newcomer. A.M., R.H.S., July 15. W. J. Sanderson, Esq., Warkworth, Northumberland.

HARDY CYCLAMEN.

These distinct and pretty hardy plants are quite easy to grow when planted in favourable aspects, and have suitable soil. They may be successfully cultivated and even naturalised in shrubberies and woods. The most perfect place for their cultivation is, perhaps, the rock and Alpine garden, or under trees, where the soil is well drained, for they do not flourish in soil that is continually saturated. In their native homes they are found in various places and soils. The most natural medium is decayed leaves, and, indeed, decayed vegetation generally. When a colony or plantation is to be formed, select a shady spot with a well-drained soil, which, if heavy, must be made lighter with leaf soil, sand, mortar rubbish, or broken sandstone. A situation facing north would be the best in the southern counties. They will flourish under small specimens of Abies excelsa, and also under rhododendrons, and, in fact, any shrub. The lower branches of these should be cut away so that shade is afforded without depriving them of a fair amount of light.

Corms are best planted when dormant. Planting should be done in June and July for autumn and winter-flowering species, and in August and September for those flowering in spring. Plant the bulbs in a good layer of sand and leaf soil, make firm, and cover with either fine leaf soil or cocoanut fibre refuse for protection from drought and from frost. The frost should not be allowed to harm them, at all events, in the first season after planting, when they will eventually become acclimatised.

Cyclamen may be raised from seed, which should be sown, when ripe, in pans of rich, sweet soil. The seeds quickly germinate if the seed is fresh, but very slowly if old. Grow in a cool frame, which, however, should be kept closed in cold, windy weather, in order to allow the plants uninterrupted growth in the early stages, when they have made a second leaf. They should be potted up singly, using small thumbs. Plunge each pot in fine ashes or leaf soil. When this is done they do not dry so readily, and consequently no check is received. During these early stages they must receive continual light shade. The natural growth is very slow, so no disappointment should be felt if the progress is not so rapid as expected. After the second winter the plants will be ready for transferring to the open quarters. C. Coum, deep rose, C. Coum album, white, and C. libanoticum, white with red centre, are very pretty, and most attractive in their season of flowering. C. coum is the smallest of all, the flower-stems rarely exceeding three to four inches in length. They are perfectly hardy when established. C. libanoticum is a native of Asia Minor. C. Atkinsi, C. a. album, and C. a. roseum all produce their flowers in March, and present a charming appearance. C. ibericum is a new form of C. Coum, and is found on the Iberian mountains. C. repandum also flowers in March. C. europæum flowers in August and September, and anyone who has seen a colony growing satisfactorily will not forget the effect. I have seen plants nearly a foot across, completely covered in flowers, and hundreds of them, under tall, spreading conifers. C. neapolitanum and C. pyrenaicum flower in August and September, and are very beautiful.

During the time growth is being made sufficient moisture should be given to ensure both leaves and flowers being fully developed. The seed-pods frequently remain on the plants five or six months. The corms, leaves, and flower-stems must be protected from the ravages of slugs, wireworm, and greenfly. They are liable to attacks from all these pests, and therefore must be watched, and remedies applied at once. Several applications of a weak solution of a nicotine preparation will rid the foliage of aphis, and in the case of wireworm cut a carrot in half and stick the portions in the ground close to the corm, and examine them twice daily, and destroy the wireworms that are caught. Slugs must be trapped by the aid of lettuce leaves, and a small sprinkling of a mixture of soot and lime may be placed around the plants at some distance. W. A. COOK.
Leonardslee Gardens.

THE MORELLO CHERRY IN SCOTTISH GARDENS.

The cool and usually moist conditions pertaining to the northern climate are conducive to the health, growth, and general successful culture of the Morello cherry. As a rule, full crops of large, well-coloured fruits are annually produced. A northern aspect, backed by a wall, against which the branches are trained, is usually made use of, as sunshine, so essential for most other fruits, is of less importance to the Morello. Here the trees thrive and extend apace, and speedily become fruitful if the few necessary items which enter largely into the success or otherwise of their cultivation are timeously attended to. With the exception of liability to attack of red spider in hot, dry seasons, no other kind of insect seldom, if ever, molests the foliage; and this pest is easily kept in check, in fact, exterminated, in its early stages if the spray machine and one of the numerous compounds so frequently advertised in the pages of THE GARDENERS' MAGAZINE are brought into use.

The rooting spaces being towards the north, and consequently less affected by the sun's rays, might at first thought be considered exempt from the evils arising from drought. Such, however, is far from correct, as, with the usually moisture-bearing winds advancing from the opposite direction, the trees might possibly receive but little benefit therefrom; hence timely mulchings of litter or other light material should be applied to conserve as far as possible the moisture which the soil contained. Gumming of the branches is less prevalent with the Morello than with the dessert type of cherry, all the same care should be taken that wounds are not inflicted upon the bark, and that in pruning clean cuts are made. When the severance of large branches becomes necessary, the stumps of those remaining should be smoothed with the knife, and then dressed with some adhesive mixture or coal tar, to prevent the ingress of moisture.

Pruning and Training.

The fan-shaped method of training is best suited for the Morello, hence it follows that the system of pruning pursued should coincide therewith. This is usually carried out in early spring by cutting clean away most of the shoots that have borne fruit, and replacing them with others produced during the preceding summer. Most of the shoots that spring from the front of the branches are removed, while those at the sides, but more particularly at the upper sides, which are most amenable to the training process, and give the best appearance when brought into position, are retained. The spectacle presented very often by a newly-trained tree is not commendable, as far too many shoots are retained upon the branches.

In case of trees of considerable age it may be advantageous to retain a fair amount of the smaller fore-right growths for a season, or until they have produced fruit, when they may be removed to afford space for their successors. In this way the trees may be kept better furnished with fruiting wood, and an improved appearance is likewise maintained at all seasons. With young, vigorous trees nails and shreds, or, in the case of wired walls, tying will be the most readily adaptable mode of securing the branches, the leaders in each case being kept straight and wide-spread according to the wall space desirous of being covered. As time goes on, and the trees enlarge, many of the shoots from the base of the tree upwards may be secured by being tied to the larger branches, which, while giving effect, is a more speedy and less expensive method than by using nails in excess of the actual requirements. The Morello, as compared with other sections of the genus, blossoms late in season, and generally escapes damage from frosts. In this respect the drooping habit of the bloom trusses is also in its favour.

Preserving the Fruit.

Though birds are less troublesome than in the case of sweet cherries, no time must be lost when the fruits show colour in securely netting the trees as a protection against attack, which is often made quite suddenly, and before one is aware, the greater part of the crop may have vanished in this unpleasing fashion. As the season in which this fruit is available generally extends to fully six weeks, from the middle of August to the end of September, one is somewhat amazed that greater use is not made in gardens generally of the bare spaces so often observed in what are considered unfavourable positions, but which, with due preparation of the soil, might be made to produce abundant crops of this useful fruit. It is needless to enter upon any lengthy description of the various uses to which this may be put, as apart from the several forms of preservation, whereby supplies can be prolonged throughout the year, it is always welcomed in its fresh state for kitchen use; and finely-grown, well-ripened fruits are in many families much appreciated for dessert, as summer fruits of other species are waning, or have quite disappeared, from the supply list.

The Choice of Trees.

Wherever possible, the intending planter should visit the nursery of repute, and select the trees required, and see that such are skilfully worked or grafted, and that the union of scion and stock is so well in harmony that no roughness of either wood or bark exists. The branches, too, where diverging, should be in regular order, and evenly balanced. JAMES DAY.

DEUTZIA PARVIFLORA.

Before the introduction of Deutzia parviflora thirty years ago there were only two species of the genus grown to any extent in English gardens, those being the well known forcing plant D. gracilis and the more vigorous D. crenata. With the introduction of D. parviflora, however, there came a change, for its appearance was followed by others, and, with the aid of D. gracilis and some of the newer species, M. Lemoine, of Nancy, was successful in raising a number of hybrids, which are ornamental and useful garden plants.

D. parviflora is a native of Northern China and Amurland, and was originally introduced to the European gardens by way of the St. Petersburg Botanic Garden. From thence it was sent to the Arnold Arboretum, and a description of the plant growing in that establishment was given in the "Garden and Forest," 1888, p. 365. In appearance the species is upright and vigorous, four to five feet in height, with elliptical or lance-shaped leaves, with sharply serrate margins. The white, shapely flowers are produced in both axillary and terminal corymbs towards the end of May, but their effectiveness is sometimes spoiled by late frosts, for, like other shrubs from regions where a cold and rather prolonged winter is experienced, they commence to grow too early here, and although perfectly hardy so far as winter frost is concerned, are liable to injury when the young shoots are tender in spring.

The first hybrid raised between this and the old D. gracilis was named D. Lemoinei, and it was figured and described about 1895. In point of hardiness it is about equal to the parents, and is intermediate in character, the inflorescences being after the style of those of D. parviflora. In addition to the type, there is a form known as D. Lemoinei compacta, which is also a very pretty shrub. D. parviflora and the hybrids may be grown in loamy soil in an outdoor border, or they may be used for forcing. W. DALLIMORE.

NEW BORDER CARNATION FIREFLY.

Flowers rich scarlet. A.M., R.H.S., July 15. Mr. J. Douglas, Great Bookham.

JAPANESE HARDY ORCHIDS.—I.

Japan is rich in hardy orchids; more so than the generality of hardy plant lovers are aware. Many a mountain path and wooded height, and many a lowland valley are rich with hardy orchids, and some of them are very deserving of recognition at the hands of English growers. It is strange to note that, though the orchids of Japan are different from the majority of the British forms, yet in a few cases one may meet with species which are common to both countries. As an instance of this I need only quote Herminium monarchis, Goodyera repens, and Malaxis paludosa, to illustrate my remarks. These are typical "natives" of the island kingdoms of the East and West.

Of the three forms quoted, Herminium monarchis is the "Musk Herminium," which, with its small yellowish-green flowers, and honeyed musk perfume, is sparsely distributed through our own southern and eastern counties. Goodyera repens haunts the pine woods of the highlands, and has been found as far south as the northern counties of England. It is indeed a charming plant, and its spikes of small, creamy-white flowers are delightful. Malaxis paludosa, a true bog orchid, lingering still among the mountain lakes and bog swamps, finding a home amid the sphagnum, is native both of Wales and Southern England. Its rather insignificant appearance, and greenish-yellow flowers, have doubtless helped to preserve it largely from wanton hands. In Japan it is found in the sphagnum swamps on the high mountains around Nikko, but it is somewhat rare. Calypso bulbosa, var. japonica, is an interesting and showy native of the wooded hills of Central and Northern Japan. It is remarkable for its deep green corded leaves and its attractive pinkish-winged blossoms.

Of cypripediums we may briefly note C. Yatameanum, from the tree region of Mount Togakushi, and Hokkaido. It is of creeping habit, produces its leaves in pairs, and the yellowish-green blossoms are heavily marked and spotted with brown. C. Debile, a charming species, with golden, half-drooping blossoms, is deserving of culture, and hails from the woods around Nikko. C. macranthum, of which the best forms grow on the grassy slopes of Fuji-Yama, is an ideal subject, and the huge rosy blossoms are one of the delights of the orchid world. C. japonicum is also very fine, giving large attractive blossoms of decided merit, and showing the white, pink, and purplish colourings in a delightful manner.

Listeras in varied forms are found in the tree belt upon the mountains, and are not without interest. True, they are among the least attractive of orchids, and yet they have a simple charm which is of certain interest. L. Yatabei is a native of Mid-Japan, being most plentiful around Ontake and Nikko. The growths are very slender, carrying twin leaves and greenish, loosely-arranged blossoms. L. cordata and L. Savatieri are found both in Central and South Japan; the former carries green, white-tipped flowers set closely upon the spikes, the latter with its leaves low down on the stem (often lined with silver), and its sparsely-set blossoms of greenish hue. Both blossom in July and August. In L. nipponica we meet with a delightful little gem. The blossoms show a rare combination of bronzy-yellow, green, and pink, coming to beauty during August. It is chiefly found in Central Japan, especially around Yatsugatake and Nikko.

The gymnadenias show more diversity, and are well worthy of attention. These orchids are not very difficult, and, coming from the tree regions, are best accommodated in a well-drained, leafy soil and a shady position. G. Chidori is glorious, carrying a lovely crimson colouring, which pales to pink and white. It is single-leaved, and possesses the fleshy roots characteristic of the genus. The flowering season is June. It is a rarity of its class, and its principal habitat is at Tosa and Idzu. G. conopsea is very deserving of note, and, unlike its confrères, it is found largely in the boggy mountain swamps of Central and Northern Japan. The roots are palmate and tuberous, and the blossoms are produced upon tall, leafy stems (very grass-like in form), and are of a delightful shade of pink, with often twenty or more upon a stem. G. cuculata, a native of Central and Southern Japan, including Mount Fuji, is less attractive. The flowers are small and mauve-purple in colour. Twin leaves are formed at the base of the stem, and leafy bracts upon it. Flowers chiefly in August. G. cyclochila, a gem from the districts around Fuji and Nikko, flowers in July. The blossoms are pink, with a large lip, red-spotted, and are often produced in pairs. A single leaf is carried at the base of the stem, and two smaller ones beneath the blossom; these are rounded, the plant in blossom being very pretty. G. gracilis, mainly confined to southern districts, carries a single leaf and a spike of small purplish blossoms. G. Keiskei is decidedly worth attention. Coming from Central Japan, it exhibits its charms in two distinct forms. The type is a charming pink, and alba, the white form, is undoubtedly a natural variety, and is much rarer. They produce the typical single leaf and flower in June, both forms being of decided merit. G. rupestris, the "rock-loving gymnadenia," is found upon shaded rocks in Central and Northern districts. The flowers are of good size, lilac-pink in hue, lightly spotted with brown. The leaves are grassy in appearance and stem-clasping, and the plant is in beauty during July.

Very quaint are the platantheras, which inhabit the grassy, higher levels of the mountains. These necessarily require a drier and more open situation, and just a surface covering of minor plants. They are, however, not a really attractive group, their interest being greater than their beauty. P. decipiens is the best, and, unlike the majority of platantheras, it haunts the tree belts. It grows a foot or more in height, producing leafy flower-spikes which are rather thickly crowded with rosy-mauve and white blossoms. The flowering-time is May and June. Another woodland form is P. Tinumea, which has tall spikes of green and yellow blossoms. It flowers in July, and the large-ribbed leaves are of aspidistra-like formation. Three typical grassland forms are P. minor, P. Matsudai, and P. Takedai.

P. S. HAYWARD.

(To be continued.)

BUDDLEIA GLOBOSA.

In the southern counties this very distinct flowering shrub grows freely enough in warm, open positions. In the northern midlands and in the northern counties shelter is desirable, and it is, in many instances, planted near walls. Undoubtedly a warm spot is conducive to the proper ripening of the wood and the free flowering of the plant the following year, but many specimens lose great numbers of basal leaves when they are planted in a light, well-drained soil and a hot season comes.

I know of several beautiful specimens which have, during the past few years, degenerated very much owing to over-dryness at the roots and lack of attention in hot weather. The cultivator should not wait for a dry spell to come, but at once see that the soil is sufficiently moist, and top-dress with good loam, as well as feed with liquid manure. Much may be done in a cool and moderately moist period to improve their condition.

GEO. GARNER.

DISEASES OF RASPBERRY AND LOGANBERRY.

During recent years the canes of raspberries and loganberries have been observed to suffer to a considerable extent from the effects produced by microscopic, parasitic fungi, which are stated to be yearly extending their range of activity. The fungi implicated have been known for more than half a century as parasites on wild roses, brambles, and other rosaceous plants, and their rapid extension during recent years does not imply any increased power of parasitism, but is simply due to the increased number of suitable host-plants grown in juxtaposition.

Hendersonia rubi, Westendorp, is responsible for most of the injury caused to raspberries and loganberries. The canes or stems are the parts attacked, infection taking place during the summer, when the young growth is tender. The first indication of the presence of the parasites varies to some extent with the particular variety attacked, but as a rule lurid red or purplish patches of variable size appear on the stem. Such patches continue for some time to increase in size, and during the winter change to a pale grey or dingy white colour, due to the bark having been killed. At this stage the fruit of the fungus, in the form of minute black dots, is thickly scattered over the dead, white patches of bark. Microscopic examination shows that the minute black fruits contain myriads of coloured, four-celled spores. When mature these spores escape into the air, and those that happen to alight on young shoots germinate and enter the tissues, thus ensuring the continuance of the disease in the following season. When several diseased patches are present the canes are killed outright during the winter, whereas when only one or two diseased areas are present, the cane may survive and produce a certain amount of fruit. As the spores of the fungus, however, will be present in such cases, it is sound policy, even at the sacrifice of a certain amount of fruit, to remove and burn all canes, however slightly attacked, as it is only by such means that the disease can be eradicated. Infection mostly takes place at the period of the year when fruit is present, hence spraying cannot be resorted to unless the fruit is sacrificed, when Bordeaux mixture should be used. Even in these circumstances every diseased cane should be cut down the moment it is observed. The practice, common in many places, of allowing the dead canes to remain standing throughout the winter, is to be condemned.

A second fungus, Ascochyta pallor, Berk., sometimes occurs as a parasite on the stems of raspberries, roses, and brambles. It forms whitish dead patches, studded with black dot-like fruit. Treatment should be similar to that suggested against Hendersonia rubi.

—*Board of Agriculture Leaflet.*

STREPTOCARPUSES.

Few flowers have been so much improved during recent years as the streptocarpus, and those who saw the beautiful plants exhibited at the Chelsea Show were able to note how much finer the flowers were than in the case of those seen at exhibitions eight or ten years ago. Taking into account how beautiful the modern streptocarpus is, it is a matter for wonder that plants are not more largely grown in gardens than is the case at present.

There is a great improvement, not only in the flowers, but in the habit of growth, and the formation and symmetrical arrangement of the leaves generally. The flowers range in colour from pure white, through various shades of pink, rose, red, blue, to deep purple. The variety Royal Purple was probably the first of the large-flowered forms, but since its arrival, owing to skilful cross-fertilisation, the present race has quickly sprung up.

The streptocarpuses give the best results when treated as biennials, although the same plants can be grown on for a number of years, but the blooms deteriorate under such conditions. Seeds should be sown early in the year, in well-drained pots or pans filled with a fine sandy compost. It is preferable to water the compost before sowing the seeds, and to allow the pans to stand for several hours. Distribute the seeds very thinly, and just sift the lightest possible covering of the compost over it. Place the pans in a warm house to germinate, cover them with glass, and shade from sunshine. When the seedlings are large enough to handle prick them off into pans filled with a light peaty compost, and grow them on in genial warmth, at all times shading them from the direct rays of the sun.

A little later they may be transferred separately into 60's. For this potting use two parts good fibrous loam and one part flaky leaf-soil, with the addition of sufficient silver sand and crushed charcoal to keep the compost sweet and porous. If the loam is deficient in fibre a little good peat should be added. Press the soil fairly firmly around the roots, and return the plants to the same structure until well established, when they may be removed to a cooler house or frame. Give water sparingly until the roots take possession of the new soil, but at no time must they be kept too wet at the roots. Plants will flower towards the end of the first summer, but it is not well to allow them to keep in bloom too long if good specimens are required the second year. By allowing them to flower the standard of the blooms is ascertained, and any inferior forms can be discarded.

Towards the end of the autumn commence to dry off the plants by gradually withholding water, and allow them a rest of several weeks' duration in the winter. They should be shaken out and repotted at the end of January or early in February. Use a similar compost to that previously recommended, only in a rather coarser condition, and transfer the plants to 48's and 32's, according to their size. The pots must be perfectly clean and well crocked, and may have a few half-inch bones scattered over the drainage. Pot rather firmly, and grow the plants in a temperature of 50 degrees for a start, but a little later they may be gradually raised to 60 degrees. Give them a position near the glass, and keep the roof well washed to admit the maximum amount of light. It is beneficial to spray between the pots, but avoid wetting the foliage. Give water with special care, but later on, when the pots become full of roots, applications of soot water and weak liquid manure will be beneficial.

When the sun gains power shade the plants from bright sunshine, and fumigate the house occasionally to keep down greenfly. If the dead blooms are picked off as they appear, the plants will continue to bloom throughout the summer. Streptocarpuses are sometimes used for furnishing rockeries in a conservatory, and they succeed under such conditions, and associate well with ferns and other foliage plants.

J. Gardner.

THE STATELY CINERARIA.

Since the introduction of the star cineraria, and its rapid rise in popular favour, there is a tendency to scorn or disregard the large-flowering type. Yet this should not be so. In gardening, as in real life, we should have such a store of love as to retain a full affection for our many old friends, while ready to welcome with delight any newcomer. It must certainly be admitted that the star cineraria has many points of beauty which do not belong to the older type; but this does not justify us in casting the latter altogether aside. Each has its beauty in its own place, and in an artistic conservatory both must be found.

The difference in the two types is chiefly in appearance, and therefore also in their arrangement, but the details of culture which follow are common to both. It may be parenthetically remarked that Cineraria stellata is a splendid subject for the supply of cut flowers, lasting often for three weeks in a vase. To have a long supply of these plants, several sowings should be made, commencing towards the end of April, with the latest sowing in July. This will give us several batches, which will naturally link themselves together, by some plants of each outstripping their neighbours.

Gentle heat, combined with an atmosphere abounding, but not overloaded, with moisture, will quickly cause the young seedlings to appear, and before they become crowded it will be advisable to prick them off into pans or boxes. As in the case of all young seedlings, sandy soil, passed through a quarter-inch sieve, and devoid entirely of any stimulant, either natural or artificial, will be found an ideal medium for enabling them to become transformed quickly into plants capable of being easily handled. If in the boxes or pans the young plantlets are set at about two inches apart, the next removal may be into three-inch pots. If a long label be run into the soil and passed along the bottom of the box, the seedlings may be uplifted and the separation made easy and less injurious than when, as it were, cut out. A slight shake will remove the loose soil which is not in direct contact with the roots. While it is always desirable to reduce root disturbance to a minimum, the desire to do this must not be exaggerated by using a large portion of soil which serves no such purpose as root protection, and whose place could well be occupied by some more nourishing mixture.

Immediately after the appearance of the seedlings in the pan a cooler quarter should be chosen for them, and as they become more robust they may be gradually inured to cold frame treatment, with frequent sprayings with the syringe. During their growing season the plants enjoy a shady place such as is provided by a wall with a north aspect, with abundant ventilation, a moist atmosphere, and a uniform state of moisture at the roots. Indeed, from the sowing of the seed to the eventual and regretful consignment to the rubbish-heap, they should not be allowed to flag through dryness, nor wilt, as they often do, through sourness of soil consequent on stagnation of water at the roots.

Useful specimens of cinerarias may be grown in six-inch pots, but for the full development of the beautiful flowers and expansive leaves a further shift into an eight-inch pot is needed. If the soil suitable for the final shift be used, it may be toned down in its manurial parts for the intermediate pottings. I have had the best results from cinerarias which were potted in nut-brown loam full of fibre, and stacked for nearly a year with alternate layers of cow manure. This, with leaf-soil in the proportion of two of loam and one of leaf-soil, with the usual modicum of sharp sand, has given splendid results. Where cow manure is unobtainable, horse droppings will do, and in the case of a heavy loam they would be preferable.

It is often urged as a reason for not growing the cinerarias that they are "dirty" plants, because of their frequent subjection to the attacks of aphides. But considering how easy it is to destroy these by the prosaic yet powerful process of fumigating, the excuse seems puerile. Nor are they so prone to this evil if they are accorded strictly cold treatment and enjoy the frequent play of the syringe. Where there are but a few plants affected, a syringing with some weak wash, or even with soapy water, will remove the pests.

Not until the plants have nicely filled their final pots with roots should they be fed with liquid manure, and it should be given then for three days in succession, so that all the plants may receive benefit. The orthodox method is to water alternately with manure and with clear water. But it may happen that for many times in succession some plants may only be dry on the clear water day, whereas it is less likely that they will be passed over three consecutive times. A dry fertiliser dusted over the surface and hoed in with a piece of stick will afford change of diet, and the benefit will be reflected in the flowers.

It will be necessary to house the plants, or, at any rate, afford them protection, as the prospect of frost becomes imminent. But even at this period the amount of artificial heat should only be sufficient to ward off frost and dispel a surplus of moisture. The open trellis-work staging, standing immediately over the hot-water pipes, such as we see in many plant-houses, is most uncongenial to the cineraria. It results in the modicum of moisture and absence of the direct play of heat on its foliage, afforded by a flat staging, covered by finely-sifted shingle or coal ashes. This, combined with abundant ventilation on all possible occasions, and care in watering, will enable the plants to flower freely and well.

W. F. Rowles.

Coleworts of the first sowing may be planted in dull or showery weather on land previously occupied by potatoes or old strawberries, manure being applied or withheld as may seem necessary. Given a rich soil, coleworts make rapid growth, and turn in earlier than those in unmanured ground. The richer the soil the greater the distance apart at which to plant the London and Rosette varieties, fifteen inches being the maximum. A heavy dressing of freshly-slaked lime should be incorporated with the soil, as a guard against grub and wireworm. The seed beds of the successional sowings should not lack water.—W. Messenger, Woolverstone Park Gardens.

THE ROCK ROSES, OR GUM CISTUSES.

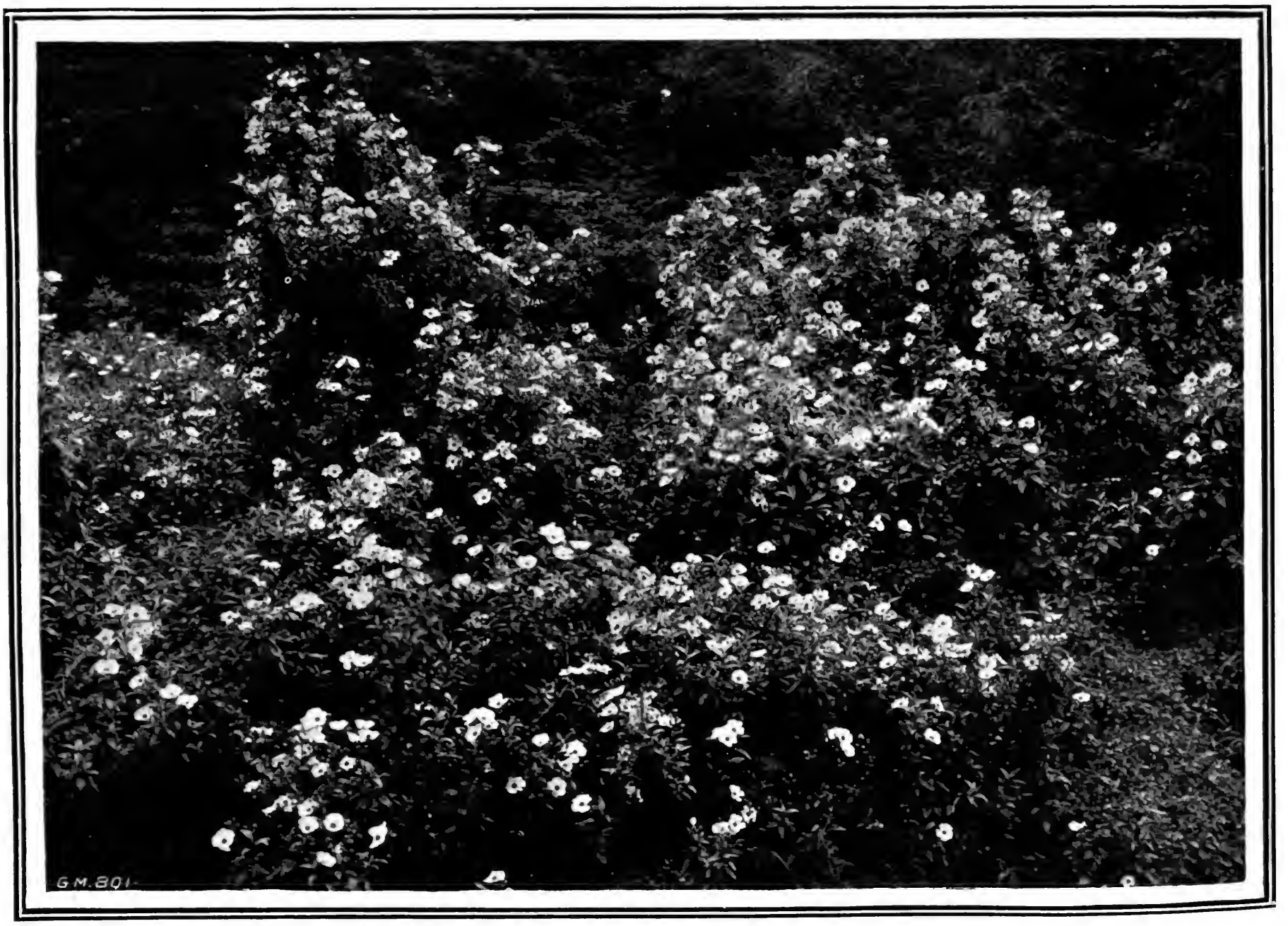
The cistuses, when in full beauty from May to July, form one of our most showy families of shrubs. Being natives of South Europe, particularly in what is known as the Mediterranean region, North Africa, and the Canary Islands, warm and sheltered spots should be chosen for their cultivation. In the favourable climate of the south and west the rock roses, to use a familiar expression, "grow like weeds." The mild winters of the last few years have been very favourable for their growth in most gardens, but occasionally a more severe winter than usual is experienced, killing a good many plants outright, unless protected or growing in warm, sheltered spots.

There are, however, varying degrees of hardiness among the cistuses, for whereas many species were killed outright at Kew during the severe frost of January and February, 1895, C. laurifolius was unharmed. The fact that some of the rock roses are just on the borderline of hardiness should not prevent cultivators planting them, for cuttings may be rooted in a cold frame towards the end of the summer, and these will soon replace losses occasioned by a more than usually severe winter. The flowers only last a day each, but any drawbacks in this direction are more than counterbalanced by the quantities of flowers each plant produces from day to day.

In cold localities it is advisable to plant the rock roses at the foot of sunny south walls. Sunny banks of sandy soil may be effectively clothed with cistus in company with, if thought desirable, the double furze and the more vigorous-growing helianthemums. The top of the rock garden, where the position is the hottest and well drained, and possibly consisting largely of stones, will grow rock roses. Wherever planted, the soil must be well drained, an excess of water at the roots of cistuses in winter being fatal; the position also must be sunny. Few plants repay more fully any little extra trouble in caring for their welfare than do the rock roses or gum cistus, either in the selection of a position for planting, the provision of soil, or protection from severe frosts in winter with mats, bracken, or spruce and yew branches.

Seeds and cuttings form ready means of propagation. The seeds may be sown as soon as ripe, or in spring. Cuttings root freely in a cold frame towards the end of the summer. Light, sandy soil should be used in filling the cutting pots, or, if large numbers of cuttings are to be inserted, a well-drained bed of sandy soil should be made up in the frame. Cistus being most difficult plants to transplant successfully, even in a small state, from the nursery beds to their permanent quarters, they should be cultivated in pots till large enough to plant out permanently. From time to time it becomes necessary to replace old and straggly plants with young stock. A pot of cuttings, at any rate, of the more tender sorts, should be inserted each year lest there should be losses through severe frosts. This will entail very little trouble, and, if not required, they may be discarded in spring.

In Sweet's Cistineæ, published from 1825 to 1830, fifty-two species and varieties are described. The "Kew Hand-list" enumerates twenty-five species and varieties, which may be taken as a guide to the number now in cultivation. Their nearest allies are the helianthemums. The two genera are fairly easy to distinguish at a glance, the cistus in most instances being much more vigorous in growth. Botanically the great difference is in the seed vessels, the helianthemums being three-celled and the cistuses five-celled or more. The yellow-flowered Helianthemum formosum is sometimes grown as Cistus formosus, but, strictly speaking, there is no yellow-flowered cistus.



CISTUS LADANIFERUS.
Flowers white and of large size.

C. albidus.

The specific name refers to the leaves, which are a hoary-white colour, being covered with a dense pubescence. The rose-coloured flowers are about two inches or rather more across, with a yellow centre. It forms a large, compact bush, two feet to five feet high. The leaves are sessile, uniting at the base, and surrounding the stem. A native of Corsica, Southern France, Portugal, and Italy.

C. corbariensis.

This is a natural hybrid, found growing wild in the mountains of Southern France and Spain. The reputed parents are C. populifolius and C. salvifolius. This is a free-growing rock rose, spreading over the

ground freely, and reaching a height of two feet to three feet or more. The ovate or heart-shaped leaves, which taper to a point, are comparatively small, being one inch to two inches long. The flowers are one inch to one and a-half inches across, white, with yellow centre, the buds and edges of the petals tipped with red. It is very free-flowering, being covered daily for some weeks with white flowers, and most effective at a distance. C. corbariensis may be regarded as one of the six hardiest rock roses.

C. crispus.

The flowers of this species are reddish-purple or pale crimson, two and a-half inches across, borne several together in a cyme. It forms a small, shapely bush, two feet or more in height, with narrow lanceolate leaves, which are distinctly pubescent. A native of the Mediterranean region.

outside which, towards the base of the petals, are prominent dark velvety blotches.

C. florentinus.

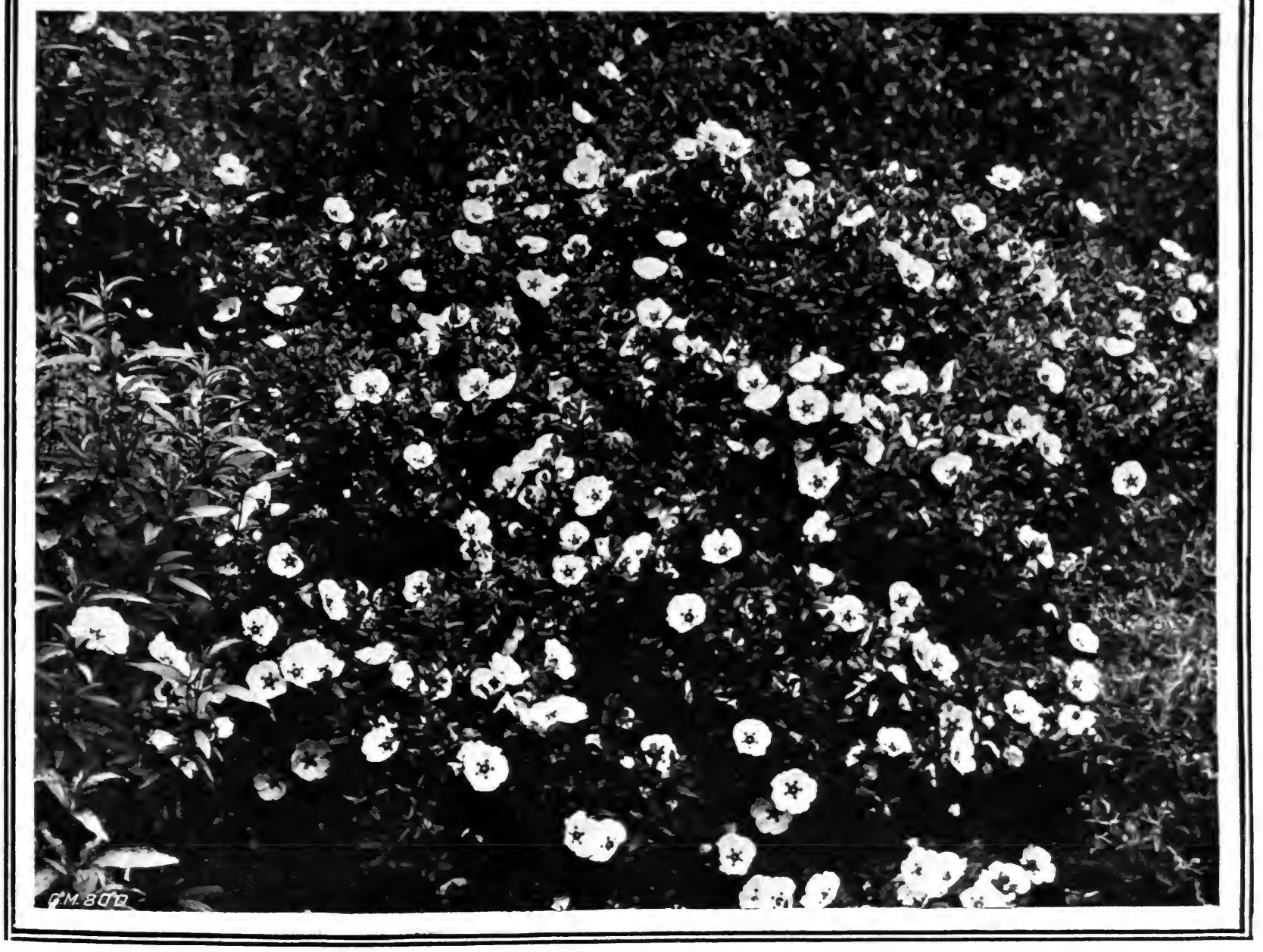
This is one of the most valuable cistuses for the rock garden. Being a low-growing, spreading shrub, it is very suitable for hanging over the ledges or boulders, and is quite at home with its roots between the stones where there is comparatively little soil. The leaves are linear-lanceolate, the flowers white, some two inches across, with a yellow centre. Found growing wild in Spain and the South of France, C. florentinus is generally regarded to be a natural hybrid between C. salvifolius and C. monspeliensis.

C. ladaniferus.

The true gum cistus, as figured in Sweet's Cistineæ, has a large, solitary, white flower without any blotches, and is comparatively

C. laurifolius.

As a hardy evergreen shrub this is the best species of the whole genus for general planting. It stood unharmed the severe winter of 1894-95, so may be safely planted freely in the pleasure grounds. Forming large, shapely bushes, five feet to eight feet or more in height, the laurel-leaved rock rose is an excellent plant for a hedge, being an attractive evergreen when not in flower, while during early summer the bushes produce an abundance of flowers. The leaves are dark green above, at first white beneath, which disappears with age, stalked, ovately-lanceolate, three inches to three and a-half inches long, the flowers are white, three inches to four inches across, six to nine flowers opening in succession, mostly clustered together at the top of a peduncle five inches to six inches long. It is a native of South-Western Europe, and was introduced in 1771.



CISTUS LORETI.

Flowers white with dark spots at base of petals.

C. cyprius.

As a garden plant this is in the forefront, and is cultivated in this country to a larger extent than any other rock rose. It is a hybrid between C. ladaniferus maculatus and C. laurifolius, and has been cultivated in this country for more than a century. Under the name of C. ladaniferus, a figure of C. cyprius is given in the "Botanical Magazine," tab. 112. The flowers of the true C. ladaniferus are always solitary, while those of C. cyprius are borne several together in a cyme. C. cyprius is one of the larger-growing species, four feet to five feet is an average height, but in the west and against walls there are much taller bushes. The leaves are dark glossy-green above, covered beneath with a white tomentum. The flowers exceed three inches in diameter, pure white, with a yellow centre,

rare in gardens. The form usually sold as C. ladaniferus is C. cyprius, perhaps for general purposes a better garden plant, producing a succession of flowers over a longer period, and it is also rather hardier. Growing at the foot of a south wall, however, with its large, solitary, white flowers, the true C. ladaniferus is a glorious rock rose. A variety which also has solitary flowers, but with the dark blotches on the petals, is usually grown as maculatus. Unfortunately this order of things is sometimes reversed, the form with the blotched flowers being sold as C. ladaniferus, and the one with pure white flowers as the variety immaculatus. C. ladaniferus is one of the taller-growing species, with narrow lanceolate leaves, and large, white, solitary flowers three inches or more in diameter. A native of Spain, Portugal, and Southern France.

C. Loreti.

Recently figured in the "Botanical Magazine," this hybrid cistus, though grown for some years at Kew, does not appear to be generally cultivated in gardens. It forms compact bushes three feet to four feet high, and is very floriferous. A most important point about C. Loreti is that while practically all the flowers on the other cistuses shatter soon after noon, they last in good condition on this hybrid most of the afternoon. The leaves are oblong-lanceolate, one to two inches long, dark green above, lighter beneath; flowers white, with dark blotches, one and a-quarter inches across. The parents are C. ladaniferus maculatus and C. monspeliensis. Being one of the hardiest rock roses, and very free flowering, C. Loreti should become very popular.

A. Osborne.

Kew.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

DECIDUOUS CALANTHES.—Plants that have been treated as advised in a previous note will have their growth advanced to the stage when the pseudo-bulbs commence to form. It is in this condition of growth that particular care is needed. It is essential to the future well-being of the plants to see that there is no accumulation of moisture in the centre of the growths; drip from the roof, syringing, or carelessness in watering, will convey moisture to the base of the newly-formed leaves, where it has no possibility of escape except by evaporation; here it is likely to become stagnant, and quickly subjects the advancing pseudo-bulbs to injury. Calanthes have practically filled their pots with roots, and care must be observed that the plants are not permitted to remain for any lengthened period in a dry state. In giving advice as to watering, I always feel that I am treading on dangerous ground. I have above stated that the plants should not be permitted to remain too long in a dry state; some readers may consider I wish to convey that the plants should not be permitted to become dry, or reasonably dry, at the roots between waterings. This is the reverse of my intention. There is always more danger of calanthes being carelessly overwatered than their suffering from want of moisture. Conditions vary, so every cultivator must use discretion; and if he has a keen interest in his plants he will readily discover from personal observation the treatment which is likely to be most beneficial. When the pseudo-bulbs have become well advanced, the plants may be benefited by applications of some safe liquid manure. Give a weak solution at first, and as the plants become matured and produce their flower scapes stronger solutions may be given and more frequently.

INFLUENCE OF LIGHT.—In the early stages of growth, and up to the time now under consideration, the foliage of calanthes is particularly subject to injury from strong light, and has thus far needed strict protection from the sun. From the time the pseudo-bulbs commence to form the light should be gradually increased. This will not only harden the foliage, but will also assist in ripening the pseudo-bulbs as they advance. This is essential, for one often sees large, sappy pseudo-bulbs producing flowers of inferior quality owing to the want of proper ripening. Where ample moisture can be provided during the daytime, I consider it advisable to have a drier atmosphere at night, particularly as the season advances and the growths are reaching maturity. The roof ventilators afford the best means of reducing atmospheric moisture, and with the discreet use of these and the heating apparatus the last thing at night, these conditions can be favourably obtained. The roof ventilators should be closed before damping in the morning.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

BEGONIA GLOIRE DE LORRAINE.—It is time now that the whole of these plants were shifted into their flowering pots. The most forward batch should be grown in 7in. pots, in which size they will make very large specimens if they are staked out carefully. The soil must be of a rich character, and be pressed moderately firm. A good batch of the later plants should be put into 5in. pots, and the latest batch of all into large 60's. These will be found of much greater value for decorative purposes than the large plants. For dinner-table decorations the smaller size are invaluable during the winter, and, with care, they may be used on several occasions. When they are fairly established they do not need so much artificial heat as is sometimes given them; indeed, they are much more useful, and will last in flower for a much longer period, when grown under cool conditions. A night temperature of 60 degrees is ample during the later stages of growth, and when in flower the temperature may be considerably lowered. This begonia is very suitable for growing in baskets, and it is not too late now to make up baskets if plants are available. They make charming objects for hanging from the roof of the conservatory during the winter months.

SALVIA SPLENDENS.—These are now growing freely in their flowering pots, and in order to keep them clean and healthy, strict attention must be given to watering and syringing. When syringing, make sure that the water reaches the under-side of the leaves, as it is there that red spider always attacks the plants. Should this pest obtain a footing, lose no time in drenching the foliage with an insecticide. Unless the plants are required to flower early, the growth must be again stopped at the end of the present month or early in August. Salvia Pitcheri must also be liberally treated now that roots and growth are active. Some of the weaker growths may be thinned out, and the remaining shoots secured to neat stakes. This lovely blue salvia always attracts attention in the conservatory or greenhouse during the autumn months, when chrysanthemums are so much in evidence.

WINTER-FLOWERING PELARGONIUMS.—These will now be growing in a thoroughly exposed situation out of doors. They require abundance of water, and when well rooted stimulants must be given. Soot water and liquid manure will meet their requirements in this respect. Remove the flower buds as they appear, and stop the growths to encourage a dwarf bushy habit. Pelargoniums which have been flowering in the greenhouse must be brought outside after flowering to ripen their wood. These plants require a period of rest, and with this object in view water at the roots must be gradually withheld. Cuttings may be taken from the plants and inserted around the side of 3½in. pots filled with a light sandy compost. Place the pots in a close, moist pit, and keep shaded till the cuttings are rooted.—E. HARRISS, Lockinge Gardens.

HARDY FRUITS.

STRAWBERRY BEDS.—The drought and heavy crops of fruit have greatly taxed the plants of most varieties, especially on light, shallow land. If these are intended to remain for another year they should receive every encouragement to build up strong, fruitful crowns by the end of the season. Lose no time in having the beds cleared of weeds, runners, and a goodly portion of the old leaves, then give the plants a good syringing with nicotine, or some other insecticide, to dislodge red spider. Fork lightly between the rows to fill up any cracks and to loosen the soil, after which mulch with good manure; and, if required, give the roots a thorough soaking with water. This method I have practised for many years with good results.

FORCED STRAWBERRY PLANTS that were put out on good, deeply-worked land, in which plenty of manure was mixed, should not suffer from an insufficiency of moisture, and should the weather prove dry a few syringings overhead on bright afternoons will benefit them greatly. Attend carefully to all young layered runners, and as soon as ever the pots become filled with roots, set them out at once on a rather firm soil. When planting ram the soil about the roots rather firmly, and give a good watering to settle the soil. Keep the runners from these plants cut away, and stir the soil at intervals with the Dutch hoe. Do not forget to plant plenty of Laxton's Latest, one of the best for late use; the fruits grow to a great size, and are of splendid colour.

PEACHES AND NECTARINES.—These are now making plenty of splendid wood, and very little blister is to be seen. Keep the foliage clean and free from red spider, attend to all the leaders required for filling up wall space, and the young shoots wanted for fruiting next year, securing them carefully in their required positions. Remove with a sharp-edged knife sub-laterals and any shoots not wanted, so that the trees do not become crowded with useless wood. Although the crop here is poor, our trees will nevertheless receive every attention, both as regards training and the care of the roots.

GATHERING FRUITS.—All ripe fruit will need daily attention, and should for most purposes be gathered when perfectly dry. Black currants make the brightest jam when gathered and placed in a small-meshed sieve and washed with clean water. Remove nets as soon as the fruits are all gathered, and if not required, store them in an airy place when perfectly dry, tie a label to each net describing its size, etc., so as to prevent confusion and trouble the next time they are required.—H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

CAULIFLOWERS.—The latest sowing, to supply heads during October and the early part of November, when cauliflowers are much esteemed, will require a warm, sheltered position to which the young plants should now be transferred, the land should be in good condition to encourage free growth, and water should be afforded abundantly during dry weather, if the water supply is deficient a good mulching will prevent a too rapid evaporation of moisture, and at the same time afford nutriment to the plants. In hot weather examine the rows of plants which are forming heads, and break a few of the inner leaves over the curd. Keep the surface soil well stirred between succession plants, and also draw a little soil about the stems, having previously applied liquid manure and water to the soil if it be dry.

AUTUMN-SOWN ONIONS.—With the object of checking top growth and diverting the strength into the bulbs, the necks of these plants should now be twisted, or bent down with the back of a wooden rake. This will also allow the light and air to reach the bulbs more easily.

SPRING-SOWN ONIONS.—Keep the beds free from weeds, and if the soil is very dry give a thorough soaking of water. If large onions are required, and the plants have been well thinned, afford liquid manure or some approved artificial manure, and thoroughly water in with clear water. Beds which are troubled with mildew should be sprayed with sulphide of potassium, half an ounce to a gallon of water. A lump of soft soap (previously dissolved in hot water) should be added, as it materially assists the action of the sulphide on the affected parts of the plant; a second application may be necessary if the mildew has gained a strong hold.

POTATOES. — When the early varieties become ripe, dig up and sort the tubers, picking out the required number of sets, and storing them in a cool place. If tubers are left in the ground after the skin is firm, they will quickly start into growth in showery weather.

GLOBE ARTICHOKES. — After all the usable heads have been consumed, remove the stalks for the plants' sake, and for neatness. Two or three applications of liquid manure, thoroughly washed in with clear water, greatly tends to throw strength into next year's shoots and stems.

CHICORY, DANDELION, ETC.—These should be grown to a large size, the bed being frequently run alongside and between the rows, and water and liquid manure applied as to encourage growth. — W. MESSENGER, Woolverstone Park Gardens.

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tion, front of shrubberies. Plant, Nov. to Feb. Propagate by seeds sown ¼ in. deep outdoors in March, or in boxes of light soil in temp. 55° in Feb.; cuttings inserted in sandy soil under bell-glass in Oct.; layering in Oct. C. alnifolia suitable for forcing to flower in winter.

SPECIES CULTIVATED: C. alnifolia (Sweet Pepper Bush), white, Sept., 4 ft., Florida; alnifolia Michauxii, 4 ft.; alnifolia paniculata, 4 ft.; acuminata (White Alder), white, Sept., 10 ft.; arborea, white, Sept., 8 ft., Madeira; canescens, white, Aug., 8 ft., China.

Clianthus (Glory Pea; Parrot's-bill; Sturt's Desert Pea).—Ord. Leguminosæ. Greenhouse climbing shrubs & herbaceous perennials. First introduced 1832.

CULTURE: Compost, two parts loam, one part leaf-mould & silver sand. Position, pots or beds in greenhouse. Pot or plant, March. Prune in April, shortening young shoots to within 2 in. of their base. Water freely March to Sept., moderately afterwards. Syringe foliage daily April to Aug. Temp., Oct. to March 45° to 50°; March to Oct. 55° to 65°. C. puniceus succeeds outdoors against warm walls in Devonshire. Propagate by seeds sown ¼ in. deep in well-drained pot of light soil in temp. 75° in March; cuttings of shoots inserted in sandy soil in temp. 75° to 85° in March or April.

SPECIES CULTIVATED: C. Dampieri, scarlet, April, 3 ft., Australia; puniceus magnificus, crimson, May, 6 ft., New Zealand.

Cliff Brake Fern.—See Pellæa.

Climbing Dahlia (Hidalgoa Wercklei).—See Hidalgoa.

Climbing Fern (Lygodium scandens).—See Lygodium.

Climbing Fumitory (Adlumia cirrhosa).—See Adlumia.

Climbing Groundsel (Senecio mikanoides).—See Senecio.

Climbing Hydrangea (Schizophragma hydrangeoides).—See Schizophragma.

Climbing Snake's-tongue Fern (Lygodium scandens).—See Lygodium.

Clintonia.—Ord. Liliaceæ. Hardy herbaceous perennials. First introduced 1788.

CULTURE: Soil, sandy peat. Position, moist shady border. Plant, Oct. or March. Propagate by division of roots in March or April.

SPECIES CULTIVATED: C. andrewsiana, rose, April, 2 ft., California; borealis, yellow, May, 1 ft., N. America; umbellata (Syn. Smilacina umbellata), white, May, 9 in., N. America; uniflora (Syn. Smilacina uniflora), white, July, 6 in., California.

Clitoria (Butterfly Pea). — Ord. Leguminosæ. Stove evergreen flowering climbers. First introduced 1739.

CULTURE: Compost, equal parts peat, leaf-mould, loam, & silver sand. Position, pots, tubs, or beds in light plant stove. Pot or plant, March. Water freely April to Sept., moderately afterwards. Temp., Oct. to March 55° to 65°; March to Oct. 70° to 80°. Propagate by seeds sown ¼ in. deep in light soil in temp. 75° in March; cuttings of side shoots inserted in sandy peat in temp. 80° at any time.

SPECIES CULTIVATED: C. ternatea, blue, July, 4 ft., E. Indies; ternatea alba, white, May; ternatea cærulea, blue, May; ternatea major, brown, Aug.

Clivia (Caffre Lily).—Ord. Amaryllidaceæ. Greenhouse evergreen flowering plants. Fleshy-rooted. Formerly known by the generic name of Imantophyllum. First introduced 1823.

CULTURE: Compost, two-thirds good loam, one-third decayed manure & sand. Position, sunny, close to glass in greenhouse. Pot, Feb. Water freely March to Sept. 65° to 75°. Propagate by seeds sown in light soil in temp. 75° in March; division of roots at potting time.

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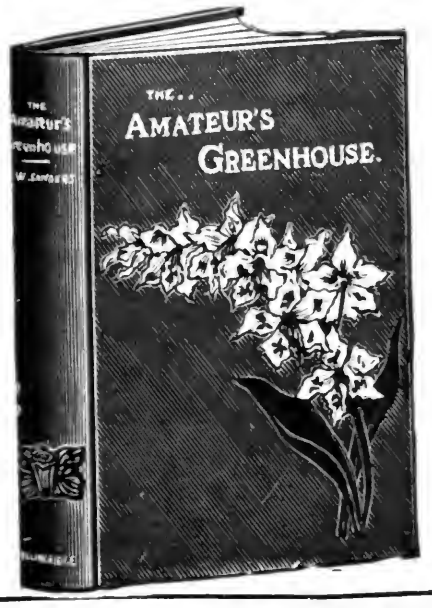

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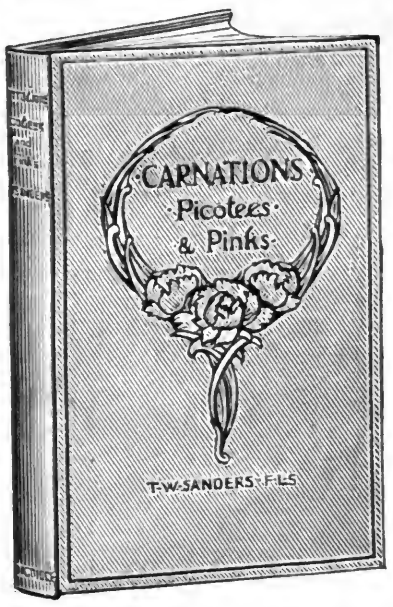

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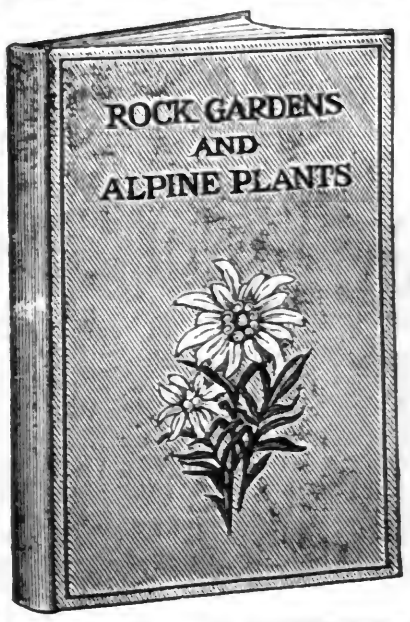

ROCK GARDENS AND ALPINE PLANTS.

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Edited by T. W. SANDERS, Editor of "Amateur Gardening."

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EXHIBITIONS AND MEETINGS.

National Sweet Pea Society.

The exhibition of this society, held at the Royal Horticultural Hall, Vincent Square, Westminster, on Thursday, July 17, was a glorious success. Though streak and other troubles may be disappointing growers in some parts of the country, it was amply evident from the splendid flowers on view that there are plenty of people all over the country who can, and do, grow sweet peas grandly. This was not the largest show the society has held, but it would have been as large as any but for the heavy storm in the eastern counties and Kent a few days previously, which compelled many exhibitors to cancel their entries. In point of quality and beauty, and variety of colouring, this show was far ahead of any previously held. The arrangements were excellent; the officers and some hard-working members of the committee were very busy the previous afternoon and evening, marking out and taping off each exhibitor's space, leaving a ticket in each place to show who should occupy it. Class numbers, with pointed hands, showed where classes began and ended, and two large plans of the exhibition were set in prominent positions and showed the position of every class and every trade display. All this meant that the 150 exhibitors had no difficulty in finding their positions if they used their eyes at all, and it also meant that visitors were easily able to find any particular class in which they were interested. The absence of central backgrounds enhanced the beauty and effect of the show, palms down the centre of each table also helped, and the decoration of the music gallery with palms, bamboos, asparagus, and sweet peas, begged and borrowed from all and sundry by the hon. secretary and Mr. Tigwell, further helped to make this exhibition one of the most beautiful ever seen at Vincent Square.

We understand that £26 17s. were taken at the doors; and it must be remembered that the society's members, as well as R.H.S. Fellows, were admitted free.

In the evening, after the close of the exhibition, the committee, officers, judges, stewards, and principal exhibitors dined together at the Hotel Windsor. Mr. Herbert Smith, chairman of committee, presided in the unavoidable absence of Sir Daniel Morris, the President. After the loyal toasts, that of "The Society" was very heartily received and ably responded to by Mr. J. S. Brunton, who briefly reviewed the society's history and work, and compared the flowers of to-day with those of thirteen years ago. Mr. F. W. Harvey gave "The Exhibitors," to which Mr. Edward Cowdy, J.P., "from the wilds of Armagh," responded with typical Irish humour. "The Judges," proposed by Mr. H. Shane, of Luton, was responded to by Mr. Alex. Malcolm, of Duns. Mr. E. H. Christy proposed "The Chairman," which toast, like that of "The Hon. Secretary," proposed by Mr. W. Cuthbertson, was accorded musical honours. Mr. Robt. Sydenham was heartily thanked, on the motion of Mr. H. J. Wright, for his kindly contribution of "Sparkling Muscatel" to the dinner.

GENERAL VIEW OF THE NATIONAL SWEET PEA SOCIETY'S EXHIBITION.

GENERAL DIVISION.

In the Sutton cup class there were five exhibitors, and all showed finely. The cup was won by Mr. E. A. Usher, gardener to Sir Randolf Baker, Bart., M.P., Ranston, Blandford, who had a lovely set of twenty-one bunches all selected from the society's classification list. His best bunches were of Rosabelle, Loyalty, Sunproof Crimson, May Campbell, True Lavender, Barbara, Florence Nightingale, Clara Curtis, Edrom Beauty, and R. F. Felton; the second prize fell to Mr. H. Bircher, gardener to Mrs. W. Jarratt Thorpe, Gransmoor, Hucclecote; and the third was won by Mr. A. Moring, gardener to A. W. Stirling, Esq., Holme Lea, Goring. There was but one exhibitor of eighteen bunches of varieties suitable for garden decoration, and here Sir Randolf Baker was the only exhibitor. He was awarded the second prize only, which is perhaps as good evidence as possible of the high quality prevailing when Mr. Usher has to be content with a second prize for his flowers.

About fifteen competitors fought for the Eckford cup; it was a great fight, and many champions were routed. Mr. F. Peacock, gardener to Mrs. F. E. Hall, Cumberland Cottage, Redbourne, was the winner with a super-excellent set of Sunproof Crimson, Mrs. Hardcastle Sykes, Melba, Hercules, R. F. Felton, Prince George, Thos. Stevenson, White Queen, John Ingman, Edrom Beauty, Queen of Norway, and King Manoel; Mr. Janes, gardener to Lord North, Wroxton Abbey, second; and Mr. T. Stevenson third. An interesting class was the one for a dozen bunches, distinct, to consist of three cream-pink, three lavender, three orange, and three scarlet varieties, arranged in rows of a colour. Here Mr. Usher was forward with Anglian Orange, Edrom Beauty, Thos. Stevenson, Doris Usher, Lady Miller, Anglian Pink, Lavender, George Herbert, R. F. Felton, and True Lavender; Mr. M. Y. Green, Eynsford, was placed third.

For six bunches of new sweet peas, Mr. Thos. Jones, Ruabon, scored with Birdbrook, Marks Tey, Agricola, Mrs. E. Cowdy, Dobbie's Thos. Stevenson, and Lavender George Herbert (Dobbie's); Mr. Edward Cowdy, Loughgall, co. Armagh, second; and Mr. T. Stevenson third. Mr. Usher led for three bunches of cream-pink varieties with Hercules, Doris Usher, and Lady Miller.

OPEN CLASSES.

In the classification class for twenty-four varieties, selected from the society's colour classes in their classification list, Mr. H. D. Tigwell, Harrow View, Greenford, beat Mr. J. Stevenson, Wimborne, but with little to spare.

In an open twelve-bunch class for a dozen bunches, Mr. Edward Keith, gardener to Sir G. O. Trevelyan, Bart., Cambo, Morpeth, was a clear winner, and his bunches of May Campbell, R. F. Felton, and Lilian were very fine; Mrs. E. R. Janes came second; and Mr. H. Tysoe, The Gardens, The Lodge, Bedford, third in a keen competition.

The Chapman silver salver for three bunches of varieties not in commerce, was won by Mr. Robt. Bolton, Warton, Carnforth, with Rosina, a sort of soft Rosabelle; Steeton, a lovely orange-tinted pink, and Peggy Mackereth, which has curiously-shaded, rosy-purple flowers, the opening buds being whitish; Mr. R. Wright, Formby, second; and Mr. A. Moring third.

Amateurs came forward splendidly in competition for the A. W. King Cup, where a dozen bunches were required. Mr. J. B. Lowe, gardener to Captain Geoffrey Lubbock, Greenhill, Warminster, came first of fourteen entrants, and his Melba, Florence Nightingale, Nubian, and Doris Usher were grand bunches; Mr. Julian Lemon, Bransfield, Godstone (gardener, Mr. Cowlard), a close second; and Mr. R. Sandford, Mildenhall, Suffolk, third. Thirty-three competitors staged in the class for six vases of blooms, distinct, five spikes in a bunch, and in this close competition Mr. Thos. Jones, Bryn Penylan, Ruabon, led with wonderful blooms of Clara Curtis, John Ingman, R. F. Felton, Marjorie Linzee, Edrom Beauty, and King Manuel, all four-flowered stems; Mrs. F. E. Hall second.

Five tables of blooms were set up in competition for the splendid Burpee Cup, the space allowed is 8ft. by 3ft., and 4ft. high. Mr. W. Hopkins, gardener to Francis Wellesley, Esq., Westfield, Woking, won the cup with fine flowers, finely arranged; his best were Mrs. W. Cuthbertson, R. F. Felton, Melba, Agricola, Edrom Beauty, Clara Curtis, and Audrey Crier. Mr. W. E. Alsen, Denmead, Hants, was a fine second, and he had among many good things, a fine vase of Chas. Foster; Messrs. Frank E. Smith and Co., High Street, Belfast, third.

DISTRICT CLASSES.

In the Scottish class, Mr. J. Kerr, Westmount, Stewarton, Ayrshire, had the finest six bunches, and his Agricola and Hercules were very fine; Mr. John A. Grigor, Sea Park Gardens, Forres, N.B., came second; and Mr. J. McKinnon, gardener to H. E. the Countess of Aberdeen, Haddo House, Aberdeenshire, came third. In the Irish Class, Mr. Edward Cowdy, Greenhill, Loughgall, Armagh, was a capital first for nine bunches, his Dobbie's Cream, Mrs. Hardcastle Sykes, Orchid, and Helen Williams (cream, edged pink), were lovely; Mr. W. Shuldham Gorey, Ireland, second.

In the Welsh class Mr. Thomas Jones was first, and his flowers were so fine that he had to crowd them into the space provided; Mark's Tey and Nubian were superbly shown; Mr. L. Webb, Welshpool, and Mr. J. Roberts, Griffin Inn, Gosford second and third respectively. In the Northern Counties class Mr. Edward Keith had a glorious first-prize six, his Barbara and Mark's Tey scoring heavily; he was followed in order by Mr. E. A. Allen, Formby, and Dr. Phillips, Malpas.

The prize-winners in the Western Counties class were B. Peyman, Esq. (gardener, Mr. Preedy), Sandford Manor, Sherborne; Mr. E. A. P. Broad, The Lawn, St. Austell; and Mr. R. B. Evans, Wanbrook, near Chard. In the Eastern Counties class Mr. H. Tysoe, Bedford, was first with bright, clean flowers, and was followed by Mr. A. W. Ralph, King Street, Kempston Hoo; and Mr. H. R. Grellet, Hitchin.

Competition was very close in the Midland Counties class, and many exhibitors turned out; Mr. E. R. Janes, Wroxton Abbey, scored a first; Mr. A. W. Glistey, Goring, second; and Mr. J. H. Hardstaff, Hucknall (a miner), third.

Mrs. Kensington (gardener, Mr. Beale), Haverbrack, Uckfield, led finely in the Southern Counties class, staging a grand nine bunches; Mr. Thomas Stevenson second, and Mr. A. L. F. Cook, Iver, third.

AMATEURS AND SMALL GROWERS.

The two Breadmore Challenge Cups, open to single-handed gardeners, were won respectively by Mr. E. Cowdy, Loughgall, and Mr. Davies, gardener to Dr. Phillips, Malpas, both showing capitally.

Mr. Thomas Jones, Ruabon, retained the Haslemere Cup by staging grand flowers of May Campbell, Nubian, Mrs. C. W. Breadmore, Etta Dyke, etc.; Mr. N. Thornton, Scraces, Barming, second; and Mr. A. H. Jennings, Hemel Hempstead, third. In other small amateur classes, Mr. A. T. Steadman and Mr. George Rain were successful.

Mr. W. H. Holloway, Port Hill, Shrewsbury, won the Horace Wright Cup with a grand dozen bunches in a small growers' class that was keenly contested; his Thomas Stevenson, White Queen, Elfrida Pearson, and Mrs. Routzahn were famous; Mr. R. Carlisle, Bicester, second; and Mr. H. Parsons, Nimmer, Chard, third. This is Mr. Holloway's second successive win.

The Walter Voss Cup for six bunches, in a small growers' class, was won by Mr. W. T. James, Kempston Hoo, Bedford, with beautiful bunches of Mrs. W. J. Unwin, Tom Bolton, Thomas Stevenson, Prince George, May Campbell, and Florence Nightingale; Mr. W. H. Holloway second, and Mr. E. J. Gee, Chesham, third.

DECORATIVE CLASSES.

Fifteen or sixteen ladies competed in the class for a table decoration of sweet peas, but there was nothing of outstanding merit in the class; indeed, we think the ladies have done much better on some previous occasions. As is usual in such a class, the awards were sharply criticised by the competitors. The leading awards fell to Miss B. Armstrong, Hitchin; Mrs. W. Fulcher, Chelmsford; Mrs. J. M. Croxford, Brentford; and Mrs. M. Welch, Sutton. Mrs. Ruff, Sharnbrook, led for an epergne of sweet peas, and was followed by Mrs. A. C. Brown, Reigate, and Mrs. F. A. Tisdall, Woodford Green. Mrs. Rumble, Addlestone, and Mrs. A. Bide, Farnham, scored for a vase of sweet peas.

NON-COMPETITIVE.

All round the hall traders staged beautiful displays that were greatly admired by everyone. In point of quality and arrangement they have never done so well at the society's London show, and all deserve heartiest congratulations.

Gold medals were awarded to Mr. Robt. Bolton, whose artistic effort contained lovely bunches of his varieties Agricola, Chas. Foster, Afterglow, Prince George, Princess Mary, and other good things; and to Messrs. Dobbie and Co., Rothesay, whose exhibit contained the latest advances made in varieties of this firm, Melba and King White were fine.

Silver-gilt medals were awarded to Messrs. E. W. King and Co., Coggeshall, who had Anglian Orange and Anglian Cream in good condition; Messrs. S. Bide and Sons, Farnham, who had good specimens of White Queen, Bluebell, and a waved Jeannie Gordon; Mr. W. J. Unwin, Histon, who showed Phyllis, The Abbott, Edith Taylor, and Nettie Jenkins finely; Messrs. Jarman and Co., Chard, who had fine spikes of flowers of Mrs. Townsend and other popular varieties; Messrs. R. H. Bath, Lim., Wisbech, whose Edith Taylor was very fine; and Messrs. Jas. Carter and Co., Raynes Park, for a very effective exhibit.

Silver medals fell to Robert Sydenham Limited, Tenby Street, Birmingham; Messrs. Jones and Son, Shrewsbury; Messrs. George Stark and Son, Great Ryburgh, for a novel arrangement of good blooms; and Mr. Jas. Box, Lindfield, Haywards Heath.

Bronze Medals were granted to Messrs. John K. King and Sons, Coggeshall; Mr. J. D. Webster, Chichester; Messrs. Walter Voss and Co., Milwall, E.; Mr. B. W. Deal, Kelvedon; and Mr. Aldersey, Tilston, Malpas.

Birmingham Horticultural Society.

JULY 18 and 19.

When some two years since the boundaries of the city of Birmingham were so extended as to include Handsworth within the area governed by the municipal authorities, it was felt by those who take an active interest in gardening matters that the horticultural society which had been established in this important suburb some years previously, and had done much excellent work, should have its scope enlarged and its name changed with a view to making it one of the Birmingham institutions. It was at once recognised by those concerned with the affairs of the city that it would be an immense advantage for the Handsworth Horticultural Society to be reorganised, and the sphere of its operations so enlarged as to enable it to become the great centre of horticultural activity. The idea of the change found so much favour that the reorganisation was quickly effected, and the title changed to the Birmingham Horticultural Society. Two years is by no means a lengthy period, but the work that has been accomplished has been more than to fully justify the opinion of those who regarded the society as worthy of being the representative in matters horticultural of the whole municipality. The first of the shows under the new régime was held in the summer of last year, and proved so great a success as to surpass any of the gatherings under the old title, and to stimulate further effort on the part of those responsible for the management. It, indeed, did so much credit to all concerned as to prove to demonstration that they were deserving the most hearty support in performing the pleasant but arduous task they had undertaken. Fortunately, the support was forthcoming, and accordingly great encouragement was given to cultivators of plants, flowers, fruits, and vegetables to contribute liberally of their best. Appreciating the encouragement given, exhibitors were present in larger numbers, and the exhibition far surpassed that of last year in magnitude, cultural excellence, and attractiveness.

There is no occasion for instituting comparisons between this and other of the great provincial horticultural exhibitions held during the summer months; but it is a point of some importance, as evidence of the progress that has been made, to state that it compared favourably with the best of them, and far surpassed the shows previously held at Birmingham. As compared with last year's exhibition, there was a marked advance, the exhibitors numbering 205, and the entries 1,083, against 161 exhibitors and 960 entries last year. Seven huge marquees were provided for the accommodation of the exhibits, and, vast as was the space they afforded, it was not more than sufficient to meet the requirements of exhibitors. The schedule was comprehensive in character, and as, with but few exceptions, the competition was keen throughout, all classes of garden products available for exhibition at this season of the year were well represented. Groups arranged for effect formed a large and highly attractive feature; roses and sweet peas were shown in such large quantities as to suggest that the National Rose

and Sweet Pea Societies were holding provincial shows at Birmingham; carnations were of special merit; and vegetables were shown in enormous quantities.

A deputation from the Royal Horticultural Society, consisting of Sir Harry Veitch, V.M.H., Mr. George Bunyard, V.M.H., Mr. H. B. May, V.M.H., and Mr. J. G. Gaskell, made a number of awards to exhibits of special merit. The Hardy Plant Society also sent a deputation, which consisted of Mr. F. Bouskell, chairman of committee, and Mr. A. J. Macself, the hon. secretary, who made awards to hardy flowers of exceptional merit.

GROUPS.

Groups arranged for effect occupied the greater part of two of the large marquees, and proved highly attractive and of great educational value. In the open class for groups occupying a space not exceeding 300 square feet, Messrs. J. Cypher and Sons, Cheltenham, occupied the premier position with an arrangement that was greatly admired. In addition to the first prize, consisting of £4 and a 10 guinea silver challenge cup, the firm were awarded the Royal Horticultural Society's Gold Medal. The design was similar to that of the groups shown by Messrs. Cypher at some previous exhibitions this season, and described in these pages. Mr. J. T. Macdonald, gardener to Sir George Kenrick, Edgbaston, was a capital second with plants admirably grown and tastefully arranged; and Mr. R. Manning, Dudley, was third with a group possessing great merit. The first and second prize-winners adopted designs similar to that which Messrs. Cypher have used with so much success, and had a central arch surmounted by a finely developed palm and richly-coloured crotons, and finely grown aralias, narrow-leaved crotons, dracænas, and other fine-foliage plants, deftly set in a carpet composed of flowering and fine-foliage plants of dwarf growth. The entries were very numerous in the gardeners' class for square groups, and the whole of the arrangements were of a high order of merit. Mr. A. Cryer, gardener to J. A. Kenrick, Esq., was a splendid first, and, in addition to the schedule prize, was awarded the Royal Horticultural Society's silver cup; Mr. A. Corbett was second, and this prize was supplemented by the R.H.S. Silver-gilt Banksian Medal; Mr. R. Usher, Mr. A. Bastock, and Mr. Perks were third, fourth, and fifth, the last-named being a special award.

SPECIMEN PLANTS.

Specimen stove and greenhouse plants were shown in much finer condition than we have seen them for some years past, and afforded abundant evidence that the production of specimens of the finest of the plants that have their home in the greenhouse and tropical structures has not become a lost art. Messrs. J. Cypher and Sons were at the head of the competitors in the class for twelve flowering and foliage plants, those in bloom comprising Statice profusa, Bougainvillea Sanderiana, Clerodendron Thomsonæ, Allamanda Hendersoni, Ixora Williamsi, and the fragrant Stephanotis floribunda, all of large size, freely-flowered, and perfect in development. Crotons Countess and Warreni were remarkable for size, vigour, and colour. Mr. A. Cryer followed for second place with excellent specimens, that of Bougainvillea being especially noteworthy; Mr. Manning third with well-grown plants. In the gardeners' class for six specimens, Mr. A. Cryer occupied the premier position with good specimens of Clerodendron Thomsonæ, Bougainvillea glabra, and Vinca rosea as the best, the last-named being seldom seen nowadays in such fine form.

To touch otherwise than lightly on the many other classes for plants would require much space, and it must, therefore, suffice to refer briefly to those in which they were of outstanding merit. Mr. T. B. Perks, gardener to J. Bastow, Esq., Handsworth, contributed finely-flowered examples to the class for six gloxinias; and Mr. Corbett, gardener to H. C. Pinsent, Esq., Harborne; and Mr. R. Usher, gardener to J. A. Kenrick, Esq., Harborne, who were second and third, also staged finely-flowered examples. Very highly-developed also were the plants shown in the class for six single tuberous begonias by Mr. G. Corbett and Mr. A. Cryer, who were first and second respectively. These last-named exhibitors were first and second also in the class for ivy-leaved pelargoniums. Both exhibitors had pyramidal specimens, about 4ft. in height, and splendidly flowered, the lightness of training contributing greatly to their charm. In the corresponding class for zonal pelargoniums these exhibitors changed places, but both had large finely-flowered bush specimens. Mr. Cryer was first also for six ferns in a competition that was not particularly strong, too many adiantums being included in the collections to produce a distinct effect.

A MAGNIFICENT DISPLAY OF FLOWERS, FRUIT, AND VEGETABLES.
Exhibited at Birmingham by Messrs. Sutton and Sons, who were awarded two Gold Medals, and a twenty-guinea Silver Challenge Cup.

ROSES AND SWEET PEAS.

Cut flowers were so well shown as to contribute largely to the interest and attractions of the show. Roses were pre-eminent, and the contributions to the class for a collection of cut blooms, to occupy a space of 20ft. by 5ft., produced a wondrously beautiful display. Here Messrs. Gunn and Son, Olton, was first with superb blooms, tastefully arranged as pillars and arches, set in a groundwork of fragrant blooms in vases. The premier award, consisting of a silver challenge cup of the value of 20 guineas, a gold medal, and £10, was supplemented by the award of a R.H.S. silver cup. Mr. J. Mattock, Headington, was a capital second, and received, in addition to the society's prize, the R.H.S. Flora medal.

LEICESTER.—ABBEY PARK FLOWER SHOW, 5th and 6th August next. Open Class. Group of Plants, £20, £15, £10, £6. Liberal prizes for Collections of Fruit. Displays of Roses; Silver Cup, Gold and Silver Medals for non-competitive exhibits. Schedules from JOSEPH BURTON, Supt.

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Messrs. W. and J. Brown, Peterborough, who were third, also had a remarkably attractive display.

Mr. J. Mattock was successful in obtaining premier honours in the class for forty-eight cut blooms, which were of good quality, and included Mrs. Stewart Clarke at its best. Messrs. Perkins and Son, Coventry, were a good second with a collection in which Madame Victor Verdier was so good that it was selected as the best bloom in the show; Mr. W. T. Mattock, Headington, was third. Mr. J. Mattock scored for twelve vases of garden roses with a collection in which Madame Abel Chatenay, Harry Kirk, Lady Hillingdon, Lady Pirrie, and Lady Curzon were conspicuous. Mr. W. T. Mattock followed for second place with good bunches. In the class for eighteen blooms, Mr. W. T. Mattock and Messrs. Perkins and Son were the prizetakers, these fine old roses, A. K. Williams and the Duke of Wellington, being admirably shown in the first prize box. There was a good competition in the class for twelve teas, and Mr. W. T. Mattock and Mr. J. Mattock were the winners of the first and second prizes.

Sweet peas were in strong force, and one of the most important of the classes provided for these fragrant flowers was that for a display occupying a space of 20ft. by 4ft. There was a very keen contest for first place between Messrs. E. W. King and Co., Coggeshall, and Messrs. Herd Brothers, Penrith. Both exhibitors had displays of great merit, but the arrangement from the last-named was a trifle overcrowded, and the premier award was made in favour of Messrs. E. W. King and Co. This consisted of a twenty-guinea silver challenge cup, a special gold medal, and £5. Messrs. Herd Brothers were awarded a gold medal as the second prize, and a R.H.S. silver-gilt Flora medal was deservedly awarded both collections.

In competition for the prizes for twenty-four bunches of sweet peas, Mr. F. Hallett, gardener to Sir R. Grahame, Carlisle, was first with flowers of exceptional quality, and the vase of R. F. Felton in the collection was selected as the best in the exhibition. Miss E. M. Baird, Malvern, followed closely for second place. Mr. Hallett was first also in Messrs. E. Webb and Sons' class for eight varieties, with finely-developed flowers, especially noteworthy being those of Lady Cynthia, Clara Curtis, Thomas Stevenson, and Elsie Herbert. Mr. H. Smart, gardener to T. R. Cresswell, Wolverhampton, was second. Robert Sydenham Limited provided two classes for sweet peas, one for twelve varieties, and the other for six, and in both the competition was especially keen. Mr. Hallett obtained premier honours in the class for twelve, with flowers of superb quality, Helen Grosvenor, Rosabelle, Barbara, Elfrida Pearson, Charles Foster, and Mrs. Andrew Ireland being especially noteworthy. Mr. Blackburn, gardener to Captain W. H. Starkey, Leamington, followed closely for second place. For the six varieties, Mr. T. Batchelor, gardener to H. Mitchell, Esq., Hampton-in-Arden, was a capital first. In Messrs. Holder and Co.'s class for six varieties, Mrs. Carine, Wolverhampton, was first with an excellent collection.

HARDY FLOWERS.

Hardy flowers were strongly represented, and the numerous collections formed a distinct and attractive feature. There were six entries in the class for twelve vases, and at the head of the several exhibitors was Mr. A. Bostock, who had Scabiosa caucasica, Galega officinalis, and its white form, Monarda didyma, and the Madonna lily in fine form; Mr. R. Usher was a close second with a collection in which well-known kinds were admirably represented; and Mr. A. Cryer staged a good set for third place. In a class for a similar number of kinds, in which flowering shrubs, herbaceous plants, and annuals could be shown, Mr. H. E. Potter, Handsworth, had a collection equally remarkable for the high quality of the flowers and the taste with which they were arranged. Mr. Prince, Harborne, and Mr. J. Clifford, Handsworth, followed closely for the second and third places, with interesting and attractive collections.

Carnations were admirably shown in the competitive classes, as well as in the honorary exhibits from trade growers. Very attractive was the collection of perpetual-flowering varieties from Mr. C. Wall, the flowers being large in size, fresh, and bright in colour. In the corresponding class for carnations and picotees, there was a spirited contest, and the premier award was made in favour of Mr. C. Wall, who had blooms of high quality. Very fine, also, were the blooms with which Mr. G. R. Rudd obtained first prize for twelve border carnations. There were some eight or ten entries in the class for twelve vases of violas, and the blooms in the winning sets were so splendidly developed as to be quite beyond praise. Mr. H. Allen, Handsworth, scored with blooms of large size, stout in substance, and richly coloured, and they were set up in bowls in a remarkably natural manner. Of special excellence were Rosslyn, Mrs. Pell, Master Stevens, Mrs. Robinson, and Mosely Perfection, the finest of all the yellow violas for the exhibition stage. Mr. J. Bostock and Mr. H. J. Milner were the other prize-winners. Messrs. J. Pemberton and Sons were successful in securing the first prize for a tasteful arrangement of pansies and violas, with blooms of fine quality.

TABLE DECORATIONS.

There were two classes for table decorations, one for flowers at the discretion of the exhibitors, and arranged in any kind of vases or stands, and the other for sweet peas arranged in rustic stands. There were thirty or more tables in the two classes, and as they were all more or less tastefully decorated, they produced a delightful effect. In the unrestricted competition, Mrs. F. Jenks, Codsall, was first with a beautiful arrangement of Lady Hillingdon rose, and in the other Mrs. H. Reeve was a splendid first with pink sweet peas.

ROCK GARDENS.

For a rock garden occupying 30ft. by 30ft. in the open, there were two excellent entries which, unfortunately, were placed in an out-of-the-way corner of the grounds, practically out of sight. Mr. T. R. Hayes, Keswick, who was awarded first prize, had naturally weather-beaten, water-worn stone, which he arranged in a suitable manner, and furnished with a fine selection of ericas, pigmy conifers, and suitable flowering plants. There was a little lily pool in the foreground, and some good Iris Kaempferi, spiræas, and water rushes. Choice hardy ferns were also freely but cleverly used, the whole making a delightful exhibit.

Messrs. Gunn and Son, Olton, took second prize, their effort being bold and striking. Large boulders were arranged in an imposing manner, and spiræas, campanulas, osmunda, and other ferns were used to provide a great show of colour and foliage. Kniphofias, gladioli, lychnis, and phloxes, though not really appropriate for a rock garden, added much to the brightness of the display.

FRUIT.

Four exhibits were staged in the class for a dinner-table set for six persons and decorated with dessert fruit and flowers. The leading award was allotted to Mr. C. Crooks, gardener to H. Mitchell, Esq., Droitwich, who showed Muscat of Alexandria and Black Hamburgh grapes, good melons, Dymond peaches, and Humbold nectarine in duplicate dishes, all well-grown, nicely finished fruit; rose and white schizanthus formed the floral decoration, which was rather overdone. Mr. G. L. Blackburn, gardener to Captain W. H. Starkey, Leamington, took second place. He had loganberries, strawberries, peaches, nectarines, a melon, and a bunch of grapes, and used Irish Elegance and other roses for decoration. Stephen Sims, Esq., Borrowash, took third prize.

Mr. N. F. Barnes, gardener to His Grace the Duke of Westminster, Eaton Hall, Chester, was worthily awarded first prize for a collection of ten dishes of fruit, the strong points being Madresfield Court and Muscat of Alexandria grapes, beautifully coloured James Grieve apples, and an excellent dish of Williams' Bon Chretien pears. Mr. J. R. Tooley, gardener to Hugh Andrews, Esq., Toddington Manor, was a very good second, but was a bit weak with his peaches and nectarines. Third prize went to Mr. G. L. Blackburn, Leamington, who had Rivers' Black cherry and Waterloo strawberry well shown. Mr. Barnes took the lead for both black and white grapes, putting up shapely, well-finished bunches.

VEGETABLES.

In the open section the principal vegetable class was for a collection of nine dishes, and the winner was Mr. E. Winchester, Rubery. Magnum Bonum cauliflower was very well shown, other good dishes being Centenary peas and Delicacy cucumber. Mr. J. R. Tooley, Toddington Manor, was second, and Mr. E. Deakin, Hay Mills, third. Various classes for vegetables were provided by seedsmen, Messrs. E. Webb and Sons, Wordsley, giving the prizes in an open class for eight kinds, the winner being Mr. J. R. Tooley, followed by Mr. G. F. Hallett, Carlisle. In a class for six kinds in the amateurs' section, the leading award went to Mr. F. Hudman, Hamstead.

Mr. E. Deakin, Hay Mills, won first prize in Messrs. Sutton and Sons' class for six kinds, showing excellent produce. Second and third prizes were secured by Mr. E. Winchester and Mr. A. T. Rainbow, Northfield, respectively. Mr. Deakin again scored in Messrs. Dickson and Robinson's class, and also in Messrs. Yates and Sons' class, six dishes being staged in each case.

MISCELLANEOUS EXHIBITS.

The largest and most important non-competitive display was the splendid stand of choice melons, vegetables, and flowers put up by Messrs. Sutton and Sons, Reading. Sweet peas and annuals were used on arches along the background, and in vases on the table between mounds of Globe beet, tomatoes, carrots, and peas, together with purple egg plants, golden beans, capsicums, and aubergines. The whole exhibit was beautifully arranged, and drew forth high praise from the visitors.

Messrs. T. S. Ware, Lim., Feltham, had an excellent group of begonias, among which several plants of the beautiful pale pink variety Lady Cromer were particularly noticeable. A new deep salmon variety, Gladys Valentine, having flowers well formed and of rich colour, and a new variety with finely-formed flowers of a rich orange-salmon hue, named King George, attracted much attention.

Messrs. E. Webb and Sons, Wordsley, Stourbridge, showed splendid vegetables, and good Ringleader, Epicure, and other melons on a stand tastefully decorated with stocks, larkspurs, sweet peas, and a variety of other flowers. King George pea was very good, and the onions, tomatoes, and mushrooms were of great excellence.

From Messrs. Barr and Sons, Covent Garden, W.C., came a very interesting exhibit of Japanese pigmy trees, many of which were extremely good specimens, numbering seventy and seventy-five years in age. Messrs. Barr also showed a collection of hardy border flowers and a few alpines.

Sweet peas were largely shown, Messrs. Herd Brothers, Penrith, being responsible for a big, bold display of excellent varieties. Mr. Geo. Aitkens, Tarvin, Chester, showed well, and so also did Messrs. E. W. King

and Co., Coggeshall. Mr. W. H. Morter, Cannon Hill Park, Birmingham, put up a big batch of the golden-yellow bedding viola Queen's Park, demonstrating the sturdy free-flowering habit of the variety.

Herbaceous flowers were finely shown by Messrs. F. Smith and Co., Woodbridge. Verbascums Caledonia, Harkness Hybrid, and Chaixi were striking, and some bright pentstemons. Romneya Coulteri, tritomas, and gaillardias were other subjects.

Mr. H. N. Ellison, West Bromwich, showed ferns in his usual good style, the stand including specimens of Platycerium grande, Polypodium sporodocarpum, crested nephrolepis and adiantums in variety.

Mr. John Barnett, Middleton Nurseries, King's Norton, Birmingham, showed roses, such as Mdme. A. Chatenay, The Lyon, Joseph Hill, G. C. Waud, and a few good climbing varieties. Messrs. W. H. Simpson and Sons, Birmingham, had a miscellaneous exhibit, in which begonias, Gilia coronopifolia, Lobelia Sapphire—a new trailing, white-eyed variety, and nemesias played a part, with sweet peas and border flowers in tall mounds at the back.

All the way from Guernsey, Mr. H. Burnett brought up a choice batch of perpetual-flowering carnations. Marmion was excellent, Calypso, the lilac-striped fancy, and Countess of Lathom, crimson, were noticeable. The violas from Messrs. Seagrave and Co., Sheffield, were well-grown flowers of the best varieties. They also showed a collection of fancy pelargoniums in bunches.

Perpetual carnations were tastefully staged on the ground by the Clury Nurseries, Langley, Bucks. The flowers were very fine, and among the varieties staged were Scarlet Glow, Beacon, British Triumph, White Perfection, and some of the best of the delicate pink varieties.

Messrs. Holder and Co., Erdington, Birmingham, made an extensive display of sweet peas, embracing a large number of the best present-day varieties.

Mr. A. F. Dutton, Iver, Bucks, staged a good lot of perpetual carnations in elegant baskets with vases of good border varieties in the foreground. Among the latter were Grownow, a yellow-ground fancy; Mrs. Colby Sharpin, deep salmon apricot; Elizabeth Shiffner, and the crimson Agnes Sorrel.

From Messrs. Bowell's Alpine Gardens, Cheltenham, came a collection of alpines, viola species, dwarf campanulas, mimulus, and dwarf veronicas and statices. Messrs. H. J. Jones, Lim., Lewisham, staged a very fine exhibit of phloxes, embracing the best of both British-raised and Continental varieties.

Late-flowering rambler roses were well shown by Mr. R. J. Barnes, Malvern. Excelsa, the crimson Dorothy, was particularly good, and American Pillar was very fine.

Messrs. Young and Co., Hatherley, Cheltenham, showed perpetual carnations in choice variety, the flowers being fresh, well-developed, and carried on good stems. Hon. John Boscawen, Duchess of Devonshire, Mrs. C. W. Ward, and Mrs. Raphael were among the best vases.

Messrs. Pipers, Bayswater, London, arranged a water garden across the end of one of the tents, with lily pools backed up by bold masses of spiræas and astilbes, with tall bamboos, clumps of Miscanthus sinensis, phormiums, funkias, etc. A rocky ledge at one end was planted with Artemesia pedemontana, Campanula pusilla, and C. pusilla alba, Lysimachia Henryi, and other suitable subjects, and beyond this was a border of herbaceous flowers, among which some good new erigerons, the deep-coloured Delphinium Lamartin, and several fine liliums were used to advantage. Messrs. Pipers also had a collection of clipped box trees in tubs, representing the topiary art to a high state of perfection. A large exhibit of herbaceous flowers, with a few roses and carnations, was effectively staged by Messrs. Hewitt and Co., Solihull. Gladiolus, Œnothera Fraseri, coreopsis, and verbascums showed up well, and there were good bunches of Lythrum virgatum, Aconitum pyrenaicum, Digitalis lanata, and other of the less common flowers of the border.

Mr. Douglas Leigh, Arden Nurseries, Hampton-in-Arden, displayed sweet peas and roses, among the latter being bunches of Mdme. Melanie Soupert, Geo. C. Waud, Rhea Read, Dean Hole, and Avoca.

Mr. F. A. Walton, Villa Road, Handsworth, showed miniature cacti in great variety, and also a collection of choice ferns in small pots. Asplenium nidus, and some of the better-class adiantums were very nice. Messrs. Rich and Co., Bath, showed phloxes, pyrethrums, pentstemons, and other herbaceous flowers, and The Grove Nurseries, Handsworth, put up violas, which showed excellent cultivation. One of the largest and richest-coloured varieties was Master Stevenson, a rich deep purple with lighter top petal.

AWARDS MADE BY THE R.H.S. DEPUTATION.

Gold Medal.—Messrs. Cypher and Sons, Cheltenham, for group of plants; and Messrs. Sutton and Sons, Reading, for vegetables and flowers.

Silver Cups.—The Duke of Westminster (gardener, Mr. Barnes), Eaton Hall, for fruit; Sir G. Kenrick (gardener, Mr. J. V. Macdonald); Mr. J. Arthur Kenrick (gardener, Mr. Cryer), for a group of plants; Messrs. Gunn and Sons, Olton, for roses; Mr. F. R. Hayes, Keswick, for rock and water garden.

Silver-gilt Knightian Medal.—Messrs. E. Webb and Sons, Wordsley, for vegetables.

Silver-gilt Flora Medal.—Messrs. Cypher and Sons, for stove and greenhouse plants; Messrs. E. W. King and Co., Coggeshall, for sweet peas; Messrs. Herd Brothers, Penrith, for sweet peas.

Silver Knightian Medal.—Mr. H. Andrews (gardener, Mr. J. R. Tooley), for a collection of fruit.

Silver Flora Medal.—Mr. H. J. Jones, Lewisham, for phloxes; Messrs. Piper, Bayswater, for water garden and herbaceous flowers; Messrs. J. Mattock and Son, Headington, for roses; Messrs. Fred Smith and Co., Woodbridge, for herbaceous group; Messrs. T. S. Ware, Lim., Feltham, for begonias; the Clury Nurseries, Mr. H. Burnett, Guernsey, and Mr. A. F. Dutton, Iver, for carnations; Messrs. Gunn and Son, for rock gardens and phloxes.

Silver-gilt Banksian Medal.—Mr. W. R. Manning, for group of plants; Mr. H. C. Pinsent (gardener, Mr. Corbett), for group of plants.

Silver Banksian Medal.—Messrs. Hewitt and Co., Solihull, for herbaceous; Mr. Ellison, West Bromwich, for ferns; Mr. T. Howse, for display of produce.

Bronze Banksian Medal. Mr. F. Hudman, for display of produce; Mr. W. W. Emms, Harborne, for collection wild flowers; Mr. Leslie Robinson Lightwood, for collection wild flowers.

SPECIAL MEDAL AWARDS OF THE BIRMINGHAM SOCIETY.

Silver Challenge Cup.—For best exhibit in show, and large gold medal, to Messrs. Sutton and Sons, Reading.

Gold Medal.—To Messrs. E. Webb and Sons, Mr. H. N. Ellison, Messrs. Pipers (2), Messrs. Barr and Sons, Messrs. T. S. Ware, Lim., Messrs. Hewitt and Co., Solihull, Messrs. H. J. Jones, Lim., Messrs. Holder and Co.

Silver-Gilt Medal.—To Mr. A. F. Dutton, Mr. H. Burnett, Messrs. W. H. Simpson and Sons, Messrs. F. Smith and Co., The Clury Nurseries.

Silver Medal.—To Messrs. Young and Co., Mr. Douglas Leigh, Messrs. Seagrave and Co., Mr. R. J. Barnes, Mr. F. A. Walton, Messrs. Bowell's, Miss Thompson.

Silver Medal.—For premier rose, Messrs. Perkins and Sons. Premier carnation, Messrs. A. R. Brown, Lim. Perpetual carnation, Clury Nurseries. Best vase of sweet peas, Sir Richard Grahame.

Southampton.

What is known as the Summer Exhibition of the Royal Southampton Horticultural Society was held on the County Cricket Ground on July 15. The entries were fewer than in past years, especially in the carnation section.

In the first three classes for carnations, i.e., for twelve vases of selfs, fancies, and yellow-ground picotees, four vases self carnations, and four vases of fancies, there was but one entry. Mr. H. Mathias, Medstead, was awarded first in each class with good blooms of Mrs. Leo Hunter, Linkman, Margaret Thurston, and Leslie. For six flakes or bizarres, Mr. J. J. Keen, The Avenue, Southampton, was first with Lord Curzon, Flamingo, Robt. Houlgrave, Premier, Shamrock, and Cleopatra; Mr. H. Mathias second, his Ethel Macrae and Mrs. R. Lord being noticeable. The former was selected as the premier bloom.

For six fancy carnations, Mr. Mathias had the best of three sets, staging good blooms of Lord Steyne, Donald McDonald, Bombardier, Hercules, and J. J. Keen (premier); Mr. Keen second. The best six carnations came from Mr. Mathias, Mrs. G. Marshall (premier), Mrs. R. Percy Smith, and Helen being the best; Mr. H. M. Elford, 22, Markham Road, Bournemouth, was second. Mr. Keen won the premier position for both yellow and white-ground picotees with Viola (premier yellow), Miss Goodfellow, John Smith (premier white), Mrs. Payne, Lavinia, and Radiant; Mr. Mathias second in both classes.

In many amateurs' classes there was but one exhibitor—Mr. J. A. Fort, The College, Winchester, who won first place for four vases of fancies, one vase of blush, of yellow, and buff or terra-cotta selfs, showing desirable blooms of Rhea, Hercules, Mrs. Howard Green, Daffodil, Linkman, and Santa Claus. In the dressed flower section, it was the same, Mr. Fort being the only exhibitor; Sir Walter, Highland Lass, Libra, Exquisite, Margaret Lennox, Queen of Spain, Mrs. Sharp, and Favourite were the best of his flowers.

Perpetual-flowering carnations made rather a better show. For five vases of tree or American varieties, Sir Randolf Baker, Bart., Ranston, Blandford (gardener, Mr. Usher), was first with Scarlet Glow, R. F. Felton, White Wonder, and Mrs. T. W. Ward as the best. W. H. Myers, Esq., Swanmore House, Bishop's Waltham (gardener, Mr. Ellwood), second. These two exhibitors reversed their positions for three varieties, Mr. Myers depending upon Mrs. Dutton, Britannia, and President.

For a dinner-table arrangement three competed, and Mrs. F. G. Bealing, Basset, Southampton, was first with an effective display of pink flowers; Mrs. E. Ladhams, Shirley, Southampton, second, with pink.

Messrs. Sutton and Sons, Reading, offered prizes for six bunches of sweet peas, and here Sir R. Baker had the best of three sets with good blooms of Barbara, King Manoel, Clara Curtis, and Princess Victoria; Mr. F. G. Bealing second, showing Elfrida, R. F. Felton, and Helen Lewis well. For one bunch of Sutton's Queen, these two exhibitors occupied similar positions. In Messrs. Toogood's class for nine bunches, there were three entries; two were disqualified, and the second prize was awarded to Mr. A. Maple, Aldermoor, Shirley. Mr. Bealing won Messrs. Webb and Sons' premier prize for eight bunches, with Elsie Herbert, Mrs. H. Dickson, King Manoel, and Masterpiece, and he led for nine distinct varieties with Thos. Stevenson, Asta Ohn, Mrs. R. Hallam, Etta Dyke, and Maud Holmes in the class provided by Mr. R. Sydenham; Mr. Maple second.

For a collection of four dishes of fruit, Ellen Lady Swaythling, South Stoneham House, Southampton (gardener, Mr. T. Hall), was the only exhibitor; the Madresfield Court grapes, melon, peaches, and nectarines were beyond ordinary quality. The same exhibitor also won for black grapes with Madresfield Court, and also for two bunches of white grapes with Muscat of Alexandria, and

for a dish of peaches with Dymond. The Locksheath Nursery Company had the best nectarines, Humboldt.

Vegetables were a distinct feature. Mr. Myers won the leading position in the classes provided by Messrs. Toogood and Sons, Southampton, six varieties; Messrs. James Carter and Co.'s Challenge Cup for eight dishes; Messrs. Sutton and Sons' for six; and Messrs. Webb and Sons' for the same number. Admiral Sir John Hopkins, Greatbridge House, Romsey (gardener, Mr. H. Mattingley), second in the two former classes, and also in Messrs. Webbs' collection.

Quite the finest trade display was that from Messrs. Sutton and Sons, Reading, who had a huge exhibit of sweet peas of the finest quality, including such varieties as Barbara, Doris Usher, Elfrida Pearson, Dainty Spencer, Mrs. Henry Bell, Edith Taylor, Cynthia, Audrey Crier, and W. P. Wright. Messrs. Toogood and Sons, Southampton, had sweet peas, vegetables, melons, etc., all attractively displayed. Messrs. W. H. Rogers and Son, Southampton, had standard roses, hardy plants, etc., an interesting exhibit. Mr. Fred Longster provided sweet peas in quantity, and of undoubted quality. Mr. C. Fay, Testwood Nurseries, Totton, Southampton, arranged carnations in the finest condition. Mr. A. F. Dutton, Iver, Bucks, also had carnations, such varieties as Winsor, Magra, May Day, Mrs. A. F. Dutton, Beacon, Scarlet Glow, and White Perfection being finely represented. Messrs. Jarman and Co., Chard, depended upon roses mainly for their interesting display. Messrs. B. Ladhams and Son, Shirley Nurseries, Southampton, had hardy plants in quantity and variety, including an interestingly-planted rock garden with the choice subjects this firm is noted for. Mr. E. Wills, The Nurseries, Winchester Road, Southampton, had miscellaneous plants. Messrs. E. Hillier and Son, Winchester, contributed an interesting collection of hardy plants, roses, carnations, and especially growing lilies. Mr. W. F. Gullick, florist, Salisbury, had a huge and attractive exhibit of violas in small bowls, which was much admired.

Bishop's Waltham.

The thirty-ninth annual show was held in Swanmore Park, an ideal spot for such a display, on July 16, and was a success. On the whole the entries were fewer, but the quality was quite up to the high standard attained here in the various sections.

The leading feature is the floral department; £5 is offered for the best decorated table, 6ft. by 3ft., orchids excluded; five competed. The best was an arrangement of Rose Mrs. Alfred Tate in a low bowl centrepiece, with corner vases all daintily filled with buds and blossoms in the right stage of development, associated with trails of Selaginella, and tinted rose foliage; this was from Miss Gertrude Saunders, Crumpherne, Fareham. The second was a low arrangement of Irish Elegance rose, most effectively displayed, by Mrs. Edgar M. Burnett, Holly Lodge, Westwood Road, Southampton. Mrs. A. Bide, Highlands, Farnham, was third with Lyon Rose rather too crowded in the centre.

For a dinner table of orchids with any natural foliage, Miss Saunders was again successful with a low centre silver bowl and corner vases of odontoglossums, cattleyas, Oncidiums, with odontiodas here and there, and suitable greenery; this was a most tastefully executed table, and was universally admired. Miss Taylor, Bemerton Rectory, Salisbury, was second with a rather too crowded centre of oncidiums, but the lælias employed at the corners were quite effective. Mrs. A. Bide was third.

For a similarly sized table of sweet peas Miss F. M. Molyneux, Swanmore Farm, Bishop's Waltham, won with Melba, effectively arranged in two low silver bowls, and four small silver trumpets, with suitable foliage; Mrs. A. Bide second with mauve and pink flowers; Miss Taylor third with a too high centre column of Barbara.

For the best arranged vase, Mrs. Burnett won with Rose Mdme. Melanie Soupert in prime condition, nicely interspersed with young rose shoots; Miss Taylor second with a pretty mixture of hardy flowers. Mrs. Burnett, with a daintily arranged exhibit of Lady Pirrie rose, won for a basket of flowers; Mr. G. Ellwood, Swanmore Park Gardens, second, with a light arangement of bougainvillea, gloriosa, and orchids. Miss Taylor won for a basket of wild flowers, quite prettily arranged; Mr. Ellwood second. Miss G. Saunders had the best vase of carnations, good blooms of R. F. Felton. Miss Taylor, with Barbara, scored for a vase of sweet peas. Bowls of roses were numerous and good. Mrs. Bide, with Lady Pirrie and Lyon, was easily first; and Miss Molyneux, with Lady Hillingdon, second.

Sweet peas were numerous and good. For twelve vases, distinct, J. Lowthian Bell, Esq., Curdridge (gardener, Mr. Regan), was first with a bright, fresh set; Mrs. Macrae, Meonstoke House, Bishop's Waltham (gardener, Mr. H. Childs), second. Mrs. Bashford, Soberton Towers, Bishop's Waltham, led for six bunches. Mr. Lowthian Bell won Mr. R. Sydenham's prize for six varieties. Mrs. Macrae was first in Messrs. Webbs' class. Mr. B. Peppler won Messrs. Toogood's prize for six varieties with good blooms. J. W. Bamforth, Esq., Northbrook House, Bishop's Waltham (gardener, Mr. Fursey), led in Messrs. Sutton's class for six bunches; and in Messrs. S. Bide's class for a similar number.

Roses were a strong feature. For six bunches, distinct, W. H. Myers, Esq., Swanmore House (gardener, Mr. G. Ellwood), secured the leading place with nice blooms of Liberty, Mdme. A. Chatenay, and Kaiserin Augusta Victoria; Miss Bashford second. Mr. Myers also led for six bunches of rambling varieties, and for six of any section in the class arranged by Messrs. Rogers and Son, Southampton.

Fruit was not largely displayed, though the quality was high. For four varieties Mr. Myers was first with melon, peaches, figs, and strawberries; he also won for four dishes grown in the open, with J. Lowthian Bell, Esq., second. Cottagers contributed excellent currants, gooseberries, and raspberries.

Vegetables were a fine display. Mr. Myers was unassailable in the classes provided by Messrs. Toogoods, Suttons, Carters, and Webbs, all for six dishes, and showed splendid produce. Mrs. Macrae was second in all the classes noted.

Mr. E. J. Wootten, Fair Oak, Eastleigh, had an exceedingly fine exhibit of cut carnations most tastefully arranged.

Dundee Horticultural Association.

The association's annual excursion took place on the 12th inst., and Murthly, the Perthshire seat of W. Stuart Fothringham, Esq., was the rendezvous. On arrival by train the party were met by Mr. James Lawrie, head gardener and forester, and subsequently Mr. and Mrs. Fothringham joined the party, mingling freely with all, and contributing in every possible manner to the interest and enjoyment of an afternoon spent in the woods around the historical mansion, for there was no time to explore the gardens, except the flower garden, which lies between the two castles. Here old-fashioned flowers and antiquity are respected in every detail: the delightful fragrance of old-world roses lavishly planted in beds of formal design, and their profusion of flowers were a revelation to all who were not too far carried away with enthusiasm and admiration for the huge specimen timbers and ornamental trees which Murthly is famous for, and everyone, from the genial Laird to the apprentice gardener, is justly proud of.

The picturesque landscape, from the finely-wooded heights of Birnam Hill to the low-lying banks of the Tay, contains so much of interest that a couple of days would be well spent in admiration of the natural beauty and historical association of the place, and the forestry museum, with Mr. Fothringham or Mr. Lawrie as exponent, is in itself a valuable education.

The hour of parting came all too quickly, and the cheers and thanks of the party were tendered to the kindly Laird, his gracious lady, and Mr. Lawrie.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the R.H.S. Hall on Monday, July 14, Mr. J. Harrison Dick in the chair. Four new members were elected. The sick pay for the month on the ordinary side amounted to £40 15s., on the State side to £17 17s. 8d., and maternity claims to £10 10s. Three members were allowed to withdraw double the amount of their interest, i.e., £4 15s. 10d., £1 17s. 4d., and £1 14s. respectively. One member was also allowed to withdraw £10 from his deposit account. The committee also assisted one member from the distress fund. The sum of £26 13s. 7d. was passed for payment to the nominee of a deceased member, and the sum of £16 17s. 8d. standing to the credit of a lapsed member was also passed for payment. A long discussion took place on suggestions from two members respecting alterations of rules, but the matter was adjourned until the next meeting. Mr. J. Harrison Dick brought forward a scheme for advertising the society, which will bring its advantages more closely to the notice of the gardening profession.

NEW MEDAL ROSES AT GLOUCESTER.

As the names of some of the new roses to which awards were made at the National Rose Society's Exhibition at Gloucester, on the 15th inst., were accidentally omitted from the report we published in our issue of the 19th inst., we now give the complete list of awards. This is as follows:

Gold Medal.—To Messrs. S. McGredy and Son, Woodside Nurseries, Portadown, for Colleen (H.T.), Iona Herdman (H.T.), Mrs. Frederick W. Vanderbilt (H.T.), and Florence Forrester (H.T.); to Messrs. Hugh Dickson, Lim., Royal Nurseries, Belfast, for Gorgeous (H.T.), Countess Clanwilliam (H.T.), and Mrs. Archie Gray (H.T.); and to Messrs. Alex. Dickson and Sons, Royal Irish Nurseries, Newtownards, for G. Amedee Hammond (H.T.).

Silver-Gilt Medal.—To Messrs. S. McGredy and Son, for Eileen Smiley (H.T.).

Card of Commendation. — To Messrs. S. McGredy and Son, for Mrs. Franklin Dennison (H.T.); and to the Rev. J. H. Pemberton, Havering, Romford, for Ceres (H.T.).

The medal for the best bloom of a tea-scented variety shown by amateurs was awarded to Mr. J. H. Welch, Londonderry, for a fine bloom of Mrs. Foley Hobbs.

FORTHCOMING ENGAGEMENTS

NEXT WEEK.

TUESDAY, July 29.—Royal Horticultural Society: Committees meet at 12 o'clock; the Tenth Masters Memorial Lecture, at 3 p.m., by Professor R. H. Biffen, M.A., on "Some Factors in the Prevention of Disease in Plants"; Scientific Committee at 4 o'clock.
Gladiolus Show at the Royal Horticultural Hall.
WEDNESDAY, July 30.—Midland Carnation Show, two days.
Worth Horticultural Society.
Co. Clare Summer Show.
Chesterfield Flower Show.
Rolleston Summer Show.
Alderley Edge Flower Show.
THURSDAY, July 31.—Dawlish Summer Show at Luscombe Park.
Burnley Flower Show; four days.
SATURDAY, August 2.—French Horticultural Society of London.

OBITUARY.

MR. ROBERT SYDENHAM.

It is difficult to believe we have "bid the long farewell" to Mr. Robt. Sydenham, and that never again shall we see his sturdy, grey-clad figure, and hear his hearty laugh at sweet pea and daffodil exhibitions, and other horticultural gatherings. Not one of the fifty or more who said good-bye to him, at the close of the dinner following the Great Sweet Pea Show in London on Thursday, July 17, imagined for one moment it was the last good-bye, and that about forty-eight hours later he would pass into the "great beyond." Mr. Robert Sydenham, founder and director of Robert Sydenham Limited, seedsmen and bulb merchants, of Tenby Street, Birmingham, went from London to the Birmingham Show on Friday, July 18; on Saturday, July 19, he was at the offices at Tenby Street, as usual, where about eleven o'clock he was found insensible, death supervening with tragic suddenness.

A tremendous worker and a keen business man to the finger-tips, Mr. Robert Sydenham crowded an enormous amount of work into his sixty-five years of life. He was born at Salisbury in 1848, and after school became apprenticed to a general hardware firm in Birmingham. His great ability, application, and industry soon secured advancement, and he became the firm's representative in the United States and British North America, where he travelled for several years. In 1872 he entered the wholesale jewellery business, and established the firm of Sydenham Brothers. For ten years or so he travelled in the southern and western counties and in South Wales on behalf of this business. He was eminently successful both as traveller and as director, and in later years, after the retirement of one brother and the death of another, the responsibility of this big concern fell upon his shoulders. About 1884 Mr. Sydenham took up gardening as a hobby, and put as much energy and keenness into his hobby as into his business. Ere long he began to purchase seeds and bulbs in some quantity for himself and friends, and eventually commenced a small seed and bulb business as a "side line." So rapidly, however, did the business extend that large premises were built to accommodate it, at Tenby Street, attached to those in which the jewellery business is conducted. Mr. Sydenham was quick to see the possibilities of fibre for bulb growing and the attractiveness of undrained bowls, fancy pots, etc., for the cultivation indoors of spring-flowering bulbs, and he made these an important part of his business. In connection with his bulb business he visited Holland, Ireland, and the Channel Islands frequently, and he fostered the cultivation of daffodils in Anglesea. Sweet peas early caught his fancy, and ever since the celebration of the bicentenary of the introduction of the sweet pea into England he has been steadily advocating the claims of the queen of annual flowers. He gave prizes for sweet peas at most of the leading exhibitions in the country, and was a generous supporter of the National Sweet Pea Society, and in 1912 was president of that body.

Carnations fascinated him, and for many years his flowers, grown in his private garden at Edgbaston, were hard to beat in Birmingham and London. For six successive years he won the Midland Champion Carnation Medal, and he spared no pains or money in securing the best varieties and the highest cultivation. In later years, however, daffodils and sweet peas were his prime favourites, although he loved all flowers, and was never happier than when with his family in his garden. The Midland Daffodil Society was one of Mr. Sydenham's favourite institutions, and one upon which he lavished time and money. The evening previous to the daffodil show he invariably invited a few of the leading growers and raisers to dinner at his private house, and to those who have at any time had the privilege of an invitation, these functions will remain as very pleasant memories. Then there would be luncheon to all exhibitors and helpers in the Botanic Gardens on show day, and, in the evening, dinner at an hotel to all who had taken part, followed by an informal discussion upon some daffodil subject.

Keen business ability did not blunt Mr. Sydenham's generous instincts. His leading employees all have a direct interest in the success of the business. A hard worker himself, he expected full measure from others, but he was none the less a kind and considerate employer. In illness or trouble he became a personal friend, and every bit of extra work or special success received acknowledgment. One of his happiest days was that on which he visited London with Mrs. Sydenham, to purchase blouses and dress lengths for Christmas presents to his girl employees. He dearly loved to get the best of a business deal, but had an open-hearted generosity that was none the less real because so much of it found expression in a quiet and unostentatious manner.

Those who were his keenest competitors in business had a great admiration for Mr. Robt. Sydenham's talents. His methods of advertising were often quaint, but always effective, and he had a wonderful knack of getting his business and himself talked about.

Mr. Sydenham leaves a widow and two married daughters, and to these we tender our sincerest condolence and sympathy, for nowhere will his loss be so greatly felt as at Beech Court, Edgbaston.

The funeral took place on Tuesday, July 22, and the service, conducted chiefly by the Rev. Joseph Jacob, of Whitchurch, was held in the Old Church, Edgbaston. There was a large attendance, and the chief mourners included: Mr. William Sydenham, Mr. Albert Sydenham (the two surviving brothers), the two sons-in-law, and Mr. Herbert Smith. Others present at the service and the interment at Lodge Hill Cemetery, Selly Oak, were: Mr. Pressly, Mr. Price, and Mr. Dean, members of the staff at Tenby Street; Mr. W. H. Parton, who represented the Midland Carnation Society; Mr. C. Lemeslie Adams, Midland Daffodil Society; Mr. Christopher Bourne and Mr. Goodwin, R.H.S. Daffodil Committee; Mr. C. H. Curtis, who represented the National Sweet Pea Society and The Gardeners' Magazine; Mr. F. W. Harvey and Mr. Quick, from "The Garden"; Mr. W. H. Mortar, Superintendent of the Birmingham Parks; Mr. Thos. Humphreys, Superintendent of the Birmingham Botanic Gardens; Mr. Walter Jones and Mr. Spinks, who represented the Birmingham Horticultural Societies; and Mr. Alfred Watkins, who represented the London wholesale seedsmen.

Flowers were sent in quantities as tokens of respect from relatives, friends, and the various societies with which Mr. Sydenham was connected, and it was noticeable that carnations and sweet peas were the chief flowers used, and a wreath of rosemary, "for remembrance," was placed on the coffin.

THE LATE MR. ROBERT SYDENHAM.

Sandringham Gardens. — Mr. Cyril Ward, R.C.A., the author-artist of "Royal Gardens," has, by command of Queen Alexandra, just painted for her Majesty a series of water-colour drawings representing various aspects of the delightful gardens and grounds of Sandringham, which have been exceptionally beautiful during the past spring season.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

TRACHELIUM CŒRULEUM.—H. C. V., Stone: At an exhibition I recently visited Trachelium cœruleum was used very effectively in one group of miscellaneous plants. It is so graceful and pretty that I should like to cultivate it for the conservatory. Is it propagated from seeds or cuttings?—Trachelium cœruleum is readily raised from seeds sown in gentle heat in early spring, or from seed sown in a frame in autumn as soon as ripe. Transfer the seedlings to small pots, singly, at an early date, and in the case of spring-sown stock, proceed to harden off the plants early, as they are almost hardy, and only need frame or cool greenhouse protection. Cuttings of young shoots may be inserted in early summer, under a handlight or frame, or the old stools may be shaken out and the basal growths separated and potted in autumn or spring. Light loam, leaf-soil, and sand make a suitable compost, and 48-sized pots will be sufficiently large to flower the plants in.

ASPARAGUS SEEDLINGS.—F D., Crowborough: Many thanks for sending the other seedlings. We have inspected them, and still believe that the condition of the soil and lack of moisture are answerable for the yellowing. One or two seedlings have broken roots, but probably this breakage was caused when lifting the plantlets, though it suggests the possibility of harm resulting from wireworms or weevil grubs. Try a few carrot and potato traps for wireworms, and let us know the results.

INSECTS IN MELON HOUSE.—J. A. W., Wimborne: I am enclosing some tiny beetle-like insects found in my melon house. I find they attack the melon leaves, and in some instances they have eaten the edges of leaves. I shall be glad if you can tell me what the insect is, whether it is a real pest, and if so, how to deal with it.—The postal authorities left us little chance of determining what the insect was, as all we found in the cotton wool inside the letter was a few minute squashed bodies, that look like red ants without feelers. Try to find whether the pests have a general home, and if such is found, boiling water will probably put an end to the trouble. Failing this, fumigate the house on two or three successive evenings, and endeavour to trap the insects by means of melon and cucumber leaves laid on the soil, and by means of pieces of wood and slate smeared with treacle.

CULTURE OF GARLIC.—C. C., Dartmouth: After long residence in Spain and Italy, I have acquired a considerable liking for garlic. This may be a very dreadful confession to make, especially as I find it very difficult to obtain garlic, and so must consider it to be unfashionable and little grown. Can you tell me how to grow this somewhat vulgar crop?—Garlic is not much used in this country, though not a few allotment holders in Surrey and Kent grow a row or two, very much as they grow shallots. Obtain cloves, or bulbs, of garlic early in the year, and plant them at the end of February, nine inches apart, in rows a foot apart. The soil should be rich and finely worked, but no fresh manure should be provided for the crop. Use a dibber for planting, and just cover each clove with soil.

AQUATICS FOR SMALL POOL.—E. E., Grimsby: You will very greatly oblige me by naming about half a dozen aquatics that would be suitable for cultivation in a small pool of water in a sheltered and sunny position. The strong-growing water lilies of the Marliacea and tuberous groups are far too large for me.—Among the nymphæas three very pretty and quite small-growing sorts are N. tetragona, N. Helveola, and N. pygmæa. Other aquatics of modest growth and considerable beauty are Aponogeton distachyon, Echinodorus ranunculoides, Menyanthes trifoliata, and Limnanthemum peltatum, known also as Villarsia nymphæoides.

DAMAGED MUSHROOMS.—B. C. K., Bromsgrove: I send you a few mushrooms from a bed that has cropped well, but numbers of the mushrooms appear to be eaten by some pest or other. Can you say what causes the damage?—Woodlice have been at work amongst the crop, and the damage is due to their depredations. Use every possible means to trap and destroy these pests. Small, dirty boards placed round the edge of the bed, dirty side down, form excellent traps that must be frequently examined.

CROSNES.—J. B., St. Leonards: My employer wishes me to grow a vegetable he has enjoyed in France, where it is called Crosnes du Japon. Please tell me what this vegetable is, as I must confess to entire ignorance of it under such a name.—Crosnes are the tubers of Stachys tuberifera, frequently known as the Japanese artichoke. It is easily grown, and crops freely, but as the tubers are small they do not commend themselves to cooks at home. Tubers for planting may be purchased in the spring and planted in rich soil in a sunny position. The tubers are curiously constructed, but each portion carries a bud, and so each tuber may be divided for planting. When the leaves die in the autumn it is time to lift the tubers, though, as in the case of potatoes, there will be tubers fit for cooking before the leafage withers. Store in sand until required. Plant three inches deep and a foot apart, in rows 1ft. 6in. apart, at the end of March or early in April.

NAMES OF PLANTS.

C. J., Saltaire.—1, Alnus glutinosa; 2, Ostrya carpinifolia.

B. E., Llandudno.—1, Thalictrum angustifolium; 2, Lavatera Olbia.

J. S. F., Bromley.—1, Galega officinalis; 2, Gilia densiflora; 3, Hypericum calycinum.

H. W. J., Louth.—1, Sidalcea Listeri; 2, Dianthus deltoidea; 3, Leptosyne maritima; 4, Scrophularia aquatica.

H. A. N., Hampstead.—1, Sagittaria sagittifolia; 2, Butomus umbellatus; 3, Salvia pratensis; 4, Veronica spicata.

M. E. L., Hitchin.—1, Inula glandulosa; 2, Achillea filipendula; 3, Abutilon megapotamicum; 4, Fuchsia gracilis; 5, F. fulgens; 6, Vaccinium Vitis-Idæa.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

PUBLISHING MANAGER,
148-9, Aldersgate Street,
London, E.C.,

who will give the matter immediate attention.

MARKETS.

COVENT GARDEN.

Flowers.

Flowers are cheaper, and the demand has slackened somewhat.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	3 0	to	4 0
Alstromerias	per doz. bun.	2 6		3 6
Asparagus plumosus	per doz. bun.	10 0		18 0
,, Sprengeri	per doz. bun.	9 0		12 0
Asters	per doz. bun.	3 0		4 0
Campanulas	per bun.	2 0		4 0
Carnations	per doz.	0 9		1 6
,,	per doz. bun.	5 0		10 0
,, Malmaison	per doz.	4 0		6 0
Coreopsis	per doz. bun.	0 9		1 3
Cornflowers	per doz. bun.	0 6		1 3
Croton leaves	per doz. bun.	12 0		15 0
Delphiniums	per doz. bun.	4 0		8 0
Eucharis	per doz.	2 0		4 0
French fern	per doz. bun.	2 6		4 0
Gaillardias	per doz. bun.	1 6		2 0
Gardenias	per doz.	1 0		2 0
Gerberas	per doz.	1 0		1 6
Gladioli	per doz. bun.	2 6		5 0
Gypsophila	per doz. bun.	3 0		5 0
Lilium auratum	per bun.	3 0		4 6
,, speciosum	per doz.	1 3		2 0
,, longiflorum	per bun.	1 0		1 6
Lily of the Valley	per doz. bun.	9 0		15 0
Marguerites	per doz. bun.	1 0		2 0
Odontoglossums	per doz. blms.	3 0		4 0
Pelargoniums	per doz. bun.	3 0		4 0
Roses	per doz.	0 9		2 0
Scabious	per doz. bun.	2 0		4 0
Smilax	per doz. trails	1 6		2 0
Spiræa	per doz. bun.	4 0		6 0
Stephanotis	per gross	5 0		7 0
Stocks	per doz. bun.	3 0		5 0
Sweet Peas	per doz. bun.	1 3		2 0

Fruits.

Supplies are good, but the prices of currants remain firm. Cherries, raspberries, and plums sell readily.

		s. d.		s. d.
Apples, Australian	per box	14 0	to	16 0
,, Tasmanian	per box	14 0		15 0
Apricots	per ½ sieve	8 0		10 6
Bananas, Canary	per bun.	7 0		12 0
,, Jamaica	per bun	3 0		5 6
Cocoanuts	per 100	17 0		23 0
Cherries	per peck	2 6		6 0
Currants, Black	per ½ sieve	6 0		7 0
,, Red	per ½ sieve	6 0		7 0
Dates	per doz. boxes	2 9		3 6
Figs	per doz.	1 6		2 0
Gooseberries	per ½ sieve	3 0		5 0
Grape Fruits	per case	12 0		20 0
Grapes, English	per lb.	1 6		3 0
,, Guernsey	per lb.	1 0		3 0
Greengages	per ½ sieve	10 0		12 0
Lemons	per case	10 0		30 0
Melons	each	1 0		3 0
Nectarines	per doz.	3 0		21 0
Oranges	per case	16 0		25 0
Peaches	per doz.	3 0		21 0
Pears, Tasmanian	per case	10 0		12 0
Pineapples	each	3 0		5 0
Plums, French	per ½ sieve	8 0		10 0
Raspberries	per doz. pun.	3 0		4 0
Strawberries	per doz. pun.	5 0		10 0
,,	per peck	3 0		5 0

Vegetables.

All kinds of seasonable vegetables are well supplied, and the demand is quite good.

		s. d.		s. d.
Artichokes, Globe	per doz.	1 6	to	2 0
,, Ground	per bush.	3 0		4 0
Beet	per bush.	2 0		3 0
Beans, Guernsey	per lb.	0 4		0 6
,, English	per lb.	0 4		0 6
,, Broad	per bush.	2 0		2 6
Cabbage	per tally	2 6		4 6
Carrots	per doz. bun.	1 6		2 6
,, French	per doz. bun.	6 0		8 0
Cauliflowers	per doz.	2 0		2 6
Cucumbers	per doz.	1 6		3 0
Endive	per doz.	1 6		3 0
Horseradish	per doz. bun.	10 0		12 0
Lettuce, Cos	per doz.	0 9		1 0
Marrows	per doz.	2 0		4 0
Mint	per doz. bun.	1 6		3 0
Mushrooms	per doz. lbs.	5 0		7 6
Onions	per bag	4 0		4 6
,, Spring	per doz. bun.	2 0		3 0
Parsley	per doz. bun.	3 0		6 0
Peas	per bush.	2 0		4 0
Radishes	per doz. bun.	0 10		2 0
Spinach	per bush.	1 6		2 0
Tomatoes, English	per doz. lbs.	2 6		3 6
,, Guernsey	per doz. lbs.	2 0		3 0
Turnips	per doz. bun.	2 0		6 0
Watercress	per doz. bun.	0 4		0 6

LONDON POTATO MARKETS.

The increasing supplies of good new potatoes has steadied trade and prices.

		s. d.		s. d.
St. Malo	per cwt.	7 0		7 6
Kents	per cwt.	7 6		7 6
Lincolns	per cwt.	6 0		7 0
Bedfords	per cwt.	6 0		6 6
Dutch	per bag	5 0		

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Future of the Crystal Palace.

The rapidity with which the Bill introduced into Parliament for giving statutory power to local authorities to contribute to the cost of acquiring the Crystal Palace for the nation, is passing through its several stages, should afford immense satisfaction as an additional proof of the strong desire that is being felt for the preservation of this historic building and its beautiful grounds. It is certainly most gratifying to have unquestionable evidence that the public bodies, whose spheres of activity are in the southern parts of the Metropolitan area more or less fully appreciate their responsibilities, and are taking the steps necessary to contribute liberally to the Mansion House Fund. Since the completion within fourteen days of the arduous task undertaken by "The Times" to raise £90,000, the amount estimated by the Lord Mayor as necessary to complete the sum of £230,000 required for the purchase of the Crystal Palace, there has not been any doubt as to the ultimate result. If there has not been any apprehension with regard to the desired amount being forthcoming, the fact has not been lost sight of that not until the public bodies have made their contributions will it be possible for the Lord Mayor to make the purchase. Hence the satisfaction that may be derived from the promptitude with which the borough councils, in whose area the Crystal Palace and grounds are situated, have voted substantial amounts. The claims upon these bodies are necessarily great, but they are not limited exclusively to them, for the acquisition of the Crystal Palace is a national rather than a local question. The visitors have not been drawn from any one part of the Metropolis, or indeed exclusively from the metropolitan area, but they have come from all parts of the country. There is no likelihood of any great change in this respect, and it would be an immense advantage were public bodies throughout the United Kingdom to take some part in the movement. The Bill now before Parliament will afford them ample opportunities for doing so, as it gives power to any metropolitan borough council, and the council of any administrative county, any municipal corporation, and any urban district council in England and Wales to contribute such sums as they may think fit, with the sanction of the Local Government Board; and provision is made for the raising of the money by a rate or otherwise. It is yet too early for those who are engaged in raising the funds necessary for the completion of the purchase to give public expression to definite views with regard to the future of the Crystal Palace. The Lord Mayor has stated that he will, without loss of time, take the steps necessary to form a committee, or similar body, drawn chiefly from the largest subscribers, to consider this all-important question. We know also that under the Bill referred to "Parliamentary powers will be sought hereafter to provide for the public control and maintenance of the property." This question is one of immense interest to those who are in any way concerned with the various aspects of horticulture. The vast edifice which for sixty years has been a conspicuous landmark in approaching London from the south is the outcome of the genius of Sir Joseph Paxton, the greatest gardener of his day, and the grounds which form so delightful a setting, with their magnificent terraces and fountains, were designed by him and laid out under his direction. Of this fact the gardening community have full justification for indulging in a feeling of pride that so great an accomplishment is the exemplification of the taste and skill of one of its own members. Gardeners should also be imbued with a strong sense of satisfaction that Paxton's work has been saved from the builder by the generosity and public spirit of the Earl of Plymouth, who is not only a liberal patron of gardening, but takes a deep interest in the welfare of gardeners, as proved to demonstration by his occupying the position of president of the British Gardeners' Association. Of interest also is the fact that for nearly half a century the Crystal Palace was a great centre of horticultural activity, and exercised an enormous influence for good on the advancement of gardening. For a long series of years there were exhibitions of spring flowers of the most delightful character, summer shows of great excellence, at which all the leading growers of stove and greenhouse plants, orchids, and certain classes of soft-wood plants might be seen in competition. Then in the autumn, there was an exhibition of fruit and dahlias that was so remarkable for its extent and the high quality of the products as to attract members of the gardening community in their thousands. It was possible to see plants, flowers, and fruits that belong to the summer season in a high degree of perfection at the South Kensington and Regent's Park exhibitions, but to enjoy the charms of dahlias and gladioli and the fruits associated with the autumn it was necessary to visit the September exhibition at Sydenham. Many also were the exhibitions held under the auspices of the National Rose Society, and not a few shows have been held by the National Chrysanthemum Society and National Dahlia Society, which continue to make the Crystal Palace their home. With regard to the grounds it is not unreasonable to assume that when the Crystal Palace passes under public control the buildings with which the grounds are now crowded will wholly, or in part, disappear, and that the great exhibitions will be held in the building for which it is so well adapted. This will afford opportunites for demonstrating the best methods of beautifying the grounds with hardy and tender plants during the summer and early autumn months, due

MR. A. E. USHER.

consideration in this matter being given to the prevailing taste at the time. By the adoption of some such method it will be possible to so use the various plants available as to give the arrangements considerable educational value. It will be practicable to proceed still further in the education of visitors in the selection and arrangement of both hardy and tender plants employed in garden decoration. We would, for example, set apart one or more areas in positions convenient of access, and devote them, not to trials, but to the demonstration of the best of the varieties for garden decoration that are in general cultivation. One of these demonstration gardens might be devoted to roses, another to dahlias, another to early-flowering carnations, and so on, the beds to be of moderate size, and each to be filled with one variety. In carrying out a scheme of this kind, there can be no doubt that the special societies would readily render assistance in the selection of varieties, and might probably contribute the plants of such as they may, because of their great merit, be desirous of bringing prominently into notice. It might also be possible to arrange a set of school gardens, which would serve as models for adoption in school areas, and be useful to both teachers and scholars as illustrative of the best methods of cropping, etc. Whatever may be the future of the Crystal Palace, we trust that, as in the past, horticulture will be closely associated with it, and that the educational side of the art will be constantly kept in view by those responsible for its management.

Mr. A. E. Usher, of sweet pea and carnation fame, is particularly fortunate in having as employer such an enthusiastic garden lover as Sir Randolf Baker, Bart., M.P., because Mr. Usher's many successes have only been possible as a result of the keen and generous interest Sir Randolf takes in his garden at Ranston, Blandford, Dorset. Mr. Usher gained most of his experience in the County of Kent, where he was born, and, after becoming foreman at Down House, Blandford, became head gardener at Ranston, a position he has held since September, 1905. His first exhibit was a group of plants and chrysanthemums at Bournemouth in 1906, when he won the first prize and silver cup. In 1906 he commenced sweet pea culture, and won a first prize at Southampton with his first exhibit; the year following he won the Sutton Cup at the National Sweet Pea Society's exhibition, and has repeated that win this year. In 1910 he was in great form with sweet peas, winning the Eckford Cup, Humphery Cup, and ten first prizes at the National Show, and about fifty other first prizes at provincial shows within a fortnight. He holds six of the N.S.P.'s gold medals, two R.H.S. silver cups, and this year secured the coveted gold medal of the Royal Horticultural Society at the Holland House Exhibition. At the International Horticultural Exhibition he won two gold medals and a silver cup for sweet peas and perpetual-flowering carnations. With the latter flower he is as successful as with sweet peas, and grows a considerable number of plants right well. Mr. Usher also grows vegetables excellently, and has a large and pretty garden under his care. Flowering trees and shrubs and Iris Kæmpferi are subjects that receive special attention at Ranston, and the upkeep of the garden shows that Mr. Usher does not put all his energy and enthusiasm into sweet peas and perpetual carnations.

Chelsea Physic Garden.—In our next issue (August 9) we shall give an illustrated account of the famous Physic Garden at Chelsea, wherein Aiton and Miller, Curtis and Forsyth, Anderson and Fortune, and Moore and Lindley did excellent work in the cause of botanical science in bygone days. Within recent years the garden has been greatly improved in various directions, and the changes that have been made with a view to greater efficiency form by no means the least interesting part of the historical sketch of this old garden.

Research Scholarships. — The Board of Agriculture has awarded research scholarships of the value of £150, tenable for one year, to Mr. F. L. Engledow, Mr. G. O. Sherrard, and Mr. T. Trought, genetics; to Mr. E. J. Holmyard, plant nutrition and soil problems; and Mr. R. C. Knight and Mr. S. P. Wilshere, plant physiology.

Irish Potato Crop.—Potatoes in various parts of Ireland have suffered considerably from the unfavourable weather that has been experienced at several periods since the planting season. In the Midlands much damage was caused by the floods on the Shannon. In the district of which Athlone is the centre, two distinct crops of potatoes are grown, one for the supply of the Irish markets with early potatoes, and the other for the production of tubers for planting. The early crop was destroyed by the floods in March and April, and a second crop had to be planted. The floods of June also did much damage. Disease has made its appearance in County Limerick, but as yet no considerable amount of damage has been done. Spraying, owing to the rains, has been less effectual in repressing the disease than usual.

John Innes Horticultural Institution.—On July 18 some of the members of the Royal Horticultural Society's Scientific Committee visited the John Innes Horticultural Institution at Merton, on the invitation of the director, Mr. W. Bateson, F.R.S. The party included Dr. A. B. Rendle, Dr. Voelcker, Messrs. C. E. Shea, W. Cuthbertson, A. W. Sutton, W. Fawcett, W. Hales, A. R. Rolfe, and F. J. Chittenden. The main aim of the institution is investigation into the laws of inheritance, but there are also experiments in progress on certain plant diseases, especially those of peas, and on silver-leaf in plums, etc. The latter clearly corroborate the findings of other experimenters with regard to the fungus Stereum purpureum being the cause of the trouble. Perhaps the chief interest at present attaches to the series of investigations into the inheritance of sex, especially in the tropæolums, reseda, and other plants. But fruit trees (self-fertility and self-sterility) and peas, potatoes, gooseberries, primulas, calceolarias, begonias, capsicums, campanulas, and various other plants are contributing to the investigations afoot. Many complications are being discovered in the modes of inheritance, but most are slowly yielding to the application of the analytical method, upon which Mendel based his far-reaching generalisations.

Mulching Roses.—In conjunction with the July meeting and show of the North of England Horticultural Society at Leeds, there was a discussion on roses and their cultivation. Mr. Percy Clapham, secretary of the Society's Plant and Floral Committee, in the course of the discussion, stated that he considered the large percentage of failures which rose-growers experienced was due in the main to the practice of winter mulching, which he characterised as harmful and unnecessary. Inasmuch as all the varieties of roses cultivated were grafted on to the English brier, which was so hardy that the severest winter and the driest of summers could not kill it, it followed, he said, that the roses worked upon it were hardy too. A number of the members took up the discussion on this point, the consensus of opinion being that circumstances, such as altitude and exposure of position, made all the difference as to the correct methods of treatment. The English brier is, however, by no means the only stock used in the propagation of roses by budding and grafting.

Magnesia as a Fertiliser. — A number of experiments with magnesia salts have been carried out at the Woburn Experimental Farm, with the result that it has been proved that magnesia can with advantage be added to a soil poor in magnesia provided the amount does not exceed that of lime.

Delphiniums from Langport.—From Messrs. Kelway and Son we have had the pleasure of receiving a gathering of flower spikes of delphiniums, which have for many years constituted one of the more important features of the Langport Nurseries. The specimens received are not only immensely attractive, but are of much interest as evidence of the remarkable development which these flowers have undergone within recent years, not only in the size and form of the flowers, but in the increase of the range of colouring.

Extension of Streatham Common.—The extension of Streatham Common, known as "The Rookery," which was purchased some time since at a cost of £3,075, is now open to the public. The extension consists of rather more than three acres of land, and is situate on the southern side of the common. On the wide-spreading lawn are some of the finest specimens of the Cedar of Lebanon within the metropolitan area. The other features are an Old English garden, a White garden, a rock garden, a wild garden, and a woodland walk. The laying out of the extension has been executed from the designs and under the supervision of Major Maud, C.M.G., Chief Officer of the Parks Department of the London County Council.

A New Home for American Blight.—In a paper recently read by Professor G. H. Carpenter at a meeting of the Royal Dublin Society, attention was called to the fact that the woolly aphis, or American blight, has found a new home for the winter. It was stated that the cores of a number of apples imported from America and sold in Dublin contained insects, and reference was made to the fact that by means of the imported fruit the introduction of the pest into fresh districts might be readily brought about.

Dr. M. C. Cooke, the distinguished fungologist, who for a long period occupied a position in the herbarium of the Royal Gardens, Kew, from which he retired some years since, completed his 88th year a few days since. Those who knew Dr. Cooke, or are acquainted with his works on fungi, will be sorry to learn that his eyesight is failing him, and they will readily understand that it will prevent him continuing the researches among the fungi to which he has devoted so many years. In the course of his long and active life Dr. Cooke wrote much on the fungi, especially those injurious to plant life, although he could have received but little encouragement, for not until quite recently has the importance of fungi in the economy of the garden and farm been fully appreciated. His most important work is his "Illustrations of British Fungi," which was published in eight volumes at £24, but the work that is best known to the general public is "Fungi," which was published in the International Scientific Series. Dr. Cooke

who is a native of Norfolk, had a somewhat varied experience in his younger days. He was first a teacher at a Birmingham school, then became a teacher at a National school in Lambeth, and later was apprenticed to the drapery trade, subsequently becoming a lawyer's clerk. He must, however, have devoted much time and attention to the study of fungi after he had commenced the battle of life to have enabled him to obtain the official positions he eventually occupied at the Indian Museum and Kew, and filled them with such remarkable ability.

A Gardening School for Feeble-minded Girls has been formed at Knotty Ash, and is, we understand, making very satisfactory progress. Canon Sylvester states that the school is the only one of its kind in Europe, and that its existence is due to the efforts of the members of the committee of the Liverpool Society for the Care and Training of Young Girls. The school has forty-three scholars, and the object is to develop their minds by encouraging healthy occupation, and this it is thought can be the most satisfactorily accomplished by teaching gardening. So far the results have fully justified this view of the case.

Australian Dried Fruits.—An interesting statement illustrative of the remarkable development which the dried fruits industry has undergone in Australia within recent years was made at the annual conference of the Australian Dried Fruits Association, recently held at Melbourne. According to the statement made the forty delegates represented over 10,000 persons who are dependent upon the production of dried fruits for their livelihood, besides between 3,000 and 4,000 casual labourers. The annual production of dried fruits controlled by the association is about 12,000 tons, of the value of close upon £500,000.

Oxydases in Plant Tissues.—Mr. W. R. C. Atkins contributed to the monthly meeting of the Royal Dublin Society a paper having reference to oxydases in plant tissues. He expressed the opinion that the distribution of oxydases seems to point to their being concerned in the production of cork and sclerenchyma. The guard cells of stomata and the cells abutting on them are particularly rich in epidermal oxydase. The leaf-saps of Iris germanica and Aspidium filix-mas contain powerful reducing substances which inhibit oxydase reactions. Precipitation of the enzymes by alcohol or removal of the reducing substance by dialysis permits of the detection of oxydase. The colours of the perianth of iris are due to the presence of a yellow plastil pigment, or of a purple anthocyan chromogen, which arises by the action of the epidermal peroxydase on a chromogen.

The Scottish Raspberry Crop.—We learn from "The Scotsman" that the gathering of fruit commenced at the raspberry farms at Drumtogle, Auchterarder, on July 21, and has since become general throughout the district. The dry weather has brought the fruit on rapidly, and if it continues the crop will not be a large one. The prices for raspberries at present are £33 per ton. The growers are holding back, because they fear that, with the prospect of a short crop, they might oversell. It was expected that there would be some difficulty in obtaining pickers because of the spell of good trade, but at present a large number are to be seen at the roadsides, and it is now thought that there will not be much difficulty in this connection. About six tons of fruit were sent from Auchterarder Station on the first day of gathering.

NOTES FROM KEW.

Achimenes.

A collection of these charming summer-flowering gesnerads is brought together in the cool portion of the T range, and so attractive are they that it is a matter for regret and surprise that they are not more often met with in gardens. The probable reason is that they are of but little use for the supply of cut flowers. The range in colour among the large-flowered forms of achimenes is now an extensive one, varying from pure white to deep purple, while of the scarlet kinds the old Achimenes coccinea, the first member of the genus to be introduced into this country, still holds its own. A garden form of much the same hue which probably originated from it is Dazzle. In both of these the flowers are smaller than those of the purple ones. Taken altogether, achimenes are of very easy culture, one important point to bear in mind being that they require a liberal amount of good leaf-mould in the potting compost.

Bougainvillea rosa catalina.

It is now four years since this beautiful and distinct bougainvillea was shown at one of the meetings of the Royal Horticultural Society, when the rich colour of its bracts so impressed everyone that it was awarded a first-class certificate. These bracts are totally without the magenta shade, which is so objectionable to many, their colour being of a rich rose-pink. A small plant in the succulent house is now flowering freely.

Oxalis floribunda.

Good use is made of this showy flowering oxalis as an edging to the stages of the succulent house, for the rich green, handsome leafage droops over in a very graceful manner, and also serves admirably as a setting to the bright coloured blossoms. This oxalis might with advantage be more often treated in this way, while for hanging baskets it is also well adapted.

Interesting Begonias.

As most of the tuberous begonias now grown are of garden origin, a selection of some of the original species in the cool end of the T range is very interesting. Conspicuous among them are Begonia Dregei, noteworthy as being one of the parents of Gloire de Lorraine; Begonia Sutherlandi, one of whose progeny is B. Weltoniensis; Begonia Baumanni, a tuberous kind with carmine-rose-coloured flowers, native of Bolivia; Begonia Pearcei, to which we are indebted for the yellow and similar tints among the tuberous-rooted varieties of today; Begonia Davisi, whose dwarf habit has had a great influence among the present race of tuberous-rooted begonias; and the distinct Begonia gracilis grandiflora, a native of Mexico, with rose-coloured blossoms.

Eustoma Russelliana.

This Mexican gentian-wort, more generally known as Lisianthus Russellianus, is now flowering freely in the intermediate portion of the T range, though the blossoms are hardly as richly coloured as when they develop in a lighter and more airy structure. It is, however, a very handsome plant, whose successful culture was in the days long past looked upon as a good test of the cultivator's skill. At Kew there is a white variety (alba) associated with the ordinary form. The new comer is very chaste and beautiful, and affords a direct

SUTTON'S RED SUNFLOWER.

Flowers rich yellow, with brown-red band round the disk. A.M., R.H.S., July 29. Messrs. Sutton and Sons, Reading.

contrast to the type. These eustomas are best treated as biennials, and flowered the year after the seed is sown.

Pavetta caffra.

Each recurring summer this forms a pleasing feature in the cool portion of the T range, yet, for some reason or other, it is rarely, if ever, met with elsewhere. It forms a neat-growing, freely-branched shrub, clothed with smooth, obovate leaves, while the flowers, which are borne in great profusion in compact, rounded heads, are white with long prominent stamens. Being a native of Caffraria, this pavetta needs rather more heat than those from the more southern part of Africa. In the days of the old Chiswick shows this pavetta used to figure among the specimen plants then exhibited.

Dædalacanthus Watti.

This is a near relative of the popular Dædalacanthus nervosus, which is more generally known in gardens as Eranthemum pulchellum. From the older kind D. Watti differs from its being dwarfer in habit, while the flowers, which are about an inch across, are of a deep bluish-purple colour. It also flowers much earlier, as is well shown in the case of a group of plants in the intermediate portion of the T range. Where glass structures have to be kept gay at all seasons, both these species of Dædalacanthus are exceedingly useful for the purpose. D. Watti is also known as D. parvus.

Lindenia rivalis.

This strange flower, somewhat like an exaggerated bouvardia, is in bloom in the stove portion of the T range. It forms an evergreen shrub, is a native of Mexico, and the white blossoms are borne in few-flowered corymbs. They are star-like, about 1½ inches across, and with a corolla tube six inches long, the latter giving to plants in bloom a singular appearance.

Costus speciosus.

This member of the Ginger-wort family is common in India, but it is not often met with in cultivation here. From a stout root-stock are produced erect, leafy shoots to the height of a yard or more. They are terminated by a cone-like head of bracts, from whence the flowers are produced. In the case of C. speciosus they are of a satiny white tint, while in another species —C. igneus—which blooms later in the season, they are of a brilliant orange hue. Costus speciosus is now in flower in the T range.

Combretum purpureum.

Though long in cultivation, and at one time far more generally met with than it is now, this combretum always arrests the attention of visitors to Kew when in flower. It is trained to the roof of the stove portion of the T range. The oblong, lanceolate leaves are of a dark, shining green, and the flowers are borne in panicles, and are of a pleasing shade of light scarlet. This combretum is also known as Poivrea coccinea; indeed, this is the name under which it occurs in the "Dictionary of Gardening," but at Kew the older name of Combretum is retained.

The Victoria Lily House.

The gigantic water lily, from whence this structure derives its name, is not yet in bloom, but in the same tank two of the blue-flowered tropical species of nymphæa are blooming freely. They are the Australian Nymphæa gigantea and Nymphæa stellata, which is a native of tropical Africa and Asia, and of which several varieties are in cultivation. K.

PARTIAL STERILISATION OF SOILS

Within a quite recent period we have received several inquiries about the most advanced methods of partially sterilisation of soils used in crop production under glass for the purpose of suppressing insect and fungoid contained therein. The most recent information available on this important subject is that contained in a lengthy report by Dr. E. J. Russell and Mr. F. R. Pethridge which was published in the issue of the "Journal of the Board of Agriculture" for January last. Both Dr. Russell and Mr. Pethridge have devoted much attention to the investigation of soil sterilisation, and the results of their researches cannot be too widely known. We publish the portion of the report relating to the methods of procedure in the partial sterilisation of soil by heat and chemicals, and refer those of our readers to the issue of the publication containing the report for particulars of the results obtained in dealing with the various crops included in the researches.

Partial Sterilisation.

There are two general methods of partial sterilisation. The soil may be heated to about 200 degrees F. by steam or dry heat, or it may be treated with chemical antiseptics. Up to the present time heat has been found to give the better results, because it not only kills the various detrimental and disease organisms, but it also brings about a certain amount of decomposition, thus lightening the subsequent work of the food-making bacteria, while in some instances it improves the physical condition of the soil. Chemical treatment is cheaper and more convenient in practice, but, on the other hand, is less effective, even when thoroughly done; it is also difficult to effect thoroughly, since some of the antiseptics cannot readily be distributed uniformly in the soil, even by watering, because they are absorbed by the top layer of soil from their solutions or emulsions.

None of these difficulties are insuperable, and it would be premature to offer any opinion as to which method will finally prove better for the grower. The more effective must in the end be the more profitable, but there is nothing to show that chemical treatment will always be less effective than heat, and, in fact, the difference between them has been distinctly reduced by the use of new antiseptics.

Partial Sterilisation by Heat.

Two methods of partial sterilisation by heat are in use. In one the soil is heated directly by means of a coke fire; in the other it is subjected to the action of steam. The choice is largely dictated by convenience and engineering detail, there being no sufficient evidence of any difference in effectiveness when the soil is equally heated in both cases.

In the direct heat sterilisers the soil is heated for a number of hours, and is then removed to make way for another charge; the process is practically continuous, and can be worked with but little labour. There are several advantages in working with moist rather than dry soil; the danger of overheating is minimised, and the heat travels more rapidly and uniformly throughout the mass, since moist soil is a better conductor than dry soil.

Several methods have been adopted for heating by steam. Perhaps the best known consists in blowing steam into the soil through a gridiron-shaped instrument 4 or 5ft. by 3 or 4ft., made in 1in. piping perforated with holes one-eighth of an inch in diameter. This instrument is placed in a wooden frame without top or bottom, and capable of holding a load or more of soil. Soil is then filled in, and the whole is covered with sacks. Connection with the boiler is made by a 2in. hose pipe, and steam is blown in for about 20 to 30 minutes. When high pressure (80lb.) is available a larger amount of soil can be treated at once; when only low pressure can be used, the soil should not be too wet to begin with, or much condensation may occur. Considerable economy can be effected by performing the operation in the house itself, and moving the tackle along the borders as each piece is treated.*

Another implement used in precisely the same manner is shaped like a harrow; this is also made of gas piping, but is fitted with nine or more tines of smaller piping, perforated with holes, out of which the steam issues.

An appliance adopted in America is on the principle of a warming-pan. A galvanised iron vessel, 10ft. by 6ft. by 6in. is connected with the boiler, and then passed down an inch or two into the soil which has already been prepared for the plants. Steam is now blown into the vessel for 40 minutes at a pressure of 100lb.; none escapes into the soil, but there is considerable passage of heat. The process is sometimes done by contract, and is estimated to cost about a shilling for 33 sq. ft. We have not seen the process at work, and do not know that it is in use in this country.

In the gridiron or harrow method it is hardly necessary to use a thermometer; the temperature cannot rise above 212 degrees F., and will not usually be much below if the steam is at the pressures already mentioned. The soil, after removal from the sterilising frame, may be thrown into a heap, and cools so slowly that the sterilising process still continues. The heap, however, should not remain out of doors for long without protection; every shower of rain washes away valuable plant food, and every wind may bring plant disease germs and other undesirable organisms to repopulate the soil. Among the advantages of sterilising inside the house is the avoidance of these sources of injury. We have not yet sufficient data to determine the cost, but we have seen houses done at a cost of 4d. to 6d. per sq. yard.

It is not yet possible to say whether soils may profitably be sterilised very long before they are wanted. In commercial cucumber houses, for example, there would be obvious advantages in carrying out the sterilisation during the slack months from October onwards; but as the borders are not made up till February, the risk of infection is increased if the treatment is carried out too early. In course of time a copious development of mould often takes place in heated soils carrying no crops, but we have no evidence that it is detrimental to plant growth. This, however, is essentially a matter where convenience counts; even if a loss does go on in the stored soil, it may be advantageous to sterilise early when work is slack.

Seeds sown during winter and early spring in this heated soil do not germinate as quickly as in untreated soil, and the seedlings are apt to be rather stunted and dark green in colour. Tomatoes also show a purple colouration in the stems and the backs of the leaves. Fig. 2 shows a box of cucumber seedlings in heated soil side by side with another lot sown the same day in the same soil, which, however, had not been heated. Bad seed is more affected than good seed. Young plants raised in heated soil also suffer a longer check after pricking out. The roots, however, grow more quickly than the tops; stunted plants in heated soil which, in the "sixties" pots, appeared to be distinctly poorer than those in untreated soil, have not infrequently been found to possess much better roots when knocked out. The extent to which these effects show depends on the sesaon, the light, the soil, etc., and we have not yet learnt how to control them; sometimes they pass so quickly that they are hardly observable. In any case, they need not cause anxiety, for the retardation ceases soon after the second leaves are out, and a great increase in growth sets in, soon carrying the plants well ahead of those on untreated soils.

(To be continued.)

* An ingenious modification consists in making the implement like a comb with three prongs, the ends being blocked up and the piping perforated as before. This can be hauled out of the borders more readily than the gridiron.

MOSSY SAXIFRAGES.

The saxifrage or rockfoil family is far and away the most valuable genus of plants that we have for use in the rock garden. There are so many different and beautiful kinds, and they vary in habit to such an extent that such extreme species like the diminutive S. cæsia, with its tiny rosettes of leaves and corresponding sprays of flowers, and the Californian giant S. peltata, would appear at first sight to have little in common. This beautiful family of plants embraces subjects suitable for all positions, from a hot, sunny ledge or rocky crevice to a cool shady bank. Others delight to have their roots among stones in water, and several species make delightful bog plants.

As a whole, the rockfoils are easy to grow, and only need to be planted in suitable situations according to the requirements of the different sections. A good general guide for planting is, sun for those species with hard, encrusted, and leathery leaves, although there are a few exceptions; and shade or half-shade for those of the mossy or soft-leaved section. Many of the latter form lovely carpets or mounds of deep emerald green foliage, very beautiful in winter, and covered in spring and early summer with masses of pure white or rosy-pink flowers.

During the past few years the hybridist has been busy amongst the saxifrages of the mossy section as well as the others. Many fine varieties have been raised of various degrees of excellence, but some of the taller hybrids which have been brought out are of a rather weedy character, with flowers of a washed-out appearance in the matter of colour. The charm of the mossy saxifrages lies in their neat and tufted appearance, with flowers in proportion, on stems that hold themselves erect. It is evidently the influence of S. granulata which has tended to develop the taller and less graceful habit which we see in many of the newer productions. For general use, easy cultivation, and good habit, the following species, with their varieties, are the best of this section:

SAXIFRAGA MUSCOIDES ATRO-PURPUREA.
A vigorous-growing and free-blooming form, having bright red flowers.

S. cæspitosa.

This species is found growing over the whole of the Northern and almost Arctic regions, and naturally varies to a great extent. Many names have been applied to the different forms, among which may be mentioned S. decipiens and S. sponhemica, but, although the extreme forms may be quite distinct, they are linked up by a chain of intermediates that makes it difficult or even impossible to draw a line between the various so-called species or varieties. Attempts have been made to evolve order out of the chaos, with little or no success, the distinctions being more or less of a geographical character that are of no avail when the plants are growing side by side. It is therefore simplest to keep to Linnæus's name of S. cæspitosa for all these indistinguishable forms.

One of the most marked varieties is S. c. var. hirta, with very hairy foliage. Many beautiful kinds have been produced by hybridisation in recent years, several with charming red flowers. The red colour in these newer forms of S. cæspitosa, which has white flowers, is due to the influence of S. muscoides var. atropurpurea, a charming little plant with bright red flowers. One of the first was Guildford Seedling, a very dwarf carpeting plant with bright crimson flowers. S. Clibrani is of rather stronger habit with red flowers; as also is S. Bathonensis, which grows nearly 1ft. high, with much-branched stems and large brilliant red flowers. One of the best is S. sanguinea superba, which is of neat habit, and bears flowers of a rich ruby-scarlet that do not fade so quickly as some of the other kinds.

S. exarata.

This distinct and beautiful species is a native of the Alps and Pyrenees, and forms a close compact carpet of bright green foliage completely covered with a mantle of white flowers in summer. Only two or three inches high, the thin wiry stems are rigid and freely-branched, and produce such a quantity of flowers that they overlap and quite obscure the foliage.

S. globulifera.

A free-blooming and handsome species, which has its home in the Western Mediterranean region. It is somewhat similar in general character to C. Camposi and S. Wallacei, and, as in the case of these two fine forms, has white flowers, these being produced during the months of May and June.

S. hypnoides.

The "Dovedale Moss," with its emerald green carpet, is a well-known plant in gardens. During the winter months it is one of the chief attractions in the rock garden, clothing otherwise bare places with a

permanent mat of beautiful green. In spring and early summer the white flowers appear in great profusion. It is a very rapid grower, and small tufts planted some distance apart soon meet and make a fitting background for spring-flowering bulbs. Named varieties of the Dovedale Moss are numerous, one of the closest and most compact being gemmifera, while variegata has foliage prettily variegated with white and green.

S. muscoides.

This is a dwarf, dense, carpeting kind, with yellowish flowers in the type, forming a moss-like turf only an inch or less in height. S. m. atropurpurea, with bright red flowers, is the original source of all the fine red hybrids that we now have. S. m. moschata is a stronger-growing kind, with white flowers. All are extremely useful subjects for the many situations in the rock garden.

S. trifurcata.

This elegant plant comes from Northern Spain, and makes a carpet of rosettes with three-parted leaves that are of a stiffer character than most in this section. The pure white flowers are borne on stems two or three inches high in graceful sprays. The variety ceratophylla, which is known as the "Stag's-horn Rockfoil," has more deeply parted leaves of a still more rigid character than in the type. Like the others, it is a quick grower, and easily increased by division.

S. Wallacei.

One of the best of this section, with distinct foliage of a light green colour, and large white flowers that are sweetly scented. For spring bedding or for borders it is a very attractive plant, producing its flowers freely, and lasting for a long time in perfect condition. S. Wallacei is of garden origin, but was considered for some time to be synonymous with S. Camposi, a Spanish plant with much less hairy stems and leaves. Like all the others this plant grows well in light, rich, and well-drained soil.

W. Irving.

Kew.

TABLE DECORATIONS.

The competition in classes for table decoration generally arouses considerable interest among competitors and the public, a certain amount of criticism, and also, I fear, some dissatisfaction with the awards at times. This appeared to be so at the National Sweet Pea Society's Show at Vincent Square.

As an observer—and some might say not quite a novice—I was much interested in the comments on the tables, and the awards. Taking an impartial view of the matter, I do not see that the judges could have done otherwise than they did in placing the awards. Frankly, there was not a pretty table among them. Some were rather overdressed, some rather underdressed; it may be the new style is affected by the tables. There was also not quite that continuity of design carried out to make them effective. Others were a bit too formal in arrangement, and went too far, while some did not go far enough.

If some set of rules were drawn up on judging table decorations, and those rules observed by the judges, some better idea of what should be done by competitors might be an assistance, such as arrangement, continuity of design, more or less, without being too formal, colour schemes, and also blending of colours. A single variety of sweet pea does not always lend itself to effectiveness; also some varieties are better night colours than day, and vice versa.

To illustrate the value of flowers for table decorations, a class for luncheon tables, also one for dinner tables, might be provided, showing what would be effective under natural light, and also under artificial light. This would make an interesting competition. I have seen this done at some shows with very good effect. A rule should be made as to how many are to dine at a table, and the number laid for. The competitor would then know what space he has to work on, and how to place the epergnes or glasses he would require. Had such an arrangement been carried out on the tables under notice, a far better idea of the decorations would have been given. In many private establishments gardeners have to make an arrangement that will allow of the guests being seen, and for general conversation to be carried on while dinner is in progress. With all respect to the fair sex, I do not agree with ladies only judging them. Neither do I hold with single judging or one judge, as is frequently the case. I do not think the judges at the sweet pea show were ladies. Exhibitors at the various shows will agree with me that there is room for improvement in the way decorated tables are arranged and judged, and that some clearly defined rules should be observed on the subject.

Paul T. More.

SAXIFRAGA GLOBULIFERA.

A free-growing species bearing a profusion of white flowers.

Aspidistra Leaves Splitting.—One is frequently consulted as to the cause of the splitting which at times occurs in aspidistra leaves, and often puzzles the owner thereof. This trouble, I am convinced, is largely owing to the rhizome, or underground stem, being buried too deeply when the plants are potted. Stagnant moisture at the roots is also liable to affect the leaves in the same way.—T.

CHRYSANTHEMUMS.

To the cultivator who grows these plants mainly for exhibition, the month of August is a very important one, as the plants are then at a very interesting stage of growth. The expert grower can tell with some degree of accuracy what the quality of the blooms will be when developed. He knows exactly the worth of certain buds and how to treat them. The inexperienced grower does not.

How to Take Early Crown Buds.

The earliest-formed crown buds possess more florets than do those taken, say, two weeks later. The petals are, moreover, shorter and not as highly coloured as those on the later buds. But we must "take" those early buds if they form simply because buds formed on later shoots of the same late-flowering sorts would be useless for exhibition, not having sufficient substance even if they opened in time for the shows.

There is one variety, not a late-flowering one, Mary Poulton, the buds of which develop into the best blooms if they are "taken" late in August. The buds often form very early in August, and when they do the cultivator must not hesitate to nip them out and rely on buds from later-grown shoots. These better buds will be available in about three weeks from the time that the earliest crowns show. The petals are so numerous in the early-formed buds that they have not room to develop, and the colour is very poor. But buds taken about August 25 develop freely and form deep flowers, the colour being an exquisite shell-pink.

The keen cultivator will give constant attendance to his plants, and remove, while quite small, all side shoots; then when the bud shows there will only be about three shoots to pinch off. But the bud must be allowed to grow quite clear of the nearest young shoots before these side growths are nipped off. If the weather be hot at the time the buds are "taken," a daily syringing will greatly assist them to swell up freely, and improve the substance of the bud-stem as well.

The great bulk of the buds will show about August 15, and the grower must then have patience in "taking" them. Instead of removing all the buds he can handle in one day, be content with pinching out about two shoots on each branch each day. This method will take nearly a week to complete the work of bud-taking, but the fine results warrant it being followed, as the buds grow more kindly, as it were; they are not checked, and, in due time, develop into grand blooms, and the main leaves on the branches also swell to a considerable size, thus benefiting the buds, and proving very acceptable where it is intended to show blooms in vases.

Feeding.

This is sometimes discontinued for a long time during the period of bud-taking, but I do not think it at all necessary nor advisable to stop all feeding. The stimulating foods given may be applied less frequently, and in a slightly weaker state for ten days or so, but that is all that is required.

The incurved and single-flowered sections will not be ready for bud-taking before the last week in August and the first half of September. If the buds are secured during the time named, ninety per cent. will develop satisfactorily. Where buds of these plants show before August 15, the cultivator should not hesitate to remove them and rely on buds formed on later-grown shoots. The incurved blooms are more refined, perhaps not quite as broad, as when earlier buds are selected, but they will be deeper, and be more richly coloured.

Retarding Buds.

Some cultivators place the plants in a sunless position in order to retard the buds. It is a mistake to do this, as the wood just below the buds soon becomes soft, and no amount of after care will repair the damage.

GEO. GARNER.

STANDARD FUCHSIAS.

For the moment it is not to the elegant standard specimens of florists' fuchsias that reference is made. These are of great value and importance in the flower garden; indeed, their usefulness in modern schemes of summer bedding can scarcely be over-estimated. But there is another type of fuchsia which is gaining favour with those who love to have something rather out of the common, and have facilities for growing such things. Fuchsia triphylla, with its dark foliage and bright orange-coloured flowers, has become fairly well known during recent years because the leading exhibitors of decorative groups have grown and used it skilfully. Of stronger growth and with larger flowers are the hybrids from this species, many of which have been raised on the Continent. The leafage is attractive, and the long-tubed drooping flowers are very bright and generally of some shade of red, dull orange, or salmon. Two of the best are Thalia and Coralle, the latter having lighter foliage than the former. Both flower freely, and make pleasing standards after two or three years' growth. Messrs. H. B. May and Sons exhibited numbers of beautiful specimens at a recent meeting at Vincent Square, with heads from two feet to two and a-half feet across. Our illustration represents the head of one specimen of Thalia, which has deep red flowers, borne in terminal clusters. It must be confessed that these hybrids possess one weakness when compared with the usual type of greenhouse fuchsia because they produce flowers only at the ends of the branches, and do not form lateral growths to continue the display. Nevertheless, they are very graceful and beautiful, and would provide a striking and novel feature for conservatory, corridor, or hall decoration in the summer.

STANDARD SPECIMEN OF FUCHSIA THALIA.

One of a fine group shown at a R.H.S. meeting by Messrs. H. B. May and Sons, Edmonton.

The two attractive fuchsias, F. Coralle and F. Thalia are among the best of a set of distinct hybrids sent here from the Continent a few years ago. In their production F. triphylla has undoubtedly played an important part, while traces of F. corymbiflora and F. fulgens are apparently present. These two varieties, and especially Thalia, seem in many places to be used for bedding out during the summer, and pretty and distinct they are for this purpose. They are seen more in the shape of standards than in any other way, and so grown it is very pretty and effective, as was well exemplified at the meeting of the Royal Horticultural Society, when delightful specimens of the two varieties, of which one is illustrated herewith, were shown.

T.

SPRING FLOWERS.

In all well-managed gardens thoughts are being very seriously turned to the question of spring gardening for 1914. Very soon the bulbs must be purchased, but before this is done designs must be considered, successes reconsidered, and failures kept in mind, so that their lessons may not be lost. The numbers and kinds of the various bulbs needed should be worked out quite early because it is bad policy to leave the ordering of bulbs until the bulb merchant is inundated with orders. Viola cuttings and arabis cuttings root very freely at this season of the year, and there are many other early-flowering subjects which strike freely or part up readily in early August; indeed, in many cases the pressure of summer work and fruit picking is so great that much of the preparation for next spring has to be left until now. The transplanting of wallflowers, myosotis, etc., is a pressing matter, and if carried out at once the plants develop sturdily from now onward until the summer flowers have to be removed, and the beds prepared for their spring occupants. Hoeing regularly and watering as occasion demands are matters of prime importance, because these ensure a first-class root system, without which double daisies, aubrietias, wallflowers, forget-me-nots, violas, and other beautiful spring flowers cannot possibly do themselves justice, and bring that pleasure which we so eagerly anticipate as the winter slowly passes.

The massing of spring flowers is immensely effective, as shown in the accompanying illustration, when wallflowers, forget-me-nots, and double arabis are grouped around an ancient well-head, near an old time house, at King John's Farm, Chorley Wood. Such a scene brings to mind the fragrance of springtime, and is a reminder of the fact that to secure such a picture in the garden early preparation is necessary.

SPRING FLOWERS AROUND AN OLD WELL-HEAD,
In the Well Garden at King John's Farm, Chorley Wood.

Spiræa Anthony Waterer. — This charming little crimson-flowered form of Spiræa japonica, or S. callosa, as it is more generally called in gardens, well repays a little trouble taken with it. In a general way it produces its rich tinted blossoms in great profusion, and if left alone the floral display is then to a great extent ended. In order to extend the flowering season the old blossoms should be cut off as soon as they fade, and if the plants are given a dose or two of liquid manure secondary shoots are pushed out, which will keep up a succession of bloom till the end of the season. Like the other members of the genus it must not be allowed to become too dry at the roots during the season of growth.—W. T.

OUTDOOR STRAWBERRIES.

Maintenance of a Continuous Supply.

The most suitable season for planting strawberries is at hand, and intending planters, before doing so, would do well to consider for what purpose they intend to plant, and act accordingly. In an ordinary way the managers of private gardens can best serve their own and their employers' interests by growing sufficient plants in quantity and variety to meet the demands for fruit, for the purpose of preserving and maintaining a supply for dessert, over as long a period as is practicable. This method is not, however, by any means always followed, even where it would suit the producers' best interests to do so, for even in such cases it is not an uncommon occurrence to see inconveniences caused by superabundance and deficiency in the supply, owing to errors made either in the selection of varieties or in too much space being devoted to a favourite variety, such, for instance, as Royal Sovereign, to the sacrifice of others.

Though the strawberry will succeed in any ordinary garden soil, the ideal one is a fairly heavy deep loam. Light soils can nevertheless be improved by the addition of those of a heavier character, and clayey ones by the aid of light soil, such as charred refuse from the rubbish yard. In any case it is desirable to work the soil deeply, apply a heavy dressing of decayed farmyard manure, or give suitable manurial aid in some other available form. Our usual method is to plant upon deeply-dug land, in succession to early crops of peas that have occupied quarters which have been

bastard trenched and heavily dressed with farmyard manure, and depend upon, for further supplies of nourishment, diluted liquid manure derived from stables. Ground of this description, after being dug, should be prepared for the strawberries by having a few inches of its surface finely broken and levelled. For the main crops, quarters fully exposed to the sun are to be preferred, south borders being best for the earliest crops, and north borders the most suitable for late crops. By so arranging the varieties according to their seasons we secure the best possible results.

The best plants are those obtained from young plantations that were formed the previous season, the strongest runners being selected and layered in 2½in. or 3in. pots as early in the season as they can be procured, and grown on without neglect by keeping them carefully supplied with water, and suppressing their extending growths. When well rooted they should be severed from their parents, and be placed in a semi-shaded position for a few days to enable them to recover from the check before being planted out. In layering it is important to ascertain that the plants from which it is desired to obtain runners are fertile, for, though sterile strawberry plants are not often met with, cases of the kind do happen. I well remember Vicomtesse Hericart de Thury causing disappointment in this way, and for reasons of this kind it is advisable, especially for those dealing with unfavourable soils, to occasionally change their stock of plants by securing fresh ones from a reliable source.

In planting strong-growing varieties, possessed of long leaf stalks, such as Louis Gauthier, Royal Sovereign, and Progress, they should be arranged in rows three feet apart, and in the rows two feet asunder. Compact growers of the type of Givon's Late Prolific, Loxford Hall Seedling, or Laxton's Latest may be placed closer together. Wait for a showery time in which to plant, but avoid doing so when the soil is very wet. See that the balls of soil are moist when the plants are turned out of their pots, and embed them quite firmly and sufficiently deep for the surface of the ball of soil to be slightly covered when the planting has been completed.

Subsequent treatment will chiefly consist in watering if it is necessary, and care should be taken in attending to this to prevent the balls of soil containing the roots becoming dry. Also pay attention to keeping the plants free from runners, and the surface soil frequently stirred with the hoe. Once the roots have taken freely to the soil, a good watering with diluted liquid manure should be given. This will both strengthen the plants and cause their crowns to develop. Plants so treated will produce splendid crops of fruit the first season, and the fruit will be larger in size and earlier than that produced in beds of some age, though the crops produced by plants the second year after planting will be heavier, and will also afford supplies of ripe fruit in succession to that of young plants of the same variety.

We have given most of the leading varieties a fair trial, and can recommend the following, as early kinds: Vicomtesse Hericart de Thury and Royal Sovereign; for main crops, President, Sir Joseph Paxton, The Bedford, Countess, Fillbasket, Reward, and Laxton's Profit; of late varieties Givon's Late Prolific, Laxton's Latest, Eleanor, Waterloo, and President Loubet; as a white fruiting variety, Louis Gauthier; for preserving purposes, Vicomtesse Hericart de Thury is unsurpassed, and as a perpetual St. Antoine de Padoue can be strongly recommended.

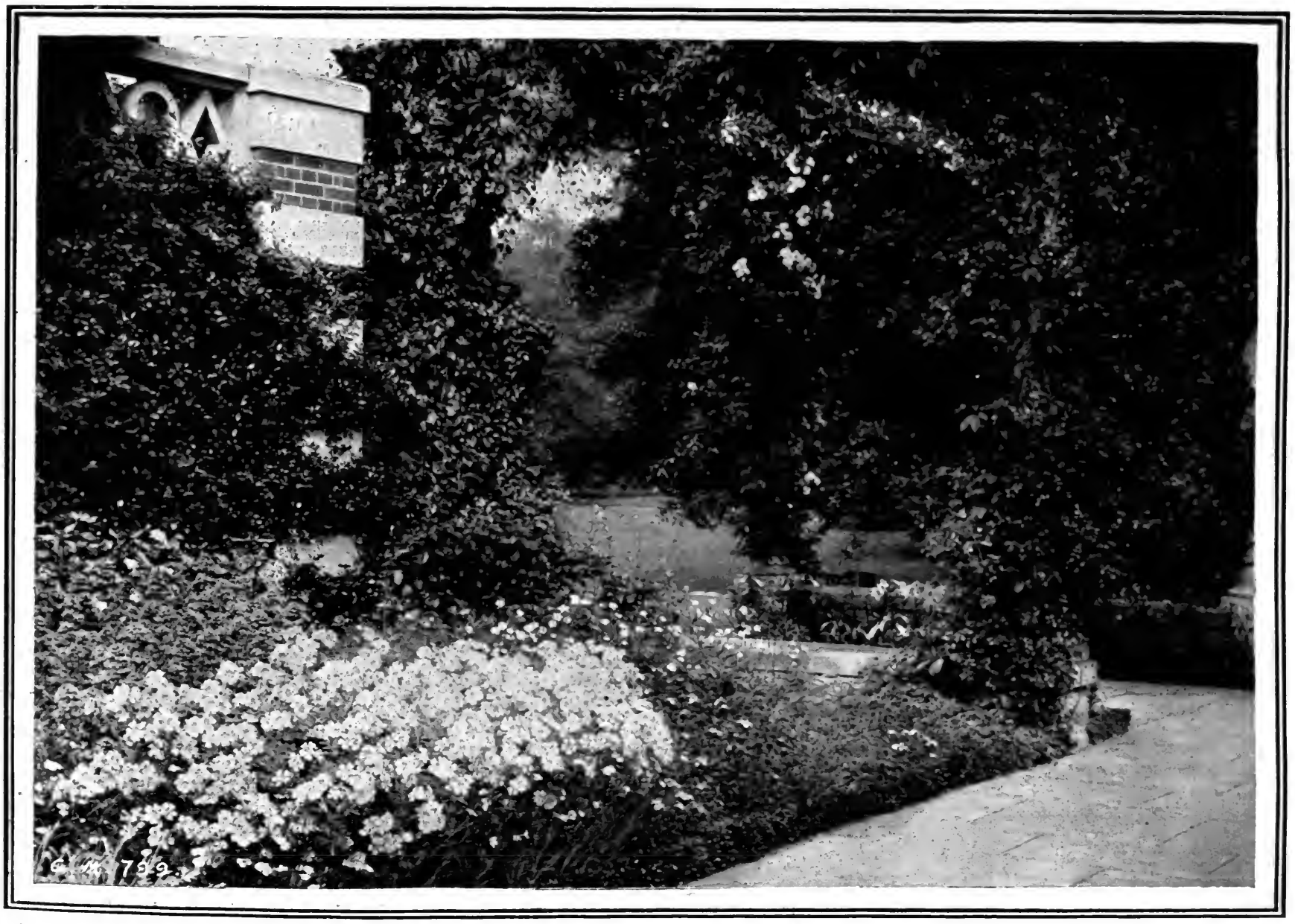
THOS. COOMBER.

The Hendre Gardens.

GERANIUM IBERICUM.

In the pursuit of novelties it sometimes happens that meritorious plants are overlooked because they are commonplace or old-fashioned, or perhaps there is a suspicion of coarseness about them that makes their presence undesirable among choicer plants. It is probably for the first of these reasons that Geranium ibericum is so seldom included in hardy flower borders. Yet, despite its old-world character, it is a subject that at once attracts attention in June in the border. The flowers are of a fine shade of blue, large in size, and are produced in the freest possible manner, and when boldly grouped in quantity it forms a conspicuous object throughout the month of June. It is a deciduous perennial of the most persistent character, and, like Geranium armenum, G. Endressi, and G. grandiflorum, it succeeds in practically any kind of soil, and is a subject to commend for arid ground and semi-shade. Once fully established it calls for little attention beyond a mulching of farmyard manure at the annual overhauling of the borders. This species, with the others named, are readily increased by division at any time during the resting period. THOMAS SMITH.

Coombe Court Gardens.



GERANIUM IBERICUM.

An effective group below terrace wall in Coombe Court Gardens.

The Bergamot or Oswego Tea.—This is a grand border flower, especially if the soil is rather damp. The bright scarlet flowers render it very showy, and the delicious fragrance of the entire plant makes close inspection particularly agreeable.—W. T.

JAPANESE HARDY ORCHIDS.—II.

Goodyeras, with their creeping, stem-rooting growths, are fairly easy, and should be given a peaty soil intermixed with broken stone. G. repens I have noted, but there are others of intense interest. G. bifida is well scattered among the mountain tree belts. It is evergreen, with rich green leaves, one at every joint of stem. The flowers are whitish, with a mauve shading, and are closely set upon the stem. G. macrantha is July flowering, with large leaves of purplish-green hue. The blossoms are large, white and bronze, and the plant is of sturdier growth than the other goodyeras under notice. G. pendula, a southern beauty from Tosa, Kii, etc., is both interesting and pretty. The blossoms, scarlet lightly touched with yellow, are closely set along the recurving stem. The flowering-time in August, and the leaves are narrow and ribbon-like. C. Schlectendaliana, from Central and Southern Japan, is August-flowering. In this plant the leaves are broad and prettily variegated with silver, and the blue and white blossoms are effectively arranged upon fine tall stems. G. velutina, which favours the same haunts, and blossoms at the same time as the preceding, has flowers of a distinct, bronzy hue. The foliage is a very dark green, lined with orange down the centres. The stems are tall, but the flowers are not so regular as in schlectendaliana.

Arethusa japonica is pretty well known, and its simple scarlet blossoms always attract notice. It flowers in June and July, and inhabits the high mountain swamps around Nikko and Iwashiro. Near to the last-named is Pogonia japonica, which comes from the high sphagnum swamps of Central Japan. The flowers are crimson, and produced singly on grassy stems during July.

Orchis aristata is a fine grassland orchid from central and northern districts. The foliage is long and narrow, and the pretty soft-pink flowers are carried in numbers upon tall stems. It is at its best in July. Then one must note Pergamena uniflora, with its oval-shaped leafage, and pink and white blossoms with green wings. It is an exquisite little orchid, and grows in the woods of Central and South Japan, coming into beauty in June and July. Myrmechis japonica, from the tree and shrub regions of Nikko and Ontake, has small leaves upon creeping, Tradescantia-like stems, surmounted by small white blossoms.

In Epipactis latifolia, var. papillosa, we meet the Japanese form of a typical British orchid. It is a lover of moist, shady nooks, and is chiefly confined to the tree belt of Fuji-Yama, Nikko, and the Hokkaido. The blossoms are green and bronze, produced upon tall, well-foliaged spikes. Ephippianthus Schmidti, a white-flowered orchid from the Ontake, Hayachine, and Iidé mountains, flowers in August, and is notable for its pale green leaves with red undersides. Two little-known and rather unattractive orchids are Perystylis viridis and Microstylis monophyllus. Both are shade lovers, the former producing glaucous-green, leafy stems and green and bronzy-purple blossoms, while the latter has one large stem-clasping leaf, and a slender spike of minute greyish flowers. Both are practically confined to central and northern districts. Bletias are so well known to most readers that there is little need to go into their charms. They are common alike to China and Japan, the type being a favourite with growers of hardy orchids. The varieties alba (white), rosea (pink), and albo-marginata (with white-margined foliage), are even better than the typical B. hyacinthina.

Other orchids are in evidence, many of them being lowland forms, and some not hardy in English gardens. It may be possible to refer to some of these at a later date, but space forbids their inclusion in these notes. P. S. Hayward.

FINSBURY PARK.

The words of the Rev. D. R. Williamson were recalled to my mind when visiting that splendid lung of our great city, Finsbury Park, just recently. In speaking of a storm that had passed over his garden, he said, "Nature, so long our sympathetic friend, and gentle inspirer, becomes our enemy. A gale of wind passes over the land, and a thousand and one cherished beauties are wiped out of existence, and swept to desolation by the remorseless blasts. Such a visitation tends to paralyze, but not to demoralise, and we are consoled by the fact that embryonic life and potential loveliness remains hidden in the army of buds that have escaped destruction."

And Nature, in one of her impetuous moods, wrought much mischief in gardens in North London and elsewhere on Wednesday, July 9. A hailstorm of unusual severity was experienced, and Finsbury Park fared badly; the hail lacerated and tore the colonies of cannas, but, being of strong growth, they will speedily recover. The sepals were torn from the fuchsia blossoms; the graceful, but fragile, clarkias could not withstand the onslaught; while the glory of the Paul Crampel geraniums was destroyed for the nonce. The flat-leaved succulents, such as echeverias and sempervivums are pock-marked, more or less deep indentations being noted over the entire surface of the exposed leaves. A splendid batch of chrysanthemums, 3,000 in number, did not escape, the more tender foliage being rent in twain. The storm also left its mark upon the spacious and finely-kept roads and paths, and the material that went to make up a smooth and even surface was conveyed with wonderful rapidity to a low level, and, in some instances, into the public thoroughfare.

This is only one of the penalties those are called upon to pay who reside in hilly districts, or where the ground is of a very undulating character, but I found Mr. F. Wright, the superintendent, in an equally philosophical frame of mind, as was the Scotch enthusiast, and while he deeply regrets the onslaught on his work, he looks forward with confidence to all traces of damage being obliterated in two or three weeks. He also derives consolation from the fact that matters would have been infinitely more serious had it occurred a month later.

It is worthy of note that a big improvement has been effected by Mr. Wright in the flower garden proper, and no less than thirty-six beds have been removed, while a number of the remainder have been enlarged, in order to allow for the effective display of plants of large growth.

This treatment has allowed a fine setting of turf, which, from an artistic standpoint, is a necessity, and, incidentally, Mr. Wright has designs upon another portion of the park devoted to flower beds and borders, and if his ideas materialise a less cramped arrangement will obtain.

What is known as the wild garden lacks breadth, and one instinctively feels, in passing through this feature of the park, that it requires pushing out, and if the opportunity presents itself, it will, I believe, receive attention. It was a pity, too, that a spacious rockery should be built up and arranged under the dense shade of wide-spreading plane trees, which, as a matter of course, render the successful cultivation of alpines an impossibility. But perhaps the trees were quite small when the rockery was constructed, and, if so, they should have been allocated sites at a respectable distance therefrom.

On the other hand, I raise my hat to the gardener who conceived and planted the glorious masses of rhododendrons. Away down in the valley notice boards announce "The American Garden," and I have yet to see a more beautiful spot. The rhododendron dell at Kew is happily placed and arranged, but it must take second place to the Finsbury example, with its thousands of towering specimens, backed by trees of fine growth. Overhead, birds in variety warble their sweet melodies, and one might well imagine himself to be far removed from the great city.

Surely such an exquisite spot must be highly appreciated by the people of Finsbury and neighbourhood! I understand that a certain amount of damage has been inflicted upon the shrubs by children of tender age, and that it has been found necessary to prevent them entering the garden unless accompanied by a responsible person.

One finds plenty to admire in the floral arrangement. Roses and violas in combination, standard Paul Crampel geraniums with Veronica Andersoni variegata in similar form; acers and marguerites, with May's Pink pelargonium create a light and graceful effect, while clarkias strike a distinct note in company with fibrous begonias. Glorious masses of ten-week stocks scatter fragrance for some distance around, and in their neighbourhood clambering masses of Traveller's Joy (Clematis vitalba) completely hide all traces of huge hollies, etc. A picturesque spot! Finely-flowered heliotropes are freely represented, but space will not permit of further detail as to bedding arrangements, and it must suffice to say that there is abundant evidence on every hand of artistic perception and loving care.

Touching upon out of door games, there is a big demand for accommodation, which means much time, labour, and thought, all of which are freely bestowed.

It may be added that the natural soil at Finsbury is a very unkind character. A barren kind of clay, but this, as far as possible, and as means will allow, is being remedied. Finsbury Park is not likely to suffer under its present management. Walter H. Aggett.

Perennial Delphiniums from Seeds. — Where these charming blue-flowered perennials are needed in quantity they can be readily raised from seed. If saved from a good collection, many fine flowers will result therefrom, even if they are not quite up to the standard of the named varieties.—S. W.

Late Vineries, which contain winter varieties that have been extra well thinned for keeping through the damp months of November and December, will be greatly improved if they receive Muscat treatment, especially during a continuance of fine weather. These varieties do best when kept extra warm at night, and very freely ventilated throughout the day. By keeping the berries dry and warm towards morning, and allowing the temperature to rise gradually, scalding is reduced to a minimum. A very little warmth in the pipes will produce the desired effect at this season; it prevents condensation of moisture, and also increases the size and colour of the berries, which double the amount of heat will not do later on.—F. Jordan, Warter Priory Gardens.

NEW ROSES THIRTEEN YEARS AGO.

The year 1900 witnessed the introduction of many new roses, though not of the prodigious number that is now the annual output. Of these many have almost, if not wholly, sunk into oblivion, except, maybe, in the gardens of some amateurs, who have kept and propagated from them. Others are still with us, and freely grown, while a few have become world-known. Probably a deficiency in the number of petals may be instanced as characterising those roses of 1900, new colour having been chiefly in the fashion. Madame Ravary, for example, still so popular, disappoints many growers on account of the blossoms showing the centres so quickly; indeed, under a hot sun, this variety will open from quite a moderate bud in the morning, spread out wide during afternoon, and be far past its best by evening. Specimens grown against a west wall, not trained to it, but a foot or two away, have the best chance to preserve the beautiful golden-yellow colour, and delay petal shedding. The raiser's description of this hybrid tea was an eminently fair one: "Golden-yellow, conical buds, flowers when open golden-yellow, large and nearly full, hardy, and a free bloomer." The fact that the gold, in many localities and soils, is almost apricot rather than amber, should, however, be admitted. Madame Ravary does not usually show the strong growth that should characterise a hybrid tea, and would be more likely to be taken for a tea rose, unless liberally fed.

A truly beautiful and useful rose of that year, one, too, that should be more generally grown, was the hybrid tea, Admiral Dewey, described as "an almost white sport from Caroline Testout, distinct, and good." This is still in commerce, and one of the truest modern catalogue descriptions runs thus: "Ivory-white, tinted flesh, very large and good." Another new rose of 1900 was Gladys Harkness, described as "H.T., deep salmon-pink, reflex of petals silvery-pink; growth vigorous, and of erect branching habit, flowering profusely; blooms large and well built."

The same year witnessed the coming of those two noted singles, raised by an Irish firm, Irish Beauty and Irish Glory, which were then priced at seven shillings and sixpence. Since then Irish Elegance has ousted the older relatives from favour, to some extent, on account of its wonderful colour blend of apricot and bronzy-orange, flamed with scarlet. Corallina attracted considerable attention as a rich-hued tea, then regarded as somewhat uncommon, and this rose of William Paul and Son's still merits the praise. Deep rosy-crimson, large petals; beautiful in the bud state; a strong-growing variety, which, combined with its free-blooming qualities, renders it one of the most charming crimson roses in cultivation for massing and cutting. It should be realised by gardeners that the largest, and most intensely solid roses, are less sought after for table decoration. Corallina is a perfect variety to grow in quantity for vase furnishing.

A deep velvety-crimson hybrid tea, with nearly black buds, shown and appreciated at that time, was Dr. Cazeneuve. A hybrid perpetual very well spoken of was Edith Turner; an exceedingly pale blush, early blooming, and very fragrant, with a vigorous habit of growth.

Léonie Lamesch still holds its own as a dwarf polyantha, of orange-red or tomato-vermillion; Eugénie Lamesch, "orange-yellow, passing to clear yellow, ranunculus-shaped, and produced in compact clusters," was brought out as its companion.

Two more introductions in 1900 were the hybrid Bourbon rose, known as J. B. M. Camm, and Rugosa atropurpurea. The latter, besides having all the characteristics of the hardy Japanese family of the rugosas, was faithfully word-sketched as: "Almost blackish-crimson, the blooms passing, as they open, to maroon-crimson, shaded with vivid colouring, and thence to vivid purple." A hedge of this makes an almost unique feature for any garden, and branches are of great decorative service indoors. The former was a splendid exhibition rose, being "opaque salmon-pink; double, thick-petalled; the blooms are of first size, circular, and high-pointed, shaped somewhat like those of H.P. Duchess de Caylus."

Four of Alexander Dickson and Son's novelties for that year were Rosslyn, H.P., a delicate rosy-flesh sport from the well-known variety, Susanne Marie Rodocanachi; Lady Clanmorris, a creamy-white H.T., with delicate salmon centre; Lady Mary Corry, a deep golden-yellow tea rose; and Liberty, brilliant velvety-crimson. Richmond is commonly called the improved Liberty, but for decorative purposes, out of doors or in, it is to be questioned if the older rose is not vastly the better, as being much more prolific and graceful. Rosslyn is scarcely ever met with, but the H.T. and the T., among these four, continue deservedly prominent.

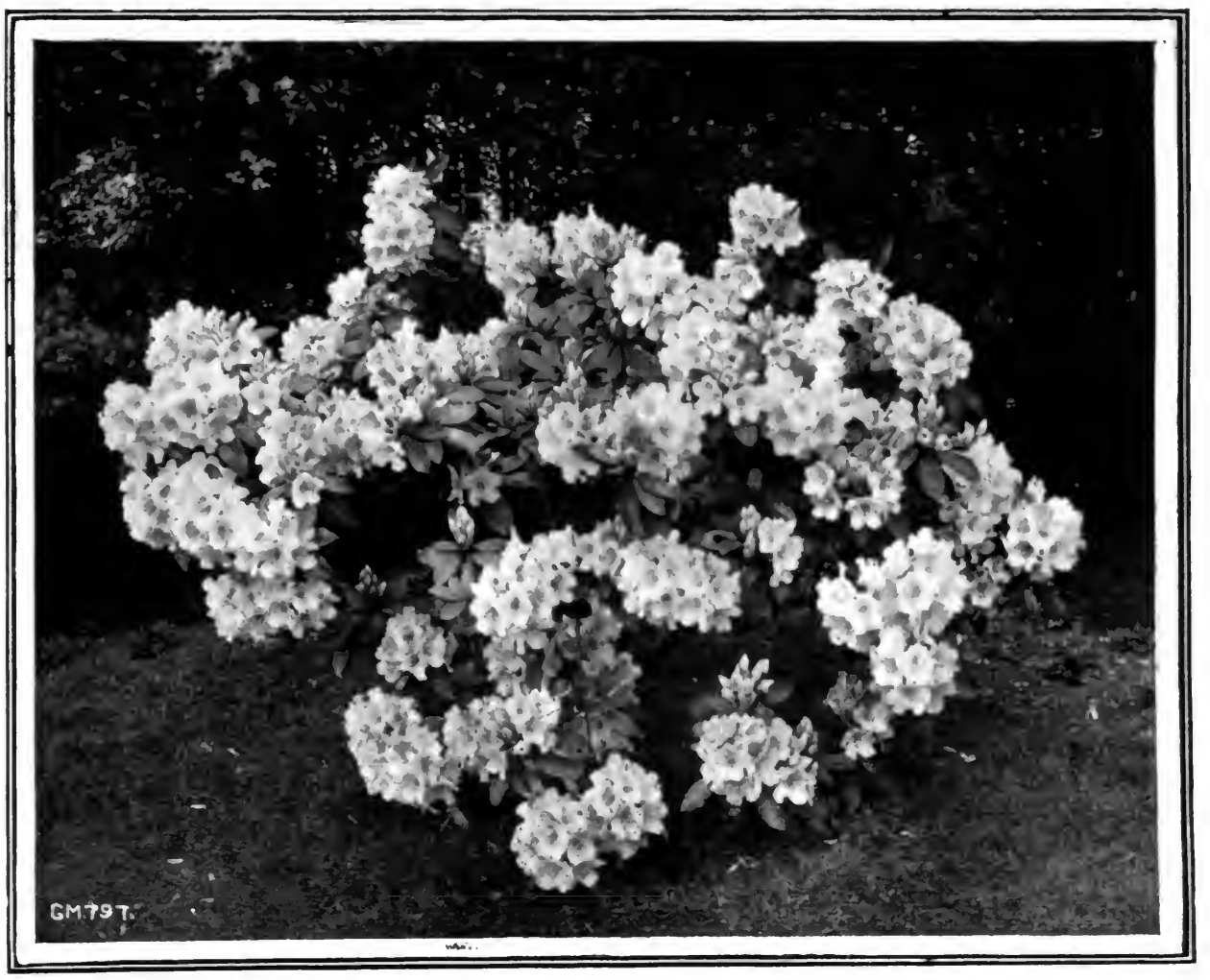
Two teas of remarkable shadings, brought into notice in 1900, were Souvenir de William Robinson, a welcomed and unique colour blend to-day also, and the nearly-forgotten Madame Louis Poncet, that was "nasturtium-red, base of petals coppery-rose, large, full, of good shape, fine for massing." It seems strange that this is not yet among our most popular roses if it was entitled to such high praise.

Other roses of that important year were Ma Tulipe, H.T.; flowers, deep crimson, semi-double, with large stiff petals like a tulip, fine for cutting, growth very vigorous; and the H.T. Monsieur Bunel, rosy-peach, yellow, and bright rose.

Roses, like statesmen and actors, have their reign, conferring benefits of profit and giving pleasure; roses, too, may possess the renown of poets and novelists, live for centuries; but success and fame with flowers, as with persons, can only be the reward of truly fine qualities. M. H.

RHODODENDRON PINK PEARL.

Probably no hardy rhododendron has achieved so large a measure of popularity as Pink Pearl. It is a variety which caught the public fancy immediately the raisers presented it to public notice, and everyone fell under the fascination of its large flowers, ample trusses, and exquisite pink colouring. Small wonder, then, that it is so largely grown, and such a general favourite, both at home, on the Continent, and in America. Numerous illustrations of this rhododendron have appeared in these columns, and now another is given representing a specimen in the gardens of Ken View, Highgate, the residence of F. W. Platt, Esq. Mr. C. Turner, the gardener, tells us that this plant carried one hundred and eighteen trusses of bloom this year, and was a lovely picture that will long be remembered.



RHODODENDRON PINK PEARL,
In the gardens at Ken View, Highgate.

Æschynanthus Lobbianus. — This is one of the earliest members of the genus, and a very pretty subject for a hanging basket in the stove. The long, slender shoots, which hang down for a considerable distance, are clothed with small, ovate, deep green leaves. The flowers, which are freely borne from the axils thereof, are tubular in shape and deep scarlet in colour. In this species the flowers protrude from a comparatively large thimble-shaped calyx. These æschynanthuses, which are, for the most part, natives of the islands of the Malayan Archipelago, occur principally as epiphytes, so that they do not require a large mass of soil around the roots. Fibrous loam, peat, and sphagnum moss, with a little sand, will suit them well.—S. W.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

INSECT PESTS.—Orchid houses in many private places are often surrounded by, or in close proximity to, herbaceous borders, where the plants are sometimes teeming with thrips and other insect pests. Or it may be that deciduous trees are near, and their leaves are frequently infested by black thrips. These pests are frequently blown on to the roof, and find their way through the laps of the glass as well as the ventilators, while in showery weather they are washed into the rain-water tanks, whence they are dipped into the water-can and thus conveyed to the surface of the compost in which the plants are growing. If growers doubt this, let them examine the surface of the water in the tanks after summer rains, and it will be found literally covered with insect life. It is no easy matter to keep plants free from thrips when the surronndings provide fresh importations daily. More than ordinary care is needed to prevent injury to the foliage by pests that quickly cause permanent disfigurement. The only method is to vaporise and spray at regular intervals. It may be considered an unnecessary expense, but prevention is better than cure, and, as we have more favourable means at our disposal for effectually holding insect pests in check than was the case a few years ago, I question if it is much more expensive, and I am certain it is more effective and pleasant than used to be the case, when we had to sit with bellows in hand and handkerchiefs round our mouths watching the baskets containing the tobacco paper so as to prevent the least flame.

PREPARATIONS FOR REPOTTING.—I saw recently a note of good advice in The Gardeners' Magazine, under "Answers to Correspondents," where an amateur was advised not to disturb his odontoglossums until the hot weather had passed. The time is rapidly drawing on when the general repotting of cool-house orchids may be safely attended to. In the meantime it is desirable to have all material ready for use. Sphagnum moss, for instance, should be gathered and picked. I am afraid many growers overlook the fact that sphagnum moss is at the present season of the year absolutely infested with slugs in all stages of development from the egg state. Little attention is paid to washing or otherwise cleansing the moss after it is picked free from weeds, etc. If some attention is given to washing the moss by placing it in a pail or tub for a time, many of the slugs, and eggs especially, will be destroyed or at least removed from the moss. The peat and other material used for odontoglossums should also be prepared for use.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

GENERAL WORK.—With the commencement of August the work in the houses generally will be scarcely so pressing as during the past few months, and time should be found for a general rearrangement of the stove. Where possible the glass sides should be washed down. Leggy and otherwise undesirable plants should be discarded. Pay attention to sponging and cleaning, and give plants that will be useful for house or table decoration through the autumn and winter months sufficient room for full and symmetrical development. Many plants propagated through the spring and summer months may require potting on, although at this season over-potting should be guarded against. Winter-flowering begonias and other plants flowering at the same season should be carefully staked and tied out, and should not by any means be crowded together.

DRACÆNAS.—The fine red-foliaged forms will now be growing less fast, and will require more careful attention to watering; let there be no doubt about the plant requiring water when it is given, otherwise decay of the young fleshy roots will probably follow, with the consequent loss of the lower leaves. D. Sanderiana we find a most useful subject for house decoration, either used alone or in conjunction with other foliage or flowering plants. Rooted easily from cuttings in the spring, we put them three in a pot. Any still in large 60's or 54's may be transferred to 48's or 32's; larger plants will scarcely require to be potted, but will benefit from an occasional application of artificial manure.

ABUTILON SAVITZI rooted early in summer may be shifted into 48's; given a good position and plenty of room, they will provide useful material for the autumn. Older plants may have their tops removed for insertion as cuttings, before being discarded; root the cuttings singly in small pots, and if they are potted when nicely rooted will provide a useful batch for late winter and spring use.

STEPHANOTIS FLORIBUNDA.—With us this plant, on the stove roof, has flowered with remarkable freedom. Old, useless, and superfluous growths should now be removed, the remaining growths being sponged, cleaned, and tied in so as to nicely cover the trellis.

CALADIUMS.—The earlier plants will now have passed their best; do not hurriedly dry them off, but give them a nice light position where they may be thoroughly matured, allowing them to die down naturally. A little liquid manure will assist in the development of good, sound tubers.—H. Prime, Hatfield House Gardens.

THE FLOWER GARDEN.

HELIOTROPES AND FUCHSIAS.—Among the various subjects used in summer bedding as specimen and dot plants, heliotropes and fuchsias find much favour. Some advocate lifting the plants at the end of the season, and storing them away for the winter in a cool house, and utilising them again the following season, but I cannot see any advantage in such a practice, unless, of course, one is dealing with very large specimens, which have taken a few years to develop. I find that young plants are more vigorous, and flower over a longer period, and, since it is possible by inserting cuttings at the present time and keeping the plants growing on through the winter, to have specimens in the form of pyramids six feet in height, or standards with three to four-feet stems, carrying good heads, by the end of May, one wonders why the method is not adopted to a greater extent. While they are being grown through the winter in small pots they take up but little space. When securing the cuttings choose strong young growths which do not shown signs of flowering; insert these in large 60-size pots, containing a light compost, placing four cuttings in each pot. Place in a close pit with brisk heat, to root.

HERBACEOUS BORDERS.—As many of the early summer flowering occupants of herbaceous borders have passed out of bloom, the removal of dead and unsightly growths will be necessary. Late summer and autumn-flowering subjects continue to grow apace, and the taller kinds must be well supported and secured against rough winds and heavy rains, usually prevalent later on in the season. Dahlias and chrysanthemums are making rapid growth, and the shoots must be kept tied in. When flowers with more substance and size are desired, disbudding must be resorted to, and frequent applications of either artificial or liquid manure become necessary; the former must be well watered in during the absence of showers.

HEDGE CLIPPING.—This operation in most gardens accounts for a great deal of labour at this time of the year; it also exacts some skill and experience to carry it out well, as hedges on terraces, or in the vicinity of formal gardens are often substitutes for balustrades and walls, and in such cases it depends entirely on their trueness of form whether they fulfil their part of a scheme satisfactorily. A hedge which has once been allowed to grow out of shape is most difficult to deal with, and for that reason it is very important that proper attention should be bestowed on them each season. Most hedges by this time have so far completed their growth that, if clipped now, they should not require any further attention in that direction. One often observes much mutilation wrought through using shears when the work ought to have been executed with a knife or secateurs; this applies to hedges composed of subjects having large leaves, such as laurels, rhododendrons, and some varieties of hollies, etc.; these when clipped with shears present a pitiful sight, aggravated by the sliced edges turning brown and rusty.—T. B. Field, Wych Cross Place Gardens.

FRUITS UNDER GLASS.

WORK IN VINERIES.—Vines now cleared of fruit must be copiously syringed rather late on fine evenings, adding a little soft soap and sulphur occasionally if red spider has been troublesome. Where inside borders have been allowed to get rather dry during the ripening of the grapes, the borders must be well watered to restore them to better condition. Clear water only should be given to young and vigorous vines, whilst older vines which make weaker wood and but few laterals should receive more generous treatmnt and diluted liquid manure may be given freely, and ventilation both day and night must be on a liberal scale.

SUCCESSION HOUSES, which contain ripe grapes must be kept cool and airy, and in some cases, possibly, lightly shaded for a few hours on bright days where black grapes are losing colour. On the other hand, white grapes cannot have too much light, providing they do not burn. In bright weather, to keep the houses cool, damp the borders and paths frequently, but in dull damp weather a much drier treatment becomes necessary. Much, however, depends upon the way in which the borders have been watered.

MUSCATS now ripe or nearly so must have the benefit of plenty of light by drawing aside the leaves, but not so as to allow full sun to strike on the bunches. The berries are subject to cracking, and, if the roots are inside, the borders should be kept fairly moist. Bright sun-heat should now suffice, except in dull or wet weather, when a little steady fire-heat will be necessary to keep up a nice fresh, warm atmosphere. Later Muscats should be encouraged with warm, weak liquid manure and an occasional dusting of the border with some artificial manure, as at this stage they are gross feeders. In favourable weather give plenty of air, but at all times avoid sudden changes of temperature.

YOUNG VINES planted this spring should now be making rapid progress, and the growths should be allowed to extend as long as there is space to occupy. Late-planted ones should be encouraged to make as much growth as possible, as even when late planted they will have a decided advantage over others planted next spring, and good progress can yet be looked for if careful attention is paid to syringing and other little details.

STRAWBERRIES, as recommended in a previous calendar, should now be in their fruiting pots, and, as soon as they have made fresh roots, they should be placed on a good ash base, fully exposed to the sun, where they can be examined easily at watering time. Keep all runners picked off as they appear, and the pots clear of weeds, and pay careful attention to watering.—F. Jordan, Warter Priory Gardens.

SANDY SHOW (BEDFORDSHIRE).
45th Year.
THURSDAY, AUGUST 28th, 1913.
Largest One-day Show in the Midlands.
PRIZES VALUE £1,000,
including £90 for Plants and £55 for Cut Flowers.
Entries close August 21st, 1913.
Schedules, Entry Forms, etc., may be obtained from
A. F. LOVE,
Dead Stock Secretary,
Sandy, Beds.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

The meeting held at Westminster on Tuesday, July 29, was a rather better one than that of July 15, but the attendance was poor. Hardy flowers, gladioli, phloxes, and orchids were the most important features. Novelties were fairly numerous.

PHLOXES.

Phloxes were a good feature, and there was a fine display of these handsome, fragrant flowers. The exhibit consisted of pot-grown plants, so that a good idea of the height and habit of growth was obtained. A few varieties of outstanding merit were M. Grayham, Flambeau, Widar, rosy-lilac with large white eye; Meteore, G. A. Strohlein, Europe, white, pink-eyed; E. Campbell, Mrs. J. Harkness, and The Dove. This group, containing about a hundred and fifty plants in fifty varieties, was from Mr. H. J. Jones, Ryecroft Nursery, Lewisham. Mr. Jas. Box, Lindfield, Sussex, was a large and enterprising exhibitor, contributing a big bank of phloxes that included most of the finest and newest sorts, Gen. T. Hentz and Caran d'Ache being particularly good. In the middle was a grand vase or stand of Gladiolus Halley, a lovely large-flowered, pinkish-salmon variety of great merit. Sweet peas at either end completed the exhibit. Messrs. W. Wells and Co., Merstham, put up a fine lot of phloxes, and made up very bold sets of spikes of Arthur Rana, pink; Selma, rosy-centred; Elizabeth Campbell, and Antoine Mercie.

OTHER HARDY FLOWERS.

Messrs. T. S. Ware, Lim., Feltham, put up a capital display of hardy flowers, wherein phloxes were an outstanding feature; Campanula grandiflora, Stokesia cyanea alba, Sidalcea Rosy Gem, and Montbretia roseus were other striking plants. The Guildford Hardy Plant Co. and Mr. G. Reuthe, Keston, were also exhibitors of hardy flowers. Mr. C. Turner, Slough, contributed vases of shrubby spiræas, notably of S. Anthony Waterer, S. callosa, S. c. alba, S. Billardi, and S. rosea superba. Romneya Coulteri, Astilbe rubella, A. Juno, Crinum Powelli album, the fine Stokesia cyanea præcox, Rubus fruticosa fl. pl., and Phlox Goliath were a few of the outstanding features in a considerable display of hardy flowers contributed by Mr. Maurice Prichard, Christchurch. Astilbes of the Arendsi group were exhibited by Messrs. Bakers, Codsall, Wolverhampton; the leading varieties were Venus, Gunther, Pink Pearl, Ceres, very beautiful; Salmon Queen, not very effective; Vesta, Rose Perle, and Siegfried. It will be seen that the raising of astilbes proceeds apace. Among the alpines shown by Messrs. Fells and Son, Hitchin, we noticed Campanula pusilla alba, Œnothera riparia, Primula involucrata, and Verbena ternera Mahonetti, a curiously white-edged flower. Messrs. J. Cheal and Sons, Crawley, contributed a very bright selection of hardy border flowers in season. Mr. G. Reuthe, Keston, had some uncommon things, and Mr. G. W. Miller, Wisbech, filled a corner with pyrethrums, etc.

Masses of Spiræa gigantea, S. venusta, S. gigantea elegans, and S. g. delicata formed large flanking groups for a well-furnished water-lily pool, arranged by Mr. Amos Perry, Enfield. Senecio macrophylla, with its huge spikes of golden flowers, made a fine background for the water-lilies, while in the foreground were Lilium Humboldti magnificum, L. canadense, and the dark L. martagon dalmaticum. Hybrid astilbes, Achillea ptarmica The Pearl, and some hardy ferns completed the display. The double Sagittaria japonica plena, a striking aquatic with large, very double white flowers, was well shown by Messrs. Phillips and Taylor, Bracknell. In a little pool Nymphæa Froebelli was very brilliant. Around the pool were selections of phloxes, heleniums, astilbes, campanulas, etc.

INDOOR PLANTS.

Messrs. J. Veitch and Sons, Chelsea, put up some lovely gloxinias raised from seeds sown in January last; an almost scarlet self and a series of pink and blue spotted varieties claimed special attention. The same firm showed a large group of the graceful, hardy, pale blue Thalictrum dipterocarpum, with spikes five feet high. Messrs. W. Cutbush and Son, in addition to caladiums, coleus, cordelia, and other stove and greenhouse plants, set up large vases of Chrysanthemum maximum Kenneth, an elegantly-fringed variety, and the large-flowered C. m. The Speaker. Ferns in great variety came from Messrs. H. B. May and Sons, Edmonton, their Nephrolepis Willmottæ being especially good.

Three enormous specimen hydrangeas, in big tubs, smothered with large heads of bloom, were submitted by Mr. L. R. Russell, Richmond, and they were greatly admired; each stood eight feet high. The same exhibitor filled a long table with alocasias, marantas, dracænas, crotons, aralias, and other ornamental-leaved stove plants.

ROSES AND SOME NOVELTIES.

Some charming roses were staged by Messrs. Wm. Paul and Son, Waltham Cross; the creamy-pink Ophelia, raised by the exhibitors, was the central feature, and is a lovely hybrid tea variety. Very fine carnations from Mr. J. Douglas, Great Bookham, included lovely vases of Mrs. George Marshall, Furthest North, Mrs. Elliott Douglas, Linkman, Rosy Morn (A.M.), a handsome deep old-rose colour; The Bride, and Annie Laurie.

A beautiful rose named Annie Crawford, raised by Dr. Campbell Hall, and exhibited by Mr. W. R. Hammond, Burgess Hill, was greatly admired, and gained an A.M. It is very much the colour of Caroline Testout, but a little rosier, and the flowers are of wonderful size, splendid form, and grand substance; it should prove an exhibition flower of the highest order.

Spiræa (sorbaria) arborea grandis (A.M.), a lovely spiræa with big branching plumes of milk-white flowers and pinnate leaves, was very beautiful as shown by Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree. Messrs. Dobbie and Co. gained an A.M. for True Lavender sweet pea and for the noble King White sweet pea, the latter probably the finest white variety that has yet appeared. Clematis tangutica obtusiuscula, from West Hansu, China, has small, yellow flowers; it was shown by Mr. F. C. Stern, Highdown, Goring-by-Sea, and collected by Mr. G. Fenwick Owen. An A.M. was awarded.

Mr. Jas. Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, Alton, showed Nymphæa colossea, a giant cream-white variety of great beauty (A.M.), and N. Escarboncle, also raised by Marliac, an intense crimson-red variety of fine size (A.M.).

Very striking were the red sunflowers (A.M.) staged by Messrs. Sutton and Sons, Reading. This is the result of crossing Helianthus lenticularis coronatus with the annual garden kind. The original hybrid was raised in California, and has now been selected to come about 75 per cent. true from seed. The colour is rich red-brown over yellow, with golden tips to the ray florets; under sunlight it is very bright red.

ORCHIDS.

A few examples of Lælio-cattleya Nyssa, Cattleya gigas Sanderiana, Miltonia Bleuana, the beautiful Cœlogyne Mooreana, Oncidium Papilio, with its butterfly flowers, the rare Phalanthera ionantha, and Oncidium Sanderi, a new species with bright yellow flowers, spotted and barred with red—all came from Messrs. Sander and Sons, St. Albans. The beautiful Disa grandiflora was very well shown by Messrs. Jas. Veitch and Sons, Chelsea; all the plants were strong, home-raised seedlings, and represented a first-rate type.

Miltonia Roezli, Oncidioda Charlesworthi, the lovely Odontoglossum armainvilliersense xanthotes, the giant Paphinia cristata, and the fragrant Houlletia Wallisi were included in a group of orchids from Messrs. Charlesworth and Co., Hayward's Heath, who also staged Angræcum Eichlerianum with nineteen white and ivory-coloured flowers. Mr. Black, gardener to R. G. Thwaites, Esq., Streatham, brought varietal forms of Odontioda Thwaitesi, Cattleya Caduces, and C. Goosensiana.

De Barri Crawshay, Esq. (gardener, Mr. Stables), Rosefield, Sevenoaks, secured an Award of Merit for Odontoglossum Queen Alexandra var. Theodora, a fine form of the hybrid between O. Harryanum and O. triumphans, its flowers yellow and red-brown, with a white rose-marked lip.

The neat little Habenaria rhodocheila, with pale orange-coloured flowers, was well shown by Mr. White, grower to Sir Trevor Lawrence, Bart., Burford Lodge, Reigate; this is not an easy species to grow, and the two dozen plants staged received a cultural commendation; Maxillaria fractiflexa, with curiously curled whitish petals and long yellow-green sepals, was also shown from the Burford Lodge collection, together with Dendrobium polyphlebium, a pretty, dwarf species. Messrs. Hassall and Co.'s contribution included Odontoglossum percultum, good forms of Cattleya Dowiana, C. Thurgoodiana, and the golden Acineta Barkeri. Pantia Ralli, Esq., Ashtead Park, sent Miltonia Charlesworthi, Mrs. Ralli (A.M.), with rosy sepals and petals, pale rose-pink tip, and deep crimson basal disk, as well as a crimson blotch at the base of each lateral sepal. Sir Jeremiah Colman, Bart., sent good examples of Miltonia vexillaria radiata and M. v. Queen Alexandra.

FRUIT AND VEGETABLES.

Mr. A. W. Metcalf, gardener to Lady Wernher, Luton Hoo, gained a Silver Knightian medal for a fine lot of Hero of Lockinge and Countess melons, and six handsome clusters of Muscat of Alexandria grapes.

Mr. J. Hudson brought a finely-cropped Bourjasotte Grise fig tree from Gunnersbury House Gardens, and gained a cultural commendation therefor. Mr. F. Herbert Chapman, Rye, brought up a series of crossbred marrows; he is aiming at getting the custard-marrow flavour into modest-sized, elongated fruits that may be cooked whole.

CERTIFICATE AND AWARDS OF MERIT.

First-Class Certificate.—To Gladiolus Electra, from Messrs. P. Hopman and Sons, Hillegon, Holland.

Award of Merit.—To Carnation Rosy Morn, from Mr. J. Douglas, Great Bookham; Sutton's Red Sunflower, from Messrs. Sutton and Sons, Reading; to Rose Annie Crawford, from Mr. W. R. Hammond, Burgess Hill; to Sweet Peas True Lavender and King White, from Messrs. Dobbie and Co., Rothesay; to Dendromecon rigidum, from Sir Trevor Lawrence, Bart., Burford Lodge, Dorking; to Gloxinia Veitch's Strain, from Messrs. Jas. Veitch and Sons, Chelsea; to Nymphæa Colossea and N. Escarboncle, from Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton; to Spiræa (Sorbaria) arborea grandis, from the Hon. Vicary Gibbs (gardener, Mr. E. Beckett), Aldenham House, Elstree; to Clematis tangutica obtusiuscula, from Mr. F. C. Stern, Goring-on-Sea; to Gladiolus Prince of Wales, from Mr. V. Van Lauten, Hillegom; to Gladiolus Frank Peddleton, from Messrs. Voss, Sassenheim; to Gladiolus King of the Blues, from Mr. K. Velthuys, Hillegom; to Gladiolus Pink Perfection, from Messrs. P. Hopman and Sons, Hillegom; to Gladiolus Incontestible, from Messrs. Alkemande and Co., Noordwijk; to

Gladioli Liebesfeuer and Loveliness, from Messrs. de Ruyter, Noordwijk (the gladioli awards were made by a joint committee of the R.H.S. and the National Gladiolus Society); to Miltonia Charlesworthi var. Mrs. Ralli, from Pantia Ralli, Esq., Ashtead Park, Leatherhead; to Odontoglossum Queen Alexandra var. Theodora, from De Barri Crawshay, Esq. (gardener, Mr. Stables), Rosefield, Sevenoaks; to Dwarf Beans Sunrise and Perpetual (tried at Wisley), from Messrs. Jas. Carter and Co., Raynes Park.

MEDALS.

Silver-Gilt Banksian.—To Mr. Amos Perry, Enfield, for nymphæas and spiræas.

Silver Flora.—To Mr. H. J. Jones, Lewisham, for phloxes; to Messrs. H. B. May and Sons, Edmonton, for ferns; to Mr. M. Prichard, Christchurch, for hardy flowers; to Mr. L. R. Russell, Richmond, for stove and greenhouse plants; to Messrs. Jas. Veitch and Sons, Chelsea, for gloxinias and thalictrums.

Silver Knightian.—To Mr. Metcalfe, gardener to Lady Wernher, Luton Hoo, for fruit.

Silver Banksian.—To Mr. Jas. Box, Lindfield, for hardy flowers; to Messrs. W. Cutbush and Son, Highgate, for foliage plants, etc.; to Mr. Jas. Douglas, Great Bookham, for carnations; to Mr. G. W. Miller, Wisbech, for hardy flowers; to Messrs. W. Wells and Co., Merstham, for phloxes; to Messrs. Phillips and Taylor, Bracknell, for aquatics, etc.; to Messrs. T. S. Ware, Feltham, for hardy flowers; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids.

Bronze Flora.—To Messrs. Bakers, Wolverhampton, for astilbes; to Messrs. Sutton and Sons, Reading, for red Sunflowers; to Mr. Chas. Turner, Slough, for spiræas.

Bronze Banksian.—To Messrs. Carter Page and Co., London Wall, for violas, etc.; to Messrs. Wm. Paul and Son, Waltham Cross, for roses; to Messrs. Hassall and Co., Southgate, for orchids; to Messrs. Jas. Veitch and Sons, Chelsea, for disas; and to Mr. R. E. Thwaites, Streatham, for orchids.

SCIENTIFIC COMMITTEE, July 15.

Present: E. A. Bowles, Esq. (in the chair); Sir J. T. Llewelyn, Dr. Bateson, Messrs. Fraser, Fawcett, Gordon, Hales, Bennett-Poë, Cuthbertson, Sutton, and Chittenden (hon. sec.).

PROLIFERATION IN ROSE.—Mr. Bennett-Poë showed a rose having a fasciated and branched shoot bearing several buds developed from its centre. It is worth noting that the branch bearing the flower showed no sign of fasciation.

LITHIASIS IN PEAR.—Mr. W. A. Voss sent a small pear (Doyenné Boussoch) from a tree of about 25 years of age, showing peculiar developments of "stone-cells" breaking through the epidermis here and there. Only one or two fruits on the tree, which was bearing a heavy crop, were affected, and these were from the end of a branch. The trouble is one not commonly met with in England, and has been attributed by German investigators to lack of sufficient water supply.

ALDER DISEASED.—Mr. J. O'Brien sent fruits of Alnus glutinosa, gathered near Le Touquet from a tree bearing many similar ones, in which some of the carpels had grown out in a peculiar fashion, becoming fleshy and somewhat curled, standing out like leafy projections from the cones. The development of these peculiar growths is due to the attack of the fungus Ascomyces alnitorquus.

LIPARIS LACERATA.—Mr. J. B. O'Brien showed an inflorescence of Liparis lacerata (Ridley, "Journ. Linn. Soc., XXII., 1886, p. 284. Malay Peninsula, Perak, etc., Dist. Tenasserim, Borneo). A small example is in Burbidge's drawings of Borneo plants in the Natural History Museum. It has been little known until it flowered with the Hon. N. Charles Rothschild, from a plant sent to him by a collector in Borneo. The present specimen flowering with Sir Marcus Samuel is from the same source. Some of the flowers had dropped, but the spike was about nine inches in length.

POPLAR DISEASED.—The Ven. Archdeacon Meredith sent leaves of a poplar with large golden-yellow areas upon them, occupying in some cases half the leaf surface—Ascomyces aureus, a fungus nearly allied to the one producing leaf-curl in peaches, etc. One or two of the leaves showed on their upper surfaces the silvery appearance characteristic of the attack of Stereum purpureum as seen in plums.

ROBINIA PSEUDACACIA MONOPHYLLA.—Mr. E. A. Bowles showed flowers of the variety of Robinia pseudacacia called monophylla, characterised by the very large terminal leaflet and pair of small ones below it, which he had obtained in a garden in Italy. All the flowers he had examined had two or three carpels, but seed was being produced.

PROGENY OF GREEN WALLFLOWER.—Mr. Chittenden referred to the wallflower cross, the F_1 generation of which was shown to the committee last season. The original cross was between a "green-flowered" form and the normal form, and in the first generation all the flowers produced in many plants were normal. The self-fertilised seedlings from these plants had in some cases flowered this season, but in insufficient numbers to give any reliable statistics. The results, so far, showed, however, that segregation was occurring, several of the plants producing the "green" abortive flowers, and others the normal flowers. The plants are being grown on.

National Gladiolus Society.

This society held its second summer show in connection with the R.H.S. Meeting on July 29. The arrangements were better than last year, but there is still room for improvement in the matter of the names and addresses of exhibitors. The gladioli were very fine, and made a considerable and effective and interesting display; indeed, the exhibition brought together justified the existence of the society. There were nineteen classes, and the prizes throughout were medals or cups.

The President, Sir Francis Burdett, Bart., presents a handsome silver cup for the best collection of twenty gladioli, three spikes of each; Messrs. Jas. Kelway and Son, Langport; Messrs. de Ruyter and Hogenwoning, Noordwijk; and Messrs. G. Zeestraten and Sons, Oegstgeest, Holland, were the three exhibitors. The prize was not awarded on this occasion, but the exhibits were pointed by the judges, and the exhibitors will have to compete again a fortnight hence, and the highest total of points will win the cup.

A combined committee of this society and members of the R.H.S. Floral Committee made numerous awards to gladioli, as referred to in another column.

The National Gladiolus Society exhibited a large collection of gladioli from the trial grounds at the Locksheath Nurseries, Southampton, setting up several bunches of each variety. Particularly attractive were Golden King, Willy Wigman, Faust, Electra, Lily Lehmann, General Kuroki, and Cotteral. Messrs. Jas. Carter and Co., Raynes Park, were large exhibitors of beautiful gladioli, and they associated their spikes with gypsophila. Their Lemoinei varieties were capital, and so were their spikes of the large-flowered America, Anthonia, Niagara, Electra, and Halley.

First prize for a group of late-flowering gladioli was won by Messrs. Van Waveren and Sons, Leeuwenstein Nurseries, Hillegom, who staged many seedlings. Mr. H. Barlow, Narford Road, Clapton, came second with a handsome collection. Mr. K. Velthuys, Hillegom, won first prize for two dozen late gladioli, three spikes of each, and showed Sulphur King, Halley, Albino, Lily Lehmann, and Sieger finely; Messrs. J. Kelway and Son, second with a fine collection.

Mr. C. Van Lauten led for two spikes of a new seedling gladiolus with Glory of Noordwijk, pale cream-yellow; Mr. P. Van Demsen, second with the scarlet Brilliant Star. The premier yellow gladiolus was Nugget, very beautiful, from Messrs. Freylink and Lonen; Mr. C. Van Lauten second with the same variety. The premier scarlet was Liebesfeuer, from Messrs. Freylink and Lonen; the premier pink, Pink Perfection, shown by Messrs. P. Hopman and Sons, Hillegom; the premier salmon, Prince of Wales, bright salmon, from Mr. Van Lauten; the premier white, Europe, from Mr. K. Velthuys, Hillegom; the premier blue, Badenia, from Messrs. G. Zeestraten and Sons, Oegstgeest.

For G. primulinum hybrids Messrs. Zeestraten and Sons beat Messrs. J. Kelway and Son, with brighter-hued flowers; while for one G. primulinum hybrid, Mr. G. Churcher led with a pretty salmon-scarlet variety. Mr. Churcher was also first for late varieties in an amateurs' class. Mr. Velthuys had the best vase of Panama (pink), and Messrs. Zeestraten and Sons the best vase of Niagara (cream and rose).

Cardiff Horticultural Society.

JULY 23 and 24.

The celebration of the twenty-fifth exhibition of this society was made the occasion of a special effort on the part of the executive to make the display a conspicuously good one, and great was the success achieved. Plants were numerous and finely developed. Cut roses were so good as to form an excellent feature, while sweet peas were of exceptional merit. Table decorative classes were perhaps less interesting than usual owing to the exclusion of orchids. Fruit and vegetables were remarkably well shown. A special tent was set apart for trade exhibits, and this step was amply justified. The executive, under the guidance of Mr. Maurice Bailey, the experienced secretary, managed the details with much success.

PLANTS.

The leading class in the plant section was for a group of miscellaneous flowering and fine foliage kinds, arranged for effect in a space of 150 square feet. There were three entries, and the first prize was won by Messrs. J. Cypher and Sons, Cheltenham, for one of their characteristic displays. A bridge of cork in the centre supporting a tall palm, and splendidly-grown crotons, the base set in a carpet of smaller plants, was highly attractive. The whole exhibit was rich and harmonious without an indication of overcrowding or an excess of colour. Mr. D. McIntyre, gardener to Lady Hill, Rookwood, was a good second. Fuchsias were capitally shown, and pyramids eight feet high and well flowered came from Lady Hill, and easily secured the premier award. Tuberous begonias were remarkable for the quality of their flowers. Mr. H. J. Pilcher, Penarth, won for four with double-flowered varieties of excellent quality. Gloxinias were best shown by J. Lewis, Esq., Cathedral Road, Cardiff, who had a remarkably good set.

CUT FLOWERS.

This section of the show was perhaps the most attractive of all. Five entered in the rose class for twelve varieties, three blooms of each, and Mr. J. Mattock, Headington, Oxon, just beat The King's Acre Nursery Co., Hereford, with a set of clean, high quality flowers. Mrs. A. Coxhead, Mrs. W. H. Rowe, British Queen, Mildred Grant, J. B. Clark, Mrs. Theodore Roosevelt, and W. Shean were the most conspicuous. Mr. Stephen Treseder, Ely Nurseries, Cardiff, won for twenty-four distinct varieties, with handsome examples of Helen Keller, Komgem Carola, and Lyon; The King's Acre Nursery Co. second. The last-named exhibitors were the most successful for eighteen tea or nisette varieties. Mrs. Myles Kennedy and White Maman Cochet were conspicuous in an even set of clean blooms. The second award went to Mr. S. Treseder. Gloire de Chedane Guinoisseau secured for The King's Acre Nursery Co. the premier award for

twelve blooms of any one variety other than tea or noisette. This firm also obtained the premier award for twelve blooms of any one tea or noisette variety with Mrs. E. Mawley. Mr. J. Mattock second with Mrs. Foley Hobbs.

There was keen competition in the class for groups of roses to occupy a space nine feet by four feet six inches with rose foliage only. Mr. J. Mattock won with ease for a tasteful arrangement of ramblers at the back, columns of H.T. varieties at the front, rising from a base of mixed varieties neatly edged, the whole showing much taste. Especially fine was Rayon d'Or, G. C. Waud, Lady Hillingdon, Lady Pirrie, Ethel Malcolm, Simplicity, Dorothy Perkins, Philadelphia Rambler, and White Dorothy. Mr. John Crossling, Penarth Nurseries, was second with a group containing a splendid column of Victor Hugo and Mdme. Jean Dupuy. Mr. W. Treseder, Cardiff, third. Amateurs staged really fine blooms in the classes provided for them.

Carnations were a strong feature, and for a collection of border varieties and picotees, arranged in a space of six feet by three feet, there were three entries, and Mr. H. Lakeman, Thornton Heath, just beat Mr. C. Wall, Bath, for first place, staging Cecilia, Thomas a'Beckett, Lieutenant Shackleton, and Togo in superb condition. In the second prize exhibit Linkman and Hercules were extremely fine. Mr. A. Brown, Wychall Nurseries, Birmingham, third, with an excellent collection. Mr. C. Wall won for a group of tree, American, or Malmaison varieties with an excellent display of Mrs. C. W. Ward, Carola, and T. F. Felton. Mr. Woodfield, gardener to the Duchess of Somerset, Bath, was second. There was a strong entry for twelve border carnations and picotees. Mr. Thomas Methones won with shapely flowers of leading varieties,

Hardy flowers were an especial feature. The sum of £6 was offered as the leading prize for a collection of distinct varieties, arranged in a space five feet by four feet. Five entered, and the most successful of the exhibitors were Messrs. A. and C. Bell, The Nurseries, Frome, who had a fine display of choice subjects tastefully arranged. Mr. W. Treseder, Cardiff, second; Messrs. Rich and Co., Bath, third. For twelve bunches of flowers of hardy herbaceous plants distinct, arranged on the ground in a space twelve feet by four feet, the piece of plate offered as the first prize was awarded to Mr. R. F. West, Llandaff; everlasting peas, gladioli, gaillardias, and astilbes were prominent in the collection. Mr. D. Burns, 27, Strathcona Street, Cardiff, was a capital second. Sweet peas were, as they usually are here, well shown. In the open class for eighteen vases distinct, Mr. J. B. Lowe, gardener to Captain G. Lubbock, Warminster, was first with remarkable flowers, well staged, of such varieties as Hercules, Prince George, Thomas Stevenson, T. F. Felton, Marks Tey, Melba, and Elfrida Pearson. Mr. Usher, gardener to Sir Randolf Baker, Ranston, Blandford, was a close second, King Manoel, Princess Victoria, and Melba being his outstanding varieties. Messrs. Artindale and Sons, Sheffield, provided by Robert Sydenham Limited for twelve bunches. Mr. H. Wheeler, gardener to Mrs. Jenner, Wenvoe Castle, Glamorgan, was first with an extremely fine set of blooms. Barbara, Edith Taylor, Maud Holmes, and Elsie Herbert were conspicuously fine. Mr. F. W. Ganaway, Rumney, second. Robert Sydenham Limited also provided the prizes in the class for six bunches. Six entered, and the winning flowers came from Alan Gibbs, Esq., Dinas Powis, an even set of high-class blooms of popular varieties. Mr. C. W. J. Williams, Dinas Powis, won Mr. H. Eckford's first prize for twelve bunches distinct with excellent blooms; Mr. J. Franks, gardener to J. Waddell, Esq., Raneston, Caermarthen, second.

FLORAL DECORATIONS—OPEN.

In the class for a dinner-table eight feet by four feet, laid for dessert, orchids excluded, there were three competitors, and the premier award was made in favour of Mr. W. Treseder, Cardiff, for a light and effective arrangement of May Day carnations, with francoa, lily of the valley, and selaginella trails. The fruit employed was black grapes, peaches, nectarines, melon, and cherries.; Messrs. Sydney Case, Lim., Cardiff, was second. Mr. Treseder also won for one bouquet for the hand with a happy combination of pink carnations, lily of the valley, and suitable foliage, as Asparagus plumosus and Caladinm argyrites; Mr. P. Thomas, Albany Road, Cardiff, second. Mr. Treseder also won for one bouquet of roses with Lady Hillingdon and Liberty, and for bridal bouquets with and without orchids.

Amateurs competed strongly for the prizes for table decoration. Mr. J. T. Curtis, gardener to Sir W. Howell Davies, M.P., Bristol, was first with Rose Irish Elegance. Miss Gwilliam, Dinas Powis, won a piece of plate given as first prize for a floral dinner table decoration, four feet by three feet six inches. Mr. Gerhold, Penarth, had the best bowl of roses.

FRUIT.

Fruit was a strong feature. For two bunches white grapes Mr. H. Gerrins, gardener to E. H. Elsworth, Esq., Llandargh Castle, was first with extremely fine examples of Muscat of Alexandria. Mr. Dobbs secured the first place for any other white with Mrs. Pearson. For two bunches of Black Hamburgh six entered, and Mr. A. H. Cassam, gardener to R. T. England, Esq., Rumney, was first with finely-finished clusters. Mr. W. Rooper, gardener to Captain W. B. Marling, Lydney, Glos., with grandly-finished bunches of Madresfield Court, won for any other black grape. Melons were a strong class, and Mr. J. Pickett and Mr. C. Robinson, gardener to T. M. Franklin, Esq., Cambridge, won for green and flesh varieties, the latter showing that grand old variety Hero of Lockinge. G. L. Clark, Esq., had the best dish of nectarines in a strong competition, and Captain Marling won for peaches with a fine dish of Princess of Wales.

VEGETABLES.

For nine distinct kinds Mr. Searle, gardener to the Marquis of Northampton, Castle Ashby, was first with excellent examples of Webb's King George pea, Colonist potato, Monster White Tripoli onion, Express runner bean, Regina tomato, and Globe beet. Mr. Searle also won Messrs. J. Carter and Co.'s premier prize for six dishes with commendable produce, also Messrs. Webbs' leading prize for six kinds with similar varieties to those in his open class exhibit. Mr. W. T. Shacksea, gardener to Mrs. Rees Jones, Porthkerry Park, obtained the premier position in Messrs. Wheeler and Sons' class for six varieties.

NON-COMPETITIVE.

Trade exhibits were numerous and interesting. The King's Acre Nursery Co., Hereford, arranged a wonderful exhibit of fruit trees in pots and a fine selection of cut roses. Messrs. Sutton and Sons, Reading, had sweet peas in quantity, variety, and quality, with vegetables and melons. Messrs. Dicksons, Chester, had herbaceous plants, shrubs, etc. Messrs. Artindale, Sheffield, staged an extensive and interesting collection of violas.

Mr. Farmer, gardener to the Marquis of Bute, Cardiff Castle, arranged at the entrance of the plant tent a very fine group of flowering and fine foliage plants that was universally admired. Messrs. Isaac House and Son, Bristol, had herbaceous flowers of the best varieties and forms, as well as sweet peas. Mr. Dutton, Iver, Bucks, displayed carnations in his usual form. Messrs. Young and Co., Cheltenham, had carnations in variety and of high quality. Messrs. H. B. May and Sons, The Nurseries, Upper Edmonton, displayed ferns in endless variety. A deputation from the R.H.S., consisting of the president, Lord Grenfell, Gurney Fowler, Esq., Sir Daniel Morris, the Rev. W. Wilks, and Mr. J. Hudson, attended, and awarded cups and medals as below.

Gold Medal.—To Messrs. Sutton and Sons, for sweet peas, and to The King's Acre Nursery Co., for fruit trees.

Silver Flora Medal.—To Mr. J. Mattock, for roses.

Standard Silver Cup.—To Lady Hill, for group of plants; to Messrs. J. Cypher and Sons, for gronp of plants; to the Marquis of Bute, for group of plants; and to Messrs. I. House and Son, for hardy flowers.

Silver-Gilt Flora Medal.—To Lady Hill, for fuchsias.

Silver Flora Medal.—To Messrs. Artindale, for violas.

Silver Banksian Medal.—To E. H. Elsworthy, for Muscat of Alexandria grapes.

Silver Knightian Medal.—To the Marquis of Northampton, for collection of vegetables.

Haywards Heath.

The Haywards Heath Horticultural Society celebrated its twenty-fifth birthday on July 23, when it held a fine and extensive exhibition in the pleasant and well-wooded Victoria Park. Three large tents were well filled—indeed, there was no small amount of crowding, and a fourth tent would have been none too much room to allow ample space for the cut flower classes. We venture to make a suggestion respecting the groups of miscellaneous plants, each 8ft. by 4ft., arranged on the ground; these would look far better, and add immensely to the appearance of the show, if set on tables of equal size, and raised about 2½ft. from the ground.

The hardy flowers formed the great feature of the show, as the classes for them were numerous, the exhibits good, and the competition keen. Sweet peas were good, but roses were quite poor. Vegetables were excellent, and so were fruits.

The society is fortunate in having many friends who have given eight silver cups for competition. It is fortunate in its committee and officers, and also in having the Vicar the Rev. T. G. Wyatt, as the moving spirit in all enterprises. The Church of St. Wilfrid, where he ministers, is said to be exactly in the middle of the county of Sussex, and it is the reverend gentleman's ambitious dream that the Haywards Heath exhibition shall become the great county show. He is himself one of the original members of the society, was for years its treasurer, and is one of the most successful cultivators of herbaceous border plants. On this occasion he most hospitably entertained the officers and committee, judges, and exhibitors, at luncheon to celebrate this 25th anniversary. The president, Colonel Stephenson R. Clarke, C.B., has a fine garden at Borde Hill, and he is enlisting the interest of county families in the Haywards Heath Society, so that the possibility of the Vicar's dream coming true is not a remote one, especially when the climate and railway facilities of the place are considered.

CUT FLOWERS.

Hardy flowers were grandly shown, and there were numerous classes for them. In the chief class the Rev. T. G. Wyatt, St. Wilfrid's Parsonage (gardener, Mr. J. E. Shirley), won the challenge cup presented by Sir J. E. Kleinwort, for the third time, and consequently his gardener receives a gold medal to celebrate the third successive win. In the collection there were capital bunches of Watsonia Ardernei, Phlox Lindfield Beauty, Gladiolus Pink Beauty, P. Frau Ant. Buchner, Lilium Henryi, L. umbellatum, L. tigrinum, and Chelone barbata. Mr. H. Manton, gardener to W. A. Sturdy, Esq., Paxhill Park, Lindfield, a close second; and Mr. Longridge, gardener to L. E. Smith, Esq., Ashfold, Handcross, third.

Mr. H. Cherrimas, gardener to H. Lloyd, Esq., Tyllwyd, won first place for six bunches of hardy flowers with Galega officinalis, Eryngium alpinum, Erigeron speciosum, Lychnis chalcedonica, a phlox, and a form of Chrysanthemum maximum; Mr. G. Mortimer, gardener to Mrs. Wrightson, Ockenden

second; and Mr. G. Clarke, Haywards Heath, third.

A very curious and interesting class was one for twelve specimen blooms or spikes of hardy flowers, each in a separate vase. Here Mr. J. E. Shirley won first place with an interesting collection, and Mr. H. Cherriman came second. Such a class is worth encouragement where there are many amateurs and single-handed gardeners.

A capital class was the one for six bunches of climbing roses, and here there were six competitors. First prize was well won by Mr. G. Mortimer, gardener to Mrs. Wrightson, Ockenden, with grand bunches of Crimson Rambler, Lady Gay, Felicite Perpetue, Dorothy Perkins, Hiawatha, and Blush Rambler; second prize fell to Mr. W. F. Elvy, gardener to R. Foster, Esq., Summer Hill; and third to Mr. A. Jewell, gardener to H. Ramsbotham, Esq., Warren House, Crowborough, who had a fine bunch of Gardenia.

Mr. Cherriman was first, Mr. H. Rowland, Cuckfield, second, and Mr. F. H. Arsell, Haywards Heath, third, for six bunches of hardy flowers in a keen competition among single-handed gardeners.

In a close competition, Mr. F. C. Beale, gardener to Mrs. A. E. Kensington, Haverbrack, Uckfield, annexed the premier award for eighteen bunches of sweet peas, with a beautiful set of Barbara, Rosabelle, Mrs. Cuthbertson, Audrey Crier, Mauve Queen, R. F. Felton, Thos. Stevenson, Dobbie's Cream, Edith Taylor, and Orange Perfection; Mr. W. F. Elvy second; and Mr. E. Fairbrother, gardener to Lieut.-Colonel Dudley Sampson, J.P., Buxshalls, Lindfield, third. Mr. J. Perrett, gardener to J. Goddard, Esp., Tilegate Forest Cottage, scored for nine bunches of sweet peas, followed in order by Mr. G. Mortimer and Mr. J. W. Mitchell, gardener to Claude Askew, Esq., Botches.

In other classes, Mr. J. C. Reeve, gardener to Capt. H. Acton Blake, Pucks Croft, led for dahlias; and Mr. G. Smith, gardener to F. W. Thoroughgood, Esq., Clevelands, for carnations. Roses were poor, and the only really good box was one of twelve from Mr. G. T. Davis, Burgess Hill, who was a great distance ahead of all his competitors.

One tent was devoted largely to table decorations arranged by ladies, and judged by ladies. Miss Constance Coles, Furze Hill, Haywards Heath, was placed first for a table with a quaint combination of berberis foliage and berries and Dorothy Perkins roses; Miss Cumberlege, Walstead Place, Lindfield, second, with Hiawatha and Blush Rambler roses; and Miss C. L. Roberts, The Deal House, Haywards Heath, third, with galega and Lady Gay roses.

GROUPS AND PLANTS.

Out of six competitors in the class for a group 8ft. by 4ft., Mr. G. Smith, Cleveland Gardens, was placed first; Clarkia Firefly, begonias, and schizanthuses were Mr. Smith's strong plants, and he used maidenhair ferns as a groundwork, and Caladium argyrites for an edging. Mr. H. Lazell, gardener to H. M. Knight, Esq., Beech Hurst, second, with a good display that was a wee bit flat; Mr. A. E. Mayor, Haywards Heath, third. Six coleuses made a good class, and Mr. R. Halfield, gardener to E. Holmwood, Esq., Meads, was placed first, with Mr. G. Smith second, and Mr. Robbins third. Mr. Smith had the best caladiums.

FRUITS AND VEGETABLES.

The fine cup presented by W. A. Sturdy, Esq., for eight dishes of fruit, set out on a table decorated with flowers and small plants, was won by Mr. H. Manton, who had fine dishes of Madresfield Court and Muscat of Alexandria grapes, Bellegarde peaches, Lord Napier nectarines, Royal Jubilee melon, cherries, gooseberries, and raspberries, and blush carnations for decoration; Mr. W. H. Robbins, gardener to Mrs. Rodgers, Great Walstead, second.

Two competitors came forward in the parish class for a decorative exhibit of fruits, flowers, and vegetables, and first prize was awarded to Lindfield Parish, which was far ahead for the quality of its grapes, peaches, cherries, figs, and other fruits; Haywards Heath had to take second place.

Mr. G. Grubb, gardener to L. B. Scheisinger, Esq., Bedales, Lindfield, had the best white grapes, but both he and Mr. J. Perrett staged very green bunches. Mr. Grubb beat Mr. Lazell for black grapes, and did so with good clusters of Madresfield Court. Mr. Grubb was first for a melon with a fine Emerald Gem; he was also first for tomatoes with a very fine dish. Gooseberries, currants, cherries, and raspberries were shown largely and well, and there was a fair display of apples, and some plums and strawberries.

In the vegetable classes there was a keen competition. For Messrs. Sutton and Sons' prizes for eight dishes, Mr. G. Langridge was a capital first, showing splendid celery, carrots, and Prizewinner runner beans; Mr. H. Manton second, and Mr. J. Perrett third. Mr. Langridge secured the most points for vegetables, and consequently won the handsome cup presented by Mrs. Stephenson Clarke. Mr. Langridge and Mr. J. C. Reeves scored for Messrs. J. Cheal and Sons' prizes, but in the local class Mr. W. H. Robbins beat Mr. Reeves for eight dishes. Mr. J. Collingham, gardener to Mrs. R. E. Wyatt, Sheencroft, won first place for eight dishes of vegetables in the single-handed gardeners' class, and Mr. C. T. Harris, Lindfield, came second.

Mr. T. Umpleby, Haywards Heath; Mr. W. Braden, Rusper, Horsham; and Mr. J. White, Haywards Heath, were leading winners in other vegetable classes. It must be said that cottagers, amateurs, and single-handed gardeners are thoroughly well encouraged at this show, and they sent capital produce.

NON-COMPETITIVE DISPLAYS.

Mr. J. Box, Lindfield, was a great exhibitor, staging a splendid lot of sweet peas in large bunches and stands, and a large and effective collection of roses; but even finer than these was the large exhibit of hardy flowers at the end of one big tent. The design was a herbaceous border with central pool of water lilies, phloxes, gladioli, spiræas, senecios, astilbes, salvias, etc. A gold medal was deservedly awarded.

Mr. Riley Scott, Horsham, put up a very pleasing display of violas, roses, carnations, and border flowers, and secured a gold medal. A similar award fell to Messrs. Charlesworth and Co., Haywards Heath, for a beautiful collection of miltonias, odontiodas, hybrid odontoglossums, oncidiodas, and the autumn-flowering Epidendrum vitellinum majus.

Colonel Stephenson Clarke, C.B., Borde Hill, Cuckfield, submitted a very interesting collection of flowering shrubs and choice hardy flowers, including buddleias and Destontainea spinosa.

Mr. Frank Woollard, Lewes Road, Brighton, was represented by a goodly collection of rambling and other roses; and Messrs. J. Cheal and Sons, Crawley, put up hardy flowers and roses in fine condition.

Dumfries Sweet Pea Show.

This show, organised by the managers of the "Courier and Herald," was held in Dumfries Drill Hall, on July 26, and proved a very successful one. There was a large display of sweet peas and roses, and in the limited number of other classes there was some capital produce.

In the sweet pea classes there was a strong contest for twelve vases, distinct, open to all. Mr. J. Smellie, Pansy Gardens, Busby, won with a splendid lot, large, clean, and in perfect condition. Mr. J. M'Gill, Kirkconnel Gardens, Newabbey, made a good second; Mr. J. Shaw, Dilston Gardens, Northumberland, third. Mr. R. A. Grigor, Dalswinton, was first for a display of sweet peas, with Mr. M'Gill second, in the gardeners' classes. Mr. Shaw won with twelve vases, six vases, three vases, one vase lavender, one vase scarlet, and one vase pink. Mr. J. Henderson, Elmbank, was awarded the first for a basket of sweet peas. Dinner table decorations were good, Miss M'Kie, Maxwelltown, winning, with Mrs. R. G. Mann, Dumfries, second. Mrs. Henderson, Elmbank, had the best basket in the amateurs' classes. For six vases in the amateurs' classes Mr. W. Edgar was first. Other first prizes in the sweet pea classes were taken by Mr. W. Howie, Mr. J. Henderson, Mr. R. A. Grigor, Mr. J. Carruthers, Mr. J. Shaw, Mr. G. L. Moffat, and Mr. T. James.

The rose classes were excellent as a whole, and Messrs. T. Smith and Sons, Stranraer, took the leading prizes in the open classes. Mr. F. France, Knockbrex, was the leading winner in the gardeners' classes, and he also carried off the first for twelve H.P.'s and twelve H.T.'s in the open classes. Mr. A. W. Appleton, Fairham Hall; Mr. J. Henderson, and Mr. R. A. Grigor were also successful in the rose classes.

The other sections were more limited in numbers, and space will not permit of detailed notice. Among the winners of first prizes were Mr. J. Douglas, St. Mary's; Mr. B. Rutherford, Glenlair; Mr. C. Murray, Cowhill; Mr. France, Mr. J. Shaw, Mr. G. L. Moffat, Mr. T. James, Mr. F. Thomson, and Mr. W. Wilson.

Trade awards were made as follows: Silver cup to Messrs. Dobbie and Co. Edinburgh; gold medal to Messrs. Fairbairn and Sons, Carlisle; silver medal to Messrs. T. Kennedy and Co., Dumfries.

Horticultural Club's Excursion.

On Thursday, July 24, at the kind invitation of its President, Sir Frank Crisp, Bart., some sixty-five of the members of this club and their friends, including a large number of ladies, spent a most delightful day amongst the wonders of Friar Park, and amid the manifold charms of our beautiful River Thames. This latter feature was involved in the programme, saloon carriages for the party being provided at Paddington, whence they proceeded to Marlow. Alighting here and walking down to the riverside, they found a steam launch provided by Sir Frank Crisp, which conveyed the party up the river to Henley. Alighting here at the host's boathouse, they partook of a capital lunch, the tables being beautifully decorated with Dorothy Perkins and other flowers in great abundance. Sir Frank, as usual, did his utmost to nip in the bud Sir Harry Veitch's flowers of speech anent the host's hospitality, but, of course, host though he was, he could do but little in such connection on such an occasion.

The luncheon finished, motors conveyed the guests from the river to Friar Park, where a delightful afternoon was spent among the subterranean and superterranean marvels, grotesque and beautiful, which pervade that wonderland of combined humour and natural beauty, which is constituted both by the mansion itself and the domain surrounding it. Types of old gardens, faithfully reproduced by study of old records, quaint collections of plants, according to their colour of foliage or flower, their scent or peculiar

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habit, or their connection with mythical or sub-mythical legends, both weird and fantastic, were successively traversed and described en route by Sir Frank. A new Japanese garden was passed through, and compared with the photograph of its actual original in Japan. Grim-looking caves near the lake side led down to subterannean streams, electrically lit on weird lines to display all sorts of weird effects in otherwise dim recesses, and so on and on in an apparently endless succession, only to lead to emergence through another cave into the daylight amid continued wonders. The conservatories, filled with the choicest and queerest of plants, were passed through, and in this fashion the hours rapidly fled until the motors arrived to reconvey the party to the boathouse to partake of tea prior to embarking in the launch for the trip to Reading, whither the saloon carriages had been sent for the home journey. After the tea, Mr. Chas. T. Druery read his rhythmic and jocular description of Friar Park, which was well received, and copies of which were distributed to the party generally as a souvenir. The weather fortunately, despite its threatening and unpleasant character on the preceding day, was allowed by all to be absolutely ideal, so that everything contributed to the utmost to render the outing a memorable one, and to enhance the gratitude of the club, its members and guests, to Sir Frank and Lady Crisp for their hospitality and kindness. They were also grateful to the Clerk of the Weather for his forbearance, and last, but by no means least, to Sir Harry Veitch and the hon. secretary, Mr. R. Hooper Pearson, for the admirable arrangements made by them in connection with the journey itself.

East Anglian Horticultural Club.

The recent monthly meeting of this club was largely attended. Mr. A. Reeves, manager at Messrs. Daniels Bros.' nursery, Norwich, read a paper entitled "Roses, and the best kinds to grow." With his large, practical experience, Mr. Reeves was able to make the paper most interesting with his personal observation points. The varieties most strongly recommended were those of recent introduction. A discussion followed.

The exhibition tables were filled with flowers, fruits, and vegetables. Sweet peas and roses were a great feature. In the former Mr. F. Welby, gardener to F. A. Bainbridge, Esq., Hethersett, took all the first prizes. His blooms were superb, and many were the spikes carrying five flowers. In fruit the most attractive exhibits were two dishes of twelve strawberries brought up by Mr. S. Hunt, gardener to Mrs. Willis, Norwich; and Mr. T. Notley, gardener to E. G. Buxton, Esq., Catton. The variety in each case was Laxton's Latest. Mr. Notley's dish was the heaviest, weighing over two pounds net, but Mr. Hunt's were the best in condition, his dish scaled 24 ounces.

Strawberries as Annuals.—It is a well-known fact that many cultivators now treat strawberry plants as annuals. Very good results follow, fine crops of fruit being gathered. But I cannot help being impressed with the fact also, that the system entails much work that might be avoided, and a serious loss of fruit. The strawberry plant is at its best the second year from planting, and I feel sure that if growers would treat them as biennials and not as annuals, the general results would be more satisfactory. There is often much waste of space where strawberries are grown. A distance of two feet, sometimes two feet six inches, is allowed between the plants. If it is intended to grow the plants for two years, and then renew the bed, rows two feet apart and plants sixteen inches asunder in them will answer very well. Perhaps other growers will give their opinions on the subject.—G. B.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of The Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

GAURA LINDHEIMERI.—W. S., Chelmsford: I shall be obliged if you will let me know the name of enclosed specimen, together with a few hints as to its cultivation.—The plant is Gaura Lindheimeri, and, as it comes from the Southern United States, it needs a sunny, well-drained position. In some gardens it does not maintain its perennial character, often failing to stand through the winter. It can, however, be readily cultivated as an annual, and if seeds are sown both indoors and out in the spring a succession of plants is obtained. Thinning and transplanting must follow in due course, and then there will be spikes of elegant white and rose flowers from June to October. Gaura Lindheimeri looks best when massed. Although it loves sunshine and light soil, it also needs abundance of moisture.

RAISING SOLDANELLAS FROM SEEDS.—J. E. B., Gloucester: Please tell me the best way to proceed in the matter of raising soldanellas from seeds.—The seeds should be sown as soon as ripe in the autumn in well-drained pans of sandy peat, and placed in a shaded cold frame. The seedlings must be kept in a cold frame during the winter, and planted out in spring. Sow thinly and evenly, and take great care that the soil is kept comfortably moist at all times.

CALIFORNIAN FIRE CRACKERS.—M. E. J., Torquay: During my business trips to California I have on many occasions seen a bright red flower, that is carried in clusters on a long, thin stem. Out there it is known as the Californian Fire Cracker, but no one seems to know the plant here under that name. Your help in discovering the correct name of this plant—a bulbous one, I believe—would be greatly appreciated.—The botanical name of the Californian Fire Cracker is Brevoortia Ida-Maia. Another popular title is that of Crimson Satin Flower. We may add that Brevoortia Ida-Maia should do very well at Torquay in a sunny border. In many gardens it might be grown successfully if planted in a narrow, warm border on the sunny side of a greenhouse wall. September is the best time to plant, and the best method of dealing with the corms is to place them three or four inches apart in groups. The scarlet, tubular flowers are very attractive, but the stems are so slender that a few twiggy sticks will be necessary to support them.

BICOLOR TRUMPET DAFFODILS.—N. N., Effingham: Will you be good enough to let me know the names of a dozen first-rate bicolor trumpet daffodils of moderate price?—A good dozen varieties of moderate price are: Apricot, Empress, Glory of Noordwijk, Grandee, Horsfieldi, J. B. M. Camm, Mdme. Plemp, Mrs. Walter Ware, Oriana, Prince of the Netherlands, Princeps, and Victoria. Finer and more expensive are: Duke of Bedford, Weardale Perfection, Seraphine, Cygnet, Calpurnia, May Queen, Mrs. Earle, Pharaoh, etc.

MILDEW ON ONIONS.—G. N., Grays: I am sending some onions, and ask you to kindly say what has caused the leaves to die off in such an alarming fashion. Several beds of onions in this neighbourhood have suffered badly. If you can suggest a remedy and preventive I shall be very greatly obliged.—The onions are suffering from a very bad attack of onion mildew (Perenospora Schleideni), a fungus parasite that sometimes spreads at a rapid rate and does a vast amount of harm to the onion crop. The specimens sent are entirely infested with the mildew, and if the leafage is allowed to remain on the ground and rot, the resting spores will be set free subsequently, and, as these retain their vitality for two years, the disease may break out again in the following seasons. Collect and burn all the infested leaves, and spray the rest with potassium sulphide, half an ounce to a gallon of water. It is too late, however, to expect much good to result from spraying if the greater part of the crop is as badly diseased as the specimens sent. Do not grow onions on the present site of the bed until three years hence; indeed, it is a first-rate plan to avoid using the same site more frequently than once in three years. Preventive measures include dusting the seedling plants with powdered quicklime and sulphur, using two parts of lime to one of sulphur, applying the mixture when the onions are damp. Frequent sprayings with the potassium sulphide solution is also useful to guard against an outbreak.

FAILURE WITH RASPBERRIES.—T. H., Surrey: The raspberries are suffering from lack of food, and apparently have been neglected for several years. Cut out the canes that ought to have fruited and on which the flowers set so imperfectly; at the same time remove the small, weak canes of this year's growth, and secure the strongest canes to the wires, so that they will not be damaged by storms. Spread half-decayed cow manure three inches thick over the area occupied by the roots. At the same time it will be desirable to thoroughly trench and manure a plot of ground ready for planting new canes obtained from a reliable source in the autumn. These canes would have to be cut down next spring, and the new canes arising would fruit in 1915, and then enable you to clear out the old plantations.

TIMBER AND TIMBER TREES.—W. A. C., Merioneth: Please give me the title and price of a book treating upon trees such as oak, elm, beech, ash, etc., and describing the wood and its quality, the value of the leaves, etc; such a book as would be useful to a horticulturist.—Two books that will prove very useful to you in this connection are "Trees of Commerce" and "Practical Forestry," 3s. 6d. each, published by Wm. Rider and Son, Lim.

SHANKED GRAPES.—G. S., York: I shall be glad if you can tell me what is wrong with our vines. We have Alicante, and a white grape I do not know the name of, but numbers of the berries fail, like those enclosed, every year, and sometimes half of the berries have to be cut out. The vines are in a lean-to house facing south, and have every attention as regards air and firing. Fire heat is not used after the end of May unless the weather is wet and cold.—The grapes are badly shanked, and this trouble may be due to one or more of several causes. Quite frequently the roots of the vines are in an unsatisfactory state owing to imperfect drainage or an improperly-made border. Whether this is the case you can determine by examination, and if it is, the matter can be put right as soon as the crop is removed and the vine leaves change colour. Another cause of shanking is overcropping, the vines being taxed beyond their capacity. In your district fire heat should not be withheld entirely at such an early date, especially as your grapes are late varieties.

NAMES OF PLANTS.

H. T., Halifax.—Vaccinium Vitis-Idæa.

W. S., Chelmsford.—Gaura Lindheimeri.

A. H., Pinner.—Probably Ononis arvensis.

J. H., Norfolk.—Probably Blanche Double de Courbet.

W. O. H., Cambo.—1, Justicia carnea; 2, Hibiscus Cooperi.

T. H., Slough.—A species of ononis; stem and leaves should have been sent.

W. P., Wilts.—1, Lobelia elatior; 2, insufficient for identification; 3, Veronica spicata; 4, Spiræa filipendula fl. pl.; 5, Campanula lactiflora.

C. S., Macclesfield.—It is impossible to accurately name roses after they have been through the post, and, indeed, at any time it is difficult to name florists' flowers unless there is a collection at hand for purposes of comparison. Viscountess Enfield is a hybrid tea rose raised by Pernet-Ducher, and its colour is coppery old rose. Send flower and growth to the nurseryman who supplied the plants.

NOTES OF OBSERVATION.

Salvia nemorosa.—This member of the sage family, which is also known as Salvia virgata, is a thoroughly good border perennial. It forms a bushy specimen about a yard in height, the spikes of bright bluish purple flowers being borne for a couple of months or so. Even when they drop the persistent reddish-brown calyx is very noticeable.—T.

Philesia buxifolia.—In the shape and colour of the flowers this may best be described as a miniature lapageria, to which indeed it is nearly allied. It is, however, not at all of a climbing habit of growth, but forms a dense bushy specimen, rarely a yard in height, and frequently much less. It is hardy only in particularly favoured parts of the country, and in most districts requires the protection of a greenhouse. Many years ago an interesting hybrid was raised in Messrs. Veitch's nursery at Chelsea, by fertilising a flower of Lapageria rosea with the pollen of Philesia buxifolia. It is known as Philageria Veitchi, but has proved under all conditions to be a difficult plant to cultivate. The generic name of Philageria is derived from its parents, and was one of the first instances of a rule which is now so generally followed.—W. T.

Campanula Vidali.—This is one of the most distinct members of the large bell-flower family, and, unlike most of them, it needs the protection of a greenhouse for its successful culture. It forms a quite woody stem, six or eight inches in height, from the upper part of which numerous spreading branches are produced. The upper half or thereabouts of these branches is occupied by the flowers, which are nearly a couple of inches in length, and of a thick wax-like texture. The shape of the bloom is somewhat singular, being a kind of bell with a contraction around the middle. The colour is white, while at the base of the interior is an orange ring. This campanula can be struck from cuttings, but seeds also ripen readily, and young plants obtained in this way are the more satisfactory. A group of well-flowered examples forms a striking feature in the greenhouse towards the latter part of the summer.—K.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1913. July 20 to July 26.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
July 20—Sunday	12 48	58	53	67	57
,, 21—Monday	0 18	57	52	63	45
,, 22—Tuesday	3 18	55	55	66	55
,, 23—Wednesday	—	55	50	58	47
,, 24—Thursday	8 6	58	54	70	50
,, 25—Friday	8 12	55	53	69	52
,, 26—Saturday	0 54	57	55	64	53
Means	(total) 33 36	56	53	65	51

Date. 1913. July 20 to July 26.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
July 20—Sunday	—	61	60	58	43
,, 21—Monday	0·01	61	61	58	34
,, 22—Tuesday	trace	61	60	58	48
,, 23—Wednesday	0.02	60	60	58	36
,, 24—Thursday	—	58	59	58	37
,, 25—Friday	trace	60	60	58	40
,, 26—Saturday	trace	61	60	58	45
Means	(total) 0·03	60	60	58	40

MARKETS.

COVENT GARDEN.

Flowers.

There is a fair demand for flowers, considering that the London season is over.

		s.	d.		s.	d.
Achillea	per doz. bun.	1	6	to 2	6	
Adiantum cuneatum	per doz. bun.	3	0	4	0	
Alstromerias	per doz. bun.	2	6	3	6	
Asparagus plumosus	per doz. bun.	10	0	18	0	
,, Sprengeri	per doz. bun.	9	0	12	0	
Asters	per doz. bun.	2	6	4	0	
Campanulas	per bun.	2	0	4	0	
Carnations	per doz.	0	9	1	6	
,,	per doz. bun.	5	0	10	0	
,, Malmaison	per doz.	4	0	6	0	
Chrysanthemum max.	per doz. bun.	1	6	2	6	
Coreopsis	per doz. bun.	0	9	1	3	
Cornflowers	per doz. bun.	0	9	2	0	
Croton leaves	per doz. bun.	12	0	15	0	
Delphiniums	per doz. bun.	4	0	8	0	
Eucharis	per doz.	2	0	4	0	
French fern	per doz. bun.	2	6	4	0	
Gaillardias	per doz. bun.	1	6	2	0	
Gardenias	per doz.	1	0	2	0	
Gerberas	per doz.	1	0	1	6	
Gladioli	per doz.	1	6	8	0	
Gypsophila	per doz. bun.	3	0	6	0	
Lilium auratum	per bun.	3	0	4	6	
,, speciosum	per doz.	1	3	2	0	
,, longiflorum	per bun.	1	0	1	6	
Lily of the Valley	per doz. bun.	9	0	15	0	
Marguerites	per doz. bun.	1	0	2	0	
Odontoglossums	per doz. blms.	3	0	4	0	
Pelargoniums	per doz. bun.	3	0	4	0	
Roses	per doz.	0	6	2	6	
Scabious	per doz. bun.	2	0	4	0	
Smilax	per doz. trails	1	6	2	0	
Spiræa	per doz. bun.	4	0	6	0	
Stephanotis	per gross	5	0	7	0	
Stocks	per doz. bun.	3	0	5	0	
Sweet Peas	per doz. bun.	1	3	2	6	
Sweet Sultan	per doz. bun.	1	6	2	6	

Fruits.

Strawberries are practically over, and raspberries are becoming scarce. Gooseberries are excellent, and so are grapes.

		s.	d.		s.	d.
Apples, Australian	per box	14	0	to 16	0	
,, Tasmanian	per box	14	0	15	0	
,, English	per ½ sieve	3	0	5	0	
Apricots	per ½ sieve	8	0	10	6	
Bananas, Canary	per bun.	7	0	12	0	
,, Jamaica	per bun.	3	0	5	6	
Cocoanuts	per 100	17	0	23	0	
Cherries	per peck	2	6	6	0	
Currants Black	per ½ sieve	6	0	8	0	
,, Red	per ½ sieve	6	0	7	0	
Dates	per doz. boxes	2	9	3	6	
Figs	per doz.	1	6	7	0	
Gooseberries	per ½ sieve	3	0	5	6	
Grape Fruits	per case	12	0	20	0	
Grapes English	per lb.	1	6	4	6	
,, Guernsey	per lb.	1	0	3	0	
Greengages	per ½ sieve	10	0	12	0	
Lemons	per case	10	0	30	0	
Melons	each	1	0	3	0	
Nectarines	per doz.	2	6	14	0	
Oranges	per case	16	0	25	0	
Peaches	per doz.	3	0	18	0	
Pears, Tasmanian	per case	10	0	12	0	
Pineapples	each	3	0	5	0	
Plums, French	per ½ sieve	8	0	15	0	
Raspberries	per doz. pun.	3	0	4	0	
Strawberries	per doz. pun.	5	0	10	0	

Vegetables.

Vegetables are plentiful, and the demand is good. Tomatoes are dearer.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to 2	0	
,, Ground	per bush.	3	0	4	0	
Beet	per bush.	2	0	3	0	
Beans, Guernsey	per lb.	0	4	0	6	
,, English	per lb.	0	4	0	6	
,, Broad	per bush.	2	0	2	6	
Cabbage	per tally	2	6	4	6	
Carrots	per doz. bun.	1	6	2	6	
,, French	per doz. bun.	6	0	8	0	
Cauliflowers	per doz.	2	0	3	0	
Cucumbers	per doz.	1	6	3	0	
Endive	per doz.	1	6	3	0	
Horseradish	per doz. bun.	10	0	12	0	
Lettuce, Cos	per doz.	0	9	1	0	
Marrows	per doz.	1	6	2	0	
Mint	per doz. bun.	1	6	3	0	
Mushrooms	per doz. lbs.	5	0	7	6	
Onions	per bag	4	0	4	6	
,, Spring	per doz. bun.	2	0	3	0	
Parsley	per doz. bun.	3	0	6	0	
Peas	per bush.	3	0	4	0	
Radishes	per doz. bun.	0	10	2	0	
Spinach	per bush.	1	6	2	0	
Tomatoes, English	per doz. lbs.	2	6	4	9	
,, Guernsey	per doz. lbs.	2	0	4	0	
Turnips	per doz. bun.	2	0	6	0	
Watercress	per doz. bun.	0	4	0	6	

LONDON POTATO MARKETS.

The demand is poor and supplies increasing.

		s.	d.		s.	d.
Kents	per cwt.	5	0	to 6	0	
Lincolns	per cwt.	4	6	6	0	
Bedfords	per cwt.	4	6	5	6	

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, August 4.—Ranmoor Floral Society.
Sandiway Flower Show.
Swanage Horticultural Society.
Oswestry Flower Show.
Datchet Horticultural Society.
Epsom Flower Show.
Bletchley and Fenny Stratford Horticultural Society.
Ramsey Horticultural Society.
Weybridge Cottagers' Flower Show.

TUESDAY, August 5.—Leicester Flower Show; two days.
Aberdare Summer Show.
Scottish Horticultural Society.
National Amateur Gardeners' Association.

WEDNESDAY, August 6.—Westbury Horticultural Society.

THURSDAY, August 7.—Perthshire Sweet Pea Show.

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ORCHIDS FOR AMATEURS.—A practical guide to the Cultivation of Cool and Warm-house Orchids, adapted for Small Mixed Greenhouses. The author is C. Alwyn Harrison, F.R.H.S., and the Publisher, 149, Aldersgate Street, London.

When answering Advertisements please mention "Gardeners' Magazine."

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Orchards Under Glass.

The incidence of the present season has once more brought into prominence the immense value of glass as an aid in the production of the choicest kinds of hardy fruits for home use, and impressed upon the more observant of those who are immediately concerned with the all-important question of fruit culture, the fact that this value has not as yet received full recognition. We have now on trees growing in the open quarters, and against walls, excellent crops of both culinary and dessert apples, but cherries have been decidedly thin on the trees, especially where growing in the open quarters, and peaches and nectarines are considerably short of a full crop. Pears and plums, which are of so much importance in the economy of the garden, so closely approach a complete failure that the fruit will be very small in quantity, as compared with the area occupied by the trees from which it is gathered. In contrast to this depressing barrenness, we have in orchard houses that are under the charge of experienced cultivators, fruit trees of all kinds, carrying crops, remarkable alike for their bulk and high quality. Such crops, in fact, as would fully justify the suggestion that in all gardens of any considerable area, the orchard house should be regarded as equal in importance to the vinery, and the several other structures that are usually provided for the production of early crops of fruit. That peaches and nectarines, and cherries and plums may be obtained in goodly quantities, and of high quality, from trees in the open there can be no doubt, but under the most favourable conditions they cannot be depended upon to crop with the same degree of regularity as those having the shelter of glass for some part, or the whole, of the period between the development of the flowers and the ripening of the fruit. The uncertainty incidental to fruit culture in the open, even when the most careful attention is paid to the trees as they pass through their several stages of development is, perhaps, one of the strongest arguments that could be used in favour of an extension of orchard house culture. Whether this be the case or not, it will be admitted that a failure, more or less complete, of any one of the principal fruit crops is a serious matter, depriving, as it does, the owner of some part of the advantages resulting from the possession of a garden, and it gives rise to much anxiety on the part of those who are responsible for the maintenance of the supplies required by the household. Not only does the orchard house possess utility of a high order as a means whereby a considerable break in the supplies of such fruits as are suitable for cultivation within it, may be avoided, but it is of much value for the aid that it gives in prolonging the supplies of the several kinds over the longest possible period. Those who have walls suitable for fruit trees should continue to make the best use of them, and in not a few instances that will be the most satisfactorily accomplished by clothing their area with kinds that are the least susceptible to injury from spring frosts and easterly winds. Then, with a view to make the arrangements complete for the production of supplies of the choice kinds, one or more orchard houses should be provided, their number and size being determined by individual requirements. In the case of gardens enclosed within good walls, the orchard house may be regarded as in some degree supplementary to them; but where, as in thousands of instances, the garden has no sheltering wall, the orchard house is a necessity. In entering on the cultivation of fruit trees in pots, which unquestionably are the most suitable for the orchard house, it is important to clearly understand that strength and simplicity, combined with facilities for giving abundant ventilation when necessary are essential points. The dimensions in building the structures required for their accommodation may be varied according to the space available, and the requirements of the household, and, as well known, splendid results can be obtained with both large and small houses. In many cases several small houses are preferable to one of large size, as the several kinds can be grown separately, and their period of ripening be so adjusted as to ensure a continuous supply. Where but one house is decided upon, it should be of rather large dimensions, as it will give a more liberal return in proportion to the time devoted to it than will one of comparatively small size. A house having a length of fifty feet, and a width of twenty feet, can be recommended for gardens wherein there is but one structure of its kind, and it should have a height of ten or eleven feet at the apex, and of about six feet at the sides. Houses with a length of about thirty feet, and a width of about twelve feet, will be found most useful where several of moderate dimensions are preferred. It is a point of some importance to understand that nearly all the choice hardy fruits will crop freely when grown in the same house. There is no difficulty in obtaining full crops of pears from trees that are grown wholly in the orchard house; but these fruits require fuller exposure

ALDERMAN J. BESTER,
President of the Chesterton Horticultural Society.

to atmospheric conditions for the development of a high flavour than the structure affords. As a consequence, it is preferable to keep the trees under glass until they have flowered, and set their crop, and as soon afterwards as the weather will permit, they should be placed outside, and their fruit protected from the birds. The most simple and least troublesome method is to place them under a light framework of wood or iron, that has been covered with wire netting, having a fine mesh. Apples may be dealt with in much the same manner, but the fruits with which the orchard house should be chiefly occupied are the cherries, peaches, nectarines, and dessert plums. For the maintenance of a regular supply of peaches and nectarines, that will in each season extend over a period of between two and three months, the orchard house is practically a necessity, and, with its aid, the crop of cherries and plums become more regular, and the fruit is available for a longer season. The fruits of these two kinds are usually of finer appearance and more richly flavoured than are those produced by trees grown wholly in the open, the difference in the cherries being very great. This improvement is due to the greater length of time the fruits have for the completion of the ripening process, and the more favourable conditions that attain. Both plums and cherries are injured to some extent by wet and damp weather when ripe, and the latter are such great favourites with the fruit-eating birds that it is not possible to allow them to long remain on the trees when they are growing in the open. When in the orchard house the fruits may be allowed to hang several weeks after they attain maturity, with the assurance that the flavour will be improved thereby. Fruit trees in pots require more time and attention to maintain them in a healthy and productive condition than do trees planted in the borders. But much of the advantage of the orchard house would be lost were the trees grown under conditions that afford them unrestricted root run. The trees would soon attain to so large a size that there would be room but for a few only, and the crop, however large it may be, would be only available for a short period. Whereas when the trees are grown in pots, a comparatively large selection of varieties of each of the several kinds can be grown, and if the selection is made with due regard to the period of ripening, there will be no difficulty in obtaining a successional supply for about three months. The additional attention required by pot trees is chiefly due to their requiring frequent supplies of water, but this is not so onerous as to justify anyone hesitating to engage in orchard house culture, because of the apprehension that they will fail to receive an ample return for the thought and time devoted to the work.

Alderman John Bester is a prominent figure in horticultural circles in the Cambridge district, and, indeed, is one of the best-known and most highly-respected of public men in Cambridge itself. Although born in 1847, Alderman Bester is as active in mind and body as many men a score of years his junior. He was apprenticed to Mr. J. J. Chater, of the Gonville Nurseries, Cambridge, who was a florist as well as nurseryman and seedsman. In 1868 Alderman Bester commenced business at Grantchester, where Mr. Widnall was for so many years a noted dahlia grower. He moved to Chesterton, a suburb of Cambridge, in 1875, and took up rose growing as a leading feature of his business. Here he put up a large number of greenhouses for the cultivation of flowering plants, as there was a large demand for these for window-box and other kinds of decorations in the various colleges of the University. Alderman Bester was the pioneer of cucumber culture under glass in the Cambridge district, and was invariably successful as an extensive cultivator of pelargoniums in 48-sized pots. Alderman Bester has always taken a keen interest in horticultural matters; he is president of the Chesterton Horticultural Society, and has been a member of the committee of the Cambridge Horticultural Society for forty years. In public affairs he is greatly interested, and since his retirement from business eleven years ago he has devoted the greater part of his time to public work. In 1880 he became a member of the Chesterton Local Board, and was chairman of that body from 1886 to 1894, and chairman of the Urban District Council during the three following years, and, as such, was a Justice of the Peace. He continued to be a member of the Chesterton Urban District Council until, in 1912, that suburb was added to Cambridge, and he was elected an Alderman of the borough. In addition to the work all this entailed Alderman Bester has been a Guardian of the Poor since 1894, has been chairman of the Board of Guardians, and is now chairman of the Assessment Committee. Alderman Bester is a striking exemplification of the fact that the busiest men are those who have the most time to spare. He has great business and administrative ability, and the added gift of a charming personality.

August Bank Holiday was spent out of doors by many hundreds of thousands of people, for the day was fine, though not over-warm in some districts. In all large towns and cities the public parks and open spaces were crowded with holiday-makers, who showed a fine appreciation of the floral displays and the trees and shrubs. In the Metropolitan district everyone at liberty seemed to be out of doors. There were 200,000 visitors at Hampton Court, over 107,000 at Kew Gardens, 40,000 at the Crystal Palace, 35,000 at Alexandra Palace, 16,000 at the Oval, 80,000 at the Earl's Court Exhibition, 32,437 at the Zoological Gardens, 25,000 at Hendon to see the aviators at work, 8,000 at Windsor Castle, and enormous crowds on the River Thames. Hampstead Heath and Epping Forest also had their full quota of visitors, but the London museums had fewer visitors than usual.

Distressing Accident to Holiday Horticulturists.—On Saturday, August 2, thirty-four employees of Mr. G. Hamilton, Park Lane Nurseries, Waltham Cross, paid a visit to Cambridge, by motor omnibus, for their annual outing. On the return journey, the party had reached Great Amwell, about 10 p.m., when the omnibus overturned. Thirteen members of the party were injured, some of them seriously; one was killed immediately, another died while being taken to Hertford Hospital, and a third died in hospital on Sunday.

R.H.S. on Seed Testing Stations.—The Parliamentary Committee of the Royal Horticultural Society have had under consideration the question of establishing a National Seed Testing Station, and as the result of their deliberations they have drawn up the following resolution: "Understanding that a recent deputation to the Board of Agriculture and Horticulture recommended that a National Seed Testing Station should be established where seeds could be tested if desired, your committee, whilst not wishing to object to the testing of seeds, desires to point out that any such station, if created, must provide a full and sufficient guarantee both to buyer and seller as to the identity of the bulk sold with the sample submitted for test." This resolution came before the president and council at the council meeting held on July 29, when it was unanimously adopted.

The Winter Garden at Avery Hill.—The Parks and Open Spaces Committee of the London County Council recently recommended the expenditure of £2,750 upon the winter garden at Avery Hill, so that this structure, closed because of its dangerous roof since January, 1912, might be opened again to the public. There was a strong objection in the Council to the expenditure of so much money on the ground that the garden was a great luxury, and scarcely came within the scope of the work the Council was called upon to administer. The recommendation was, however, agreed to. Avery Hill, with its mansion, winter garden, and eighty-three acres of land, was purchased by the London County Council for £25,000; the winter garden alone costing the previous owner £22,000 to build.

Castle Ashby, Northampton, the seat of the Marquis of Northampton, and famous for its splendid park and fine gardens, has been let to Baron Alfred de Rothschild.

Wimbledon Common Extension.—In connection with the extension of Wimbledon Common £12,000 has been subscribed by private residents in the district, and £14,000 by the local authorities of Wimbledon, Merton, the Maldens, and Coombe. An effort is now being made to obtain a grant of £5,000 towards the fund from the Surrey County Council, and an influential deputation recently waited upon the General Purposes Committee with that end in view. This committee reported that new conditions had arisen since the Council declined, three years ago, to make a grant, but they did not recommend any contribution. Eventually, on the motion of Mr. Tyrrell Giles and Sir Joseph Lawrence, the question was referred back for further report and consideration, a final decision to be arrived at in November next.

"Fairy Flies and their Hosts" is the subject of a lecture to be delivered before the Royal Horticultural Society, at Westminster, on Tuesday, August 12, at 3 p.m., by Mr. F. Enock, F.L.S.

Longevity of Gardeners.—Discussing the future of the race at a Conference on Infant Mortality, Mr. John Burns said that "it was no accident that clergymen and gardeners had, on the whole, the longest and most healthy lives. It was due in each case to the fact that both clergymen and gardeners lived the most perfect mental, moral, and physical lives. It was not for them to dispossess the clergyman and the gardener of these things, but to see how the lives of most of the population might be approximated to theirs. It could not, of course, be done all at once, but things which were done all at once were not worth doing."

Presentation to the Perry Brothers.—A week ago the employees at Mr. Amos Perry's Hardy Plant Farm, Enfield, had their second annual outing, and paid a visit to Yarmouth. The party was somewhat cosmopolitan, as it included French, German, Danish, and Polish representatives, as well as British. The excellent arrangements for the day were made by Perry's Excursion Club, founded a year ago. After dinner at Yarmouth, Mr. Redman, the firm's shipping agent, and Mr. Logan, the foreman, tendered thanks to the Messrs. Perry for their generosity on this occasion and at Christmas last, and took advantage of this opportunity to

present Mr. Amos Perry with a silver cigarette case, and Mr. William Perry with a case of pipes, as tokens of gratitude and appreciation.

The Gardeners' Company is one of the two City Companies to which women apprentices are admitted, and at the present time the company has six apprentices, of which three are women. These latter are Miss Ursula Joyce, Miss Beatrice Shead, and Miss Joyce Ebblewhite, and they complete their indentures in 1914, 1916, and 1919 respectively, when they will be admitted to the Freedom of the Company by servitude. The first woman apprentice to the Company was Martha Squires, but she did not become free of the Company owing to her not having completed her indentures. It is, however, on record that in 1657 Lydia Hinch, the widow of a Past Master, was allowed to take over three apprentices who had been bound to her late husband, in order to complete their indentures, and thus obtain the Freedom.

Should Women Become Members of the B.G.A.?—At the meeting of the Watford branch of the British Gardeners' Association, to be held on August 20, Mr. Fulton, head gardener at Grims Dyke, will open a discussion entitled "Should Women Gardeners be Admitted to Membership of the British Gardeners' Association?" The annual outing of the members of this branch will take place on August 13, when a visit will be paid to St. Albans. Mr. S. Hartley, The Lodge, Glenthorne, Harrow Weald, is the Watford branch secretary.

AUTUMN ROSE PROSPECTS.

The prospects of a good autumn crop of rose blossom are indeed "rosey" in the majority of gardens that have come under my special notice of late. If these are realised, we shall have had by no means a bad season on the whole, although the early outlook was particularly gloomy. All through the southern counties we appear to have been favoured with genial showers that came at a very opportune moment, when the spell of dry easterly winds had quite parched and cracked the soil in many places.

With the present improvements, especially among the hybrid tea and dwarf polyantha sections, I do not think we need fear many unsatisfactory autumnal displays. Quite a number of the best-known varieties at the present day are most pleasing in their reliability, and, so far as garden decoration and cut flowers are concerned, are quite up to their best during the autumnal months, when the majority of the older hybrid perpetuals and damasks are almost flowerless. Mrs. John Laing, Fisher Holmes, Ulrich Brunner, Auguste Rigotard, Baroness Rothschild, General Jacqueminot, Madame Victor Verdier, Mrs. R. G. Sharman Crawford, Tom Wood, and Victor Hugo are grand late bloomers of the hybrid perpetual section; while none can surpass Frau Karl Druschki, a much more recent introduction than those previously named.

Taken as a class, the hybrid teas are superb autumnal bloomers, and only to name a dozen seems somewhat unfair. Still, as some slight help to intending planters, I may perhaps mention some that have been the most reliable with me: Betty, Caroline Testout, Duchess of Wellington, Edu Meyer, Gustave Regis, La Tosca, Lady Battersea, Madame Abel Chatenay, Madame Ravary, Richmond, Viscountess Folkestone, and Etoile de France. A select dozen from the teas and noisettes may be found in Corallina, G. Nabonnand, Peace, Lady Roberts, Madame Antoine Mari, Madame Jean Dupuy, Marie Van Houtte, Molly Sharman Crawford, Mrs. R. B. Cant, Souv. de Pierre Notting, Reve d'Or, and William Allen Richardson, the last two being climbers.

To secure the very best results from the late bloomers they should not suffer from want of attention. Consistent hoeing and clearing of growths, also the prompt removal of all expanded blossoms, together with the help of a little quick-acting artificial or liquid manure must not be omitted. We have, in fact, to supply food and encouragement to this later growth, even more than to that first appearing, and not lose sight of the fact that the roots have more or less exhausted the soil, unless it was extra rich; hence the need for help in the way of manures. Should the soil be very dry, copious waterings are needed.

Nor must we forget that it is towards late summer and autumn, with the greater variations of day and night temperatures, that our most insidious autumnal foe—mildew—so persistently attacks the younger foliage, and, although, I fear, getting rather monotonous, I must once more remind readers of the great efficacy of a prompt use of the syringe. I believe the hoe is most useful in checking autumnal mildew.

ROSARIAN.

NYMPHÆA COLOSSEA.

Flowers very large; soft rose-pink. A.M., R.H.S., July 29. Leopold de Rothschild, Esq., Gunnersbury House, Acton.

JUNE-FLOWERING LILIES.

As is only to be expected from a genus comprising seventy species and a large number of varieties, the flowering season of lilies extends over a period of five months, from the end of May to October, in the open air. Included in the list of the June-flowering section are some of our best garden lilies, notably L. candidum, L. croceum, L. umbellatum, and L. martagon var. album.

L. martagon.

Popularly referred to as the Turk's Cap Lily, this is the first lily introduced to the British Isles. Having become naturalised in a few places, it is looked upon by some as a British plant, though the first bulbs were introduced from Central or Southern Europe more than three centuries ago. L. martagon thrives and increases in the ordinary soil of the herbaceous and shrubbery border, continuing to grow and flower freely for years if left undisturbed. Replanting if necessary, and the planting of fresh bulbs, should be done in September, or as soon after as possible. The growths of this lily are tall and slender, some 4ft. to 5ft. high, with whorls of leaves, and numerous purple, spotted flowers. These are 1½ inches across, drooping, with reflexed petals.

Seedlings of the martagon lily are easy to raise, and they show a fairly wide variation in the purple colouring, some being much deeper than others. Distinct varieties of this lily are album, white; dalmaticum, a vigorous form with wine-coloured flowers; and Cattanese or Catani, light purple. It is difficult to express in words the beauty of L. martagon var. album, with its crowded spikes of dainty, wax-like, pure white flowers. A group of this lily should find a place in every herbaceous border.

L. pyrenaicum.

This lily, from the Pyrenees, is commonly alluded to as the Yellow Turk's Cap Lily. It is the first of all the liliums to flower in the open border, commencing towards the end of May, and continuing till nearly the end of June. L. pyrenaicum is a loam-loving lily, and is one of the easiest of the whole family to cultivate, thriving in most soils and positions. Effective groups or clumps may be planted in the herbaceous and mixed borders, while it is also a lily suitable to plant liberally in the shrubbery border and semi-wild parts of the pleasure grounds.

The bulbs are large, and produce strong stems up to 4ft. in height, thickly clothed with narrow leaves, surmounted by eight to twelve or more drooping flowers. The individual blooms are 1in. to 1½in. across, with very much reflexed petals, yellow, freely spotted with brown, and merging to green towards the base. This lily is strongly scented, giving a delicious fragrance in the garden, but it is not particularly pleasant to smell an individual bloom.

L. rubellum.

This is without doubt one of the dainties members of the lily family. It is the earliest of the Japanese lilies to bloom outside in this country, opening the first blooms towards the end of May, closely following those of L. pyrenaicum. A considerable number of bulbs of this lily are annually imported from Japan, but for several reasons few of them grow well after planting. L. rubellum, however, produces seeds freely, and the bulbs raised from seeds are far more satisfactory than those imported. Sow the seeds as soon as they are ripe in boxes of light, sandy soil, placing them in a cold frame. Seedlings flower in three years from sowing, occasionally earlier. The bulbs make the best display when from four to seven years' old. After this they appear to deteriorate, so that it is desirable to maintain a stock of plants by raising seedlings at suitable intervals.

Lilium rubellum grows about 2ft. high, and bears from two to six rose-pink tubular flowers on each stem. The bulbs thrive in light sandy loam, with which should be freely mixed flaky leaf-mould and peat.

L. pomponium.

A native of the Maritime Alps, this lily has been cultivated in this country for at least 250 years. The stems are 2 to 3ft. high, thickly clothed with leaves, and developing in June six to twenty flowers on a stem. These are pendent, with reflexed petals, rich scarlet in colour, quite wax-like in appearance. This lily thrives better in the ordinary soil of the herbaceous or shrubbery border than in beds of peat-loving shrubs.

L. croceum.

This is popularly referred to as the Orange Lily, and is nowhere better grown than in the country cottage gardens. A native of South Europe, this lily delights in a fairly heavy loam, and will thrive in most garden soils. The average height is about 4ft. to 5ft., a single stem frequently carrying thirty flowers. These are upright, 3in. to 4in. across, rich orange in colour, with small dark chocolate spots. This is a stem-rooting lily, and should be planted at least four inches deep. The first flowers open about the middle of June.

L. dauricum.

L. davuricum and L. umbellatum are the names by which one of our most easily-grown, June-flowering lilies is known. The original form of L. dauricum is a native of Siberia, but for garden decoration it is much inferior to the Dutch and Japanese varieties usually sold as L. umbellatum, referring presumably to the upright umbel-like heads of flowers. Whether these are improved varieties of L. dauricum obtained by raising seedlings, and selecting the best, or the result of a cross between L. dauricum and some other lily, possibly L. elegans, cannot be definitely stated. It does well in ordinary garden soil, is very free-flowering, and the bulbs increase fairly quickly. The sturdy stems grow 2ft. or more in height, bearing four to eight, or more, large upright flowers, varying in the different varieties from orange to velvety-crimson.

A half-dozen of the best forms are erectum, Incomparable, Sappho, aurantiacum, Cloth of Gold, Tottenhami. A stem-rooting lily, the bulbs should be covered with at least four inches of soil.

L. Hansoni.

This is one of the very few Japanese lilies which will grow freely in most garden soils, doing quite well in the herbaceous border, or in association with rhododendrons. It is one of the first lilies to push up young growths in spring, and these, unless growing in a sheltered spot, should be protected from spring frosts with yew or spruce branches. L. Hansoni belongs to the martagon group of lilies with whorls of leaves, and numerous drooping flowers. The stems reach a height of 3½ to 5ft., with about ten flowers. With us it has proved a very easy lily to propagate by scales. Plant the bulbs six inches deep, as they are large and stem-rooting. The individual flowers are 2½ inches across, yellow, spotted dark brown, the petals recurving.

Kew A. Osborne.

(To be continued.)

GREENHOUSE FLOWERS AT KEW.

The greenhouse in the Royal Gardens is very gay with choice flowering plants, for, beside the usual summer-flowering occupants of that structure, there are many others not so generally met with. Among these last may be included the following: Clerodendron fallax, of which there is a fine and brilliantly coloured group. Another member of the genus there represented is C. fragrans flore plena, whose double whitish blossoms are very sweetly scented, but the leaves have an unpleasant odour if bruised or roughly agitated. Yet a third clerodendron there in bloom is the comparatively new C. ugandense, remarkable among the other members of the family from the fact that the blossoms are of different shades of blue. Primula Kewensis, though well known, is rarely seen in such quantity and in such good condition at this season of the year, while there is also a number of the Canary Island, Statice brassicæfolia one of the best of the shrubby statices for flowering in comparatively small pots.

Impatiens Holsti, too, is well represented, as also is that pretty continuous flowering gesnerad, Isoloma hirsuta, whose vermilion coloured flowers are clothed with brownish hairs. Calceolaria Veitchi, which aroused so much interest last year at the International Horticultural Exhibition, is also bearing its creamy-white flowers, and a valuable greenhouse plant it is. One species of Chironia, namely C. ixifera, is now well known throughout the country, but there are two other species in the greenhouse. They are both very pretty, though scarcely likely to attain the popularity of the last-named. These two species are Chironia laxa, of loose growth with small starry flowers of a deeper tint than those of C. ixifera, and C. floribunda, a rounder flower, about half an inch in diameter. Chironia floribunda is said to have been introduced in 1843, but it is very rarely met with.

K.

Wye Agricultural College.—A meeting of the Governors was held recently, Lord Ashcombe presiding. The Principal (Mr. M. J. R. Dunstan) reported 149 students in residence, the total number of students for the session being 187. An anonymous donor has given £500 to the college for the extension of the research department, and the Development Commission are recommending a grant of £6,000 for the completion of the new college buildings. The Governors also decided upon the erection of the buildings at the Fruit Research Station at Malling, the land for which (22 acres) has been purchased by the Kent County Council. The election of Mr. C. W. Mason to a Carnegie Research Scholarship was also reported.

THE CHELSEA PHYSIC GARDEN.

The student of horticulture and the student of botany find a common interest in the history of the Chelsea Physic Garden, because the names of Philip Miller and Aiton, Forsyth and Curtis, Anderson and Fortune, Moore and Lindley, are reminders of the excellent work done in both sciences by those who filled positions here in the days of long ago. But the name that shines brightest in this history is that of Sir Hans Sloane, whose interest and generosity made the existence of such a garden possible.

Once upon a time the Society of Apothecaries had a physic garden at Westminster, but apparently it had no river frontage, and so the members cast about for a suitable riverside spot where the society might build a barge-house, and so bring itself into line with the City Companies of that day, most of whom possessed state barges wherewith to join in the Royal and Lord Mayor's processions on the Thames. They found a desirable place at Chelsea, and leased it from Mr. Charles Cheyne, in 1673, for a term of sixty-one years, at an annual rental of £5. The site occupied nearly four acres, it was walled in during 1674, and here many of the society's plants were transferred from Westminster. Seventy-one persons formed the committee of management in 1679, and appointed John Watts as gardener with "the allowance of one or two labourers"; and the garden survived. In 1683 four cedars of Lebanon, the first grown in this country, were planted, and the last of these, then in a very bad state, was removed in 1904. Evelyn visited the garden on August 7, 1685, to see Mr. Watts; the heating arrangements interested him, and in his diary he states, "What was very ingenious was the subterranean heate, conveyed by a stove under the conservatory, which was all vaulted with bricks, so as he has the doores and windows open in the hardest frosts, secluding only the snow."

CHELSEA PHYSIC GARDEN.

Bed of plants arranged in natural orders with water garden in the distance.

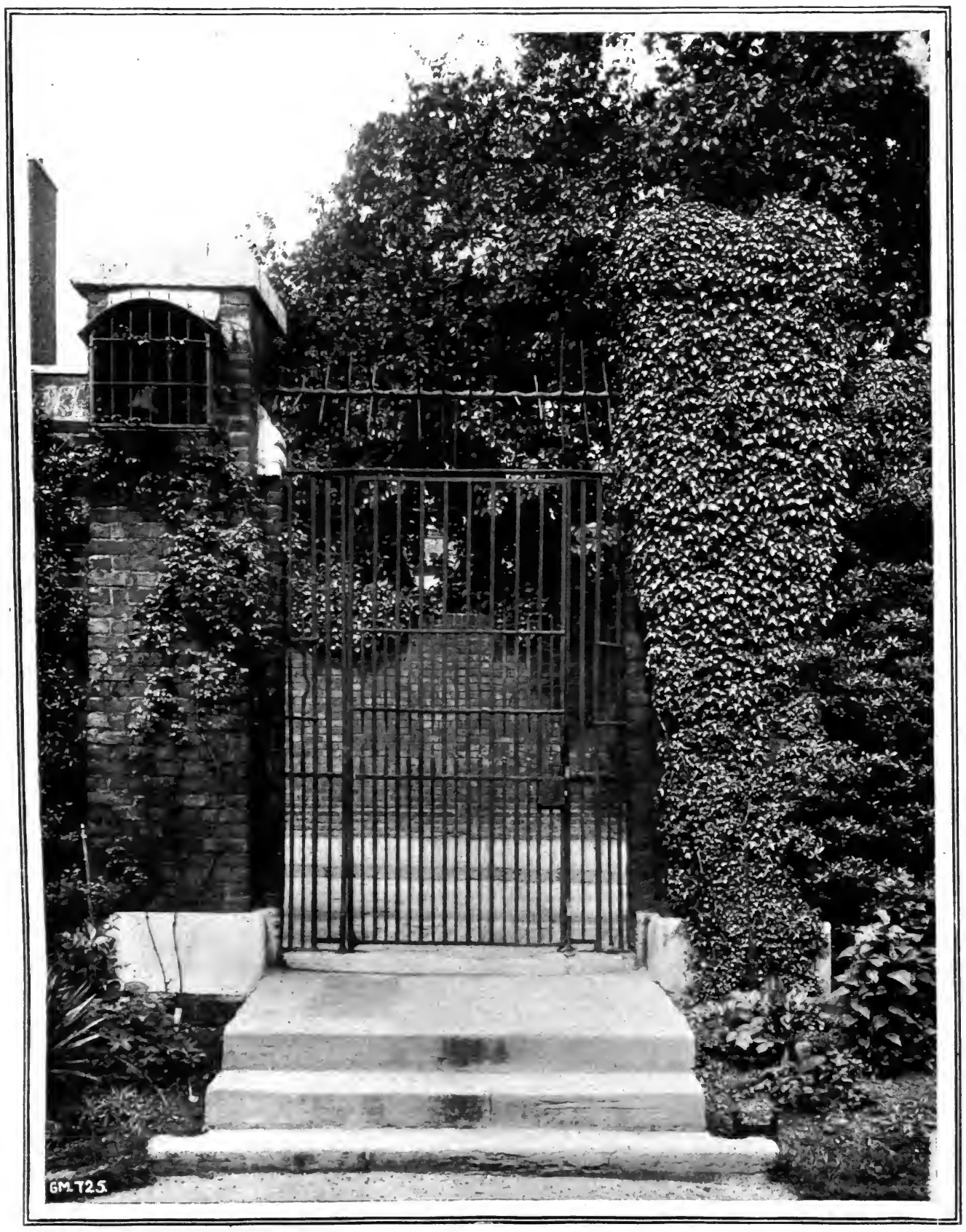
Samuel Doody followed Watts in the charge of the garden, but evil times followed his death in 1706. It appears that the garden had so far been leased to certain members who subscribed among them sufficient for its maintenance. In 1714 the maintenance of the garden came under the Society of Apothecaries in its corporate capacity, this society having imposed definite fees upon its members the year previously. Even thus little interest was taken in the garden until John Petiver became Demonstrator of Plants, instituted botanical excursions in and around London, collected specimens, and came into closer connection with the affairs of the garden.

In 1712 Dr. Hans Sloane purchased the Manor of Chelsea. Two years after, and again in 1718, the Society of Apothecaries conferred with him concerning the garden. In 1722 the Lord of the Manor, who was then President of the Royal College of Physicians, and had become Sir Hans Sloane, conveyed the garden by deed to the society "to the end that the said garden might at all times thereafter be continued as a physick garden, and for the better encouraging and enabling the said Society to support the charge thereof, for the manifestation of the power, wisdom, and glory of God in the works of the creation, and that their Apprentices and others might better distinguish good and useful plants from those that bore resemblance to them, and yet were hurtful, and other the like good purposes."

Philip Miller was appointed head gardener in 1722; he had considerable botanical attainments, and under his care the garden became famous, while his "Dictionary" shows that many plants were grown and flowered here for the first time under cultivation. Ten years later £2,000 were spent on glasshouses, and in 1733 the members of the society, "being sensible how necessary that Branch of Science is to the faithful discharging the Duty of their Profession, With grateful Hearts and general Consent, Ordered this Statue to be erected, In the year of our Lord, 1733, That their Successors and Posterity may never forget their Common Benefactor." This statue to Sir Hans Sloane, by Michael Rysbrach, is in marble; it was finished in 1737, and was moved from a niche in front of the greenhouse to the central position it now occupies in 1748. In passing, it may be stated that Sir Hans Sloane died in 1753 at the age of 93.

"At his death the Nation purchased for £20,000 his library and collections, and obtained Montague House for their reception. George II. added the old Royal Library in 1757, and the joint collections were opened in 1759 as the British Museum."

The excellent order and condition of the garden maintained by Philip Miller involved considerable expense, and the burden of the upkeep becoming too heavy for the Society of Apothecaries, efforts were made to induce either the Royal Society or the Royal College of Physicians to accept control, but without success; indeed, the society was not relieved of its responsibility until 1899. During the latter part of Wm. Anderson's term of office the garden fell into a very bad state, but there was a brisk revival in 1835 when Dr. Lindley became Director. Improvements were continued under Robert Fortune, who was curator during 1846-1848, and his successor, Thomas Moore, helped to make the Physic Garden and himself famous. The latter held office from 1848 to 1887, but from 1862 onwards sufficient funds were not forthcoming to keep things in order, and so during the later years of his tenure the garden became neglected and almost forgotten.



CHELSEA PHYSIC GARDEN.
Entrance gate and old bell, in Swan Walk.

For a moment it may be as well to refer to a few items which may serve to impress upon the minds of garden lovers how great is their indebtedness to the Chelsea Physic Garden, and those at various times connected with it. Philip Miller was a great gardener, and served his day and generation admirably. His "Dictionary of Gardening" and his "Gardeners' Kalendar" were the forerunners of much descriptive and informative literature. Aiton, the first head gardener at Kew, was trained by Miller. Nathaniel Bagshaw Ward, an examiner in botany at the garden, and a moving spirit in the affairs of the society, invented Wardian Cases, which made it possible for Robert Fortune to introduce the tea plant to India, and Markham to bring cinchona from South America to Kew and thence to India. Robert Fortune, previously collector in China for Kew was curator for two years, and left to enter service with the East India Company. Systematic Botany owes a great deal to the Chelsea Physic Garden, which became the stronghold, in this country, of the Linnean method of classification. Wm. Curtis was demonstrator at Chelsea from 1773 to 1777, and left to found a garden and school of his own at Lambeth, whence he issued the "Botanical Magazine" with its beautiful illustrations. Dr. Lindley's work in botany and horticulture is still well known, and his books are found in every horticultural library. He and Thos. Moore gave us "The Treasury of Botany," and the latter was the author of "Index Filicum."

To return. The Society of Apothecaries considered the garden "no longer suitable for the purposes of a botanic garden, owing to the deleterious effects of London smoke, and the impoverished condition of the soil," and desired to relinquish their trust. A Treasury Committee was appointed to consider the matter, and the members, Sir H. Longley, Sir W. T. Thiselton-Dyer, and Mr. Spring Rice, satisfied themselves that the garden was still well fitted for botanical purposes, and that its advantages were likely to be highly appreciated by the students of the Royal College of Science and of the various polytechnics. This meant the salvation of the Chelsea Physic Garden for the benefit of London students. A scheme was formed whereby the trustees of the London Parochial Charities were created trustees of the garden, with the care of the property and funds. The London Parochial Charities contribute £800 a year, the Treasury £150 a year, and the University of London £10 a year. This income is subject to an annual charge of £135 for the redemption in 30 years of the sum of £4,050 advanced by the trustees, and also to a charge for interest upon the outstanding portion of this advance, consequently the garden has to be managed with extreme care. The Committee of Management appointed under the scheme referred to took charge in 1899, and in July of that year appointed Mr. Wm. Hales, then at Kew, as Curator, and Prof. J. B. Farmer as Scientific Adviser. The committee includes members appointed by the trustees, the Treasury, the Lord President of the Council, the Royal Society, the Royal College of Physicians, the Pharmaceutical Society, and the Senate of the University of London.

Mr. Hales found the garden in a state of great neglect. On the advice of Professor Farmer, it was decided that over £4,000 should be expended upon new buildings and repairs and alterations, but fortunately, the sale of a narrow strip of land fronting on the Royal Hospital Road to the Vestry of Chelsea, for £2,000, enabled the trustees to erect a new lecture room and laboratory, a residence for the Curator, new houses and pits, and still leave a modest sum for equipment. Courses of advanced lectures in botany are delivered here under the auspices of the University of London, and the laboratory is used chiefly by students from the Royal College of Science, so that, as a teaching institute, the Chelsea Physic Garden is now filling a large and useful place. In addition to classes and lectures and the use made of the garden by individual students, specimens for teaching and examinations are supplied all through the year to the principal examining and teaching authorities in the Metropolis, and a large part of Mr. Hales' duties consists in cultivating and despatching suitable specimens, and often the specimens sent away run to several hundreds in a day.

The Chelsea Physic Garden is first and foremost a place for the student. Its size, about three and a-quarter acres, and the admirable arrangement of plants in their natural orders, makes it an easy matter for anyone to quickly find the material for their studies. None the less, however, the garden presents many features of interest to the gardener, for probably nowhere else has such a varied collection of plants been brought together in so small a space, and many of the plants are uncommon, and include all those that possess quaint forms and show peculiar methods of adaptation

to environment. The students at Chelsea are always looking for "the reason why" plants behave in certain ways, and as Mr. Hales is a close observer, as well as a botanist and a clever horticulturist, his store of information is liberally drawn upon.

Mr. Hales has worked wonders in the condition of the garden. He has made alterations which have increased the usefulness of the place by one-third. The garden is planned for educational purposes but it is beautiful none the less, and contains many things that appeal directly to the gardener. Here is one of the finest examples of the willow-plate pattern tree, Kolreuteria paniculata, and yonder a splendid Romneya Coulteri that is only protected by a little heap of coal breeze during winter. Against the wall is one of the original plants of Wistaria sinensis, a rare old veteran. Styrax officinalis also does well on the old wall, and the natural hybrid Pyrus intermedia is a good specimen in the open. Rhamnus frangula, the lack Dogwood, is quite a tree, and as happy as if right out in the country, and the Burnett rose does as well here as in Scotland.

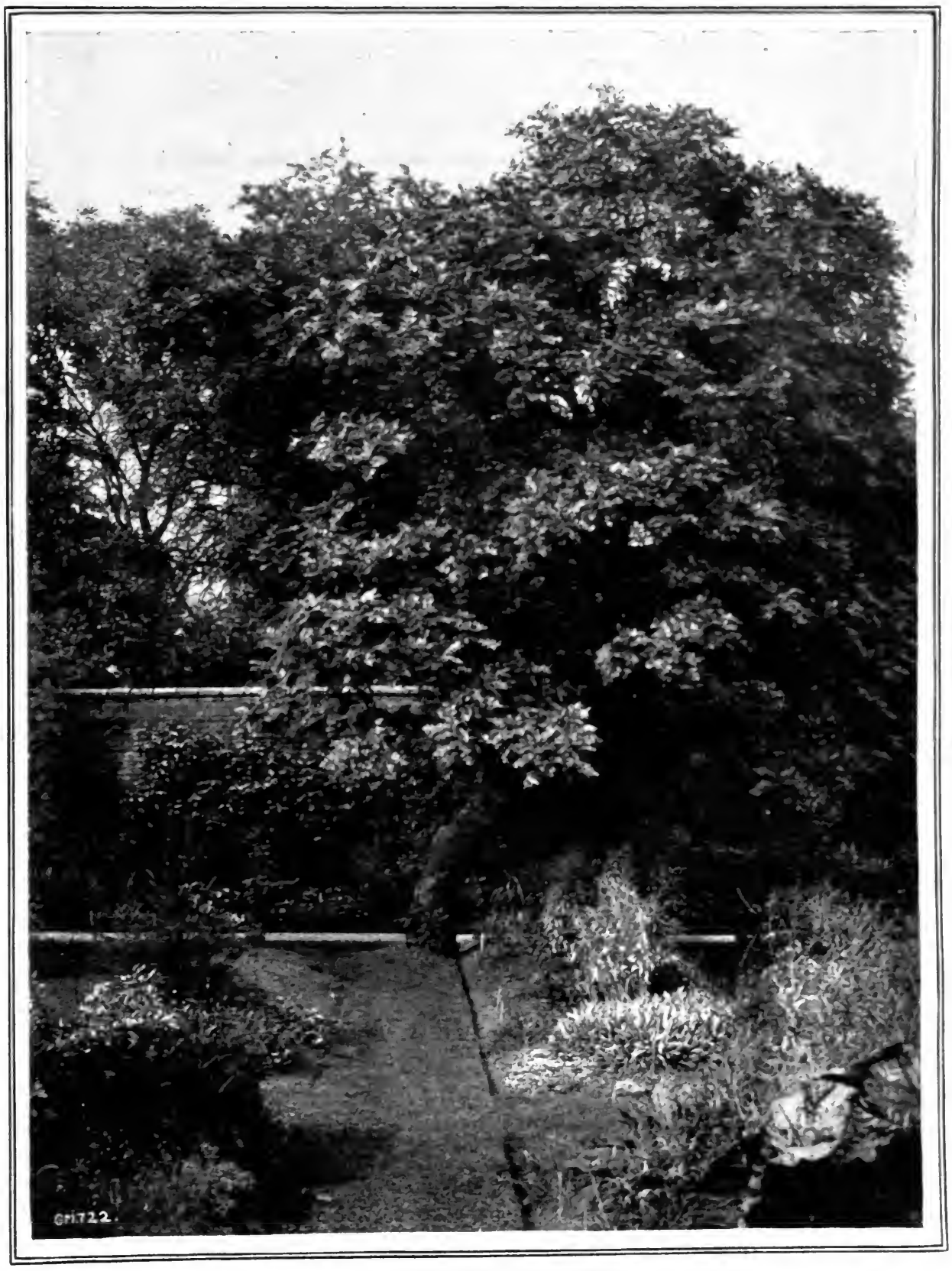
Round by the water garden the Bog Myrtle is as fragrant as in the moist places of a Devon Moorland. Gunnera manicata unfurls its giant leaves in defiance of London smoke, while irises and primulas do well near the water's edge. Farther along a big silver-variegated elm is a conspicuous feature, and under the trees near by the fibrous-rooted Aconitum lycoctonum grows freely, and produces numerous spikes of purple flowers, proclaiming to all and sundry what a good plant it is for shady places where little else will grow.

The cool fernery is a newly-built house, and in it Mr. Hales has arranged the hardy ferns in low rockwork, and already they are growing splendidly, Osmunda palustris gracile and the Lady ferns being particularly handsome. Ferns have to be raised by the thousands for students, or, more correctly, prothalli have to be grown extensively for their use, and so in this fernery there are hosts of these green beginnings of fern life that will never produce frondage. Outside are the beds of bulbous plants. Most irises do well, but montbretias do not so, yet Pancratium maritimum, a Mediterannean species, annually yields its pretty, fragrant and white flowers. A very fine specimen of the Black Walnut (Juglans nigra) attracts attention, and the Loquat is conspicuous on south and west walls. At every step and turn something of more than passing interest appears. Almost in the centre of the garden two big plants of a hybrid rheum produce great handsome leaves, and they are very old inhabitants of the garden. Boehmeria nivea turns the white undersides of its leaves to the breeze as if to remind one that its fibre is now used in the construction of gas mantles. Not far off the dainty Dryas octopetala gives one a surprise.

In the stoves and greenhouses every plant, like a certain advertisement, "tells a story," provided Mr. Hales acts as interpreter. The marvel is that Mr. Hales grows such a huge variety of plants so successfully under glass. There are orchids and succulents, popular fuchsias and pelargoniums, economic plants in great numbers and Encephalartos Hildebrandti, type of a very ancient vegetation. A fine plant of the elegant Restio subverticillata reminds one that there is probably only a better one in the far-off Edinburgh Botanic Gardens. Climbers in the corridor are very handsome, especially Solanum Weidlandi and Bignonia venusta. You turn from Torreya californica, that takes a couple of years to germinate, to the graceful and rare Pentapterygium repens, from the fragrant Drimys Winteri to the odorous Camphor tree, and overhead you notice that Semele androgyna is fruiting.

With five men and a lad Mr. Hales manages the work of the garden, attends to the constant demand for specimens, distributes and receives seeds to and from other botanical gardens, and "pickles" specimens for study during the winter and spring. He has a great love for this old garden, an old garden which his ability and energy have redeemed from possible extinction, and he has amply justified the findings of the committee which, in 1899, considered there was a need for such a garden, and that it could be made extremely useful. No earnest student is denied admission to the Chelsea Physic Garden, and none such should fail to pay the garden a visit. Let me say that the garden is on the Chelsea Embankment, right across the Thames from Battersea Park. It is close to the Royal Hospital, and may be entered from the Royal Hospital Road, though I think the best entrance is the one in Swan Walk, where you may pull the encaged bell that did duty when Philip Miller was in charge.

CHAS. H. CURTIS.



CHELSEA PHYSIC GARDEN.

A fine old specimen of Kolreuteria paniculata—the willow-plate pattern tree.

WALLFLOWERS FOR SPRING BEDDING.

The real value of wallflowers as spring bedding plants is being appreciated more and more every year. One cannot wonder at this being the case, as few kinds of plants will thrive in as many different positions. The least favourable positions in a garden are often left unadorned in springtime owing to the difficulty in getting plants to grow and flower satisfactorily in them. Wallflowers will do well in cold, draughty borders, in partially-shaded ones, and in the sunniest bed in the garden. The wallflower is worthy of every care being bestowed on its cultivation in a young state. Unless they are well-grown in their early stages it is not possible for them to prove satisfactory in the flowering quarters. During the past few weeks I have seen many thousands of plants spoiling in their seed-beds. They are nine inches or more in height, but owing to their crowded condition nearly all the lower leaves have perished already, and the stems are weakly and without side shoots. Such specimens will not fill up much space in spring-time. When nine inches high they ought to be as broad, and bushy plants can only be obtained by early transplanting at least once prior to putting them in the beds.

The soil in the nursery bed must be moderately rich, made so by using well-rotted manure and fairly deep digging. But before any wallflowers are planted in it the soil should be made firm by treading while in a moderately dry state. Put out the plants seven inches apart each way, and firm the soil round the roots, give water at once, and in the absence of rain, frequently afterwards. Instead of weakening, such plants will get stronger every week, and be in prime condition for planting in the flower garden in October, or even as late as March. M. L.

EARLY VINERIES.

Treatment after Gathering the Grapes.

The gathering of the fruit in early vineries is usually completed soon after it becomes ripe, and for this reason the subsequent requirements of the vines, thus relieved, is necessarily very different to that accorded late vines after cropping. When the fruit of late grapes is gathered the vines have invariably fully matured their growth, their leaves have fulfilled their functions, and they are in a fit state for being pruned. It is a very different thing, however, with early vines, which, when their fruit is gathered, have their growth only partially matured, and their leaves with much of their natural faculties still undischarged.

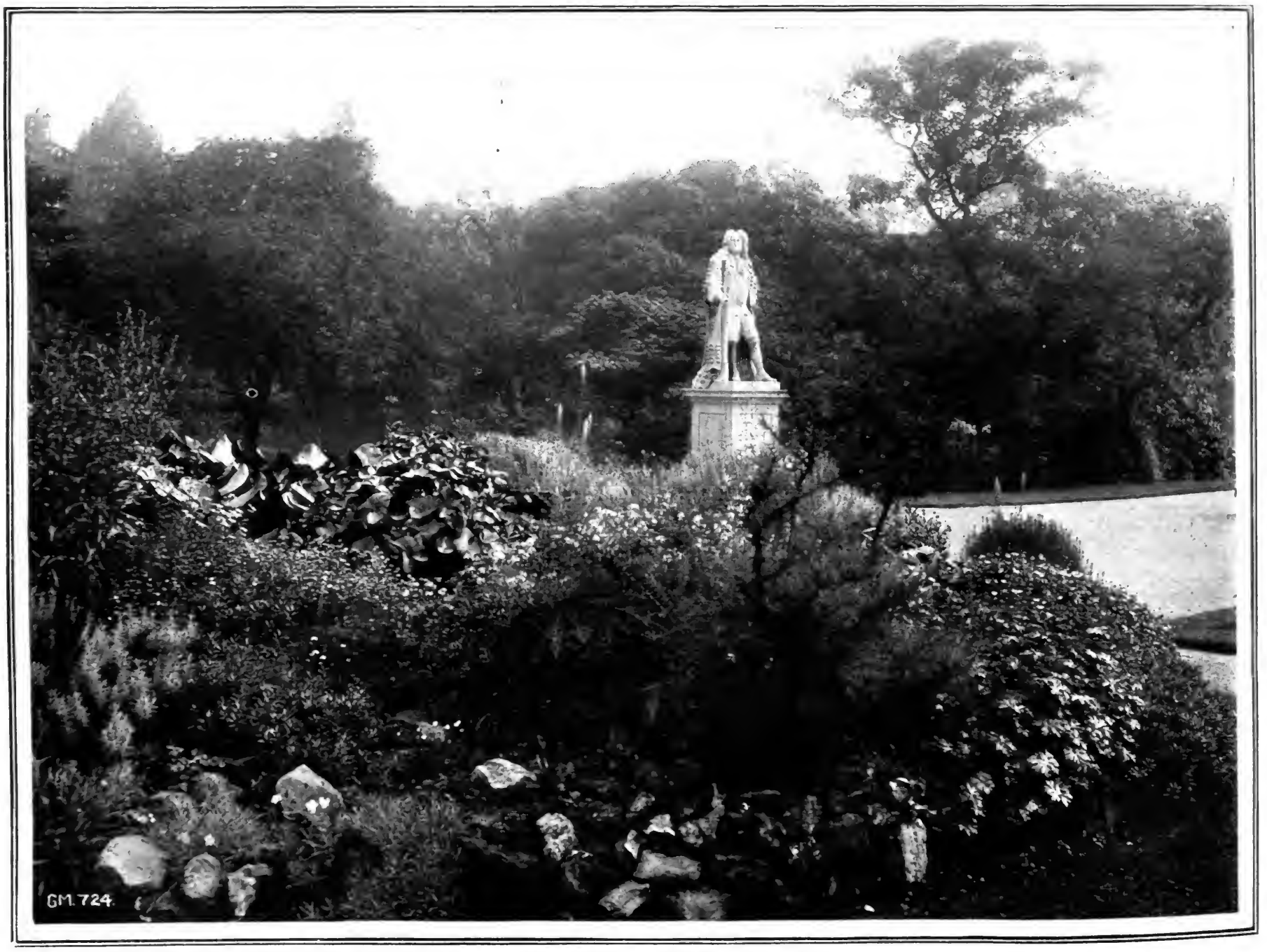
Serious mistakes may be unwittingly made, especially by the inexperienced, by leaving the vines with insufficient attention to ensure the wood being properly ripened, and consequently prepared to produce the next season's crops of fruit. So slight is the margin between success and failure in this and like matters, that even professionals sometimes fail.

Vines that have been carefully managed, when cleared of their crops of fruit will have their trellises well furnished with lateral growths, carrying an adequate quantity of clean strong leaves, well exposed to the light. It is not an uncommon occurrence, however, for them to be found with crowded laterals, or with sublaterals running wild, and thus seriously wasting the vine's energies. In cases of this kind the laterals should be discreetly thinned, the weakest of the superfluous ones being removed, and the sublaterals cut back to their basal leaves, while all growths subsequently made should be regularly stopped or disbudded. This will effectually concentrate the vine's energies upon plumping up the buds, and ripening their wood, and by this means improve, to a considerable degree, the prospect of the next year's crop. To this end also it is decidedly important that the leaves be kept clean until they naturally fall, and to ensure this the syringe, or garden engine, and, if necessary, an efficient insecticide, shoud be freely brought into use, and, moreover, the house must be carefully ventilated. As soon as the fruit has been gathered the circulation of air through it should be gradually increased until the vine wood is thoroughly browned and hardened, when the ventilators should be left open. The object in view in paying such careful attention to these details of management is to ensure the wood being fully matured, and buds well plumped up.

The borders need care, and when water is required enough should be given to wet the soil throughout. It is easy to be deceived about this, particularly as borders vary so much in their formation. I recollect a case in point, which happened in my early gardening days—viz., a house of Black Hamburgh vines was year after year unsatisfactory, the wood and leaves being weak, and the bunches and berries small, while they ultimately dwindled, and were uprooted. The border was an outside one, raised above the ground level, and supported by walls. The reason of failure was starvation, for the border was found to be quite dry throughout. It had received no artificial watering, as those in charge had been deceived in thinking the rainfall sufficient for the requirements of the vines. Had Kirk's patent soil tester been in existence at that date, and been made intelligent use of, the mischief would have been prevented.

To assist the buds to become prominent the sublaterals should be removed as soon as the principal leaves commence to mature, and once the leaves fall the vines should be pruned. This, the practice of pruning, if spur-pruning is followed, is a comparatively simple matter, though mistakes are sometimes made in pruning back to a weak basal bud. This should be avoided by pruning to selected bold buds which have been supported by a fully-developed leaf. Thos. Coomber.

The Hendre Gardens.



CHELSEA PHYSIC GARDEN.
Rysbrach's statue of Sir Hans Sloane.

Hypericum calycinum. — This, which is sometimes popularly known as the Rose of Sharon, though that name is occasionally applied to Hibiscus syriacus, is, common though it be, a charming little under-shrub. A desirable feature is the fact that it is one of the best of low-growing shrubs for growing under the shade of trees. Even under these conditions its comparatively large golden-yellow flowers are borne in great profusion.—S. W.

NEW PLANTS AND FLOWERS.

MILTONIA CHARLESWORTHI MRS. RALLI.

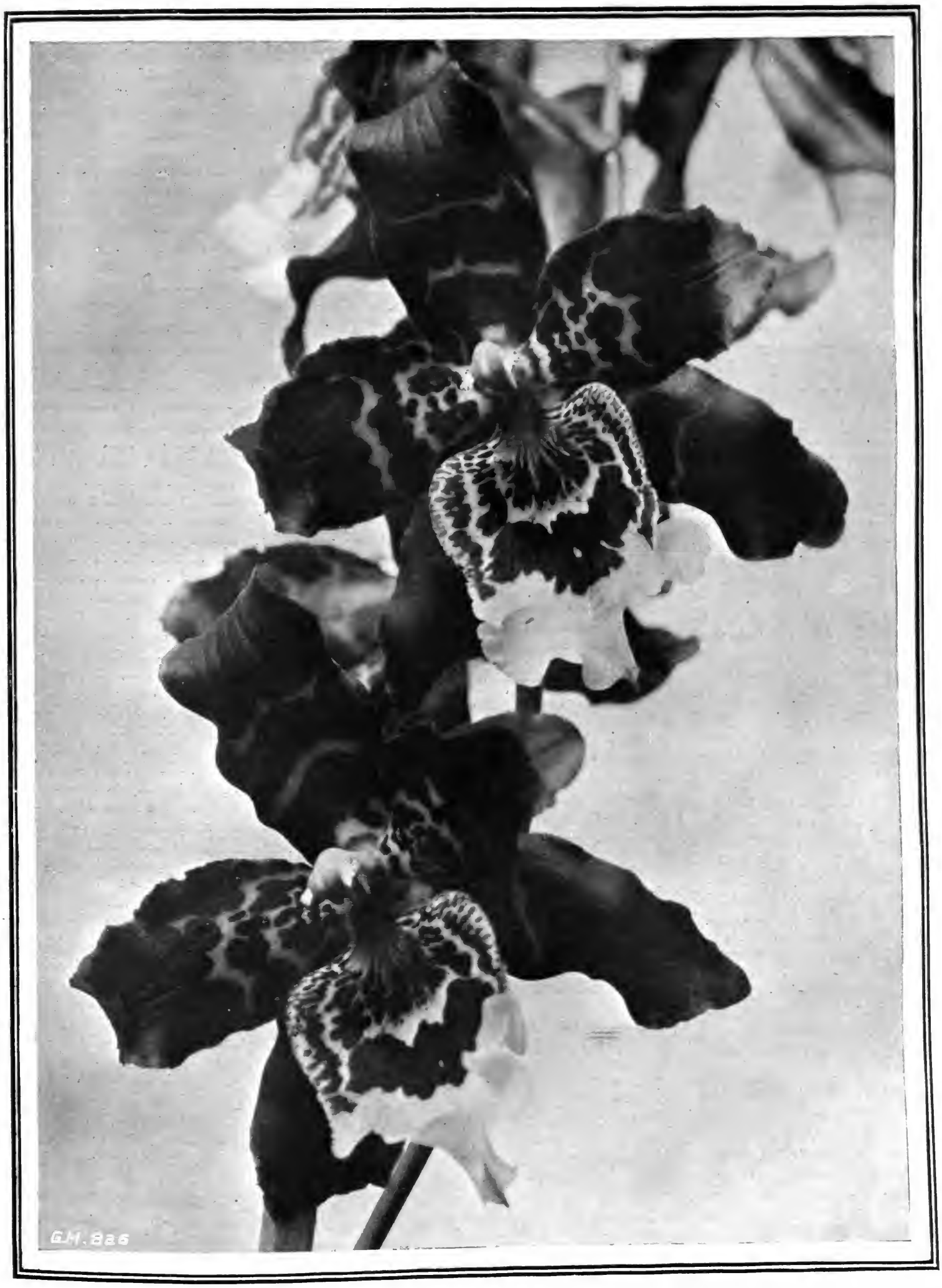
A much smaller flower than the type, recently described. It has a pale rose-pink lip, and rosy sepals and petals. There is a small crimson blotch at the base of each lateral sepal, and a large deep maroon-crimson mark at the base of the lip. A.M., R.H.S., July 29. Pantia Ralli, Esq., Ashtead Park, Leatherhead.

ODONTOGLOSSUM QUEEN ALEXANDRIA VAR. THEODORA.

A showy form of the hybrid between O. Harryanum and O. triumphans. The influence of O. Harryanum is well marked, but the flowers open well, and are of good size. The yellow sepals and petals are heavily marked with bright red-brown, and the white lip has rose-coloured markings. A.M., R.H.S., July 29. De Barri Crawshay, Esq. (gardener, Mr. Stables), Rosefield, Sevenoaks.

SPIRÆA (SORBARIA) ARBOREA GRANDIS.

A strong-growing, shrubby species that is very like S. Aitchesoni. The leaves contain eight or nine pairs of lance-shaped, serrate-margined leaflets. The small flowers are creamy-white, packed closely together in branched triangular panicles, often measuring 1½ft. long by 1¼ft. broad. A very handsome plant. A.M., R.H.S., July 29. Hon. Vicary Gibbs (gardener, Mr. E. Beckett, V.M.H.), Aldenham House, Elstree.



ODONTOGLOSSUM QUEEN ALEXANDRIA VAR. THEODORA.

Flowers yellow, heavily marked with bright red-brown; lip white with rosy markings. A.M., R.H.S., July 29. De Barri Crawshay, Esq., Rosefield, Sevenoaks.

NYMPHÆA COLOSSEA.

A large-flowering and strong-growing variety, raised by M. Marliac, and sent out in 1901. It is very suitable for deep water, i.e., five to seven feet deep. Full-sized

blooms are ten inches across, and have a large number of broad petals. The colour is a soft rose-pink shade. Flowers are freely produced both early and late in the season, and they are sweetly scented. A.M., R.H.S., July 29. Leopold de Rothschild, Esq. (gardener, Mr. Jas. Hudson, V.M.H.), Gunnersbury House, Acton.

NYMPHÆA ESCARBONCLE.

This comparatively recent introduction was also raised by M. Marliac. It has flowers of good size, and particularly brilliant colouring, the shade being very bright crimson-red. It is one of the finest of richly-coloured water lilies. A.M., R.H.S. Leopold de Rothschild, Esq., Gunnersbury House, Acton.

ROSE ANNIE CRAWFORD.

A splendid hybrid perpetual rose raised by Dr. J. Campbell Hall, of Rowantree House, Monaghan, Ireland. The parents are Mrs. J. Laing and Capt. Hayward. In size, substance, form, and breadth of petal this is an altogether fine rose, and one that exhibitors will welcome. It is of better form than Mrs. J. Laing, and the colour is soft, clear pink, but of a rosier shade than seen in Mrs. Laing and similar roses. Fortunately this newcomer is sweetly scented. A.M., R.H.S., July 29. Mr. W. R. Hammond, Burgess Hill.

CARNATION ROSY MORN.

A strong and free growing border variety with large full blooms of a pleasing and soft old rose colour. A.M., R.H.S., July 29. Mr. Jas. Douglas, Great Bookham.

GLOXINIA, VEITCH'S STRAIN.

A particularly fine strain of these popular flowers, including selfs, bicolors, and spotted forms, in a variety of colours. In shape, size, and erectness the flowers are first-rate. A.M., R.H.S., July 29. Messrs. Jas. Veitch and Sons, Chelsea.

CLEMATIS TANGUTICA OBTUSIUSCULA.

An interesting form with very elegant foliage and small yellow flowers, that do not appear to open out fully. Seeds were collected in 1911, in the Chow district of West Kansu, China, by Mr. Fenwick Owen. A.M., R.H.S., July 29. F. C. Stern, Esq., Goring-on-Sea.

RED SUNFLOWER.

An interesting and striking annual obtained by crossing Helianthus annuus with the red-zoned H. lenticularis coronatus found in Colorado by Prof. Cockerell. Messrs. Sutton and Sons have been selecting the strain very carefully, and expect shortly to secure over 90 per cent. of "red" sunflowers true from seeds. The flowers have a blackish centre or disk, and the handsomest have a narrow yellow zone round the disk, then a wide band of bright red-brown, while the tips of the broad ray florets are bright yellow. Under bright sunshine the red colouring shows up most effectively. The leaves are purplish-green, and the stems of the richest hued forms are dark red-purple. A.M., R.H.S., July 29. Messrs. Sutton and Sons, Reading.

SWEET PEAS.

King White.—A fine white waved sweet pea that is destined to become very popular because of its purity, substance, and waviness. It is the best wavy white variety, and was raised, we believe, by Mr. Alex. Malcolm, of Duns. A.M., R.H.S., July 29. Messrs. Dobbie and Co., Edinburgh.

True Lavender.—A light and bright lavender-coloured variety. The shade of colour is most pleasing, and the flowers are nicely waved. A.M., R.H.S., July 29. Messrs Dobbie and Co., Edinburgh.

GLADIOLI.

Electra. — A very fine, large-flowered Childsi variety, with bold scarlet flowers borne in a stately spike. The lower inner segment has a cream-coloured base. F.C.C., R.H.S. and N.G.S., July 29. Messrs. P. Hopman and Sons, Hillegom, Holland.

Prince of Wales.—A strong-growing, open-flowered form, with rich orange-salmon coloured flowers. A beautiful gladiolus. A.M., R.H.S. and N.G.S., July 29. Mr. C. van Zanten, Hillegom.

Pink Perfection.—A refined flower of soft clear pink colour, the larger segments lightly flaked with deeper pink towards the margins. A.M., R.H.S., July 29. Messrs. P. Hopman and Sons.

King of the Blues.—This is the bluest of the blue gladioli, and the shade is velvety violet-purple. A striking flower. A.M., R.H.S. and N.G.S., July 29. Mr. K. Velthuys, Hillegom.

Liebesfeuer.—This is a large-flowered variety of rich coral-red colouring, with a faint line of purple down the centre of the lower segments. A.M., R.H.S. and N.G.S., July 29. Messrs. de Ruyter, Noordwijk, Holland.

Frank Paddleton.—Evidently a Childsi variety. The bold flowers are rich pink with a crimson blotch on each of the mid-lower segments. The individual flowers seem to be very short-lived. A.M., R.H.S. and N.G.S., July 29. Mr. P. Vos, Sassenheim, Holland.

Incontestable.—A white variety, with a blotch of scarlet on the lower segments. A.M., R.H.S. and N.G.S., July 29. Messrs. Alkemande and Co., Noordwijk, Holland.

Loveliness.—This variety produces a splendid spike, and the shapely flowers last well. The colour is light cream-yellow, with buff shading and some purple markings. A.M., R.H.S. and N.G.S., July 29. Messrs. de Ruyter, Noordwijk.

VARIATION AND ENVIRONMENT.

This subject, touched upon in the interesting article by Mr. C. T. Druery, F.L.S., on page 492, will well bear a little discussion. The science of plant biology is hedged about by difficulties of a particularly stubborn nature, and it seems to me that a long time must elapse before the sum of positive knowledge concerning the variability of species will be materially increased. Many shades of opinion are held by clever thinkers, and nothing short of an extended series of very careful experiments and correctly-guided observations can ever put the clue into our hands by which we may thread the labyrinth. At present, certain earnest workers are trying hard to construct something solid from the hazy nebula of theory, but so intricate is the problem they have set themselves that some of the most potent terms are probably still to be discovered. The student of plant variability is working almost in the dark; such glimmers of light as are borne in upon his labours are at best feeble and flickering, and may at times be positively deceiving.

We often hear it advanced as a fundamental proposition that in plants there is an inherent tendency to vary. Now, I believe that the direct opposite is the case. No varietal difference ever occurs as the result of an innate directive force specially applied to that end; on the contrary, I think that all natural tendencies in plant-growth combine to preserve the constancy and stability of a species. When a "break" occurs, it is always attributable to some influence operating from without, but so subtle in its action that investigations have hitherto been fruitless. A few wild species in their native habitat seem more inclined to vary than others—that is to say, their natural tendency to immutability is more easily broken down; but, on the whole, it is easy to perceive that a variety is an accident caused by some extraneous force acting on an individual specimen.

I can, of course, only hazard a very tentative suggestion as to what the modifying agent may be; indeed, I suspect that there are several causes, which sometimes act singly, and sometimes in unison. We are aided somewhat in our pursuit of the variety-forming influences when we reflect that they have been operating upon all forms of life for untold ages, ever since the first specks of neucleated protoplasm came into a lifeless world. They are, therefore, not new factors, but belong to all time.

It is pretty certain, too, that varieties sprang into existence in far greater numbers during the very early stages of evolution, when living structures were all of a comparatively simple kind. If this view be correct, we may advance the theory that the simpler the structure the more likely is it to vary, because it is acted upon more readily by the disturbing agent. Thus one would expect ferns to depart from the normal type more frequently than flowering plants, and, on the same principle, mosses and lichens should vary to a greater extent than ferns. As regards the unstable character of native ferns, as compared with wild species of flowering plants, Mr. Druery's data seem fairly conclusive; what have the students of mosses to say?

Coming to the main point, I would discard the idea that environment of itself is capable of changing in a permanent manner the form of a plant. Such modifications as may be observed in a water-loving plant transferred to drier soil are but signs of physical distress, and I cannot think that unfavourable symptoms of this sort can ever be tolerated as a constant physiological characteristic. It speaks peace where there is no peace.

The variety-forming influence often selects one specimen from amongst many growing under the same general conditions. This does not point to environment as a cause. The change takes place in the very being of the plant, showing that the agent has penetrated to the depths of its vital essentials. It seems to me that we can only account for the phenomenon by supposing that a chemical disturbance and rearrangement takes place in the protoplasm of the seed-germ or spore, and that morphological changes ensue as a natural consequence. I do not infer that an alteration in outward appearance is the sole result. In fact, I think that the modification of external members is but the visible sign of a vastly more important economic deviation within. As Darwin truly states, "the nature of the bond of correlation is very frequently quite obscure." I would go further and say that the internal constitutional change, correlative with altered form in a variety, is always a sealed book. That is, we have no direct means of ascertaining the new constitutional characteristics which are, in all cases, bound up in a varietal departure from type. Yet this hidden correlative really decides whether the fresh-comer shall oust its parent, whether it shall exist side by side with the old form, or whether it shall suffer extinction.

Although the production of natural varieties is apparently haphazard, it is no doubt governed by an inexorable law. I have thought that the chemical action of light may play a part. We know that light exercises a peculiar influence upon vegetable cells, and, perhaps, in certain circumstances it may chemically affect an individualised germ-cell, thus modifying embryonic form and subsequent growth. J. E. SIMMS.

Elkington Hall Gardens.

Achimenes tubiflora.—This achimenes is also known as Gesnera tubiflora, and widely removed from the various garden forms of achimenes, which have small scaly rhizomes, whereas this forms a solid tuber after the manner of some of the gesneras. It is a very pretty flowering plant for the greenhouse, pushing up a stout, erect stem, eighteen inches to two feet in height, the upper portion of which bears several large flowers. Individually these are long tubed, about one and a-half inches across the expanded mouth, and of the purest white. A group of ten or a dozen flowering examples, associated with some low-growing subject, forms an exceedingly pretty feature.—W. T.

FLOWERS AT JESMONDENE.

While paying a visit recently to Jesmondene, Bournemouth, the beautiful residence of Dr. Ramsay, I noticed several features which were quite out of the common. On the upper terrace, in front of the mansion, there is a large lily pond, made four feet deep, then half-filled with leaf-soil and loam, the former predominating. In this compost the lilies are growing most luxuriantly; I never saw leaves more healthy nor blooms larger and purer in colour. The edge of this pond is furnished with various kinds of grasses and reeds in a rockery constructed to appear as natural as possible.

Growing against the walls of the house are three grand camellia bushes. A wistaria had been trained up the wall in a recess between two windows, and then outwards to form a verandah, with Dorothy Perkins roses trained up the supporting front pillars. The able gardener, Mr. Webb, said the wistaria was lovely when in full bloom, and I can quite understand how beautiful it would look, as it is a very large specimen.

Other features in this part of the garden were roses, jasmine, and honeysuckles, the latter being very large, untrained bushes full of blossom.

Elsewhere two long rows of apple and pear trees were trained as cordons; many were bearing heavy crops, and all were in grand health. I could not help thinking how advisable it is to grow these fruits as cordons, and feel sure that, in the near future, many thousands of them will be met with in gardens. The next form to find favour will be bushes with branches trained outwards several feet apart at the top, to resemble so many cordons. These branches should bear fruit their whole length.

A handsome greenhouse, dry-glazed on iron framework, with the glass squares fitting flush and not overlapping, contained a number of beautiful lilies and begonias, also a few orchids in one compartment.

G. B.

FLOWERING CANNAS.

We are so accustomed to see these treated as greenhouse or out-of-door plants during the summer months, that the possibility of growing them in any other way is rarely thought of. Some specimens in the tropical Water Lily House well serve to illustrate the development that they assume with increased heat and moisture. The plants are grown in large pots, and just stood around the edge of the tank, so that the roots have ample access to water. In this way they attain unusual dimensions, the foliage and the flowers being equally fine. K.

SPIRÆA (SORBARIA) ARBOREA GRANDIS.

A shrubby spiræa belonging to the Sorbaria group, and closely allied to S. Aitchesoni; flowers small, creamy-white, borne in large, branching panicles. A.M., R.H.S., July 29. Hon. Vicary Gibbs, Aldenham House, Elstree, Herts.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

THE HEATING APPARATUS.—The present time affords an opportunity of attending to any repairs, or replacing any defects in either the boiler or hot-water pipes. The outside conditions are such that, with a little discretion in damping and making use of the heat derived from the sun's rays, by closing the houses early, the plants will not suffer if the fires are out for a few nights while necessary repairs are being attended to. It is generally found desirable to flush the boilers at least once a year, to remove as much of the sediment as possible from the boilers and pipings. There are very few places where the water used for heating purposes is supplied from the rain water tanks; wherever the water holds any form of mineral there is settlement, which, if not removed, will cause rust and decay. All valves should be oiled and put in working order, the flues and chimneys swept, and the fire-bars overhauled and replaced with new ones where required. It is a good plan to have a water ash pit, sufficiently deep to contain the ashes and sufficient water to cover them. This not only prevents clinkering, but it also is a great saving in fire-bars; we find that where water ash pits are provided the bars, as a rule, last out three of those where the hot, dry ashes are directly under the bars.

DECIDUOUS DENDROBIUMS. — The early-flowering deciduous dendrobiums will have completed their season's growth in some cases, and as they mature, the plants should be removed to a position where there is less moisture in the atmosphere and where they may have the benefit of the available light, only sufficient shade being necessary to prevent actual scorching of the foliage. Root moisture should also be diminished, sufficient to keep the pseudo-bulbs plump is all that is necessary. This treatment will prevent secondary growths appearing, which are undesirable at this season of the year, but frequently occur in very early-flowering plants. Referring to secondary growths on deciduous dendrobiums, I would again point out that it is the usual thing in its native habitat for Dendrobium Wardianum to produce them. The late Mr. Boxall, who was one of the first, and certainly one of the most successful, collectors of this species, told me that he could rarely find a plant that had not produced a young shoot of considerable length, and in the dormant season most of the older leaves had fallen from these growths, but as soon as the favourable season for activity returned, these growths immediately restarted, and developed their pseudo-bulbs in due course.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

RETARDED BULBS FOR AUTUMN AND WINTER FLOWERING.—For autumn and winter flowering retarded bulbs of various kinds of liliums are indispensable. L. speciosum rubrum and L. speciosum album are two of the most useful for this purpose. These, together with L. longiflorum, potted at intervals of two or three weeks, will provide a continuous display all through the late autumn and winter months. The bulbs may be grown in a high temperature if this should be necessary to hasten them into bloom. When well rooted a top-dressing of loam and well-decayed cow manure will prove of great benefit to the plants. Liliums are very prone to attacks of aphis in all stages of their growth, but this can be prevented by light fumigations of a nicotine compound or spraying the foliage with an insecticide. Lily of the valley is always useful, and in order to have a continuous supply of these beautiful flowers during the autumn and winter, retarded crowns must be used. If a supply is required all through the season it is necessary to have a quantity sent at fortnightly intervals. They should be potted immediately on arrival, using about ten or twelve crowns for a 5in. pot. Thoroughly soak them with water and put them in a cool temperature for a few days preparatory to placing them into heat. They should not be exposed to the light until the flower spikes are developing, or the stalks will not be so long as is usually desired. Retarded clumps of spiræas are most useful subjects for winter decoration, and are very easily grown.

ROMAN HYACINTHS.—A batch of these may now be potted, using 5in. pots, and for cut flowers alone a quantity may be planted in boxes or pans. Early varieties of narcissi may also be potted for Christmas decorations. When potted plunge them in ashes in a cold frame.

VIOLETS.—Keep these free from runners and weeds, and frequently use the hoe between the plants. If the weather continues to be dry for a lengthened period they must be thoroughly soaked with water at regular intervals. A dusting of well-seasoned soot prior to watering will be of considerable benefit to the plants, and will help to keep them free from red spider. It will soon be time to take the plants up and put them in frames, and the compost should be made ready for preparing the beds. Chopped loam and leaf-soil collected straight from the woods, in equal parts, makes an excellent rooting medium for the violet.

CHRYSANTHEMUMS.—The large-flowering kinds are now developing their flower buds, and if there is room on the surface of the pots for a little top-dressing material now is the time to apply it. The plants now are in need of abundance of water at the roots, and at least once a day they should receive some kind of stimulant. Earwigs are often very destructive to the buds, and these must be diligently sought after. Portions of bean stalks placed among the plants are excellent traps. These stalks should be examined every morning, and the insects blown into a pail of hot water. The decorative kinds are growing freely, and must be regularly attended to in the matter of tying and staking. — E. Harriss, Lockinge Park Gardens.

HARDY FRUITS.

PEARS.—The removal of all useless soft growths will require attention, taking care not to shorten them back too severely. Keep the leaders well trained and secured to the woll or trellis; well feed any tree that is bearing a good crop of fruit, and insert buds of good varieties on young, healthy shoots that have been trained for that purpose. It is always well when grafting espalier trees to lay in a few shoots for budding should the grafts fail to take. Some of the small early pears may, when ripe, be gathered and eaten straight from the trees, but the larger kinds, such as Williams' Bon Chrètien, Clapp's Favourite, etc., are better when gathered a little under-ripe and stored for a few days in a cool, well ventilated fruit room. By gathering a few at intervals the season may be greatly prolonged.

PLUMS.—Aphis has again made its appearance on the leaves, and should be dislodged without delay; if the pests have become established, use a little quassia extract and follow with clean soft water.

APPLES.—Some of the very early varieties will now be ripe and fit for dessert. Jackson Seedling, Red Juneating, Beauty of Bath, and Irish Peach are amongst those to ripen early, and they will prove very useful where early dessert apples are appreciated. Devonshire Quarrenden crops well here, both on standards and espaliers.

RASPBERRIES.—By this date most of the fruits will have been gathered, and the old canes should be cut out at once to make room for the young ones that will crop next year. Cut the old canes low down, and when removing them from amongst the new ones take every care not to break the leaves. Train in only just the number of canes required. If the soil between the rows has become hard, slightly loosen the surface with a fork and follow on with a good mulching of decayed manure, and give water if needed. Raspberries are surface-rooting, and need ample nourishment.

GRAFTS.—Look carefully over trees that were grafted in the spring, and if the grafts have taken and are growing apace, see that they are made secure against wind. Shorten them back a little if making too much headway. Remove ties and any new shoots springing from the stock. Insert buds of apples, pears, peaches, plums, cherries, etc., now that the wood parts freely from the bark, and let each bud be neatly bound round with damp, soft raffia. Buds may be placed on old trees where fresh shoots are wanted, but sometimes two years elapses before they commence to grow away freely.—H. Markham, Wrotham Park Gardens.

THE KITCHEN GARDEN.

TOMATOES.—To supply fruits early in the spring seeds should now be sown, or cuttings taken and struck in heat. The latter method is often adopted, as plants raised from cuttings are less vigorous in growth, require less space than seedlings, and generally produce fruits earlier. Three-inch pots are suitable for striking the cuttings, and these should be filled with a compost of loam, leaf-mould, and sand, with a good dusting of bone flour added. The seeds may be sown in a similar kind of mixture, thinly and evenly; place in gentle heat, and cover the pans with a piece of glass, and give shade until germination takes place, after which the young plants should be removed to a light, airy position to ensure short, sturdy growth. The young seedlings should be pricked out into pans or into 3-inch pots. Plants for furnishing the winter supply of fruits should now receive their final potting. The most suitable pot is the 9-inch; the soil should be moderately rich, and be made very firm. The plants should be stood out in a sunny position, and by the end of September they will be well set with fruits. They should be kept to one stem, and each one provided with a strong stake. Precautions must be taken to prevent the plants being damaged by wind.

CELERY.—Early and late planted celery will require attention; the plants will require copious waterings during dry weather, weak liquid manure being used alternately with clear water. The surface soil should be frequently stirred with a short hand-hoe, care being taken not to damage the roots by going deeply. The earliest plants may receive the first earthing up, but it should be a slight one. For blanching purposes collars of brown paper are preferable to soil, as water can be supplied more readily to the roots, and the growths are much cleaner; but in either case the plants must not be compressed too severely, otherwise the heads will become deformed. If any leaves are infested with the celery maggot, squeeze the grub-affected parts between the thumb and finger; frequent dustings with soot will act as a deterrent. Before beginning the blanching process remove all side growths and split leaves.

SCARLET RUNNERS.—To ensure healthy growth and heavy crops, it is most necessary to feed liberally and water copiously, applying water in dribblets does more harm than good. Immediately the growths have reached the top of the stalks, they should be stopped. During hot weather a syringing overhead early in the evening will ensure a free set. Do not allow any of the pods to ripen, but set apart a row for seed purposes.—W. Messenger, Woolverstone Park Gardens.

PARTIAL STERILISATION OF SOILS.

(Continued from page 578.)

Partial Sterilisation by Chemical Methods.—The Use of Antiseptics.

In out earlier experiments we confined ourselves to two antiseptics that happened to be very convenient for our owu purpose. The experimeuts have since been extended to iuclude a number of other antiseptics belonging to six different classes, so as to ascertain how wide a choice would be open to the horticulturist. The groups tested were:—1. Volatile hydrocarbons: toluol, light solvent naphtha, benzene, petrol, etc.; 2. Heavy hydrocarbons and their derivatives: naphthalene, etc.; 3. Tar acids: carbolic acid, cresylic acid or cresol, etc.; 4. Tar bases: pyridene and the higher bases, lutidene, collidene; 5. Formaldehyde; 6. Inorganic antiseptics: calcium sulphide.

The substances in the first group, the volatile hydrocarbons, gave good results in our glasshouse, but proved very troublesome when we came to use theu in commercial nurseries. There was great difficulty in applying them to the soil: a hand injector proved too laborious, and spraying too wasteful; further, they had little action in wet soil by reason of their insoluble nature. Another objection of a wholly different kind, but no less serious, was the trouble about carriage, railway companies declining to carry them except in special packages conforming to the Railway Clearing House specification and at a minimum charge of 5s. Where road or water transport was available the charges were less, but the material was a long time iu reaching its destination. These difficulties may be overcome in time, but for the present they put out of the range of practice all the volatile hydrocarbons, and the other volatile substances, such as carbon disulphide and ether.

The second group, the heavy hydrocarbous, is very large, and includes heavy solvent naphtha, uaphthalene and its reduction products, with other of the waste products obtained in the isolation and refining of naphthalene, besides certain other substances obtained when some of these waste products have been subjected to special treatment whereby their purely hydrocarbon character is lost (we do not set up a rigid chemical definition of this group). Of these products, naphthalene is a solid, and is therefore easily transported and applied; on the other hand, it does not dissolve in water, and hence does not readily spread about in a cold soil. It is, however, fairly volatile, and will quickly change into vapour aud do its work at the higher temperature of a cucumber house. The other products are liquids, but, being non-inflammable, require only ordinary drums for transport, and are carried at ordinary rates; some mix or emulsify so readily with water that they can be watered into the soil with the greatest ease, but others will not emulsify until they have been mixed with some other substance. The advantage of being able to water in the disinfectant is so great that only the soluble or easily emulsifiable substances are likely to prove of practical value. Even these, however, are not as easily distributed in the soil as might be supposed; many of them are abstracted by the soil from their solutions or emulsions, so that they fail to travel into it to any great distance. Thus, when they are watered in, ouly the top two or three inches of the soil actually get much antiseptic, and the water that penetrates to greater depths may coutain an insufficient amount of the antiseptic to serve any useful purpose. This effect is most marked in heavy soils, and in those containing much organic matter derived from turf or stable manure.

The tar acids, which form our third group, are already used in glasshouses as disiufectants. At least four occur in the well-knowu "straw-coloured carbolic"—phenol and the three cresols—but we have no information as to whether auy one of the four is more useful thau the rest. The acids are effective, but they do not dissolve or emulsify to a sufficient extent in cold water, although they dissolve more easily if soft soap is added, and are completely soluble in warm water. They also are abstracted from their emulsions by soil, so that they do not readily penetrate to a great depth.

The tar bases have the advautage of supplying some plant food as well as partially sterilising the soil, and their nitrogen rapidly becomes available for the plant. They have a very powerful odour, which may, indeed, prove too much for the horticulturist, but they can be converted into less odorous solid salts, with which, however, we have not experimented.

Formaldehyde has the advantage of being volatile, so that it spreads readily in the soil without being absorbed locally like some of the substances mentioned above. It has proved the most effective antiseptic we have tried. In the pure state it is a gas at ordinary temperatures, but it readily condenses, and is sold as a 40 per cent. solution in water. Sometimes the solution is called Formalin, but this name is the property of a particular German firm, aud their brand has to be supplied whenever formalin is asked for; "40 per cent. Formaldehyde," however, is not a proprietary article, and can be manufactured and sold by anyone. It has an irritating smell, but does no injury to the meu if properly used.

Of the inorganic autiseptics we have as yet only used calcium sulphide. This proved very effective, aud, moreover, it changes after its work is done into useful calcium carbonate. It is not at present obtainable on a large scale. It used to constitute the old-fashioned gas-lime, the so-called "Blue Billy," but only small amounts are found in the gas-liue commonly sold at the present day, owing to recent changes in the method of gas purification.

The group is, however, very large, and contains mauy other substances, some of which, such as sulphur aud boracic acid, have been recently tried by other investigators with results said to be satisfactory. Liue in sufficient doses has been found very good. Bleaching powder also appears to be promising.

Some objections may be found to all the substances in these groups. The first group is readily distributed in the soil, but is highly inconvenient in practice with out present methods; the second and third groups are very convenient to handle, but are apt to distribute badly in the soil owing to local absorption; the fourth group has a bad odour, but otherwise answers well; formaldehyde at the present moment is expensive (7d. per lb.), although there seems no reason why its price should remain high if it were made on a larger scale. We have not yet met with the ideal combination of qualities in any one substance, and the grower's choice must be determined by three considerations —effectiveness, convenience, and price.

The effectiveness of an antiseptic varies with the conditious uuder which it is used, so that it is impossible to set out a number of substances in any rigid order of merit. Only a rough grouping iuto classes can be attempted, and it must be realised that a different method of application would cause a certain amount of readjustment in the classification. During the present season's work the antiseptics have come out in the following groups:—

1st Group, most effective.—Formaldehyde, pyridene, the higher bases, collidene, lutidene, etc.

2nd Group, less effective.—Benzene, calcium sulphide, carbolic acid, cresylic acids (i.e., cresols), light solvent naphtha, heavy solvent naphtha, petrol, toluol.

3rd Group, still less effective.—Naphthalene and certain derivatives obtained during its preparation, nitrobenzene.

The order within the groups is alphabetical only. These groups are based on the effects observed on our tomato plants and the fruit picked up to the middle of July, but later on certain other effects appeared which would cause some of the third group to be moved up into the second, and vice versa. On the whole, however, the early effects and the early fruit are the more important, and we therefore prefer to leave the list as it stands.

None of these substances are as effective as heat, but several are much superior to toluol, the best agent we knew last year. This fact encourages the hope that we may yet find even more useful substances than those in our present first group.

The relative convenience of working with these various substances can only be ascertained by large-scale experiments in commercial glasshouses. Three kinds of application are involved: applications of volatile substances, of solutions or emulsions, and of solids, but there seems no reason why any of these should prove beyond the power of the horticulturist.

The question of price is naturally one about which no general statement can be made. Some of the above substances are by-products and not much in demand; at the moment their price may be low, but it is liable to increase once the demand increases. Others are definitely manufactured and put on the market, but usually for some special purpose requiring more or less costly treatment unnecessary for horticultural use. How little the current price of a substance likely to be used in agriculture or horticulture is an index of its future price is shown by the history of superphosphate; prior to the time of the first artificial manure factory superphosphate was simply a chemical curiosity unobtainable on the market in any quantity. For this reason we have taken no account of current prices in making our choice of antiseptics for trial, but have included any substance that seemed likely to be producible cheaply. Many waste products are cheap, but they are very variable in composition and no uniformity is guaranteed; our experience is that for the present purpose they cannot be recommended until they have been examined carefully and the behaviour of their separate constituents is known. In practice this necessitates a certain amount of manufacturing and standardisation, which becomes a factor in determining the final price. Only actual trial avails to determine what is and what is not a useful antiseptic; remarkable actions go on in the soil, rendering innocuous substances which a priori might be supposed to be very injurious.

Pot Vines intended for forcing next spring should now be ripening, aud will require increased ventilation and less moisture; watering must be gradually reduced as ripening proceeds. Liberal feeding and good syringing ought to be supplied until the foliage changes colour, in order to keep the leaves clean and healthy, without which good buds cannot be expected.—F. Jordan.

The Double-flowered Bramble. — The dressed garden is scarcely the place for this, but in the wilder parts it forms a very pleasing feature when in bloom. Even on dry banks, where but few flowering shrubs will hold their own, it will both grow and flower well. The blossoms, which are closely packed with petals, are not unlike double pink daisies. There is also a double white variety, but the pink is the more pleasing.—W.

SANDY SHOW (BEDFORDSHIRE).
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EXHIBITIONS AND MEETINGS.

Leicester Flower Show.

AUGUST 5 and 6.

For upwards of a quarter of a century the annual flower shows in the Abbey Park, Leicester, have been famous for their extent, and the high quality of the products in both competitive and non-competitive classes, but in no year has the fame been more thoroughly deserved than on this occasion. The seven or eight huge tents were filled to their utmost capacity, and the plants, flowers, fruits, and vegetables were staged in a manner that did honour to the exhibitors, and afforded an immense amount of gratification to the tens of thousands of visitors. The Leicester exhibitions are held under the auspices of the Parks Committee of the Corporation of the town, of which Mr. Councillor Collier is the chairman, and this important body may be heartily congratulated on the splendid results of their well-directed efforts for the popularisation of horticulture in and around this great centre of industrial activity. Mr. J. Burton, the Parks Superintendent, is the superintendent of the show, and Mr. J. Staynes is the hon. secretary, and both officials stand high in the estimation of both exhibitors and judges, for the whole of the details are so well carried out that a hitch is practically impossible.

ROSES.

Cut flowers were shown in such immense quantities as to require four huge marquees for their display, and the quality was so high as to surpass that of any previous show held in the Abbey Park within the past twenty years. Roses were more numerous than for many years past, and the blooms were so finely developed in the matter of size and form, and so bright and fresh in colour, as to prove so enormously attractive to the visitors as to render it extremely difficult to approach very closely the long lines of boxes of blooms. This year the attractions of the rose tents were greatly enhanced by the addition to the schedule of two classes for collections in which lightness, beauty, and quality were to be the tests of merit. The competition was very keen in these as in the other classes, and the several collections formed a feature of the most delightful character, and should have proved of great educational value.

There was a very strong competition in the open class for twenty-four blooms, distinct, the entries being numerous and the blooms large in size, high in finish, and of superb colour. The post of honour was occupied by Messrs. Hugh Dickson, Lim., Belfast, with a magnificent collection, in which the blooms of the following varieties were of quite exceptional merit; Archie Gray, Mrs. Myles Kennedy, Charles J. Grahame, Blushing Bride, a beautiful blush-coloured flower; His Majesty, glowing rose-red; Avoca, brilliant in colour; Gorgeous, a well-formed flower, suffused rose on a yellow ground; George Dickson, large in size and glowing in its rich crimson shade; Gloire de Chedane Guinoisseau, Duchess of Abercorn, and Mrs. Willie Dickson, the last a lovely flower, the colour blush with deep pink centre. Mr. W. H. Frettingham, Beeston, Notts, was a capital second with a fine stand, in which were splendidly developed blooms of George Dickson, Gloire de Chedane Guinoisseau, Horace Vernet, Mabel Drew, Frau Karl Druschki, A. K. Williams, and Gustave Piganeau. Messrs. R. Harkness and Co., Hitchin, were a good third with excellent blooms, that of Lyon being the finest bloom of the variety we have yet seen on the exhibition stage. There was a keen contest also in the open class for twelve tea roses, and the premier award was made in favour of Mr. H. Drew, Longworth, Berks, who had, among others, finely developed blooms of Maman Cochet, Medea, Countess de Nadaillac, Alexander Hill Gray, and Madame Constance Soupert. Messrs. Hugh Dickson, Lim., followed closely for second place with an even and fresh box of blooms; and Mr. W. H. Frettingham, Beeston, was third with blooms possessing much merit. There were eight entries in the class for twelve blooms of any one variety, and the quality was high throughout. In the result Messrs. Hugh Dickson, Lim., were first with splendidly developed blooms of the pink Coronation; Mr. W. H. Frettingham followed closely with A. K. Williams, remarkable for brilliancy of colour; and Mr. W. Bentley, Leicester, was third with a fine set of blooms of Mrs. A. E. Coxhead.

There were three entries in the open class for collections of roses, occupying a space of six by three feet, and Mr. John Barron, Cadby, Leicester, was first with an arrangement remarkable for the good quality of the flowers, and for the taste evinced in the arrangement. There were pillars of Hiawatha, Dorothy Perkins, White Dorothy, and Excelsa, a fine basket of the Lyon, and vases of various teas and hybrid teas. Messrs. Hugh Dickson, Lim., were a close second; and Mr. F. W. Frettingham third with a fine collection of blooms, but the arrangement was weak in the essential feature of lightness.

Amateur rosarians assembled in strong force, and the roses in the section open to them were as a whole superior to those seen at Leicester on any previous occasion.

The new class for collections of roses open to amateurs and gardeners of gentlemen was well filled, and the competing collections contributed a delightful feature. The Rev. J. H. Pemberton, Havering, Romford, occupied the post of honour with a charming arrangement, which consisted exclusively of decorative varieties, and these were shown at their best. Mr. Pemberton had for the background three tall bamboo stands filled with ramblers, the varieties being Dorothy Perkins, White Dorothy, and Jean Girin, the last-named one of the very finest of the Wichuriaiana varieties of recent introduction. The flowers are similar in colour to Dorothy Perkins, but are of finer form and arranged in fine pyramidal trusses about twelve inches in height. In front were small baskets of the rich yellow Rayon d'Or, Gustave Regis, the Lyon, and other favourite decorative roses. Mr. F. Dennison, Leamington, was second with a fine display of flowers of high quality, but as they were arranged in large bunches in vases they were somewhat wanting in lightness. Mr. Telford, gardener to A. Turner, Esq., Swithland, Leicester, was third.

Very keen was the contest for first place in the class for eighteen blooms, and the premier award was made in favour of the Rev. J. H. Pemberton, whose blooms were somewhat above the average in size, bright in colour, and highly finished. Very fine were the examples of Gustave Piganeau, Ulrich Brunner, Earl of Warwick, Mrs. Theodore Roosevelt, Mrs. A. E. Coxhead, Her Majesty, Leslie Holland, and Mrs. R. D. Maclure, a beautiful salmon-tinted pink flower. Mr. F. Dennison was a capital second, with an even set of blooms with the soft yellow Mabel Drew as one of the best. Mr. H. Lowe, Beeston, followed for third place. The amateurs' class for twelve blooms, distinct, was a good one, and the Rev. J. H. Pemberton and Mr. F. Dennison were again first and second, both staging remarkably well. Earl of Warwick and Mrs. Foley Hobbs were highly meritorious in the first prize set, and in the second prize box Avoca and G. C. Waud were especially noteworthy. Mr. R. Clarke, Beeston, staged a fine box of blooms for third place, Her Majesty being the most conspicuous.

The prizes for six tea-scented varieties brought out a good competition, and the blooms, for which Mr. W. Upton was awarded the first prize, were of superb quality. The varieties were Madame Jules Gravereaux, Madame Leon Constantine, Mrs. E. Mawley, Souv. de Pierre Notting, White Maman Cochet, and Maman Cochet. The entries were numerous in the class for six blooms of any one variety, and the several awards were made to Mr. F. Dennison, Mr. G. Speight, Market Harborough, and Mr. J. Vine. The varieties in the first and second prize boxes were Alfred Colomb and Mrs. Theodore Roosevelt. In competition for the prizes for four varieties, three blooms of each, the Rev. J. H. Pemberton was first with superbly-developed examples of Mrs. A. E. Coxhead, Earl of Warwick, King George, and Mrs. John Laing. Mr. G. Speight and Mr. R. Clarke, who were second and third also staged well.

In the contest for the awards in the class for eighteen blooms, Mr. M. Whittle was first with blooms of good quality, but wanting in highly-coloured varieties. Mr. G. Speight and Mr. W. Upton, who were second and third respectively, also staged fine sets. The exhibitor last-named was a splendid first in the class for twelve blooms, distinct, and was closely followed for the second and third places by Mr. M. Whittle and Mr. G. Speight. The last-named was first for six varieties, and also for six blooms of teas. Mr. Upton scored in the class for six blooms of any one variety, with splendidly-developed examples of William Shean, and Mr. M. Whittle had in his second-prize box good blooms of Madame Jules Gravereaux.

MISCELLANEOUS CUT FLOWERS.

Carnations and picotees were shown in large numbers, and good style. For six blooms of show carnations, Mr. J. Gumley and Mr. F. G. Duffey were first and second with well-finished blooms. In the corresponding class for picotees, the prizewinners were Mr. R. A. Paterson, Mr. F. G. Duffey, and Mr. R. Hextall, in the order of their names. The yellow-ground carnations made an attractive display, and the prizes for six blooms were awarded to Mr. F. G. Duffey, Mr. J. Gumley, and Mr. J. Rudkin. Very attractive also were the selfs, the entries being numerous, and the blooms of high quality.

There were ten or twelve entries in the class for vases of carnations and picotees, and Mr. F. G. Duffey was a splendid first, his blooms being in a remarkably high state of development. Mr. C. H. Mayer was a capital second. Not a flower was named, and whatever value the flowers staged may have had from the educational point of view was lost.

Carnations and picotees were splendidly shown by the trade growers of these flowers, and, as they were all arranged in small vases with buds and foliage, they presented a highly attractive appearance. There was a very keen contest in the class for twelve show flowers, and the premier award was made in favour of Mr. C. H. Herbert, Acocks Green, whose blooms were as near perfection as one can hope to see them at the beginning of August. The varieties were R. Houlgrave, J. S. Hedderley, George Melville, Arline, Meteor, Gordon Lewes, W. Skirving, Firefly, Arthur, Peter Pan, and Little Dick. Messrs. A. R. Brown, Lim., King's Norton, were an exceedingly close second with flowers of superb quality. Mr. R. G. Rudd was third with good blooms. Self flowers were very largely shown in twelves, and here the last-named was a splendid first, the blooms large and highly-finished. Messrs. A. R. Brown, Lim., were second with flowers in a high state of development, and Mr. C. H. Herbert a close third. Yellow-ground carnations were so largely shown as to afford

unquestionable evidence of their popularity with growers, and the long array of flowers lightly poised above the foliage produced a fine effect. Mr. R. G. Rudd was successful in obtaining premier honours with superbly-developed blooms of Alice B. Stewart, Melton Prior, Lord Steyne, Hercules, Margaret Thurston, Forester, Pasquin, and other of the leading varieties. Messrs. A. R. Brown, Lim., were an exceptionally close second with large, finely-finished blooms. Conspicuous among other varieties was My Fancy, a distinct flower, flaked brilliant orange on a grey-mauve ground. It is the most distinct flower of its class, and most desirable for the variety it affords.

In the corresponding class for twelve blooms of picotees, Messrs. A. R. Brown, Lim., scored with highly finished blooms; Mr. C. H. Herbert was a close second, and Mr. R. G. Rudd was a good third. The classes for single varieties of the several sections, shown in vases, three blooms of each, were all well filled, and the effect produced was remarkably good.

Stocks shown in single spikes were of quite special merit, and the numerous exhibits formed a fragrant and interesting feature. Mr. A. Russell was a capital first for six spikes, and Mr. R. A. Paterson was second, the spikes rather larger, but the individual flowers not so highly developed as in the first prize set.

Violas were largely shown and tastefully staged, and formed a very pleasing feature. Mr. W. Barsby obtained premier honours for twelve varieties with superbly developed flowers; and Messrs. W. Pemberton and Son, Walsall, followed for second place with flowers of high quality.

Hardy flowers were plentiful and of high quality, although not quite equal as a whole to those we have seen on one or two previous occasions at the Abbey Park Show. The finest collections were those shown in the open class, and the post of honour in this was occupied by Mr. Weston, who had phloxes, heleniums, pentstemons, gaillardias, and other well-known subjects in fine condition; Mr. Clanachan had a good collection for the second place. There was also a good competition in the class open to amateurs and professional gardeners for hardy flowers in collections arranged on a space of six by three feet, and the premier award was made in favour of Mr. C. H. Mayer, who had fine bunches of carnations, gaillardias, heleniums, phloxes, pentstemons, and marguerites; Mr. J. H. Hill, Syston, was second.

SWEET PEAS.

Of these fragrant and beautiful flowers there was a very large display, the flowers contributed to the competitive classes being sufficient to fill one of the largest of the several tents. The most important of the classes was that for twelve vases, distinct varieties, in which the prizes were given by Robert Sydenham Limited, and in this the post of honour was worthily occupied by Mr. E. R. Jones, gardener to Lord North, Banbury, with flowers strong in stem, stout in substance, and finely coloured. The varieties included such high-class forms as Thomas Stevenson, Clara Curtis, Elfrida Pearson, and John Ingman, which are invariably met with in all the winning collections. Mr. E. N. Sears was successful in obtaining the second award with a fine collection. Mr. W. Weston, gardener to Colonel C. F. Oliver, was third with flowers of high quality; and Mr. C. Illiston Barkby and Mr. J. Butler, gardener to A. Robinson, Esq., Rothley Grange, who were fourth and fifth, staged flowers evincing cultural skill. In the class for nine varieties, in which also Robert Sydenham Limited provided the prizes, the competitors were many and the flowers of a high order of merit. Mr. A. B. Wykes was first with superbly developed flowers borne on medium-sized stems, and presenting a very graceful appearance. Th other prizes were awarded to Mr. Morris, Mr. E. F. Greasley, and Mr. H. Hudson in the order of their names. Mr. J. Whittle was successful in obtaining premier honours in the class provided by Messrs. Harrison and Sons for nine varieties, and also in that in which the prizes were given by Mr. Unwin.

PLANTS.

The most important of the classes for these was that for groups of plants arranged for effect on a space of 160 superficial feet. The entries were numerous as usual, and the whole of the arrangements were such as to do credit to the taste of the competitors. As the arrangements were similar to those which have been fully referred to in the reports of other great exhibitions that have been recently held, it is not necessary to do more than briefly mention the names of the principal competitors. As usual, the first prize, which was of the value of £20, was awarded to Messrs. J. Cypher and Sons, Cheltenham; Mr. J. Manning, Dudley, was successful in winning the second prize of £15, and the third prize of £10 was won by Mr. Holmes, of Chesterfield.

There were numerous classes for plants of various kinds, but space will not admit of reference being made to other than a few of the more noteworthy. The premier award for a specimen plant in bloom was won by Messrs. J. Cypher and Sons, who had a magnificent example of the brilliantly-coloured Ixora Duffi. In competition for the prize for twelve miscellaneous plants, Messrs. J. Cypher and Sons were first with splendidly flowered examples of cattleyas, lælio-cattleyas and ixoras, and richly coloured crotons. Mr. A. Holmes, Chesterfield, was a capital second with a collection in which flowering and finely foliaged plants were well balanced.

The contributions to the class for eight miscellaneous plants, shown by amateurs not employing a gardener regularly, were so numerous as to form a distinct, attractive, and interesting feature. Mr. J. R. Shelton was first with high-class examples of cultural skill, the tuberous begonias and fuchsias being especially noteworthy. Mr. A. Grace, who was second, had in his collection a well-bloomed example of Stephanotis floribunda. Tuberous begonias were finely shown, and in the open class for four specimens Messrs. James Wright and Sons, Leicester, were first with superbly flowered examples; Mr. A. Grace and Mr. C. Ward were second and third respectively with excellent examples of cultural skill. Messrs. J. Wright and Sons were also first in the class for six with medium-sized plants remarkable for flower development. The same firm were also first for four zonal pelargoniums with splendidly flowered bush specimens of well-known varieties.

FRUIT AND VEGETABLES.

These two essentials of an exhibition of the first class were staged in splendid style, and the interest that is shown in them in the district of which Leicester is the centre was evidenced by the crowded state of the tents throughout the whole of the period the exhibition was open to the public. The decorated dessert tables constituted the most important feature in the fruit tent, and in the class for a table with nine dishes of fruit, Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, won, staging fine dishes of Black Hamburgh and Madresfield Court grapes, Dymond peach, Elruge nectarine, and Brown Turkey fig. The decorations were tasteful, and consisted of pink Malmaison carnations and sprays of Francoa ramosa. Mr. R. Sims, Borrowash, was second for fruit, and Mr. A. Wagg occupied a similar position in competition for the decorations. The contest was especially keen in the class for a table containing six dishes of fruit, and in the result Mr. J. H. Goodacre scored for fruit, and Mr. E. R. Jones for decorations. Mr. Goodacre had splendidly-finished fruits of the Nectarine peach and Lord Napier nectarine, and the decorations by Mr. Jones consisted of carnations with suitable foliage. Mr. A. Wagg, gardener to W. E. Dennison, Esq., Ossington Hall, Newark, was second for fruit. The first prize dish of peaches was that of Noblesse, shown by Mr. J. H. Goodacre, and the best dish of nectarines was that of Lord Napier, from Mr. T. Simms. Mr. J. H. Goodacre was first for four varieties of grapes, two bunches of each, the most noteworthy clusters being those of Black Hamburgh.

The vegetables were not less remarkable for their high quality than for their numbers, and the competition for the honours for collections was of much interest. Mr. J. Hudson, Leicester, well retained his high reputation by taking the premier award in the class for nine kinds, and in the two classes for six kinds the prizes in which were offered by Messrs. Sutton and Sons and Messrs. E. Webb and Sons. Mr. N. Buxton and Mr. A. Hartshorn also exhibited well in these classes. Mr. G. Hartham, Thurmaston, won in Messrs. Harrison and Sons' class for nine kinds.

NON-COMPETITIVE COLLECTIONS.

These formed an important part of this great exhibition, and contributed in no small degree to its interest and attractiveness.

Gold Medal. — To Messrs. E. Webb and Son, Wordsley, Stourbridge, for a very beautiful display of vegetables, melons, and flowers; to Mr. F. Ridout, Langley, Bucks, for a fine collection of perpetual carnations; to Mr. C. Warren, Abbey Nurseries, Leicester, for a large and fine collection of cut roses, etc.; to Messrs. H. B. May and Sons, Edmonton, for a comprehensive and interesting collection of choice ferns; and to Mr. John Hudson, for an exceptionally fine collection of vegetables.

Silver Cup.—To Messrs. Harrison and Sons, Leicester, for a large collection of flowers and vegetables.

Silver Medal. — To Mr. G. Underwood, Aylestone Park, Leicester, for violas and sweet peas in great variety; to Mr. H. M. Ellison, West Bromwich, for a remarkably fine collection of ferns; to Mr. A. F. Dutton, Iver, Bucks, for a charming collection of perpetual carnations; to Mr. J. Williams, Aylestone, Leicester, for rock and alpine plants; and to Messrs. J. Wright and Sons for cut flowers.

Royal Lancashire Agricultural Society.

The horticultural section of this society's show opened at Burnley on July 31, and continued up to August Bank Holiday. The opening day proved a record in attendance, and, judged by the crowded state of the marquees, the floral display proved a powerful attraction. The entries were about the average, but sweet peas more than held their own in quantity and quality.

For a group of miscellaneous plants occupying a space not exceeding 300 square feet, Messrs. J. Cypher and Sons, Cheltenham, were found in their accustomed premier position, with a combination worthy of their great name as group builders; a fine plant of Areca lutescens occupied the central position, with palms, crotons, ferns, and caladiums around, setting off to advantage lælias, odontoglossums, ixoras, and other flowering plants in the best possible manner. Other exhibitors were placed as named—Mr. W. Holmes, Chesterfield; Messrs. R. Simpson and Son, Selby; and Mr. W. J. Garner, Altrincham. For twelve stove or greenhouse plants, not less than seven in bloom, the Messrs. Cypher were again to the fore with three fine kentias, Crotons Warreni, Sunset, and Countess, Statice profusa and intermedia, Bougainvillea Sanderiana, Stephanotis floribunda, and Clerodendron Balfouri (three); Mr. R. Simpson second.

For twelve stove or greenhouse plants in pots not exceeding ten inches, the leading award went again to the Cheltenham firm for a fine lot, Ixora Pilgrimi, Statice intermedia, and Clerodendron Balfouri being noteworthy. The Messrs. Cypher were also to the fore for six orchids with Odontoglossum percultum, O. Hallio-crispum, Lælio-cattleya callisto-glossa, Cattleya aurea (six flowers), and Disa grandiflora; Mr. J. Wilson, gardener to J. Butterworth, Esq., Burnley, was second; and Mr. G. Wilson, Morton Bourne, third.

In the class for a table arrangement for effect, 100 square feet allowed, Mr. W. J. Garner held the leading position, Mr. J. Saul, Preston, and Mr. T. M. Petch, Bridlington, being placed as named. The class for a dinner-table decoration, orchids and the trade excluded, brought a strong competition, the prize-takers being Mrs. John Nixon, Mr. H. B. Vernon, Mrs. A. J. Blair, and Mr. F. Perkins. In the open class ten entries were brought forward, the awards going to Mr. W. J. Garner, Mrs. J. Nixon, Mr. H. B. Vernon, Bowden; and Mr. T. M. Petch, Bridlington. For a table of sweet peas the successful exhibitors were Mr. F. Perkins, Mrs. J. Nixon, and Miss F. Newsham, Ormskirk.

For a collection of sweet peas, eighteen distinct varieties, Mr. W. Bond, gardener to J. R. Herron, Esq., Freshfield, won with fine strong spikes, including a new and distinct variety named Royal Purple; Mr. R. H. Jones was second; and Mr. G. F. Hallett, gardener to Sir R. Graham, Bart., Carlisle, third. For twelve distinct varieties, Mr. F. J. Harrison, Ulverston, led with a good lot, Messrs. G. F. Hallett, and Mr. J. George, gardener to T. Henshaw, Roby, being second and third.

In the class for twelve varieties, trade excluded, the Rev. A. R. Tomlinson, Carnforth, and Mr. E. M. Allen were the prize-winners; and in another class for twelve vases, Mr. T. F. Portnell, Carnforth, led with an excellent lot, followed by Mr. C. E. Taylor, Over Kellet, and Mr. F. J. Harrison. For twelve bunches, prizes presented by Messrs. Dickson, Brown, and Tait, the first and second awards went to Mr. E. Birch, gardener to J. S. Proctor, Esq., Altrincham; and Mrs. S. S. Rigg, Bowdon. For six bunches, prizes by Mr. R. Bolton, the winners were Messrs. C. E. Taylor, J. Whittaker, gardener to G. H. Garnett-Orme, Esq., Skipton, and Mr. S. F. Curtis, Lancaster.

For a collection of tree carnations, arranged on a space ten feet by five feet, Messrs. Young and Co., Hatherley, won with a pleasing lot, and especially fine were the Hon. J. W. Boscawen, and a new variety Miss Hardcastle, a large intense bright scarlet; Mr. A. J. Dutton, Iver, was a good second. For a collection of hardy perennials, space fifteen feet by five feet, Mr. E. Gibson, Bedale, proved the victor; Messrs. Harkness and Sons, Bedale, second; and Mr. J. Saul third.

The class for twenty-four cut roses found Messrs. Alex, Dickson and Sons, Newtownards, first with a very fine box, George Dickson, Mildred Grant, H. V. Machin being extra good; Mr. F. J. Harrison second. For twelve varieties the Messrs. Dickson again scored, followed by Mr. Harrison and Mr. J. Bury. For twelve roses (trade excluded) Mr. C. Garnett, Lancaster, led the way with a good box, followed by Mr. F. J. Harrison and Mr. J. W. Barker; for six varieties the winners were Messrs. C. Garnett, F. J. Harrison and A. E. Troop.

A slight falling off was noticeable in the fruit section. For twelve dishes, not less than nine kinds, Mr. J. Hathaway, gardener to J. Brennand, Esq., Thirsk, was well ahead with fine Black Hamburgh, Foster Seedling, and Madresfeld Court grapes, Dymond and Bellegarde peaches, Humboldt nectarine, Royal Sovereign melon, Utility strawberry, apples, and pears; second, Mr. G. Wilson, who staged Brown Turkey figs in good order. For two bunches of Black Hamburgh grapes Mr. G. Marr, gardener to R. A. Tatton, Esq., led with excellent berries for any other black Mr. Marr led with good specimens of Muscat Hamburgh; and for two bunches of white Muscats, Mr. G. Wilson led; while for any other white Mr. J. E. Newman won with good Foster's Seedling.

For nine distinct kinds of vegetables, prizes presented by Messrs. Sutton and Sons, Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, was in his usual high-class form; Mr. J. George was second with a good lot. For six kinds (trade excluded), Mr. Beckett was again to the fore, with Mr. J. W. Barker second. For a collection of six kinds, prizes by Messrs. E. Webb and Sons, Mr. J. E. Battersby, Blackburn, was the winner; for eight varieties, prizes by Messrs. Clibrans, Mr. Battersby was again the victor.

NON-COMPETITIVE.

As usual, some fine displays were set up, and were quite worthy of the awards bestowed upon them.

Large Gold Medal.—Messrs. Dickson and Robinson, for culinary peas, onions, and tomatoes, backed up with sweet peas and gaillardias.

Gold medal.—Messrs. E. W. King and Co., Coggeshall, for sweet peas; Messrs. Dickson, Brown, and Tait, for a display of gladiolus; Mr. R. Bolton, Carnforth, for sweet peas; Messrs. Alex. Dickson and Sons, Newtownards, for a bank of cut roses; Lancashire County Council, for fruit trees in pots, vegetables in variety, small fruits, sweet peas, etc.

Silver Medal.—Mr. S. Broadhead, for a rockery well planned and planted; Messrs. S. R. Compton and Sons, for violas and pansies; Mr. E. A. le G. Starkie, for stove and greenhouse plants; Messrs. Calwell and Sons, for herbaceous cut flowers, roses, and sweet peas; Mr. H. N. Ellison, West Bromwich, for choice ferns.

Bronze Medal.—Mrs. Hodgkins and Mr. W. Edwards.

PAVILION DISPLAYS.

Messrs. Sutton and Sons had beds of marguerites, verbenas, etc., on each side of their entrance, with groups of gloxinias and begonias, and a large array of melons and sweet peas. Messrs. Dickson and Robinson showed dwarf roses in pots, carnations, liliums, and phloxes. Messrs. Dickson, Brown, and Tait had a large assortment of nephrolepis, cut liliums, and carnations. Messrs. Dicksons, Chester, sent cut liliums, gladiolus, annuals, and perennials. Messrs. Dobbies, Chester, presented cut flowers.

Midland Carnation and Picotee Society.

For twenty-three consecutive years this society of keen and enthusiastic florists has held annual shows of carnations and picotees, latterly adding a few classes for sweet peas. It cannot be said that the shows have grown amazingly from year to year, but nevertheless it is something upon which the Midland florists may be congratulated that they still maintain a very worthy show, and that the display of carnations put before the judges in the Botanical Gardens, Edgbaston, Birmingham, on Wednesday, July 30, both in the open and amateur classes, was of a quality that has probably never been exceeded in the history of the society. Years ago what are now known as "undressed" classes, i.e., for flowers shown in vases with long stems and foliage, were unknown.

At a meeting of the committee held on Wednesday afternoon, July 30, a resolution was proposed by Mr. W. H. Parton, that a vote of condolence and sympathy be extended to the widow and relatives of the late Mr. Robt. Sydenham on the irretrievable loss they had sustained by Mr. Sydenham's death. The resolution was seconded by Mr. A. W. Jones, another ardent amateur who was present at the inauguration meeting of the society twenty-three years ago, and who was able to testify to the fact that it was due to Mr. Sydenham's enthusiasm and generosity that the society was started and carried on for so many years.

DRESSED FLOWERS.

There were six entries in the class for twelve blooms of selfs, distinct varieties, Mr. H. Mathias, Medstead, Hants, taking the lead with a good, even set of flowers of capital size and rich quality. Titan, pure white, Mrs. Marshall, crimson, Daffodil, and the popular Elizabeth Shiffner were among the varieties staged. Messrs. A. R. Brown, Lim., King's Norton, took second place with W. H. Parton, a dark variety of great quality, Cardinal, a splendid petalled scarlet, Royal Velvet, a good purple, and Titan among their best blooms; Mr. C. H. Herbert, Acock's Green, was third. Mr. Mathias scored again for twelve fancies, showing beautifully grown flowers of Lord Steyne, Bombardier, Linkman, and other yellow-grounds; Mr. A. W. Jones, Yardley, took second place with clean and shapely blooms of Thos. à Beckett, Queen Eleanor, Forester, etc.; Mr. C. H. Herbert was again third among eight strong entries. For twelve yellow-ground picotees, Mr. Mathias was again to the front, his flowers being of beautiful quality, but, we thought, a trifle overdressed; Exquisite, a nice clean-petalled bloom with a finely defined wire edge, was a strong point, and both Exquisite and Dago received premier awards, the latter being a most beautiful, heavy-edged variety, which received also a first-class certificate. Messrs. A. R. Brown, Lim., who were second, just erred in the opposite direction to Mr. Mathias, for some of their blooms might have been a little better dressed. However, they had some excellent flowers. Third prize was secured by Mr. C. F. Thurston, Wolverhampton.

The class for twelve white-ground picotees had only four entries, Mr. C. H. Herbert coming first; his Gannymede, which received premier award for a heavy-edged white, was a well-built flower, broad in petal, and very uniform in its rich crimson edge. Other good varieties were Thomas William, Fortrose, and Mrs. Gorton. Mr. Thurston was second with neat flowers of Clementine, Fortrose, Clytie, and Winston Churchill. Third prize went to Messrs. A. R. Brown, Lim. Five collections were staged of twelve flakes or bizarres, but it must be admitted that in this section no headway has been made of late years, and no better, if indeed as good, flowers are seen now than those of twenty to thirty years ago. Mr. C. F. Thurston, who took the leading award, showed well-dressed flowers of Ophelia (premier bizarre), Robt. Houlgrave, Cleopatra, and J. S. Hedderley. Mr. C. H. Herbert was placed second with Master Fred, Admiral Curzon, Robt. Houlgrave, and Torchlight among his varieties. Third prize went to Messrs. A. R. Brown, Lim., with the same varieties appearing on their stand.

UNDRESSED FLOWERS.

The classes for undressed flowers in vases were well supported, and some capital flowers were staged. It was apparent almost throughout the show that the tweezers had played some part in modelling even the so-called "undressed" flowers, and in some cases the "touching-up" was really too evident. It is best to be sincere, and an understanding should be definitely arrived at as to whether the flowers should be shown as grown, or whether the only prohibition is to be the paper collar. It might be best to simply provide classes for flowers in vases, without calling them "undressed." The best six triplets in the class for selfs came from Mr. H. Mathias, who showed grand flowers of Elizabeth Shiffner, Mrs. G. Marshall, Daffodil, Wyatt, Titan, and Sunproof Scarlet. Messrs. A. R. Brown's second prize lot were Mrs. Marshall, Britannia, Wyatt, Mrs. Henwood, Cardinal, and Alba; Mr. C. H. Herbert was third. Messrs. A. R. Brown, Lim., led the way for six vases of fancies, the varieties being Becky Sharpe, Forester, Skirmisher, Lord Steyne, John Ridd, and Linkman, a very nice set; second and third prizes were taken by Mr. H. Mathias and Mr. A. W. Jones. Mr. Mathias scored in a similar class for yellow-ground picotees, followed by Messrs. A. R. Brown, Lim., and Mr. A. W. Jones in the order named. For white-ground picotees the chief award went to Messrs. A. R. Brown, Lim., who had Janet, Lavinia, Myra, and Mrs. Cooper among their half-dozen vases. Mr. H. Mathias was a good second, and Mr. C. H. Herbert third.

AMATEURS' DIVISION.

The quality in the amateurs' division was excellent throughout, and may be said to have come well up to the high standard we are accustomed to see at Birmingham.

Mr. Robt. Morton, of London, rendered a good account of himself, his flowers being answerable for a number of prizes.

In the section for dressed flowers Mr. Morton took first prize for six selfs, on cards, his flowers being big, substantial blooms of Daffodil, Rosy Morn, Etna, Attraction, Elizabeth Shiffner, and Miss Willmott; Mr. W. H. Parton, Moseley, came second; and Mr. F. Bayliss, Walsall, was third; there were eleven entries in the class. Mr. A. H. Birchley, Selly Oak, took the lead for six fancy varieties. He had a nice flower of Linkman, ever a serviceable and telling variety, and John Ridd, Sam Weller, and Queen Eleanor were also well shown; Mr. F. Bayliss was placed second, and showed Rhea, a distinct flower with crushed strawberry flakes and shading on an orange-buff ground; Mr. R. Morton was third. Mr. Morton led the way for six yellow-ground picotees, showing Margaret Lennox, John Ruskin, Onward, Togo, Gloria, and Mrs. J. J. Keen; Mr. G. D. Ford, Acocks Green, second; and Mr. H. Skeels, Walsall, third.

The Rev. G. A. Gottwaltz, Droitwich, had the best half-dozen white-ground picotees, his varieties being Pride of Leyton, Lottie, Dorothy, Agnes Helen, Lady Sybil, and Thomas William. Mr. F. W. Goodfellow, Walsall, took second place, and Mr. G. D. Ford third. For six bizarres, Mr. E. J. Price, Bourneville, was the leading winner, followed by Mr. R. Bruce Waite, Harborne.

In the vase classes Mr. R. Morton won first prize for three vases of selfs, in triplets; he showed Rosy Morn, Etna, and Miss E. Shiffner; Mr. E. J. Price was second, and Mr. W. H. Parton third. There were nine entries in the class, and all were good. For fancies, the winner was Mr. G. D. Ford, Acocks Green; Linkman, Pasquin, and Sweetheart being his varieties. Second prize was taken by Mr. R. Morton, and third by Mr. W. H. Birchley. Mr. Morton scored another success with three triplets of yellow-ground picotees, beating six other competitors; and in the white-ground class the Rev. Gottwaltz led the way with an even sit of clean, refined flowers.

SWEET PEAS.

The lower portion of the conservatory, facing the orchestra, was devoted to a fine display of sweet peas, for which special prizes were offered by Robert Sydenham, Limited, Birmingham. A strong entry for twelve vases, distinct varieties, found Mr. T. Jones, Ruabon, first with remarkably fine flowers of great size and substance, the stems being of wonderful strength, and all the colours pure and clean; Mr. John Haycock, Gyfelia, Wrexham, was second; third prize went to Mr. L. Webb, Welshpool; and fourth to Mr. T. Batchelor, Hampton-in-Arden.

In another class limited to a six-mile radius of Birmingham, Mr. P. E. Fowler, Bournville, led the way with flowers that did the exhibitor great credit. The other prize winners were Mr. J. Dorell, Acocks Green; Mr. A. Taylor, Olton; and Mr. J. Sceaney, Harborne. Ten table decorations of sweet peas made an attractive show, and provided by no means an easy task for the judges. The winner was eventually found in Miss E. Jenks, Codsall; Mr. E. Deakin, Haymills, coming second, and Mr. C. H. Herbert, Acocks Green, third.

PREMIER AWARDS.

Dressed flowers.—Bizarre, Ophelia, shown by Mr. C. F. Thurston; flake, Gordon Lewis, from Mr. C. F. Thurston; heavy-edged white-ground picotee, Ganymede, shown by Mr. C. H. Herbert; light-edged white-ground picotee, Fair Maiden, shown by Mr. E. J. Price; heavy-edged yellow-ground picotee, Dago, shown by Mr. H. Mathias; light-edged yellow-ground picotee, Exquisite, shown by Mr. H. Mathias; yellow-ground fancy, Linkman, shown by Mr. A. W. Jones; self, Titan, shown by Mr. F. W. Goodfellow.

Undressed flowers.—Self, Furthest North, shown by Mr. W. H. Parton; fancy, Linkman, shown by Mr. F. W. Goodfellow; yellow-ground picotee, John Ruskin, shown by Mr. R. Morton; white-ground picotee, Fair Maiden, shown by Mr. E. J. Price.

POINTS MEDALS.

First division.—Silver medal, Mr. H. Mathias, with 172 points; bronze medal, Messrs. A. R. Brown, Lim., with 150 points.

Second division.—Silver medal, Mr. R. Morton, with 89 points; bronze medal, Mr. G. D. Ford, with 56 points.

Third division.—The W. Waters Butler silver medal, Mr. A. Goody, with 68 points; bronze medal, Mr. F. E. Holland, with 50 points.

Novices' section.—The Carnation Brown medal, Mr. T. M. Tranter, with 52 points.

NON-COMPETITIVE EXHIBITS.

Messrs. W. H. Simpson and Co., Birmingham, had two attractive exhibits, one devoted to sweet peas, and the other, which crossed the hall in front of the orchestra, including a number of attractive perennials and biennials, as well as sweet peas. The scarlet Gilia coronopifolia made a striking centrepiece in this stand. Messrs. Gunn and Sons, Olton, put up a very fine show of garden roses with late-flowering ramblers on arches, and baskets and boxes of the latest hybrid teas on the front tables. The whole exhibit attracted a great deal of attention from the visitors, who, we were pleased to note, were in greater number than has been the case for a few years past.

Chester Paxton Society.

By the kind invitation of Mr. E. Peter Jones, J.P., one of the vice-presidents of the society, some thirty odd members had the privilege last week of seeing over the gardens and pleasure grounds at Greenbank, Chester. Under the supervision of the head gardener, Mr. Wm. Dodd, some extensive alterations and additions have recently been carried out, including a new rose garden, a new rockery, and new additions to the herbaceous borders. These additions reflect very great credit on Mr. Dodd's abilities, and on the occasion of this visit he was complimented by his brother gardeners, who greatly appreciated the kindness of Mr. Peter Jones in granting them the privilege of inspecting his gardens. Mr. Jones also very kindly provided tea for the company, which was much appreciated, and before dispersing Mr. J. D. Siddall proposed, and Mr. N. F. Barnes seconded, a hearty vote of thanks to Mr. Jones for his kindness. The latter, in reply, said it had given him great pleasure to see so many horticulturists present, and he expressed a hope that they would come again.

Arabis albida.—The double form of this arabis is indispensable for spring bedding purposes; whether used as a groundwork to bright and deep-coloured tulips, or as an edging to large beds and borders, it is very beautiful, and when well grown its flowers are most useful for cutting. It has a great advantage over the single form in possessing more substance in the flowers, and being more showy. The variegated form is also very useful for those who appreciate the variation of colouring in the foliage. The present time is an opportune one for propagating young plants for putting out in the autumn; my experience is that they root much more freely now than when inserted earlier in the season, and, as they grow very quickly, they have ample time to make good progress for planting in October. Old plants which were laid in when cleared from the beds at the end of May are giving plenty of cuttings; these should be taken off at the heel, and inserted in light, sandy soil, either in a cold frame or on a north border, where, if kept moist, they will soon root. Allow from four to six inches each way between the cuttings, as they will then have room to develop, and can remain without being disturbed until required for planting out.—T. B. Field, Wych Cross Place Gardens.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of The Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in The Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

VENIDIUM CALENDULACEUM.—M. H. L., Newport: A friend in South Africa has sent me a packet of seeds of a plant named Venidium calendulaceum. Please tell me whether this is a hardy subject, and say when the seeds should be sown.—Venidium calendulaceum is a South African composite with yellow, dark-centred flowers, which closely resemble the blooms of the common marigold; the lyrate leaves, however, are distinct, green above and white beneath. The plant is only half-hardy, but might be hardy in a sheltered position in the Isle of Wight. The species is perennial, and from 6 to 12 inches high, but is best treated as an annual. Sow a few of the seeds at once in a pan of sandy soil, prick off the seedlings into small pots in due course, and keep them in a frame or greenhouse during the winter, planting them in a sunny position in spring. In March sow the rest of the seeds in gentle heat, and otherwise treat as for a half-hardy annual.

INSECTS ON GOOSEBERRY SHOOTS.—C., Bath: Will you kindly say what is the matter with enclosed gooseberry shoots? Apparently there are different kinds of insects on No. 1 and No. 2.—No. 1 specimen shows a rather bad aphis infestation. In an attack of this kind the aphis appear in the points of growth, cause the leaves to curl up, and so produce a very severe check that often results in a shrivelling of the stem. This season has been a particularly bad one for growers, because insect pests have seemed to be particularly prevalent and insistent, and the weather has not favoured the use of insecticides. We have found, in the case of aphis attacks on gooseberries in a garden, that frequent hosings, the water being used with considerable force, a capital method of dislodging the pest and encouraging growth. A few forcible washings of this kind, followed by spraying with a nicotine or quassia mixture, will generally clear the bushes. In the case of a large plantation spraying with nicotine or quassia insecticides must be regularly practised directly the berries have been gathered. No.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

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148-9, Aldersgate Street,
London, E.C.,

who will give the matter immediate attention.

2 specimen is infested with gooseberry red-spider, a pest that flourishes in dry weather. It may be stated at once that well-fed bushes that have not lacked moisture do not suffer to the same extent as bushes on poor, dry soil. Here, again, bushes in gardens may be kept clean, if frequently washed with clear water during dry periods, and given manurial assistance that will permit free growth. Where there is an infestation the bushes must be sprayed at intervals with a kerosine emulsion until the pest has been cleared out. Dissolve ½lb. of soft soap in a gallon of boiling water, and while still boiling add two gallons of kerosine and churn together forcibly, so that a proper emulsion is obtained. Use one part of this mixture to from 30 to 50 parts of water, starting with a weaker solution, and using a stronger one a little later if the leaves are tough.

FOLIAGE PLANTS FOR CUTTING.—K. K., Barberton: I am a regular reader of The Gardeners' Magazine, and noticed in your issue of May 10, you recommended a Lichfield correspondent to grow thalictrums for cutting to use as foliage with flowers. I have a few seeds of a thalictrum I gathered at Rimer's Creek; the plant is just like a maidenhair fern growing near it on the banks of a stream. With us the thalictrum grows 4ft. high, but it is not a common plant; I thought you might like to try it, and possibly send some seeds to your correspondent. We have awful news to-day (July 5) from Johannesburg; train stopped, lines torn up, no newspapers come through, and station destroyed. Thank goodness we are 300 miles away, and the trouble will not disturb us much, but it will upset business, for in this district, free from frosts, garden produce is extensively grown for the winter supplies at Johannesburg. Plant collecting is my hobby, and I have lived here sixteen years.—We are very much obliged to our correspondent for his interest in this matter and regret that, as we do not keep the letters containing only questions to be answered in this column, we cannot forward seeds to our Lichfield correspondent. We will sow the seeds, and if plants develop, endeavour to find the name of the species for you. We may add that we do not know any South African thalictrums.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

A. G., Morpeth.—Not recognised.

L. N. C., Preston.—1, Mentha Requieni; 2, Typha angustifolia.

G. W. S., Orpington.—1, Verbascum nigrum; 2, Diascea Barberæ; 3, Phacelia campanularia.

TRADE NOTES.

ROBERT SYDENHAM LIMITED.

It will be a matter of great satisfaction to the readers of The Gardeners' Magazine to learn that the firm of Robert Sydenham Limited, Tenby Street, Birmingham, will continue to conduct the business founded and built up by the late Mr. Robert Sydenham, and that the staff of enthusiastic workers who so loyally supported their beloved chief will remain with the firm. We understand that, in accordance with the deceased principal's expressed wish, Mr. Herbert Smith, who for a number of years was Mr. Sydenham's secretary, now becomes managing director, and our readers will, we are confident, join with us in wishing Mr. Smith and his comrades a continuance of the success that has marked the firm's career.

MARKETS.

COVENT GARDEN.

Flowers.

Flowers of all kinds belonging to the present season are plentiful.

		s.	d.		s.	d.
Achillea	per doz. bun.	1	6	to 2	6	
Adiantum cuneatum	per doz. bun.	3	0	4	0	
Alstromerias	per doz. bun.	2	6	3	6	
Asparagus plumosus	per doz. bun.	10	0	18	0	
,, Sprengeri	per doz. bun.	9	0	12	0	
Asters	per doz. bun.	2	0	3	0	
Campanulas	per bun.	2	0	4	0	
Carnations	per doz.	0	9	1	6	
,,	per doz. bun.	5	0	9	0	
,, Malmaison	per doz.	4	0	5	0	
Chrysanthemum max.	per doz. bun.	1	6	2	6	
Coreopsis	per doz. bun.	0	9	1	3	
Cornflowers	per doz. bun.	0	9	2	0	
Croton leaves	per doz. bun.	12	0	15	0	
Eucharis	per doz.	2	0	4	0	
French fern	per doz. bun.	2	6	4	0	
Gaillardias	per doz. bun.	1	6	2	0	
Gardenias	per doz.	1	0	2	0	
Gerberas	per doz.	1	0	1	6	
Gladioli	per doz.	1	6	8	0	
Gypsophila	per doz. bun.	3	0	6	0	
Lilium auratum	per bun.	3	0	4	6	
,, speciosum	per doz.	1	3	2	0	
,, longiflorum	per bun.	1	0	1	6	
Lily of the Valley	per doz. bun.	9	0	15	0	
Marguerites	per doz. bun.	1	0	2	0	
Odontoglossums	per doz. blms.	3	0	4	0	
Pelargoniums	per doz. bun.	3	0	4	0	
Roses	per doz.	0	6	2	6	
Scabious	per doz. bun.	2	0	4	0	
Smilax	per doz. trails	1	6	2	0	
Spiræa	per doz. bun.	4	0	6	0	
Stephanotis	per gross	4	0	6	0	
Stocks	per doz. bun.	3	0	5	0	
Sweet Peas	per doz. bun.	1	3	2	6	
Sweet Sultan	per doz. bun.	1	6	2	0	

Fruits.

Plums and apples are arriving in increased quantities and in excellent condition.

		s.	d.		s.	d.
Apples, Australian	per box	14	0	to 16	0	
,, Tasmanian	per box	14	0	15	0	
,, English	per ½ sieve	2	0	3	0	
Bananas, Canary	per bun.	7	0	12	0	
,, Jamaica	per bun.	3	0	5	6	
Cocoanuts	per 100	17	0	23	0	
Cherries	per peck	2	6	6	0	
Currants Black	per ½ sieve	6	0	8	0	
,, Red	per ½ sieve	6	0	7	0	
Dates	per doz. boxes	2	9	3	6	
Figs	per doz.	1	6	7	0	
Gooseberries	per ½ sieve	3	0	5	6	
Grape Fruits	per case	12	0	20	0	
Grapes, English	per lb.	1	6	3	6	
,, Guernsey	per lb.	1	0	2	0	
Greengages	per ½ sieve	8	0	10	0	
Lemons	per case	10	0	30	0	
Melons	each	1	0	3	0	
Nectarines	per doz.	2	6	14	0	
Oranges	per case	16	0	25	0	
Peaches	per doz.	3	0	18	0	
Pears, Tasmanian	per case	10	0	12	0	
Pineapples	each	3	0	5	0	
Plums	per ½ sieve	4	0	6	0	
Raspberries	per doz. pun.	3	0	4	0	

Vegetables.

The supplies of vegetables are liberal and good.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to 2	0	
,, Ground	per bush.	3	0	4	0	
Beet	per bush.	2	0	3	0	
Beans, English	per lb.	0	2	0	3	
,, Broad	per bush.	2	0	2	6	
Cabbage	per tally	2	6	4	6	
Carrots	per doz. bun.	1	6	2	6	
,, French	per doz. bun.	6	0	8	0	
Cauliflowers	per doz.	2	0	3	0	
Cucumbers	per doz.	1	6	3	0	
Endive	per doz.	1	6	3	0	
Horseradish	per doz. bun.	10	0	12	0	
Lettuce, Cos	per doz.	0	9	1	0	
Marrows	per doz.	1	0	2	0	
Mint	per doz. bun.	1	6	3	0	
Mushrooms	per doz. lbs.	5	0	7	6	
Onions	per bag	4	0	4	6	
,, Spring	per doz. bun.	2	0	3	0	
Parsley	per doz. bun.	3	0	5	0	
Peas	per bush.	3	0	4	0	
Radishes	per doz. bun.	0	10	2	0	
Scarlet Runners	per ½ sieve	2	0	3	0	
Spinach	per bush.	1	6	2	0	
Tomatoes, English	per doz. lbs.	2	6	4	0	
,, Guernsey	per doz. lbs.	2	0	4	0	
Turnips	per doz. bun.	2	0	6	0	
Watercress	per doz. bun.	0	4	0	6	

LONDON POTATO MARKETS.

The supplies are good, but there is little improvement in the demand.

		s.	d.		s.	d.
Kents	per cwt.	5	0	to 6	0	
Lincolns	per cwt.	4	6	6	0	
Bedfords	per cwt.	4	6	5	6	

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1913. July 27 to August 2.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
July 27—Sunday	2 42	53	53	64	53
,, 28—Monday	10 6	57	55	75	54
,, 29—Tuesday	7 54	56	55	75	51
,, 30—Wednesday	0 24	60	56	65	51
,, 31—Thursday	8 18	59	57	74	54
Aug. 1—Friday	5 6	59	56	70	54
,, 2—Saturday	3 20	59	55	67	45
Means	(total) 37 50	57	55	70	52

Date. 1913. July 27 to August 2.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
July 27—Sunday	—	61	60	58	54
,, 28—Monday	—	61	60	58	48
,, 29—Tuesday	—	62	61	58	44
,, 30—Wednesday	—	62	61	58	42
,, 31—Thursday	—	61	61	58	46
Aug. 1—Friday	—	62	61	58	45
,, 2—Saturday	—	61	61	58	35
Means	(total) —	61	61	58	45

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, August 11.—United Horticultural Benefit and Provident Society, Committee Meeting.

TUESDAY, August 12.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Fairy Flies and their Hosts," by Mr. Frederick Enock, F.L.S.; Scientific Committee at 4 o'clock.

WEDNESDAY, August 13.—Carlisle Horticultural Association; two days.

National Sweet Pea Society's Provincial Show at Carlisle; two days.

THURSDAY, August 14.—Taunton Dene Summer Show.

SATURDAY, August 16.—Horsley Horticultural Society.

The following dates of exhibitions have been recently announced:—

Horsley Horticultural and Cottage Garden Society, August 16.

Aynho Horticultural Society, August 19.

Brighton Summer Show, August 19 and 20, in the Dome and Corn Exchange, and on the Western Lawn.

Kiddington Horticultural Society, August 21.

Ashton-under-Lyne Horticultural Association, September 6.

Maidenhead Chrysanthemum Show, October 30, at the Drill Hall.

Bath Chrysanthemum Show, November 5 and 6, at the Roman Promenade.

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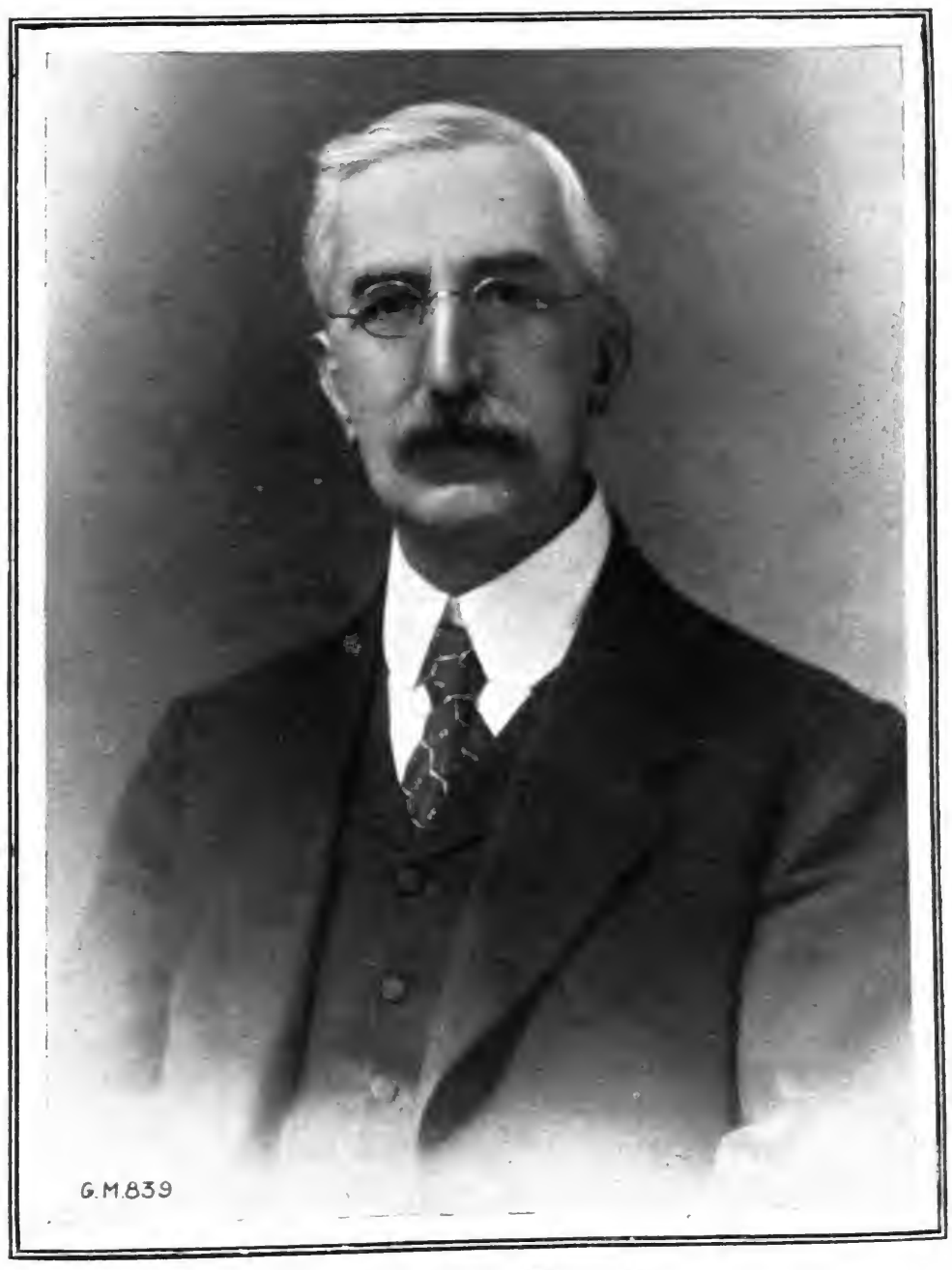
VOL. LVI.—No. 3,120. SATURDAY, AUGUST 16, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Finances of the International.

The recollections of the great International Horticultural Exhibition, which attracted tens of thousands of flower lovers to Chelsea last year, will still be so fresh in the minds of the general body of horticulturists that in a reference to that remarkable gathering there is no occasion to touch upon its many highly interesting and wondrously beautiful features. So far from this being our intention, in referring to the exhibition, our object is to briefly direct attention to some of its financial aspects, which the issue of the balance-sheet now renders possible. Some time since we were able to inform our readers that the profit on the undertaking closely approached £3,000, and that the available surplus had been divided among the gardening charities, and the fund that is being raised for the purpose of republishing "Pritzel's Botanical Index," a work that is of great value to botanists, but is now out of print. The balance-sheet is of much interest as evidence that the carrying out of an International Horticultural Exhibition on so comprehensive a scale as that of last year is no light matter, and that the financial side thereof is not less important than the horticultural aspect. The total receipts amounted to £28,412 15s. 1d., a sum by no means excessive, considering the heavy expenditure that had to be incurred, and it is not difficult to appreciate the anxiety of those responsible for the management of the exhibition as the time approached for opening the gates to the public. The first entry on this side of the balance-sheet is one of £360, the share capital subscribed by the directors for the purpose of complying with the conditions associated with registering the Exhibition under the Limited Liability Act; and this sum, on the completion of the liquidation, was returned to the shareholders without any dividend or interest. The donations and subscriptions amounted to £5,976 16s., not a specially large sum, having regard to the importance of the undertaking, and the fact that not for nearly half a century had an exhibition of a similar character been held in this country. £10,000 would not have been in excess of what might reasonably have been expected. The receipts for admission to the exhibition amounted to £17,140, and as the eye scans these substantial figures, a feeling of thankfulness arises that the finest weather of the summer of 1912 should have been experienced during the two weeks in which the exhibition was held. Rent of spaces brought in £2,430 1s., and the catalogue £1,741 16s. 9d., and there are several smaller sums to which no reference need be made. Turning to the expenditure side, nothing is found to suggest extravagance, but the question arises whether it would not have been more economical for the Royal Horticultural Society to have carried out the exhibition as a part of its programme for the year. It may have been; but there were other considerations that had to be taken into account, such as the interference with the ordinary work of the society, and the fact that 15,000 or more visitors would have had the right of admission each day the exhibition was open without the payment of a single penny. The value of the prizes awarded was £2,727 19s., which is not a large sum, but the special cups, which must have represented a substantial amount, are not included. The tents and fittings cost £8,224 5s. 11d.; the working expenses were £4,112 3s. 8d.; and the office expenses £995 6s. 1d.; stationery, printing, and postages amounted to £2,067 6s. 5d., and catalogue printing to £1,696 7s. 5d. Advertising cost £1,941 6s. 6d., not an extravagant amount, considering the difficulty experienced in producing an impression upon the inhabitants of so large an area of London and its far-extending suburbs. The accountancy charges aggregated £589 17s., and the legal costs £478. The lunch to the jury on the day of opening, and the entertainment of the foreign guests was £661 3s. 5d., an expenditure that was by no means too large. As so well known, the Science and Education Committee formed an important part of the administration, and in no small degree contributed to the success of the gathering. Two important conferences were held under its auspices, one on the administration of the Plant Diseases and Insect Pests Acts in various parts of the world; and the other on horticultural education. Both attained a high level, and fully justified the feeling so generally expressed that they would long serve as models for what such gatherings should be. Not only did the committee arrange for two conferences, but they provided the papers that were read, and thus placed at the disposal of those who are interested in the several subjects discussed a large amount of information in a readily available form. It is therefore of special interest to mention that



MR. W. E. MARTIN,
President of the Finchley Horticultural Society.

the whole of the expenses of this committee, including the printing the several reports and the papers read, was only £87 12s. 4d. There are numerous other items on the expenditure side, but the only one of these that need be mentioned is the surplus or profit of £2,648 2s. 5d., this being distributed as follows: £100 to the Irish Gardeners' Association and Benevolent Society; £250 as a donation towards republishing "Pritzel's Botanical Index"; £1,532 1s. 7d. to the Gardeners' Royal Benevolent Institution; and £766 0s. 10d. to the Royal Gardeners' Orphan Fund. A more satisfactory distribution of the surplus could not well have been made, and the directors may be heartily congratulated on the judgment evinced in this matter, as in all that relates to the finances of the great gathering which they brought to so successful a conclusion.

Mr. W. E. Martin, president of the Finchley Horticultural Society, is an enthusiastic amateur gardener, and a great lover and successful cultivator of roses. An excellent speaker, with a talent for making everyone feel happy, he has done wonders in promoting horticulture in the north of London, especially among owners of small gardens, who are apt to think them too small to be of any use or beauty. He is a regular exhibitor at the National Rose Society's London exhibition, and invariably stages blooms in the suburban championship class. Twice has Mr. Martin been successful in winning the premier award in this class, which is of so much interest to amateurs who grow their roses in the suburbs of the metropolis, though this year he had to be content with second place. Finchley Horticultural Society is strong and vigorous, and the members did the right thing when they elected Mr. W. E. Martin as their president.

Attractions at Kew.—The Royal Gardens, Kew, are always attractive, and every season of the year has its own special interest for garden lovers. So many of our readers make holiday about this time of year, and so many of those who come Londonwards visit Kew, that we may refer to the beauty of the pentstemons and antirrhinums near the Palm House; the pelargoniums, etc., along either side of the Broad Walk; gerberas and the gorgeous Kniphofia Burchelli by the T range; violas round the ferneries; roses near the Palm House; aquatics near the Old Museum, in the Berberis Dell, by the Cedar Avenue, and in the lake; the glorious bed of Palling Belle hollyhock between the Shaft and the Palm House; the fine collection of herbaceous phloxes near the Orchid Houses and alongside the Herbaceous Ground; beds of ceanothus close to the Holly Walk, and the new vine pergola behind the Tea House.

Cancer in Plants.—At one of the sectional meetings of the International Medical Congress a short paper was read by Dr. Irwin Smith, of the U.S.A. Bureau of Agriculture, on the peculiar disease which attacks and destroys crops of beet, peach, etc. This, he demonstrated was due to a new growth affecting the plants at any part from the roots to the leaves, living with them, but ultimately getting the upper hand and destroying the plants entirely. The growth has much in common with cancer in animals. It spreads along the plants, could be reinoculated or grafted, and then produce its characteristic appearances. If removed cure was complete, but if a small portion remained it grew again. In the discussion which followed it was recognised that the disease had much in common with cancer, and though it could not at present be said to be identical, the data will form a valuable addition to our knowledge on this vexed problem. A further point was that Dr. Smith had isolated a specific bacteria, which after injection into any part of a plant set up a process of new growth which resulted in this "cancerous" formation. The importance of this work is great, apart from the economic aspect, which, of course, most intimately concerns Dr. Smith and the Bureau under which he works. The publications of the Department, together with numerous illustrations of the actual specimens themselves, have all been shown in the Museum during the Congress.

International Commission for Horticultural Congresses. — At the International Horticultural Congress of Brussels, 1910, it was proposed to establish an International Commission to deal with such gatherings. The Commission will be a permanent one, and will be composed of a certain number of representatives from each country having horticultural interests. There will be about sixty members, and the duty of the Commission is to meet on the occasion of each Congress to receive proposals as to time and place of the next gathering, and to consider questions of a scientific, practical, and economic nature relating to horticulture. A meeting of the provisional Commission was held in Ghent on the 7th inst., and the final constitution of the Commission will no doubt be effected shortly.

London Children's Gardens.—Mrs. Lyons, 5, Heathview Gardens, Roehampton, S.W., the hon. secretary of the London Children's Gardens and Recreation Fund, has written informing us that the aim of the society is to bring at least some portion of the joy of the country to town children, and the method employed is to acquire, on yearly tenancy, and at a nominal rent, vacant building or other sites in very poor districts. The ground so obtained is divided into plots, and when ready for cultivation is handed over to 70 or 100 children, according to the size of the site. Each child owns his or her plot for the season (March to September), and comes daily from 4.30 p.m. to 6.30 p.m. The society provides a teacher, a lady with a knowledge of gardening and a love of children, also a caretaker for each site, and the necessary seeds and tools. Four of such gardens are now being carried on by the society in Stepney, St. Pancras and elsewhere, and there is great competition among the children for plots. The society has had applications for the creation of new gardens in other parts of London, but lack of funds at present precludes the grant of such requests. Mrs. Lyons states that £100 will equip and start a garden, and £70 a year will maintain the site with plots for 100 children for six months.

Insectivorous Properties of the Petunia.—Writing from Sunnyside, Montrose, Dr. J. G. Havelock states that "the results of an investigation conducted for some time on the common varieties of the single petunia appear to indicate that that genus as represented in our gardens is a true insectivorous plant. Should these results be corroborated by other workers, a very notable addition therefore will be made to the known scanty list of insectivorous members among the higher vegetation. In other respects the petunia is a plant worthy of prolonged scientific attention. All its parts above ground, excepting the expanded portion and interior of the flower, are abundantly clothed with erect whitish hairs. These hairs are glands of a two-fold nature; they secrete a tenaciously viscid substance, and also a digestive fluid which acts instantly on new milk like rennet or the gastric juice of the human stomach. The hair walls appear to be composed, at least towards the apex, which is knobbed, of a brittle substance—probably silicious. The insect arriving on the plant breaks off or fractures the knobbed head of the hair, with the result that the gum which is collected in the knob holds the animal, and the irritated protoplasm within the hair ejects about it the digestive fluid. The products of the more digestible parts of the insect are then slowly absorbed by the plant."

Salix magnifica.—In describing a number of new Chinese trees and shrubs in the current issue of the "Kew Bulletin" Mr. W. J. Bean states, with reference to this willow: No more remarkable tree or shrub has been introduced from China than this. It is quite distinct among willows, to not one of which in cultivation does it bear any resemblance in leaf. It is a deciduous shrub up to 20 feet high, quite glabrous in leaf and branch; young shoots purple at first, assuming a reddish hue later. The leaves are the most remarkable part of the plant. They are oval or slightly obovate, sometimes ovate, entire, rounded or slightly cordate at the base, cuspidate at the apex, dull greyish green (with a bloom) above, pale and slightly glaucous beneath. In our young living plants they have not yet become more than 6 inches long by about 4 inches wide, but in the herbarium of the Arnold Arboretum the largest leaves on specimens collected by Wilson in China measure $8\frac{1}{4}$ inches long by $5\frac{1}{4}$ inches in width, the petiole 2 inches long. Male catkins 4 to 7 inches long; stamens 2, four times as long as the scale. Female catkins longer, sometimes as much as 11 inches. Mr. Wilson, who discovered the species, informs me that it is very common in parts of Western Szechuen between 7,000 and 10,000 feet. He also says the young shoots change to red the first winter and remain that colour for several years. The leaves assume a golden hue before they fall. It was introduced by means of cuttings and living plants to the Arnold Arboretum in 1909, and thence to Kew the following year. PAR

Wages in the Lancaster Parks.—At the monthly meeting of the Lancaster Town Council, Mr. Alderman Grieve, the chairman of the Parks Committee, stated that his committee had been asked by the men employed in the parks for an increase of wages. The Parks Committee considered the request reasonable, and recommended that a substantial increase should be made. They had, he said, a most loyal staff, who were most devoted to the work. The Council not only accepted the committee's report, but several of the members of the Council suggested that they should have gone further and given an increase to the men having the lower rate of pay.

Another International Exhibition in New York.—The success of the International Horticultural Exhibition held this year in New York, has led the Horticultural Society of New York to combine with the New York Florists' Club to promote an International Flower Show from March 21 to March 28, 1914. The exhibition will be held in the New Grand Central Palace, 46th Street. A preliminary schedule of some 208 classes has been issued, and the cash prizes are fairly liberal for hard-wooded plants in flower, palms and foliage plants, ferns, orchids, bulbs, roses, and new plants. The schedule is about equally divided between private and commercial growers, and copies may be obtained from Mr. John Young, 54, West 28th Street, New York. Mr. F. R. Pierson is chairman of the Show Committee. Mr.

R. G. Hollaman, at present staying at the Waldorf Hotel, Aldwych, W.C., is over here, trying to interest British and Continental nurserymen in this forthcoming exhibition, and he has already visited the two recent meetings of the Royal Horticultural Society, with that end in view.

Marriage of Mr. Leonard Cutbush.—On Wednesday, July 30, Mr. H. W. L. Cutbush, only son of Mr. and Mrs. Herbert Cutbush, of Normanhurst, Highgate, was married to Miss Flora Vardon, A.R.C.M., at St. Brelade's Parish Church, Jersey. The wedding was a quiet one, but the ceremony was largely attended as a consequence of the bride's popularity as a talented singer. Mr. and Mrs. H. W. L. Cutbush are spending their honeymoon on the Continent, and on their return will reside in Highgate.

Protection of Wild Plants.—The Selborne Society has made an appeal to county councils, rural district councils, landowners, and scientific societies for assistance in the way of obtaining reservations where wild plants which are in danger of extinction under present conditions may be preserved from the vandals of the countryside. A fair measure of support for this appeal has been received, but it is desirable that all local bodies and scientific societies should combine to check extermination. Mr. A. R. Horwood, recorder of the plant Protection Section of the Selborne Society, suggests the adoption by all county councils of the principle of obtaining a local order for prohibiting the hawking of wild flowers on the public highways, and also securing the general consent of landowners to a scheme of rules which shall apply to all alike for the protection of their private property.

July in the North.—In the south, writes our Aberdeen correspondent, there were complaints during July that the sun was scarcely ever seen. Here, in Aberdeenshire, there has actually been an expressed desire that there would be less sunshine and some rain—so that the strawberry crop might last a little longer, and that the fruit itself might be larger. "The strawberries come all together in this very bright weather," was the complaint of one large grower: "and there will soon be an end to them; the longer period they are spread over the better for us." In regard to flowers, there is a somewhat similar complaint, but another factor has here to be considered, and that was the cold, blighting snap we experienced one day. Buds, which gave every promise of rich blossom, were nipped; and in some gardens in exposed situations much damage was done. It was no compensation that the following day, generally, was bright and warm; the damage had been done, and, in many cases, the plants will not recover. Herbaceous flowers, in some private gardens, have suffered considerably on account of the cold snap and lack of moisture, especially where the soil is light and sandy. There has, however, been no lack of a splendid promise of blossom. Indeed, herbaceous borders are at the present time magnificent in their colouring. Sweet peas have come on very rapidly. In several of the nurseries and bigger gardens where they are grown to a large extent, well-flowered sprays, generally from three to four blooms on each, may be seen. They stood the cold wind snap remarkably well. The sunshine has been in their favour, and, generally, they have been well watched in regard to watering. A similar remark may be made with reference to roses, where the amount of bloom is, in many cases, remarkable. Rain here also would greatly benefit the bushes. Where flower beds have been laid out in several of the grounds of the larger mansions their parched appearance indicates the desirability of showers of rain. Antirrhinums, lobelia, calceolarias, stocks, the dwarf Phlox Drummondi, and a number of other popular bedding plants have a good appearance.

Influence of Gardening on Children.—If a child, through the work which he has done in his own garden plot, observes the "Globe," in referring to the civic and economic value of gardening for children, learns that he must care for his own piece of property, and has entire responsibility over it, he has learned a civic lesson. If a child learns that a piece of work must, after he has started it, be cared for to a finish, he has learned one of life's big lessons. If he learns that neglect of his own piece of property is a wrong to his neighbour, he will be a better citizen for that lesson. If he becomes interested, intelligently interested, in agriculture as a boy, he will be intelligently interested in the agricultural outlook of his country when he becomes a man. Big lessons of life which come through natural channels are lessons which are permanent. Evil can never be properly controlled by law; it can only be completely understood and stamped out through replacement by means of good. On the other hand, there is the economic value of the work. The child who has been taught through his garden to really need plants in his life is bound to carry that need into his future life, and the boy, the coming citizen of to-morow, will feel that he must live in a home surrounded, just as far as he can make it possible, by living, growing beautiful things. He will not only feel this from the æsthetic and civic side, but he will know full well that it is an economic proposition as well. The garden will be a part of his family plan, an asset, as it were.

Flower Show at Antwerp.—The Horticultural and Agricultural Society of Kiel, Antwerp, has arranged to celebrate the 25th year of its existence by holding a show on the 24th to the 31st of the present month. The schedule, printed in French and in Flemish, contains 29 classes for flowering plants, foliage plants, orchids, cut flowers, floral decorations, fruits, and vegetables. Medals are offered as prizes, and of these the King and Queen of the Belgians, the City of Antwerp, and others, are donors. The secretary is M. Emile Nagels, 218, Chaussée St. Bernard, Antwerp.

ALLAMANDAS.

Although the large-growing allamandas, such as A. Schotti, are now but little grown as large specimens, they are among the finest of all climbing plants for a large stove. Trained to the roof in such a structure, they will soon cover a considerable space, and the large, rich golden-yellow blossoms are always admired. The plants flower more readily if they are given a period of comparative rest during the summer months. Besides the members of the Schotti class, there are some very distinct species, especially A. neriifolia, which forms naturally an upright shrub, and produces its comparatively small golden-yellow flowers in great profusion. A. grandiflora, a slender-growing half-climber, with widely expanded blossoms of a charming shade of pale yellow, that are borne for a long period during the summer; and A. violacea, the purplish colour of whose blossoms is remarkable in this genus, the flowers of which are mostly some shade of yellow. This last-named species is decidedly variable in tint, some individuals being greatly superior to others. W.

STRAY THOUGHTS ON VARIED TOPICS.

At a sweet pea show the other day the judges were called upon to decide between two exhibits, but according to the standard set in respect of these flowers their task was an easy one, for one collection was characterised by long, stout stalks carrying three and four flowers each, and foliage round the tops of the vases, which little resembled that of sweet peas. The other exhibit was different, for though the varieties were much the same the flowers were smaller, they lacked substance, so the judges said, the stems were shorter, and not so stout. There was no doubt about which was first, according to the exhibition standard. "They didn't need a second glance," said one person, who, by the way, was interested, so the premier prize card was placed on the first-named collection, and everybody was satisfied.

Now come with me into the respective gardens in which the two collections of sweet peas were grown. In the first we see a long upright row of sweet peas that looks as if it were planted to serve as a wind break for something more tender beyond. The tops of the plants are nine feet or more from the ground, and the flowers that are mostly up there are picked by means of a step ladder, which stands near at hand ready for use. The tall plants are supported by sticks, strengthened by means of posts and wire, and we are told that all the flowers were picked off until just before the shows began. The big leathery foliage hardly seems natural, and such a contrast to that of the second prize row in the other garden. The latter plants, by the way, are not so tall. You can admire and pick the flowers from the ground; they look graceful and pleasing clustered over the bine, and the difference between the two is as great as a lithe young beast in a field and the same overfat, heavily-breathing animal in a stall. Flowers have been picked from this row ever since they began to open, and while one is natural the other looks artificial. But there, as with cattle, it is the forced and unnatural specimens that win at the show, whichever you may like best in the garden.

Another contrast. This time an onion class in a vegetable show. Here nine bumping specimens that would turn the scale at a pound and a-half each, with little outer skin, and necks that could hardly be called swan-like in proportion. Over there another bunch of onions, not more than a quarter the weight, but firm as rocks, encased in brown, ripened skins that gave evidence of perfect harvesting and a thoroughly-ripened condition. These had no necks to speak of, and the judges picked them up, looked at each other, and put them down again. Their better judgment was telling them something, but there is a law in showland that in onion classes the biggest bulbs must have the prize, so the coveted card fell on the large specimens, and they passed on to the next class. Nobody complained, unless it was the man with the smaller bulbs, and, if so, he did it silently, because there is a standard in show circles, i.e., the standard of size, and the world accepts it.

But follow the fortunes of these two types of onions a bit further, or on into the winter. A two-pounder that would win unstinted praise at the show is sent to the kitchen, a bit is cut off it to flavour the stew, and the rest meets with an ignominious fate in the pig tub at the back door, while the lady who presides over

the culinary office sends out a polite message that she would like a few onions next time, and not a football. Very well then, the big onions shall go to market, but with very much the same result, for the greengrocer sends back the message that when one of his customers comes in for a pound of onions she wants two or three, so that she can reserve one for to-morrow, if necessary, and has no use at all for a steak out of a monster. And towards the spring, when onions are getting scarce, we may see these two lots again in the store room, the first prize winners soft and pappy, with rootlets pushing at the base and green tops growing from the crowns, but those smaller onions that were passed over by the judges are as firm as they were on show day, and just as good, but there, according to the law of shows, the big ones must have the prize, and sufficient unto the day is the size of the bulbs.

Still another picture. Two expert vegetable judges pointing up the dishes in a collection at an August show, and in one there are excellent heads of celery. They stop to admire the celery. Wonderful for the time of the year they say, and, in a close competition, it turns the scale in favour of this collection over another which contains no celery. Well, that is the way of things, but in the same row in the garden where these heads come from that decided the question of the first prize for the collections a few heads of celery practically as good are left, but, not being required for exhibition, nobody wants them. The plain fact is they were grown for show at a cost that it is not well to inquire into, not to eat, and when autumn comes and celery digging for the table begins the remaining few in the show row, encased in their paper collars, are discarded, and left to go to seed or rot with the wet, as the case may be. This ends their story, but one wonders why so much importance is attached at summer shows to vegetables that are out of season.

It will be admitted that this season has been a trying one for cottage exhibitors, and one wonders how it has been possible to hold shows at all when one remembers the complaints of exhibitors earlier in the season that it was no good this time, the weather had been too much for them, and they would have nothing to show. But there, the cottage gardener is a man of devices, and is not easily beaten. As evidence of this, I saw, some weeks ago, a row of tall circular tins along the walk of a cottage garden that had originally been used to hold carbide for the supply of an acetylene gas plant. When I saw them, however, they were filled with soil, and in one was growing parsnips, another carrots, a third beet, and a fourth leeks—and these, of course, all for the show. When I questioned the man about his device he asked what he was to do, for at the time when seeds of the above things should have been sown in order to be ready for the show he couldn't get on the ground owing to its unfit state, and, not being easily thwarted, he thought of the carbide tins, and begged them for the purpose.

Just to change the subject for a moment, does anyone remember a season in which the black aphis was such a pest as it has been this year? It began with the broad beans, and taught its lesson here about the value of sowing broad beans early to escape its ravages. The strong, early-sown rows pulled through, but the aphis wrote finis on many a crop that was sown a bit later, and, having done its worst here, it spread its unwelcome presence to the scarlet runners, the French beans, parsnips, carrots, in fact, everything that would serve the purpose as a host plant. Remedies in the case of this pest are not an easy matter, as it locates itself under the leaves, and multiplies at a rate that is little short of being marvellous. Next perhaps to the broad beans the worst thing is with the scarlet runners, and, in consequence of the aphis, there are sickly little plants in dozens of gardens with crimped and twisted leaves, and bine only a few inches high, which, in ordinary circumstances, would now have reached the tops of the poles. H.

SUMMER-FLOWERING SHRUBS.

Shrubs that bloom late in the summer are not very numerous; consequently those kinds that produce their flowers from now onwards are of special value, and should be freely planted, as they help to brighten the shrubberies at a time when there are but few shrubs in bloom. Note may be taken at the present time of the different kinds in bloom, so that when the planting time arrives some of the more desirable of them can be included.

Several of the spiræas bloom rather late in the season, and of these S. ariæfolia, with dense plumes of creamy-white flowers, is very attractive. It frequently attains a height of 10ft., and is seen at its best when given an isolated position. S. Lindleyana is a handsome shrub, often 10ft. high; it has delicate green cut-leaved foliage of graceful habit, and its white plume-like flowers are at their best in August. It prefers a fairly warm loam of a porous nature, and should be planted in a sheltered position, as the cold winds sometimes damage the young foliage. S. Aitchisoni is similar in habit; it has rather larger blossoms, and the foliage is cut into smaller leaflets.

S. Douglasi has bright rosy-red flowers, and is very hardy. A good way to treat it is to cut down the growth close to the ground in the spring, young shoots are then produced which attain a height of from 3ft. to 4ft., and bear flowers in August. S. japonica Anthony Waterer is a desirable form that possesses bright crimson blossoms. In S. bullata we have a dwarf shrub of Japanese origin about 18in. high. It has rounded and wrinkled leaves and deep pink flowers, while, owing to its compact growth, it is a valuable subject for the rock garden.

Of the broom family Cytisus nigricans is a delightful summer-flowering shrub; its pale yellow blossoms are produced on slender, erect spikes in July and August. It is necessary to guard it against rabbits, as they have a partiality for it. A stock is easily raised from seed. The Spanish broom (Spartium junceum) should be largely planted in extensive pleasure grounds, as it produces its bright yellow blossoms freely from July to September. It is rather thin in growth, but often attains a height of 10ft.; it is quite hardy, and, like the common broom, will flourish on light, poor soils.

Cistus laurifolius is particularly bright and showy when in flower, its delicate white blossoms have a pale yellow blotch at the base of each petal. It is perfectly hardy, and can be easily raised from seed. The bark is a pleasing red, and the leaves give off a pleasant perfume. Ceanothus azureus Gloire de Versailles is a beautiful shrub for a pergola or wall, its pale blue flowers being freely produced in clusters on the young wood. It prefers a warm loamy soil, and in some districts makes a good shrub in the open.

The buddleias are very handsome when in flower, especially the newer varieties of C. variabilis. Of these C. variabilis magnifica has large spikes of deep rosy-purple flowers and C. v. Veitchiana has blooms of a bright mauve colour, with an orange-yellow throat. These are quite hardy, succeeding in any good soil, and should be pruned back fairly hard in the spring. Escallonia macrantha makes a good wall shrub, and in sheltered positions it can be grown in the open; its rosy-red blossoms contrast pleasantly with the deep green foliage. Olearia Haasti is a particularly desirable subject, as for several weeks in August its daisy-like flowers are produced in profusion, and when it is not in bloom it is quite a good evergreen. This species is very hardy, and frequently attains a large size. Although Choisya ternata can hardly be described as a late-flowering shrub, it rarely fails to produce a second display of blossoms in the autumn, and where it succeeds it is a great acquisition. It requires a warm, well-drained loam, and does best in a sheltered position. Its white, wax-like flowers are usually produced with freedom, and are sweetly scented. Clethra arborea, the lily of the valley tree, is usually grown in the conservatory, but where the soil and situation are suitable it succeeds out of doors in warm localities. The panicles of white bell-shaped flowers are very lovely, and a well-grown specimen has a picturesque appearance.

J. Gardner.

Batsford Park Gardens.

ROSES AT NUNEHAM PARK.

On several occasions we have referred to some of the more important features at Nuneham Park, the residence of L. Harcourt, Esq., near Oxford, and now present our readers with an illustration of the terrace rose garden there. It is not often one sees roses massed in such close proximity to the dwelling; it is seldom these flowers are planted in beds made on a flagged terrace, and rarely are they seen in such perfection anywhere as under these conditions at Nuneham. Exhibition flowers are not desired, but thorough cultivation, good feeding, and ample pruning are practised for the purpose of securing a fine display of bloom over as long a period as possible. That success follows these methods is evident from the wealth of blossom produced by the masses of Caroline Testout, Frau Karl Druschki, etc., on the terrace, and by Madame Abel Chatenay and other varieties at the foot of the terrace wall. These roses have been particularly beautiful at Nuneham this season, but those who would have similar displays must remember that in rose cultivation, as in many other things, withholding tends to poverty.

Cucumbers.—Sow a few seeds of Telegraph or other good winter variety at short intervals to keep up a supply of vigorous young plants in readiness for planting out as melons are disposed of. Plenty of top and bottom heat, and abundance of atmospheric moisture, and a compost somewhat lighter than for summer use, are the main factors, as cucumbers must be grown quickly to be worth eating. Never allow plants to stand about if the pits are not ready for them, as starvation in small pots leads to spider and disease, and fresh, healthy young plants can be quickly produced.—F. Jordan, Warter Priory Gardens.

AWARDS TO NEW ROSES.

Many beautiful roses of all classes have been introduced during late years, and each season sees fresh varieties added. Some of them, both in the shape of blooms and in the colouring of their petals, are very pleasing, but one is greatly disappointed on finding that many are lacking in that most essential point in all good roses—scent. One cannot help feeling sorry that such a number of these new roses are awarded F.C.C.'s and Gold Medals, seeing they are so very deficient in fragrance. While standing in the tent which was devoted to new roses at Gloucester, I saw a number of people turn away disappointed, as only one or two varieties possessed any perfume. If those responsible for awarding these honours continue in the course they are pursuing, we shall within the next few years have a class of flowers without scent, and the words

"No flower that blows is like the rose,
Or scatters such perfume,"

will have lost their meaning.

Among many of the new roses fragrance is lacking to such an extent that the flowers seem more artificial than real. Judges alone are to blame for this kind of thing; but as each individual has his or her own peculiar fancy, it would be a very difficult point to settle, unless some standard were set up as regards the perfume. Many people would as soon prefer an artificial flower made of wax or paper as have a real one which possesses no scent. All rose-growers are aware that at the present time the chief points they have to consider in exhibiting is the quality and freshness of their blooms; to them perfume counts for naught, but where this is taken into consideration, many of the blooms that at the present time find favour among exhibitors would ere long go out of cultivation. Take Bessie Brown as an example. How seldom do we find this variety expand its bloom properly under natural conditions, yet it is a Gold Medal variety. I remember planting a bed of this a year or two after it was introduced, but never succeeded in inducing a bloom to expand properly, and many others experienced the same difficulty.

Before awarding Gold Medals and F.C.C.'s it would be a good plan to have all the new roses thoroughly tested side by side with standard varieties by some disinterested person, so as to prove their worth. I am well aware that many will differ with me on this point but what we want to encourage if possible is not so much the production of fine roses suitable only for exhibition purposes, but varieties that are most useful for growing in gardens. As a rule, where roses are grown in private establishments, they are planted in beds containing one variety only, or, if more, they must be of the same colour. This being so, it is impossible to grow a large number of kinds, therefore the aim is to grow only the best, and after planting a rose garden in which some of these Gold Medal varieties are included, it is very disappointing to be obliged to take up a bed or two because the plants fail to expand their flowers, or are otherwise unsuitable.

I have no wish to discourage the production of new varieties, far from it; but let us have high honours awarded only to the very best in every respect. To me it seems an absurd practice to show roses on boards. There should be no difficulty where a grower has several acres of plants in cutting a single flower of one of them with just sufficient wood attached to admit of the bloom being raised above the show-board. If a dozen or so of blooms were shown on long stems in a vase or basket, one would then have an opportunity of seeing what they were like. H. C. Prinsep.

ROSES ON THE TERRACES AT NUNEHAM PARK.

The residence of the Right Hon. L. Harcourt. The principal variety on the Upper Terrace is Caroline Testout, and on the Lower Terrace Madame Abel Chatenay.

Phacelia campanularia.—Blue flowers are very generally admired, and this native of California is one of the best annuals of that tint which we have. There is, too, no half-and-half measure about the tone of blue, for the flowers of this phacelia suggest in colour one of the finest gentians.—W.

JUNE-FLOWERING LILIES.

(Continued from page 596.)

L. tenuifolium.

A dainty lily from Siberia, growing a foot to eighteen inches high, the first flowers opening outside quite early in June. One of the lower pockets on a sunny slope of the rock garden will suit L. tenuifolium. It is one of the easiest lilies to raise from seeds, the bulbs flowering the second year after sowing the seeds. The slender stems, narrow leaves, and wax-like scarlet flowers, give this lily an elegant and graceful appearance.

As it makes stem roots freely the bulbs should be planted fairly deep in a light sandy loam, mixed with plenty of flaky leaf-mould. To keep up a stock of this dainty little lily, a few seeds should be sown each year, as the old bulbs soon deteriorate. A variety of L. tenuifolium named Golden Gleam is said to be a hybrid between this species and one of the martagon section. It has golden-yellow flowers, and is stronger in growth than L. tenuifolium, and is altogether a very useful addition to the lily family.

L. elegans (or Thunbergianum).

Numerous varieties of this dwarf Japanese Lily are grown in gardens, most of which flower during June. They vary from six inches to two feet in height. The upright, cup-shaped flowers average four inches in diameter, and are borne from one to five, or more, on a stem. L. elegans thrives in light sandy soil, and, being one of the stem-rooting section, should be planted from six to eight inches deep. The bulbs may be planted in clusters between dwarf, low-growing shrubs, in groups along the front of a border, or in pockets in the rock garden.

The following varieties are all noteworthy, having large and brilliantly-coloured flowers: Alutaceum, a charming dwarf lily, six inches high, with apricot-yellow blooms; atrosanguineum, a dwarf chestnut-crimson variety, rich colour, and very effective; Orange Queen, one of the best "elegans" lilies, grows one foot high, and has large bright, orange-coloured flowers; Prince of Orange, apricot-yellow, dwarf, and showy; sanguineum, reddish-crimson, a vigorous variety, one to one and a-half feet high: Van Houttei, rich crimson, distinct and beautiful, large flowers, height one and a-half feet; venustum macranthum, a July-flowering variety, two feet high, with clear orange flowers.

L. monadelphum.

Under one or other of the three names, L. monadelphum, L. szovitzianum, or L. colchicum, we have in gardens a very beautiful, early-flowering lily, with straw or citron-yellow flowers, freely spotted with dark chocolate-brown. The stems are vigorous, three to five feet high, flowers pendulous, three to four inches across, and petals reflexed. The usual number of flowers is from six to ten on a stem, but extra vigorous specimens sometimes produce over twenty richly-coloured, fragrant blossoms.

A native of the Southern Caucasus, this lily will thrive in most soils, and is especially suitable for the herbaceous border. Plant the bulbs four to five inches deep.

L. candidum.

Opening its pure, waxy-white flowers towards the end of June, the White, or Madonna Lily is a popular garden plant, being probably grown more generally for border decoration than any other species. It is nowhere better seen than in cottage gardens, where, left undisturbed for years, the bulbs are often clustering together on the surface, neither frost nor sun seeming to harm them. L. candidum is grown extensively to supply cut flowers for sale and home decoration. Many growers have unfortunately had to give up the cultivation of this delightful lily owing to the ravages of the fungus Botrytis cinerea. Spraying with Bordeaux mixture or sulphide of potassium, one ounce to two gallons of water, may be used to prevent, or check the disease when prevalent. Badly affected plants should be dug up and burned. Dusting with sulphur previous to planting the bulbs is worth trying as a preventive measure.

While the Madonna Lily will grow and flower in most soils and situations, it is most at home in a good fibrous loam and a sunny position. A valuable lily for the herbaceous and shrubbery borders, L. candidum also does well grown in pots for conservatory decoration. Replanting when necessary should be done during August, active growth of roots and leaves starting in autumn. Growing three feet or more in height, the pure white flowers, with prominent yellow stamens, are delightfully fragrant. The number of flowers on a stem ranges from twelve to eighteen. L. candidum is said to have been first introduced into this country in 1596. It is a native of Southern Europe, and extends into Asia.

L. testaceum.

Grown also under the names of L. excelsum and L. isabellinum, this distinct lily is of doubtful origin. The generally-accepted theory is that it is a hybrid between L. candidum and L. chalcedonicum. The usual height is from three to four feet, but when growing luxuriantly stems five feet or more are not uncommon. The colour of the flowers is very distinct, being buff or nankeen-yellow, with prominent red anthers, and the fragrance is very noticeable. The flowers have the distinct reflexed petals of the Martagon lilies. L. testaceum, sometimes referred to as the Nankeen Lily, thrives in most garden soils, and is a splendid border lily. Replanting should invariably be done quite early in the autumn.

L. parvum.

This is a Californian Lily, growing about three feet high, with numerous small, upright, cup-shaped flowers, orange, tipped with crimson. L. parvum thrives in a well-drained sandy peat and leaf-mould. It delights in moisture at the roots in summer, but excess of moisture in winter is often fatal. One of the most suitable positions for this lily is along a shrubbery border with a south-west or western aspect, planted between kalmias, pieris, or dwarf-growing rhododendrons. The variety luteum is more vigorous than the type, growing four feet or more in height. I have just counted a spike with thirty-nine flowers, each about one and a half inches across, pale orange, spotted with maroon in the centre. The leaves are arranged on the stems in whorls.

L. Parryi.

A charming lily, also from California, with a pleasing fragrance, and rich yellow flowers. The average height is two and a half to three feet, with from three to twelve trumpet-shaped flowers. Similar conditions to that recommended for L. parvum will suit this lily. It will also thrive among hardy ferns, provided the soil is well drained, and contains plenty of leaf-mould.

A. Osborne.

Kew.

BORNMUELLER'S MEADOW SAFFRON.

Meadow saffrons are assuming greater importance than hitherto for the decoration of the garden in autumn. It is being rapidly realised that the newer species and their varieties include a number of plants which are of high value for the decoration of the rock garden and the front of the border in autumn—a time when the former, in particular, wants all the colouring it can receive. In clumps on the level parts of the rock garden, planted in the front of the border, or even in rough grass which does not require to be mown until autumn, when the leaves of the meadow saffrons die down, these flowers are admirable in their appearance. The old Colchicum autumnale, in its single forms, at least, is quite cast in the shade by its allies.

One of the earliest of these large-flowered meadow saffrons, and also one of the most beautiful, is Colchicum Bornmuelleri, a very handsome species, which opens earlier than C. speciosum, and which has lighter-coloured flowers of a different outline, and quite delightful in their own way. They open out almost white, but rapidly pass off to deep rose-purple, with an ivory-white zone at the base. A good clump is highly effective, and even one or two bulbs, or, rather, "corms," will produce flowers enough to be pleasing. They are large and handsome. The leaves do not appear until spring, but the flowers are produced in September. This handsome bulbous plant should be secured at once, and planted at a depth of about six inches, a little less doing, however, in strong soil, which it prefers to a light and dry compost. Increase is effected by seeds, which take a long time to produce flowering bulbs, or by division of established clumps, performed when the leaves have become brown.

S. Arnott.

Madonna Lilies.—Where this lily thrives there is a no more desirable subject for the flower garden. Attempts to establish it meet with very variable results: in some districts it is easily managed, while in others it resents all efforts. From examples one sees of it flourishing in cottage gardens, it is evident that it dislikes being disturbed, and that it does not require a soil over-rich in manure. The best time for planting is directly the flower stems have died down, usually about this season; the bulbs should be kept out of the ground for as short a period as possible, as they are most impatient, and undergo no real resting period. This lily does not appear particularly fastidious as to soil, but is to be seen thriving in most ordinary soils provided with good natural drainage. The fungoid disease which so frequently attacks the Madonna lily accounts for many failures that annually occur.—T. B. Field.

CLIANTHUS PUNICEUS ALBUS.

In this country the clianthus is generally regarded as a greenhouse climber, but in favoured districts, such as Devon and Cornwall, the plant will flourish well in the open air, the only protection advisable being a warm south wall; in some gardens it does well as a bush plant. The specimen shown in the accompanying illustration is growing on a south-west wall, and represents the white form, which is a pleasing addition to the scarlet-flowered type.

The name clianthus is said to mean Glory Flower, in allusion to the beautiful colour and form of the blooms of the type. It is popularly known as the Glory Pea, and also by the names Parrot's-bill and Lobster-claw, owing to the shape of the flowers.

Cuttings root readily in sand, provided they are started with a gentle bottom-heat. The plants grow vigorously when established, and are suitable for covering the roof or walls of the greenhouse or conservatory. The white variety was introduced into commerce a few years ago, and is now to be met with in many gardens. The type was first brought into this country from New Zealand in 1832, and is common in the south-west, where it provides a grand display in May, walls on which it is grown being a sheet of scarlet at that time. A few flowers are generally cut by Christmas Day, and from that time onward blossoms are borne in ever-increasing numbers, being most profuse in May.

Specimens of scarlet clianthus grown in bush form flower with freedom in the south-west, but it is certainly seen at its best on a wall, as it presents a larger expanse of colour than when grown as a shrub. Very large examples are to be seen in Devon and Cornwall, one having covered the side of a house to the eaves, a height of considerably over twenty feet. The white variety is not of a pure snow-white, but is tinged with faint green, and where only one can be grown, the scarlet type is to be preferred, as it is more striking in appearance. However, when the two are grown on the same wall, as they are here, they make a pleasing contrast. The clianthus may be considered practically hardy in Devon and Cornwall, but in the exceptionally severe frosts which occurred in February last year some plants were killed.

Here, as soon as the flowers have faded they are carefully cut off. Were they allowed to remain on the plant, many hundreds of seed-pods would be formed, which would inevitably weaken the plants considerably. As soon as the blossoms are removed the plants are heavily syringed every evening, and this is continued during the whole of the growing season. Were this not done they would become dust-dry, as the leaves prevent the rain from reaching the roots. When they become dry they are attacked by green-fly, which weakens them so that little new growth is made, but with copious nightly syringings these pests never make their appearance. When the growth is completed, the new shoots are laid in behind the wires strained against the wall, so that it is entirely covered with foliage, and no glimpse of stone is to be seen. Seeds saved from the white variety often give seedlings that throw back to the scarlet type.

Kingswear. WYNDHAM FITZHERBERT.

New Rose Moonlight.—At the recent exhibition of the Irish Rose and Floral Society at Belfast, a gold medal was awarded to the Rev. J. H. Pemberton's new seedling perpetual-flowering cluster rose Moonlight.

ESCALLONIA PHILIPPIANA.

Of the various species of escallonia suitable for outdoor culture this is the hardiest, and, whereas the majority of the other kinds can only be grown successfully in the southern counties, or further north in the vicinity of the sea, this is suitable for general outdoor cultivation, for it withstood the severe winter of 1894-1895 without injury. Mature bushes are met with between three feet and five feet in height, with a diameter up to six feet or so. The deciduous leaves are small and dark green, and amongst them the white flowers show to considerable advantage during late June and July. It is a native of Valdivia, and has been in general cultivation in this country for upwards of a quarter of a century.

By crossing it with the evergreen E. macrantha, Messrs. J. Veitch and Sons obtained a charming red-flowered hybrid, which is almost as hardy as E. philippiana. This is called E. langleyensis, and it forms a wide-spreading bush at least eight feet high, with long, graceful, arching branches which bear a profusion of showy blossoms. Should a mild winter be experienced it retains many of its leaves until spring, but a prolonged period of frost causes them to fall. Both shrubs are excellent for beds or large groups, and the hybrid is also suitable for planting against walls and trellises. Both plants thrive in light but good loamy soil, and are readily increased in July by means of cuttings of half-ripe shoots inserted in pots filled with sandy soil, and then placed in a close frame.

W. D.

CLIANTHUS PUNICEUS ALBUS.

A fine specimen growing against a wall in a Devonshire garden.

SUCCULENT PLANTS FOR AMATEURS

(Continued from page 439.)

Agave.

The agaves form a large genus of Central American plants. Many of the species worthy of attention, and should be included in quite a small collection, excluding the large and coarser kinds. A selection should be made from the following: A. celsiana, A. albicans, A. hybrid A. Leopoldi, are all distinct, and have an additional charm in the dense rosettes of leaves, bearing numerous curly threads of a silvery-white colour all along the margins. In A. geminiflora these thread-like filaments hang in a large mass, and crowd the whole of the centre of the plant.

Several good variegated forms are in cultivation. A. americana variegata, and A. micracantha picta are pretty; A. Milleri variegata, grown under the erroneous name of A. americana var. picta in gardens, is a beautiful form. A. picta variegata is a dwarf variety with bluish-grey leaves, and with a broad stripe of white down the middle; A. atrovirens variegata has long, tapering leaves variegated with rich yellow. All the above are obtainable from the nursery trade.

AGAVE MICRACANTHA PICTA.

A handsome species with large leaves, marked with bands of pale yellow.

reach to 20 or 30 feet high when in flower. Most of them only bloom once, and then die, but there are a few species which do not, but develop lateral buds at the base of the old flower stem, and these soon grow into large plants. A number of species are Franzosini, A. marmorata, and A. Scolymus, are all species with greyish-white leaves: A. Victoriæ Reginæ, which is in a class by itself, is a regular gem, and should be in all collections. A. geminiflora, A. schidigera, A. filifera, and the

Aloes.

These are confined to tropical and subtropical Africa and the South of Europe. One species, viz., A. chinensis, is said to be a native of China, but is probably an introduced plant. Most are of easy culture, and highly decorative, especially when in flower. A selection may be made from the following: A. variegata, the Partridge Aloe, a common plant in cottagers' windows; a beautiful and easily-grown plant, with short, spirally-arranged green leaves prettily variegated with white; flowers brick-red, produced freely on quite small plants. A. obscura, A. Greeni, A. saponaria, and the hybrid A. marmorata are useful kinds, with thick, fleshy leaves spotted or striped with white or greenish-white, and of dwarf habit. A. mitriformis is another easily-grown species, with short, dark green leaves, covered near the apex and along the margins with bright yellow prickles. A. ferox has light, glaucous blue leaves, densely covered with short, hard prickles, and a neat, dwarf habit. A species frequently met with as a cottager's window plant is the South African A. arborescens, of free branching habit, and not at all fastidious as to culture. This is an ideal succulent plant for general purposes, as numerous suckers and branches are developed, from which any amount of stock may be obtained. The leaves are a light glaucous-blue shade when grown in full sun, but soon lose this colour if grown in even partial shade. The flowers are brick-red, and seldom produced, except by large specimens. A. vera, a native of the Mediterranean region, is a dwarf plant with light green leaves, and is of interest as being the source of the bitter aloes of commerce.

In a genus of which over 100 species are in cultivation it is difficult to restrict oneself to half-a-dozen species, but mention must be made of a few of the larger kinds suitable for large houses, such as the Giant Tree Aloes, A. Thraski and A. Bainesi, with their tall woody stems and spreading leaves, almost devoid of succulence; and the fine A. abyssinica, with large, fleshy, dark green leaves, spotted with pale greenish-white. The bulk of the species flower freely when once they have reached the adult stage, the flowers being mostly of some shade of brick-red or orange, while a few species have light yellow flowers.

Apicra and Haworthia.

The apicras and haworthias are nearly allied genera, of which only a few of each are in collections. They are all of small stature, and suitable for small collections where space is limited. The flowers are all small and of a dirty white colour, occasionally shaded with pink or some tint of brown, and borne on slender arching racemes. Of the apicras, A. deltoidea and A. spiralis are the two best for general purposes. Haworthias are a numerous family, and are often covered with a dense mass of warty corrugations or spots all over the leaves, giving them a distinct and handsome appearance. A few of the best are H. fasciata, H. Radula, H. margaritifera, H. Reinwardti, and H. tessellata.

Gasteria.

The gasterias are well-known as useful window plants, a hot, sunny window being an ideal position for them, and with very little attention they will thrive, and flower annually for many years. Numerous species are in cultivation, and are mostly dwarf in habit, and with thick, fleshy, warty, or spotted leaves, some of which are extremely handsome. Most of the species possess very beautiful flowers, being usually some shade of scarlet or pink, and shading off at the mouth of the perianth to bright green or white. The flowers are all curiously pouched near the base, and curved in outline, and are borne on long, erect, or arching racemes or panicles.

A few of the most easily-grown kinds are G. verrucosa, G. disticha, G. nitida, G. trigona, G. marmorata, and G. nigricans. These are all dwarf and compact in habit. A few of the larger kinds are G. excelsa, G. spiralis, G. Croucheri, and G. glabra.

C. P. Raffill.

(To be continued.)

SCHIZANTHUS WISETONENSIS.

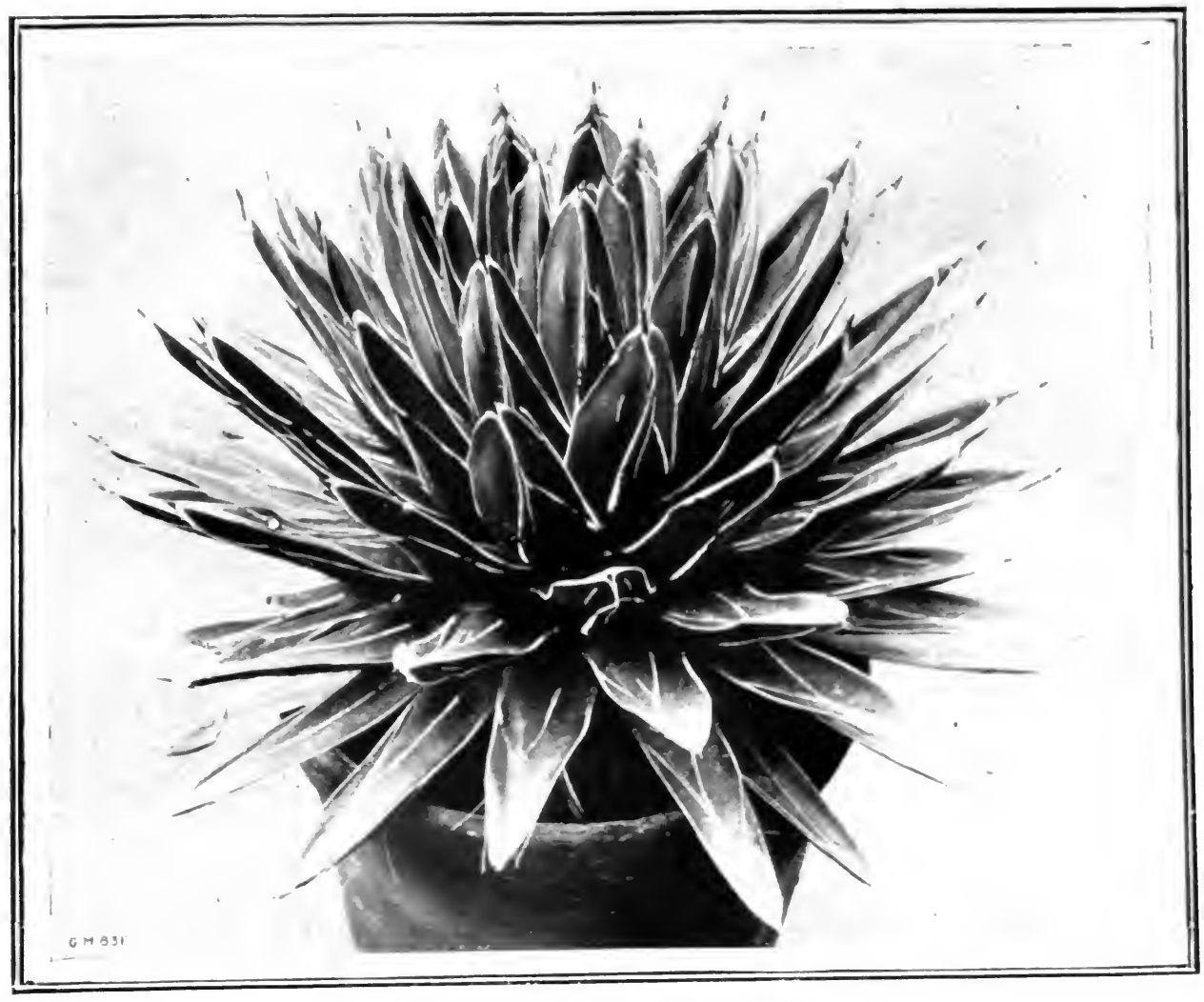
It is advisable to raise two batches of this schizanthus, one early in August and the other at the end of the month or early in September. Where the houses in which the plants are flowered are very sunny the blooms quickly fade as the hot weather increases; if there are structures with cool aspects the flowers will last longer and be very highly coloured. In the depth of winter the sunniest position in a house will not be too hot.

All cultivators of flowering plants for the embellishment of the conservatory in spring will be acting wisely by providing two good batches of plants, as even a few fine specimens give a furnished appearance to a greenhouse or similar structure. I well remember having to grow several plants in a pot of the old Schizanthus pinnatus, and train the shoots over a balloon-shaped arrangement of wires. But a well-grown specimen of the variety Wisetonensis does not require a wire support; one, or at most three, stakes will be sufficient, and one plant quite enough for a pot 6½in. or 7½in. in diameter.

The seedlings should be grown in the best compost procurable, not necessarily a rich one, but such as will support the roots in a healthy condition until the flowers have faded. Too often one sees plants in their early stages looking somewhat sickly in a poor, fibreless, rooting medium. Feeding later on will not make up for lack of poor soil, simply because the roots are too few. In the substantial compost roots will be plentiful and healthy, and when the feeding is judiciously carried out extra fine specimens will be the result. Frame accommodation is the most suitable until the middle of October; then a high, warm shelf will answer best from that time until the final potting, when space on a light, open stage should be provided. M. L.

LILIUM CHALCEDONICUM.

Known frequently as the Scarlet Turk's Cap Lily, this species, like many other members of the Martagon group to which it belongs, needs to become thoroughly established before it is seen at its best. The first season after planting it will often push up a poor, weak stem to a height of only a few inches, with insufficient vigour to enable the few flowers to develop. Favourably situated, an improvement may year by year be anticipated, till it forms one of the finest of all border lilies. In this lily stem-roots are very sparingly, if at all, produced, the entire plant depending for its support upon the stout thong-like roots from the base of the bulb. It is therefore evident that until these have thoroughly taken possession of the soil this lily will not be seen at its best. A good sandy loam of moderate consistency suits this lily, whose prettily recurved, sealing-wax-like coloured blossoms form such a pleasing feature in the flower border. They are not, however, adapted for cutting from, the heavy smell of the blossoms being against their use in confined places. Apart from any other consideration, this lily is particularly interesting, as it is one of the reputed parents (L. candidum being the other) of the beautiful and distinct Nankeen lily (Lilium testaceum), whose early history is doubtful. S.



AGAVE VICTORIÆ REGINÆ.

A handsome species of dwarf growth, the leaves greyish-green, with white variegation.

SPRING CABBAGES.

The succulent young hearts of spring cabbages are eagerly looked forward to in the spring of the year, as they provide the first real change that one can hope for after several months of winter greens and root vegetables. The spring cabbage bed is, therefore, a matter of real importance, and everything should be done to make it a success. Not many years ago much was written about the various varieties, their values, and earliness, and the leading seedsmen have been compelled to take the greatest possible care of their stocks of this vegetable so that their customers may not be disappointed.

One of the greatest troubles experienced with this crop, and sometimes a very prevalent one, is bolting. This, as all readers know, means that the plants run to flower prematurely, and do not make hearts. This trouble may be due to sowing at the wrong season, or to poor varieties, not necessarily bad cabbages, but entirely unsuited for spring supplies.

The preparation of the ground is of considerable importance. An open site should be selected, and the ground well worked, and have a liberal addition of good farmyard manure added. Spring cabbages form a good rotation to onions, so that as soon as the crop is harvested the ground should be turned up, and allowed to remain rough until the plants are ready for putting out. The time of seed sowing varies according to the locality, from the third week in July to the first week in August for the first sowing, and from the middle to the end of August for the second sowing. Select a portion of a border that has not just been manured or used recently for any member of the cabbage family. Break it up, and then make a firm and fine tilth, and sow the seeds thinly, broadcast. Cover the seeds with a dusting of wood ashes and old lime rubble and a sprinkling of fine soil, and then net the bed to protect the seeds from birds.

If the weather is summer-like and dry a light watering through a rose can, late in the evening, will greatly assist germination. As the young plants are clearly seen remove the net and give an occasional dusting with soot in the early morning while they are wet with dew. Preparatory to planting out have the surface of the bed neatly levelled down, after having strewn the surface with wood ashes and lime rubble. Mark out the rows eighteen inches to two feet six inches apart, and plant out at a foot apart, which will allow for the removal of alternate plants in the very early spring. Plant firmly, and give a good watering. Pay attention to hoeing, which will not only keep the plants free from weeds, but also stimulate growth, and allow the free passage of rain to the roots, as well as conserving the moisture in the ground. Beyond these little details no other attention will be required until a month or so from the end of the year, when a little soil should be drawn up to each plant.

In the early spring, when the plants begin to grow again, the hoe should be used among them during suitable weather, and as the plants grow a little artificial manure will assist the plants, but avoid too many applications, otherwise the growth made will be too vigorous and soft. As soon as the cabbages commence to heart a little nitrate of soda will hasten them, but here again, unless cautiously applied, it had better not be used. When cutting select the firmest, and, if possible, the alternate plants, at the commencement, which will allow the later ones more space to develop.

Ellam's Early is still one of the very best varieties for early supplies, and if treated properly, and the true stock is obtained, it can be relied upon. Sutton's April and Flower of Spring are each of excellent quality, and rarely bolt, while Harbinger is another very excellent early cabbage.

E. Beckett.

Aldenham House Gardens.

GATHERING EARLY APPLES AND PEARS.

Precise dates cannot be given for gathering any particular variety of apple or pear, as situation, climate, soil, and season affects them. The varieties also differ considerably as to the stages of maturity at which they should be gathered, some being best left upon the trees until ripe, while others would become insipid, or mealy, if so left. Experience, assisted by close observation, alone will help in these matters, but once this is gained there is no difficulty in ascertaining when each fruit is in condition.

The colour of the fruit will readily suggest to those experienced when it is fit to gather. The brown colour of the pips is also usually a safe guide, though the best practice to follow is to carefully raise each fruit to a horizontal position, then if its footstalk readily parts from the branch, it will be a certain proof that the fruit is ready to be gathered. On the other hand, should force be necessary, which invariably results in the footstalk being broken, the time for gathering will not have been reached.

Pains should be taken not to impair the appearance, and quality of the fruit by bruising, and to this end it should be carefully gathered, placed in padded baskets, and conveyed to the fruit room. The supply of fruit for the table can be economised by gathering it upon the piecemeal principle, and the best way of doing this is to attend to each variety daily as soon as its earliest fruits become fit; by this means some sorts, provided a sufficient quantity is grown, can be made to afford a prolonged supply.

It may be as well to select a few well-known varieties of early apples and pears and briefly touch upon some of the peculiarities which they possess, in reference to my subject.

Pears.

The Jargonelle pear is an old favourite that ripens in August and early in September, and is best in quality when it is gathered immediately before it is ripe. It must not, however, be stored for more than a few days before being taken to table, and it should then be eaten without delay otherwise it will commence to decay in the centre, and become useless, though externally it may appear to be quite sound. Williams' Bon Chrètien, another old favourite, should also be gathered a few days before it is ready to fall from the tree, and by daily selecting the most suitable fruits a good crop, even from a single tree, may be made to afford a moderate supply of excellent quality for a fortnight or so. When perfectly ripe the core readily decays, and those who are inexperienced may be easily deceived by judging the condition of the fruit from its appearance. Souvenir du Congrès ripens at the end of August, or early in September, and its peculiarities are similar to those of Williams' Bon Chrètien, which is one of its parents, and it should be treated in like manner to that variety. It is ready for table a few days after being gathered.

Marguerite Marillat is a fine pear of comparatively recent introduction, and may be specially referred to as an illustration of those varieties, such as Flemish Beauty, that require to be gathered somewhat early, before reaching maturity, in order to secure the flavour at its best. It is liable to become mealy and deteriorate in quality, if it becomes matured before being gathered, and there should be no delay in sending it to table after it ripens in September. Triomphe de Vienne is another fine September pear, of excellent quality and handsome appearance, but it is liable to decay at the centre if left too long before being gathered, and for the same reason it keeps in perfection only for a short time, and, consequently, should be sent to table as soon as it is ripe.

Beurre de Amanlis is an old variety, and a favourite, being deservedly so on account of its many good properties, though it is not attractive in appearance. It is large, juicy, and of pleasant flavour, and need not be used quite so soon after being gathered as such sorts as Williams' Bon Chrètien, while it also keeps in good condition a few days longer after getting ripe than does that variety. It ripens at the end of September.

Apples.

Among apples Irish Peach ripens thoroughly on the tree early in August. It quickly loses its refreshing flavour, and its crispness of texture, however, after being gathered, and to have it in its best condition it must be sent to table and eaten as soon as it is gathered. Beauty of Bath, an attractive variety, that may be termed an improved Irish Peach (which in many of its characteristics it much resembles), though it retains its good qualities for a short time after being gathered, and may be kept a little while before being sent to table. It ripens in August.

Mr. Gladstone, a good juicy apple, with sweet, pleasant flavour, deteriorates readily if kept after it is ripe. It should be gathered daily, as it becomes fit, and be sent to table without being kept. It ripens early in August. Red Astrachan, a handsome variety of Russian origin, has a sweet, moderately rich flavour, but, like Irish Peach, it readily becomes mealy, and loses its best flavour after being gathered, and should, therefore, be sent to table as soon as picked. It ripens early in September.

Lady Sudeley, one of the most handsome of early apples, ripens at the end of August and early in September. The fruits are tender and sweet, but soon lose flavour after being gathered, and should be sent to table without being stored. Devonshire Quarrenden, an old and well-known variety, rich and juicy, ripens in August, and it should be allowed to well ripen upon the tree, and then be sent to table as soon as gathered.

Thos. Coomber.

The Hendre Gardens.

Freesias.—These are useful for the conservatory, and may be had in flower over a long period if brought on in batches. If last season's bulbs have been properly matured they may again be made use of. The bulbs must, however, be graded, using only the largest for flowering this season. Put them in 5in. pots in a compost of loam, leaf-soil, and sand, and place them near the glass in a cold frame. Carefully apply water until they have made plenty of roots, and when growth is active, give abundance of air. Towards the end of the autumn place them near the glass in a cool house.—E. Harriss, Lockinge Park Gardens.

NEW PLANTS AND FLOWERS.

DENDROMECON RIGIDUM.

Though by no means a new plant, this species is not very largely represented in gardens, even in the south. It is hardy if planted in a warm position, and will generally succeed where Romneya Coulteri does well. The flowers are bright yellow, poppy-like, but flattish, and borne singly on young shoots. From the axil of the first leaf below the flower another shoot proceeds, and often extends beyond the flower ere the latter is fully open, and it in turn produces a bloom. The species is shrubby, is a native of the mountains of California, and has rather rigid, lance-shaped, glaucous green leaves. A.M., R.H.S., July 29. Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking.

RHODODENDRON AUGUSTINI.

Named in honour of Dr. Augustine Henry, its first discoverer, this new hardy Chinese species is a promising garden plant. It grows 3½ft. to 5ft. high, and bears large, showy, purplish-lilac flowers, spotted with yellow or orange on the dorsal lobes of the corolla. The wavy corolla lobes are a conspicuous feature. "Bot. Mag.," t. 8,497.

HYPERICUM AUREUM.

An old, but distinct species of St. John's Wort, that flowers freely in August, producing golden-yellow flowers with deflexed petals, and a large cluster of orange-coloured stamens. It is quite hardy, and forms a neat tree-like shrub from 2ft. to 4ft. high. "Bot. Mag.," t. 8,498.

AMELANCHIER OLIGOCARPA.

A shrubby species, rarely exceeding 5ft. in height. Its white flowers are generally produced in clusters of three, so that in this respect, as well as in stature, it differs markedly from the freer flowering A. canadensis. "Bot Mag.," t. 8,499.

OSBECKIA STELLATA.

This shrubby greenhouse plant is reminiscent of Pleroma macrantha. It has strongly-veined leaves, and bears its flowers terminally. The four broad petals are deep rosy lilac, the stamens being yellow; each bloom is about three inches across. It appears to have been first discovered in 1802, and to have been first advertised for sale in this country in 1822. "Bot. Mag.," t. 8,500.

AGAVE WARELLIANA.

A rare species producing a rosette of large leaves, from 2ft. to 2½ft. long, and throwing up a spike 15ft. high. The flowers are produced along the upper 9ft., yellowish green, over three inches long, with stout violet-brown stamens, five or six inches long, each bearing a large, tawny-yellow anther. A Mexican species allied to A. macrantha. "Bot. Mag.," t. 8,501.

PODACHÆNIUM EMINENS.

A distinct composite, which thrives in the greenhouse, and has been in cultivation about seventy years. It is a native of Central America, and is met with at from 3,000 to 4,500 feet above the sea level. The plant is of vigorous growth, and forms a shrub of moderate size. The flowers are white with yellow disk, and are borne in loose corymbs. "Bot. Mag.," t. 8,502.

SEDUM PILOSUM.

An interesting stonecrop of biennial duration, remarkable both for its distinctness and beauty. The plants range from two to three inches in height, and produce large clusters of rose-coloured flowers. It is a native of the Caucasus, where it is found at an altitude of between 4,000 and 5,000 feet, and is quite hardy in this country. "Bot. Mag.," t. 8,503.

CUNONIA CAPENSIS.

A distinct tree, bearing elegant spikes of fragrant greenish-white flowers that at one time was frequently met with in gardens provided with cool houses, sufficiently lofty to accommodate trees of moderate stature, but it has shared in the fate that has befell many other Cape plants, and is now seldom seen in cultivation. It is a native of South Africa, and is known by the Kaffirs as the Umqwashube, and by the European settlers as the Red Alder. The tree is remarkable for the hardness and the rich red colour of its wood. "Bot. Mag.," t. 8,504.

VINCA DIFFORMIS.

This species of Vinca is a native of the Western and Central Mediterranean region, where it grows freely in moist and shady places. It is a dwarf shrublet, and of free growth in a genial climate, but is not so hardy as the well-known species Vinca major and V. minor, and therefore not so useful for general cultivation. Canon Ellacombe has grown it for many years in his garden at Bilton. "Bot. Mag.," t. 8,506.

DENDROMECON RIGIDUM.

A golden-flowered shrub that is hardy in favoured situations and sheltered gardens. A.M., R.H.S., July 29. Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

THE COOL HOUSE.—The bulk of the odontoglossums will now have reached that stage where the pseudo-bulb commences to form. It is generally found that at this time the new roots are pushed out from the base of the advancing growth, and any repotting that is necessary is best attended to before the new roots become too far advanced, as they are liable to injury. The weather in the north-east has become considerably cooler, especially at nights, and this will, to some extent, assist the pseudo-bulbs in retaining a plump condition. I pointed out only a short time ago in this column the undesirability of disturbing the plants until outside conditions become more moist and favourable; this may also be still kept in view where the outside atmosphere remains hot and extremely dry. It is better to wait a week or so than to disturb plants prematurely.

ODONTOGLOSSUMS.—It is foolish to expect all the plants to be ready for repotting at one and the same season of the year. Not only among the species do we find plants flowering at nearly all seasons, but the many hybrids have all had a tendency, as in the case of cattleyas, to provide flowers almost throughout the year. One therefore should not be induced under any circumstances, because this particular season has arrived, to disturb the plants unless they need to be repotted. We find the bulk of the plants ready at this season because the greater portion of them flower at or about the same time, and thus the growths are, generally speaking, nearly at the same stage of development. Plants do not all emit roots at this stage; some root after flowering, or it may be at the commencement of growth development, so one has to be constantly on the watch. It is not always desirable or necessary to annually repot. In the case of small plants in pots up to, say, six inches in diameter, if they are in a satisfactory condition and making vigorous growth, they may outgrow their pots and require annual repotting. If small plants want attention at all, it is best to repot. Plants of a larger size may be top-dressed where the compost is still good, and only the surface has become decayed or overgrown. For top-dressing two-thirds of the compost should consist of finely-chopped sphagnum moss. For the general potting we use a compost consisting of equal portions of chopped sphagnum moss and fibrous peat, with a third portion made up of broken leaves, sand, charcoal, or broken crocks. This is made moderately firm about the plants. The pots should be clean, sufficiently large to contain the plant comfortably, and filled to about one-third their depth with broken crocks and chopped bracken roots.—H. J. Chapman, Oakwood Gardens, Wylam-on-Tyne.

STOVE PLANTS.

BEGONIA GLOIRE DE LORRAINE and its varieties are now growing apace, and require frequent attention in regard to staking and tying. Earlier plants will require a central stake and several others for the support of side growths. A single central stake to which side growths may be loosely looped will be sufficient for plants in 48's or 54's. Allow plenty of room between the plants, and, when moving them, dust the surface of the bed on which they are standing with soot. For the maintenance of healthy, vigorous plants feeding will now become necessary, and occasional applications of diluted cow manure water, alternated by Clay's or other approved fertiliser, will be found beneficial. Carefully regulate the shading, which will now hardly be required so early in the morning, and may be removed a little earlier in the afternoon. Watch for any sign of mite, and should it appear keep it in check by dipping the plants in a solution of tobacco water, or by fuming with a nicotine compound. Remove all flowers as they appear.

BEGONIA GLOIRE DE SCEAUX.—These plants will require more room for development, and it will be advisable to allow a clear space between them. One strong 3ft. stake will be sufficient for each, care being taken to insert it at least an inch from the stem, otherwise roots may be severely damaged. In feeding this begonia we prefer to mix equal parts of fertiliser, soot, and finely-sifted soil, giving each plant a light top-dressing occasionally. A few early flowers may be showing now; if so, they should be removed. Ventilate when possible, close the house with sun-heat, but again slightly open the ventilators in the evening during mild weather.

CLERODENDRON FALLAX. — The flowers of the earliest seedlings will now be showing colour, and should be removed to a house having a slightly lower temperature and rather drier conditions, where the flowers will last over a much longer period. This will allow of the later plants receiving more room for full development. If the centre is removed from a few they will produce smaller panicles of flowers from the axils of each pair of leaves, and will make a useful batch for very late decorations. Frequent attention to watering will be necessary at this period, for the soil dries up very quickly, and the plants must not be allowed to suffer.

COLEUS.—A batch of cuttings of these useful ornamental foliage plants may now be rooted. Insert four or five round the side of a 54-sized pot, and keep the house or pit close. They will quickly root, and if potted up when sufficiently advanced they will provide useful plants for late autumn decorations and also stock for next season's propagations.—H. Prime, Hatfield Gardens.

FRUITS UNDER GLASS.

PEACH HOUSES.—Continue to give all the air possible to trees which have been cleared of fruit, and a good watering at least every ten or fourteen days. Where any of the trees have not done satisfactorily, or have shown signs of decline, the present is a suitable time to examine the seat of mischief. Have some fresh compost made ready, which should not be of too rich a nature, else gross growth is apt to be the result. Use fairly strong loam with a liberal quantity of charred soil and old mortar rubble added, the first to promote the development of fibrous roots, the second to build up the stone of the fruit. A few handfuls of bone-meal may also be added to young trees, and a light sprinkling of some patent manure to the borders in which old-established trees are growing, but no other manure should be used. Choose a cloudy day, and cut out a trench to the depth of the border four to six feet from the stem, according to its size, and proceed to prick out the soil from amongst the roots with a fork, using all possible care not to damage the roots, and clearing all the soil away as the work proceeds. It is not often necessary to disturb the tree entirely, unless the soil be in a wet and sour state, and in this case the whole should be removed. Examine the drainage and put it in order; spare no trouble in a matter of this kind, but let the work be done thoroughly. When everything is in readiness proceed to fill in the border; first place a layer of turf, grass side downwards, over the drainage, then fill in with the compost to within about 8 inches of the desired level, making thoroughly firm as the work proceeds. Prune back any strong roots, and cut the ends of others to induce more fibres; lay out the roots in proper form at different levels, until the desired level is obtained. After completion a good watering with tepid water should be given, shade the trees until it can be seen they are making fresh roots, and syringe freely twice or thrice a day.

SUCCESSION HOUSES.—Keep the atmosphere cool in houses where the fruit is ripe, and see that the borders do not become too dry, or the fruits will not hang well. Maintain a warm and fairly dry atmosphere in houses containing the latest varieties, where the fruits are ripening. Should the weather be dull and sunless, a little warmth in the hot-water pipes will promote higher flavour and finish. See that all trees in their various stages with or without crops have sufficient water at the roots, and assist old trees with weak liquid and guano water. Push aside the foliage from the fruits, so as to give them all the benefit of direct sunlight.—F. Jordan, Warter Priory Gardens.

THE FLOWER GARDEN.

CLIMBING ROSES.—The flowering season of climbing roses, notably wichuraiana varieties, is now practically over, and no other time of year is more suitable for pruning them; this operation amounts to cutting out wood which has borne flowers, and should there be plenty of young growths developing to replace it, which is more often than not the case with vigorous plants of this type, the old wood can be dispensed with entirely. Usually some of the strongest pieces must be retained, otherwise they will present an unfurnished appearance. After thinning has been completed, the remaining growths should be trained and made secure by nailing or tieing. Obviously, proceeding with such work about this time of the year commends itself in at least two ways; the young wood, being less crowded, is in a more suitable condition for becoming matured, and the work is carried out under better conditions than if left for the cold weather. Some varieties of climbing teas and hybrid tea roses provide us with autumn blooms, so the pruning of these is best deferred until early spring, as it is then possible to cut away at the same time any unripened wood which has suffered from frost—a not infrequent occurrence with some of the varieties belonging to these sections which are more or less delicate in constitution.

BEDDING VIOLAS.—The present time is very suitable for propagating violas to provide plants for early spring planting. Old plants are now throwing up young basal shoots, and these if taken off with a heel and inserted in sandy soil, and afforded the protection of a frame, will soon take root. Once rooted the lights should only be used as a protection against sharp frosts and to exclude excessive moisture; anything approaching coddling through keeping the lights on during mild weather will result in the plants becoming drawn and unsatisfactory.

BEDDING PELARGONIUMS.—The final batch of bedding pelargonium cuttings should be put in with as little delay as possible. Everyone is not so placed as to be able to secure sufficient cuttings from reserve plants, and stock has to be taken from those planted in beds, etc.; consequently they have to be dealt with on two or three occasions so as to cause as little disfigurement as possible. Inserting cuttings in an open border is an excellent plan for those taken early, but those taken now should be put into pots or boxes, then, should dull, wet weather be experienced, they are easily placed under cover and kept rather dry. Very late cuttings should be given a light, airy position in a house or pit which is slightly heated.—T. B. Field, Wych Cross Place Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

The exhibition held on Tuesday, August 12, gave every evidence that the holidays are in full swing, for the show was much smaller than usual, and the number of visitors very much below the average. The outstanding features were the fruit trees in pots and the gladioli, the latter being very fine.

Messrs. H. B. May and Sons, Lim., Upper Edmonton, presented a charming exhibit of ferns, which were most tastefully arranged in blocks of each kind. The most striking forms were Nephrolepis muscosa, Adiantum Farleyense gloriosum, A. peruvianum, Pteris Summersi, some delightful plants of Nephrolepis exaltata superba, with Cheilanthes elegans, and well-developed plants of Osmunda palustris Mayi. Tall specimens of Selaginella cœsia arborea, and Lygodium scandens, introduced a graceful background. From Messrs. W. Cutbush and Son, Highgate, came a miscellaneous display of flowering and foliage plants. In the former were groups of Lilium lancifolium rubrum, L. auratum, and L. longiflorum, with Begonia President Carnot and the hybrid Fuchsia Thalia. The exhibit was rich with well-coloured foliage, Coleus cordelia being especially bright, as were also well-coloured plants of Dracæna Victoria, and caladiums in variety.

Mr. Amos Perry, Hardy Plant Farm, Enfield, had a group on the floor of the hall. This was composed of blocks of delphiniums which were unusually good for the late period. Some of the best were Mrs. Creighton, Mrs. Brunton, Belladonna, Semiplena, and Lamartin; while the chief feature was Achillea Perry's White. This variety again demonstrated its superiority over its compeers, and bids fair to become a widely-grown plant for the borders, and also as a market cutting variety. Mr. Geo. Reuthe, Hardy Plant Farm, Keston, had a nice display of hardy flowers, and a number of alpines in pots. The most notable features were Sparaxis pulcherrima atropurpurea, Eucryphia pinnatifolia, Romneya Coulteri, and Astilbe simplicifolia, with a variety of other hardy flowers. Mr. M. Prichard, Christchurch, had a very bright group of hardy flowers arranged on the floor of the hall, which presented a brilliant patch of colour. The group was rich in gladioli, phloxes, kniphofias, montbretias in variety; while Rudbeckia purpurea Brilliant was most conspicuous. The group was rendered light and graceful with the aid of gypsophila and grasses.

Mr. L. R. Russell, Richmond, had an entire table of hardy foliage and flowering plants. The latter were fuchsias, and included a nice collection. The best were F. coccinea Florian, F. bicolor, F. gracilis variegata, F. Riccartoni Elysee, F. Madame Corneillson, and F. corallina. The background was composed of vines in a good variety, some well-coloured plants of Dimorphanthus mandshurica argentea variegata were also noted.

Messrs. Dobbie and Co., Edinburgh, were represented by a fine display of annual scabious, which were admirably arranged in vases and other devices. The strain is undoubtedly a good one, embracing all colours, and, as arranged, made a charming feature. The same firm also had a large exhibit of collarette dahlias, arranged in stands and vases, with a foil of grasses and gypsophila. The most prominent varieties were Holyrood, Frogmore, Meteor, Cumbrae, Queen Bess, and Princess Lonise. Messrs. Wells and Co., Lim., Merstham, sent some fine examples of perennial phloxes, arranged in masses of each colour. Some of the best were Elizabeth Campbell, Iris, Rynstroom, Selma, Richard Strauss, Le Mahdi, and Antoiné Mercie. They also exhibited some good examples of perpetual carnations, Northport and Salmon Enchantress. Messrs. A. H. Cole, Lim., 326, Camberwell New Road, S.E., had a fine display of cut zonal pelargoniums, also a fine strain of gloxinias and pentstemons; these came from the Home of Flowers, Swanley, which has recently been purchased by the firm.

From Messrs. T. S. Ware, Lim., Feltham, came an entire table of hardy flowers, which were nicely displayed. The phloxes formed a fine feature, as were also the delphiniums, Chrysanthemum maximum in several varieties were also prominent, with Anchusa italica Dropmore var., Senecio clivorum, and some bright delphiniums.

Gladioli were a feature, especially the long table contributed by Messrs. Kelway and Son, Langport. These were staged in large vases and tubes, with a few light grasses, which added to the general effect. A few of the best varieties were Rosedrop, Indomitable, Fire Dragon, Prince of Orange, Baron Komura, Lady Digby, Pink Duchess, and White Swan. Certainly a fine collection. Messrs. W. Cutbush and Son, Highgate, had a pretty display of gladioli arranged in large mounds, with a bed of single spikes in vases. In the centre was the violet Baron J. Hulot, flanked on either side with Panama in grand colour, and Lily Lehmann; while other large groups contained Halley, Lucretia, America, and Brenchleyensis, which looked quite a pigmy in comparison with the Childsi forms. Europa was also in splendid condition. Messrs. Jas. Vert and Sons, Saffron Walden, exhibited a large collection of hollyhocks, for which these nurseries have been so famous for many years. Tall spikes of double flowers made a fine exhibit, as illustrating their worth in the border; while boxes of flowers in front pointed out their qualities as florists' flowers. The best varieties were Lady Bailey, Wm. Archer, Princess, Primrose Queen, Alba superba, and Constance.

The National Gladioli Society held a competition for the President's Cup, which was awarded to Messrs. G. Teestraten and Sons, Oegstgeest, Holland, for a very fine display. The vases were made up with three spikes each, and were arranged in a fan shape. The display was in every way worthy of the cup, the varieties being Glory of Noordwijk, very fine; America, Lily Lehmann, Baron J. Hulot, Niagara, Mrs. F. Pendleton, jun., Dick, Loveliness, grand spikes; Moonlight, L'Innocence, Goliath, Europa, Red Emperor, Pandura, Pink Perfection, Snowstorm, Princeps, Badenia, and Rosea perfecta. Messrs. de Ruyter and Hogewonig, Noordwijk, also had a display in this class in which were noted fine vases of Siegar, Yellow Hammer, America, Ida, Mahonie, Pink Perfection, and Apollo. Messrs. Kelway and Son, Langport, also competed with a splendid collection, including finely-developed examples of Pius X., Palene, King of Gladioli, Snowbird, and Modia.

Mr. K. Velthemy, Hillegom, in the same class, had some capital vases of Francis King, L'Immacule, Mont Enis, Pink Perfection, and Europa. Mrs. Atkinson, Locksheath, near Southampton, had some well-arranged vases, especially Excelsior, Michigan, America, Pink Perfection, and Faust.

FRUIT COMMITTEE.

The chief display of fruit was a large central group of trees in pots sent by Messrs. Jas. Veitch and Sons, Lim., Chelsea, which comprised splendid specimen trees of peaches, apples, pears, plums and figs. The peaches were heavily-laden pyramid trees of Marquis of Downshire, Nectarine Humboldt, while the pears not only carried good crops, but were remarkably well developed. The chief varieties were Marguerite Marillat, Souv. de Congrès, Triomphe de Vienne, and Louise Bonne de Jersey. Plums were represented by The Czar, Jefferson's, and Early Transparent Gage, while figs were carrying good crops in seven and eight-inch pots, as many as twenty fruits being seen in a twenty-four pot. The Veitch berry, a cross between Raspberry November Abundance and the wild blackberry, were large and of good colour.

ORCHID COMMITTEE.

A small group of orchids came from Mr. E. H. Davidson, Twyford, Berks, which included some nice odontoglossums, lælio-cattleyas, miltonias, and Odontioda Charlesworthi. Messrs. Charlesworth and Co., Hayward's Heath, also contributed a small display of choice specimens, in which were noted a well-flowered plant of Miltonia vexillaria robusta with four fine spikes. O. armainvilliersense Xanthotes, with splendid sprays: Miltonia Charlesworthi, and Cryptoheranthus Dayanus.

Mr. E. V. Low, Vale Bridge, Hayward's Heath, exhibited fine plants of Cattleya Atalanta and Lælio-cattleya Ophir, the former having a large spike of well-developed flowers.

From Mr. R. G. Thwaites, Christchurch Road, Streatham, came an interesting little group, which included Odontioda Charlesworthi, O. Lœana in several forms, and Cattleya Pittiana.

Messrs. Sander and Sons, St. Albans, exhibited a fine example of Lælio-cattleya Phœnix, var. King George, a very deep-coloured flower of the type. From Mr. De Barri Crawshay, Rosefield, Sevenoaks, came a well-flowered example of Odontioda Lœanum, with seven flowers, also a good, vigorous plant of Odontoglossum Queen Alexandra.

A beautiful group came from Messrs. J. and A. McBean, Cooksbridge, which included some fine plants of Odontoglossum crispum, Lælio-cattleya Ursula, a purple variety of great substance and good, rounded flower, with some beautiful odontiodas. These included fine examples of O. Charlesworthi, O. Bradshawense, O. Diana, and O. Keighleyensis.

Messrs. Stuart Low and Co., Bush Hill Park, N., staged a small exhibit, which had Lælia crispum, Cattleya Dowiana, and Oncidium Krameri as the chief sources of attraction. The quaint Coelogyne pandurata was to be seen with eleven well-developed flowers.

Mr. H. T. Pitt, Rosslyn, Stamford Hill, presented a nice group, in which were Cattleya Source d'Or, Cypripedium Richmanı, odontoglossums, and some well-flowered miltonias.

MEDALS AND AWARDS.

Awards of Merit.—To Lælio-cattleya Wellesleyi var. Flambeau, from Mr. E. H. Davidson; to Lælio-cattleya Ursula, from Messrs. J. and A. McBean; to Gladioli Craignour, from Messrs. Kelway and Son; to Collarette Dahlia Dungeness, from Messrs. Dobbie and Co.; to Caladium Madame Renee Marot, from Mr. Hoffman; to Lysinotus Warleyensis, from Miss Willmott; to Agapanthus Weilligi, from Mr. A. Worsley.

Silver-gilt Knightian Medal.—To Messrs. Jas. Veitch and Sons, Lim., for fruit trees in pots.

Silver-gilt Flora.—To Messrs. Kelway and Son, for gladioli.

Silver-gilt Banksian. — To Mr. M. Prichard, for hardy flowers.

Silver Flora.—To Messrs. J. Vert and Sons, for hollyhocks; to Mr. E. H. Davidson, for orchids.

Silver Banksian Medals.—To Messrs. W. Cutbush and Son, for gladioli; to Messrs. Dobbie and Co., for scabious and dahlias; to Messrs. H. B. May and Sons, for ferns; to Messrs. T. S. Ware, Lim., for hardy flowers; to Messrs. W. Wells and Co., for phloxes; to Mr. H. Pitt, for orchids; to Messrs. J. and A. McBean, for orchids; to Messrs. Charlesworth and Co., for orchids.

Bronze Flora Medals.—To Mr. A. Perry, for hardy flowers; to Mr. G. Reuthe, for hardy flowers.

Bronze Banksian Medal.—To Messrs. A. H. Cole, Lim., for pelargoniums, etc.

Aberdeen Sweet Pea Show.

On August 1 and 2, for the third year in succession, the Aberdeen and Northern Counties Sweet Pea Society held their annual show on the above dates in the Music Hall Buildings, Aberdeen. As the years roll on the entries continue to increase, and this year the numbers far outstripped those of preceding years. There were twenty-two competitive classes, all of which were well filled, and nothing could have exceeded the magnificent prize-winning specimens. The show was opened by the Hon. Mrs. Leith Hay, of Leith Hall, and the secretarial arrangements were, as usual, in the capable hands of Mr. M. H. Sinclair, and gave every satisfaction.

The leading class in the show was that for the best twelve bunches of sweet peas with waved standards, distinct varieties, and here a handsome silver cup was the leading prize. The competition was exceedingly keen. Sir Thomas Burnett, Bart., of Leys, Crathes Castle, near Aberdeen, scored first and second places with beautiful specimens, including Agricola, Melba, Rosabelle, Lady Miller, Sunproof Crimson, Edrom Beauty, and Dobbie's Cream. Sir Thomas's second-prize lot were composed of somewhat similar specimens, but they lacked the exquisite finish and beauty of his first-prize lot. His gardener, Mr. John Petrie, received many hearty congratulations on the display. Third place was taken by that redoubtable grower Mr. Grigor, gardener to Mrs. Dunbar Dunbar, Seapark, Forres, of whom a portrait and delightful little sketch was recently given in The Gardeners' Magazine. For the best six bunches of sweet peas with waved standards, Sir Thomas Burnett was again first, and took also third place, his entries comprising greatly admired specimens of Mrs. Cowdy, Inspector, Agricola, Hercules, Lavender Queen, Wenvoe Castle, and Sunproof Crimson; Mrs. Dunbar Dunbar was a capital second. For best three bunches, Sir Thomas Burnett was first and second, his first lot being composed of Lady E. Eyre, White Queen, and Mrs. Cowdy, and the second of Etta Dyke, Bertrand Deal, and Dobbie's Cream; Mrs. Dunbar Dunbar was third with a lot little short in excellence of the first and second.

In the class for three bunches of sweet peas, novelties introduced in 1912 and 1913, the places were similarly occupied. Here Mrs. Dunbar Dunbar's third lot were very fine blooms of Lavender, G. Herbert, Anglian Fairy, and Agricola. They, however, did not reach the quality shown by Sir Thomas in his first and second lots. For one bunch of lavender sweet peas, Mr. Grigor had matters entirely his own way with a very fine specimen of R. F. Fulton. For one bunch, scarlet, any variety, Mr. Petrie was again the leader, second place being taken by the Earl of Kintore, Keith Hall, Aberdeenshire, with a similar but hardly so well grown specimen. Mrs. Davidson, Dess House, Aberdeenshire, was third with Scarlet Empress, her gardener being Mr. W. Ingram. For one bunch, pink, any one variety, Mr. Petrie was first, being closely followed in second and third places by Mr. Grigor. The specimens shown of picotee-edged sweet peas were much admired, and here Mr. Petrie commanded first place. Mr. T. Stephen, Fernbank, Crathes (Mr. Reith, gardener), made an admirable second, with Mr. Grigor third.

The amateurs made a very fine display, the leading places being taken by Rev. E. V. Kissack, Aberlour, in the majority of the competitions, while Mr. R. W. Duncan, Kemnay, Aberdeenshire, also showed some capital flowers.

Floral decorations were a greatly admired feature, the leading contest being for the best dinner-table decoration. Mrs. Porter, Monaltrie, Ballater, Aberdeenshire, was placed first for a very artistic design of delicate pink blooms adorned with sprays of gypsophila; while Miss Mabel Slater, 4, Queen's Terrace, Aberdeen, made a worthy second; indeed, we rather preferred this young lady's centre arrangement to the first. No doubt the cutlery and crystal display on the first-prize table (the second having only the flowers) added more realism to the design. The bowls shown were really very fine, and the three leading prize-winners adopted entirely different colours, which made their entries, as they stood side by side, a great attraction. They were Miss Slater, Miss Sinclair, Kepplestone House, Aberdeen; and Mrs. Porter. The first and last-named ladies also did some very fine work in the other competitions open to them.

Baskets and bouquets were a charming display, and evoked the warm encomiums of the visitors. Miss Sinclair and Miss M. Smith, 210, Union Grove, Aberdeen, were leaders here for baskets, while Mr. James Smith, 210, Union Grove, showed far and away the best shower bouquet. Ladies' sprays were finely shown, and Mrs. Dunbar Dunbar worthily won leading honours.

An outstanding feature of the exhibition was a display of sweet peas arranged for effect on a space six feet by three feet, no restriction as to number of vases, style of arrangement, number of sprays, etc. All three leading exhibits were very fine. Mr. Petrie was deservedly first, his entry being a really meritorious one. Her Excellency the Countess of Aberdeen, Haddo House, Aberdeenshire (Mr. John Mackinnon, gardener), was second. Mr. Grigor was third.

Peterhead Horticultural Society.

In opening the annual exhibition of the Peterhead Horticultural Society, held in the Music Hall Buildings, Peterhead, on Friday and Saturday, August 8 and 9, Sir Jeremiah Colman, Bart., of Gatton Park, Surrey, who is meantime holidaying at Cruden Bay, Aberdeenshire, made an interesting speech on horticulture. Sir Jeremiah, who was very cordially received on rising to open the show, said he made no excuse for having hobbies, because those who lived the strenuous life were able to perform the duties they had to undertake very much better if they in their leisure time had some hobby which might occupy their thoughts. Hence it was that he had encouraged himself to have hobbies, and perhaps the chief was horticulture. He was a bit of an agriculturist as well, and when staying with Dr. Farquharson, of Fintzean (Aberdeenshire), whom he always looked upon as a typical Scottish laird, he had an opportunity of visiting one of their Aberdeenshire agricultural shows, and he could only say that if the high standard which they found agriculture occupied in Scotland was equalled by the standard of horticulture, they had very much to be congratulated upon. The Chairman, in introducing him, had asked him not to forget that he was in Scotland, which was a rather curious remark, because, as a matter of fact, it was the one thing which he (Sir Jeremiah) had been troubling himself most about that day, because they certainly had him at a disadvantage, for he was not nearly so familiar with a Scottish audience, and its expectations, as he was with an English one. When he began to think of horticulture, it embraced so much that really it would be quite impossible, in the short time at his disposal, to speak very seriously about the subject. He happened to be treasurer of the big international horticultural exhibition held in London last year, and in making a comparison with the schedules of the former exhibition in 1866, it was quite extraordinary to find the change that had taken place, and that was largely due to the industry of the gardener. He referred to the perfection of certain orchids, to the Shirley poppy, and the begonia, and remarked that he was over at Ghent a few months ago at the Quinquennial Show there, and went through several of the nurseries, and he could assure them there were tens of thousands of plants in flower there which only a few years ago were being sold at extravagant prices. All horticulturists should be encouraged to pursue the cultivation of plants, and to endeavour to produce new varieties and hybrids which would be of value to horticultural research. He always thought that Scottish character and Scottish climate were peculiarly adapted for horticulture, and he had great pleasure in declaring the show open.

The Bishop of Bristol, who is also holidaying amid the charming marine scenery of the east coast of Aberdeenshire, proposed votes of thanks.

THE EXHIBITS.

Perhaps the entries were somewhat fewer than has been the case during the fourteen years' history of the society, but the show was a distinctly successful one. There was a fine display of pot plants in both the professional and amateur sections, the geraniums, pelargoniums, and begonias being outstanding features. In the professional section for cut flowers the one great feature was the capital display of sweet peas, while the amateurs excelled in begonias and violas. Fruit was exceptionally well shown, the strawberries being remarkably fine. The leading exhibitors in the professional classes were: Pot Plants—Mr. George Dargie, Old Hospital, Peterhead, who has for years taken a very prominent part at this show; Mr. George Mann, Whitehall, Aberdeenshire; and Mr. Robert Shand, The Grange, Peterhead. Among amateurs Mr. John Sim, Constitution Street, Peterhead, gained the president's medal, with a capital all-round display in the various divisions; and Mr. William R. Forrest, and Mr. William Milne were successful. Messrs. Dargie, Mann, and Shand were again the leading winners in the cut flower section.

Fruits were poorly shown so far as number of entries was concerned, but the quality was very good. Messrs. Mann, Whitehall, and James McKay, The Grange, led in the professional classes, while in the amateur section, which was poorly represented this year, chief honours fell to Mr. John Christie, Hatton; Mrs. James C. Booth, Downiehills, Peterhead; and Mr. John Robb, Hatton.

Mr. George Dargie was the most successful exhibitor in the vegetable classes.

In the section devoted to pot plants grown in windows of dwelling-houses, a most desirable feature, and one which ought to receive every encouragement at these shows, Mr. John McKay, Fire Station, Peterhead, secured the leading honours with entries which reflected the greatest credit upon the growers.

Exhibition of Sweet Peas, Etc., at Dumfries.

The Dumfries Agricultural Society has for the past year or two organised an exhibition of sweet peas, and a few other horticultural subjects in connection with their annual show at Dumfries. That held on August 5 was quite equal to any of its predecessors, and the sweet peas were very fine indeed. In the gardeners' class for sweet peas in twelve varieties there was a strong competition, and many excellent flowers were shown. Mr. James M'Gill, Colonel Maxwell Witham's gardener at Kirkconnell, carried off the premier honour with very finely-grown blooms. Etta Dyke, Barbara, and Rosabelle being superb. Mr. C. G. Murray, Mr. Henry Kerwick's gardener at Cowhill Tower, made a good second; Mr. R. A. Grigor, Mr. J. Rankine's gardener at Dalswinton House, being third; Mr. M'Gill was fourth. In the amateurs' and cottagers' class for twelve varieties there were also some fine blooms, that good grower, Mr. G. L. Moffat, Mayfield, Lockerbie, being the winner of the first prize. Mr. J. Crosbie, Dalswinton Village, was second. In the open class for six varieties, Mr. France, Mr. James Brown's gardener at Knockbrex, Kirkcudbright, was first, Mr. J. M'Gill coming in second. The other classes for horticultural produce were few and contained a small number of entries.

National Sweet Pea Society.

The National Sweet Pea Society has just reason to congratulate itself upon the success of its provincial show held in the Market Hall, Carlisle, on August 13 and 14. The exhibition was a large one, and in the forty-three classes there were an aggregate of 237 entries, though not quite all of these were filled. The quality of the blooms and their wonderful colouring was the subject of comment among the army of sweet pea experts present. The shape of the hall scarcely permitted the arrangement of the classes in their natural sequence, but this did not give much trouble to the judges. Mr. F. N. Hepworth, the chairman, and Mr. Thackray, the secretary of the Carlisle Society, did their best to make all arrangements complete. Messrs. Herbert Smith, C. H. Curtis, H. J. Wright, and A. Hallam, acted officially on behalf of the National Sweet Pea Society. The exhibition was formally opened by Mrs. Murray, F. W. Chance, Esq., the President, presiding at the opening ceremony.

OPEN CLASSES.

Premier place in the classification class for eighteen bunches of sweet peas, distinct, representing as many colour classes, was won by Mr. J. Smellie, Pansy Gardens, Busby, who scored with fine bunches of May Campbell, Elfrida Pearson, Prince George, Hercules, White Queen, The Squire, Dobbie's Cream, King Manoel, Mrs. C. W. Breadmore, Wenvoe Castle, R. F. Felton, Edrom Beauty, Gladys Burt, Thos. Stevenson, Agricola, Edith Taylor, Mrs. Cuthbertson, and Rosabelle; Mr. E. Keith, gardener to Sir G. Trevelyan, Bart., Cambo, Morpeth, came second with a fine lot; and Messrs. Herd Brothers, Penrith, came third. In the open class for a dozen bunches, Mr. J. Smellie was again first, and here his best bunches were of Dobbie's Cream, Lady Miller, Dorothy, Edith Taylor, R. F. Felton, and Elfrida Pearson; Mr. G. Bowness came second, and Mr. J. A. Grigor, gardener to Mrs. Dundas Dundas, Forres, N.B., was third.

Mr. J. Smellie maintained his premier position in the class for six, distinct, staging a splendid set, comprising Lavender George Herbert, Elsie Herbert, Agricola, Hilda, Barbara, and Mrs. Cuthbertson. It was unfortunate that this class did not bring keen competition.

Mr. Chapman's piece of plate for two bunches of seedling sweet peas brought out two entries only, as winners in a similar class in London were debarred from competing with winning varieties there. Mr. Robert Wright, Formby, led with his fine new Royal Purple, which is well named and was well shown; and Josephine, intermediate between Edrom Beauty and Thos. Stevenson. Mr. R. Bolton second, with Up-to-Date, about midway between Chas. Foster and Prince George; and Cowdey Beauty, something after the style of Afterglow, but with more rosy-mauve shading.

SINGLE BUNCH CLASSES.

The single bunch classes were keenly contested as a general rule, though a few of them were surprisingly thin. Mr. J. A. Whitaker was first for a bicolor with a beautiful bunch of Mrs. Cuthbertson, Mr. Farquharson following. Mr. J. Smellie went to the front in the blue class with Princess Mary; the second prize went to Mr. W. Howie. For a bunch of blush, Mr. G. Bowness was a handsome first with Mrs. Hardcastle Sykes in superb form, and Mr. J. A. Whitaker was second. John Ingman, exhibited by Mr. Farquharson, was first in the class for a bunch of carmine sweet peas; Mr. J. A. Whitaker followed. Mr. G. Bowness staged Aggie Elder in the cerise class, and was deservedly placed in the front, with Mr. A. W. Appleton second. In the class for a bunch of cream, buff, or ivory sweet peas, Miss Humble was first with Dobbie's Cream in wonderful colour, and Mr. Farquharson was second. The last-named grower secured the lead with Lancashire in the pale pink class, Mr. J. A. Whitaker was second. For a bunch of deep cream-pink, Mr. Whitaker was first with Doris Usher in splendid condition, Mr. J. A. Grigor following. Maud Holmes won in the crimson class for Mr. G. Bowness, Mr. R. Tinlin being second. Mr. J. A. Whitaker was first in the fancy class with Prince George, and the second position was assigned to Mr. J. Smellie. The last-named, staging R. F. Felton, was first in the lavender class, with Mr. J. A. Whitaker second.

Mr. A. W. Appleton won in the lilac class with Agricola, which, as generally shown, might well go into the blush section. For a bunch of marbled or watered sweet peas, Mr. G. Bowness was first, and Mr. R. E. Hope second; the winner staged Birdbrook. The same grower held the lead for a maroon with King Manoel, Mr. Farquharson following. Queen of Norway, shown by Mr. T. Stoddard, won the class for a dark mauve; and Dorothy, staged by Mr. R. E. Hope, for a pale mauve. For a bunch of orange-pink, Mr. G. Bowness was first with King Alfred, Mr. J. Smellie being second. The same grower was first for a bunch of orange-scarlet with Thomas Stevenson in perfect colour; Mr. J. A. Whitaker was placed second. For a bunch of picotee-edged, Mr. T. Landreth was easily first with a beautiful bunch of Evelyn Hemus; Mr. R. Tinlin followed. Hercules, exhibited by Mr. J. A. Whitaker, was first in the deep pink class, Lady Evelyn Eyre taking the lead in the pale pink class as shown in fine form by Mr. J. A. Grigor. Miss Humble was second in the former class, and Mr. J. Graham in the latter. For one bunch of rose, Mr. G. Wilson, Lockerbie, was first with Rosabelle, Mr. T. F. Portnell following. Mr. J. A. Whitaker took the lead in the salmon class with Barbara, and maintained it in the scarlet section with Dobbie's Scarlet. Mr. G. Bowness was first for one bunch of striped or flaked with Mrs. W. J. Unwin; Mr. R. E. Hope followed. Mr. Farquharson won with White Queen, and Mr. G. Bowness was second.

MEMBERS' CLASSES.

The subjoined classes were open only to members of the National Sweet Pea Society, and they brought excellent competition, though the exhibitors were rather few in mere numbers. Mr. Ed. Keith was the only grower showing in the class representative of twelve of the colour classes of the society, his varieties being Agricola, Hercules, Rosabelle, Edrom Beauty, Lady Miller, Charles Foster, Thos. Stevenson, Lady Knox, Barbara, Elsie Herbert, Dorothy, and Nubian.

In the Northern Counties class for nine bunches, distinct, Mr. J. Shaw was first with handsome examples of Hercules, Etta Dyke, Rosabelle, R. F. Felton, Nubian, Lady Evelyn Eyre, Edrom Beauty, Clara Curtis, and Thomas Stevenson; Messrs. J. A. Whitaker, E. M. Allen, and C. Wareing were second, third, and fourth respectively. Mr. E. Cowdy alone represented the Emerald Isle, but his set in the Irish class did him and his country credit. His varieties were Black Knight Spencer, Mrs. C. W. Breadmore, Queen of Norway, Agricola, Thos. Stevenson, Mrs. R. Hallam, Gladys Burt, Rosabelle, and Dorothy. The Scottish class brought nine entrants, of whom Mr. Jas. Kerr was placed first with a handsome set comprising Lady Evelyn Eyre, Millie Maslin Spencer, Hercules, Lavender George Herbert, King Manoel, Rosabelle, Edith Taylor, Nora Unwin, and Elfrida Pearson; Mr. D. St. Smith was second, Mr. W. T. Landreth third, and Mr. G. Watson fourth.

TRADE EXCLUDED CLASSES.

In the Provincial Championship class, which was for a dozen bunches, distinct, there were seven competitors, and the piece of plate offered as first prize by Mr. A. Hallam was won by Mr. Thos. Jones, Bryn Penylan, Ruabon, with a grand exhibit of fresh, substantial blooms of Marjorie Linzie, Etta Dyke, Maggie Stark, Elsie Herbert, Dobbie's Cream, R. F. Felton, Nubian, Thos. Stevenson, Melba, Sunproof Crimson, Rosabelle, and Hercules; second prize fell to Mr. A. W. Appleton, gardener to C. L. Thompson, Esq., Farnham Hall, Brampton Junction, whose best bunches were R. F. Felton, Rosabelle, Mrs. E. Cowdy, and Mrs. C. W. Breadmore; Mr. Joseph Shaw third, and Mr. George Watson fourth.

Four competitors staged in the class for nine bunches, distinct, of whom Mr. A. W. Appleton was placed first with Elsie Herbert, R. F. Felton, Maud Holmes, Rosabelle, Lady Miller, Elfrida Pearson, Queen of Norway, Thos. Stevenson, and Mrs. Cowdy; Mr. F. J. Harrison was placed second, Mr. G. F. Hallet third, and Mr. H. G. Thackeray fourth. For six bunches, selected from varieties first put into commerce during or since the autumn of 1912, Mr. T. Jones was first with Birdbrook, T. Stevenson, Lady Miller, Mrs. Cowdy, Lavender George Herbert, and Agricola; Mr. J. A. Whitaker and J. Fletcher second and third. The last-named was first in the class for six varieties, exhibitors having to be among those who do not employ assistance in any part of their garden. The varieties were Elfrida Pearson, R. F. Felton, Dorothy, Sunproof Crimson, Mrs. C. W. Breadmore, and Duplex Spencer.

In the class for six varieties, distinct, open only to those who employ one gardener and do not provide him with any paid assistance whatever, Mr. J. Kerr was first with a fine set, comprising Lavender George Herbert, Hercules, Orion, Gladys Burt, Glory of Wilts, and Agricola. Mr. F. J. Harrison was second, Mr. R. Anderson third, and Miss A. H. Malcolm fourth.

INTERNATIONAL CLASS.

The International Competition arranged by the Carlisle Society, was a great success, and was the centre of much interest and comment. Unfortunately, Mr. Usher fell out for England, but Mr. Keith gallantly came forward to fill his place, and so each country in the kingdom was represented by a champion grower. The class was for a dozen bunches distinct, and Mr. Thomas Jones, Bryn Penylan, Ruabon, was placed first, and so Wales won the international contest with splendid bunches of Etta Dyke, Lavender George Herbert, Thos. Stevenson, King Manoel, John Ingman, Mrs. C. W. Breadmore, Mark's Tey, Audrey Crier (lovely), May Campbell (grand), Prince George, Sunproof Crimson, and Agricola. England, in the person of Mr. E. Keith, gardener to Sir G. Trevelyan, Wallington Gardens, Cambo, Morpeth, came second with good specimens of Mark's Tey, Edrom Beauty, Lady Knox, Lady Evelyn Eyre, Barbara, Hercules, Nubian, White Queen, Thos. Stevenson, R. F. Felton, May Campbell, and Sunproof Crimson. Ireland was third. Mr. Edward Cowdy, Longhall, the Irish champion, came third with R. F. Felton, Sunproof Crimson, Elsie Herbert, Hercules, Mrs. C. W. Breadmore, Queen of Norway, Jan Ridd, Florence Wright Spencer, Mrs. Hardcastle Sykes, Edna Unwin, Dobbie's Cream, and Audrey Crier. Scotland's champion, Mr. J. A. Grigor, gardener to Mrs. Dundas Dundas, Forres, N.B., came fourth with Hercules, White Queen, Sunproof Crimson, Mrs. C. W. Breadmore, R. F. Felton, Thos. Stevenson, Elsie Herbert, Queen of Norway, Dobbie's Cream, Mrs. E. Cowdy, Hilda, and Bertrand Deal.

DECORATIVE CLASSES.

There were six competitors in the table decoration class for sweet peas, and Mr. John Dixon scored with a decoration of Mrs. C. W. Breadmore, Elsie Herbert, Etta Dyke, and May Campbell, and a few narrow croton leaves and smilax; Mrs. Rowland second, with cerise and orange-scarlet varieties; and Mrs. F. J. Harrison, Ulverston, third, with cream, creamy-pink, and lavender varieties. The chief prize for a bunch of mixed sweet peas was won by Miss Humble, who associated lavender, maroon, and cream-pink varieties with gypsophila and asparagus; Mrs. Hodgson second, and Mrs. John Dixon third.

NON-COMPETITIVE.

Very elegant, and at the same time very imposing, was the beautiful exhibit of sweet peas arranged across one end of the Market Hall by Mr. Robert Bolton, Warton, Carn-

forth. From 3ft. to 6ft. above the staging Mr. Bolton raised twenty-eight large vases of sweet peas, set upon slender smilax-twined iron rods, and under these he set up nearly a hundred bunches of lovely flowers. In the matter of varieties Mr. Bolton had a rare selection, and was especially successful with Agricola, R. F. Felton, Afterglow, Melba, Thos. Stevenson, Hercules, Birdbrook, White Queen, Clara Curtis, King Alfred, Mrs. E. Cowdy Lady Miller, in fine form; Dorothy, the new rosy-lilac; Pluto, Rosabelle, Bolton's Scarlet, etc. It was a grand display, and one of the finest that the Warton specialist has ever staged. (Large Gold Medal.)

Three distinct sections went to make up the display provided by Messrs. Dobbie and Co., Edinburgh, but for the moment we will deal only with the sweet peas, which were very bright and attractive, as staged in vases and stands of varying height. Varieties that especially appealed to us were Ruby Palmer, a rose-cerise flower for 1914; Dobbie's Cream, King White, also a 1914 variety; Inspector, a fine orange-salmon; Red Star, Lavender George Herbert, Rosabelle, Thomas Stevenson, Mark's Tey, May Campbell, and Melba. (Gold Medal.)

Messrs. E. W. King and Co., Coggeshall, brought up a very pretty exhibit of sweet peas, and used the light elegant greenery of Kochia scoparia and Asparagus Sprengeri between the vases. Outstanding varieties were R. F. Felton, the dainty Anglian Fairy, Anglian Pink, Elfrida Pearson, Gladys Burt, King Manoel, and Thos. Stevenson. The flowers were clean and fresh, and the setting up was well done. (Silver-gilt Medal.)

Messrs. Herd Brothers, Penrith, filled a considerable space with sweet peas; they put up a five-arched background and four tiers of bunches, the latter of medium size, and consisting of clean, fresh blooms of a good selection of varieties. (Silver-gilt Medal.) Messrs. Thyne and Sons, Union Street, Dundee, put up a very fine lot of sweet peas, their flowers being of excellent substance and lovely colours. They staged all the leading varieties, but their six rows of vases were set in too regular order to make an artistic exhibit. (Silver-gilt Medal.)

Messrs. George Fairbairn and Sons, Edentown, Carlisle, put up about eighty vases and stands of sweet peas, with sweet pea arches behind. Theirs was a very big effort; it filled a big space, and proved a great attraction. Such varieties as are at the moment very popular were all capitally staged, and set up in large bunches with asparagus sprays. Messrs. Little and Ballantine, Carlisle, were also large exhibitors of sweet peas. (Silver Medal.)

Bristol Gardeners' Association.

At the recent monthly meeting of this society held at St. John's Parish Rooms, Clifton, Mr. Baston presided, and a lecture was given by Mr. Pratten, from Bath, on "Herbaceous Calceolarias." The lecturer recommended sowing the seeds about June in boxes, using two parts of soil, one part of leaf-mould, and one of sand, covering with glass, and placing the box in a cold frame on the north side of a wall. He advised pricking out the seedlings into thumb pots when ready, and afterwards potting them early. Mr. A. C. James gave prizes for twelve roses, named, and these were won by Mr. Scott, first; Mr. Daniels, second; and Mr. Binfield, third.

French Beans.—A good sowing of these may now be made, either in cold pits or on a warm border, where protection can be afforded when necessary; this sowing will frequently prove of much value, especially after autumn frosts. The compost used should be moderately light and porous, and sufficient space be allowed between the soil and the glass for the growths to mature. For this sowing the old Ne Plus Ultra is an excellent variety, and Masterpiece is another well worth growing.—W. Messenger.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of The Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of The Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in The Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

CULTIVATION OF THE GRANADILLA.—M. E. C., Skipton: Kindly tell me how to manage a Granadilla; a friend of mine has just given my employer a plant in a pot; it is labelled P. quadrangularis.—The title of Granadilla is given to the fruits of two or three species of Passiflora, of which P. quadrangularis is one. This is a strong-growing stove climber, and should be planted in a bed or border, in a well-drained compost of light, rich loam. The growth should be trained up under the roof, or against the wall of the stove, and it will be necessary annually to thin out the growths, clean and retrain those reserved. Plenty of moisture, heat, and sunshine are desirable. If the flowers show little disposition to set fruits they may be fertilised by the pollen from other flowers, or even other species.

THLADIANTHA DUBIA.—P. H., Cheltenham: A reference was recently made in your columns to the red-fruited Eastern climber Thladiantha dubia, and I fancy a statement was made to the effect that it was hardy in this country. I shall be glad if you will tell me where I can procure seeds, and how I should proceed to cultivate the species. I am interested because the plant was a familiar one where I once lived in India.—Thladiantha dubia is a strong-growing, tuberous-rooted climbing plant, and belongs to the great gourd family. It is hardy in the Metropolitan and Thames districts, and further south, but we cannot vouch for its hardiness at Cheltenham, though we expect it would be hardy if the roots were protected with ashes during the winter. The difficulty could be surmounted by lifting and potting the tuberous roots when the growths die down in the autumn. Seeds may be obtained through any leading seedsmen, and these should be sown in heat in March, the plants being potted as necessary, and looked after much in the same way as tender bedding plants until at the end of May or early in June they are planted out in a warm, sunny position. Good soil and plenty of moisture are necessary to ensure free growth. It must always be remembered that it is essential to have both male and female plants because the pollen from the male flowers on the one plant are needed to fertilise the female flowers borne on other plants. When the sexes have been determined by one year's growth, it is always an easy matter to maintain a stock of both by dividing the tuberous roots in spring time.

LANTANAS FOR BEDDING.—F. E. S., Douglas: I have some very fine lantanas raised from seeds this spring, and I should like to know how best to keep up a stock of the special plants which seem to be particularly well adapted for summer bedding. Take cuttings of the young shoots now and during September, and insert these in shallow boxes of sandy soil; place over gentle bottom heat until rooted, and grow in small pots in a warm greenhouse during the winter. Lift the stock plants before frost comes, pot them, and cut them back somewhat; these, if placed in gentle heat next spring, will produce cuttings that will root freely, and some of the best of the autumn-struck plants will likewise become useful for stock purposes in the spring. Follow out the usual hardening-off process prior to planting out. Carefully select the stock plants each year.

DOGWOOD.—C. W. S., Alverstoke: Can you tell me whether several kinds of trees are known under the popular title of Dogwood, or whether this common name should be applied only to one kind or genus?—It is generally understood that the various Dogwoods are members of the genus cornus, but at various times and in various places the title has been also given to other plants. For instance, the common Euonymus europæus, Rhamnus rangula, and even Viburnum Opulus have been called Dogwoods. The Jamaica Dogwoods are species of Piscidia, while in Australasia species of Emmenosperma, Jacksonia, and Bedfordia have been called Dogwoods.

ROOF WIRES IN A VINERY.—L. J. H., Bedale: How far apart should the roof wires be placed in a vinery, and how much space should there be between the wires and the roof?—These are matters over which the best cultivators differ considerably. We believe 10 inches apart is a good arrangement of the wires, and 18 or 20 inches from the wires to the roof glass. Formerly the space allowed between the wires and the glass was about a foot, but nowadays the general practice allows from 16 to 20 inches, though there are some growers who prefer from 24 to 30 inches.

POPULAR NAMES OF GALIUM APARINE.—C. W. S., Alverstoke: I hope I am not out of order in asking a second question relative to popular names of plants. Quite recently, in connection with a display of wild flowers by children, the Common Bed-straw (Galium Aparine) was shown under several popular names, including Cleavers and Mutton Chops. Can you give me a list of the popular names under which this widespread British plant is known?—We do not promise that ours is a complete list of popular names, but the Bed-straw is variously known as Burweed, Catch-weed, Clavergrass, Clever-grass, Cleavers, Geckdor, Goose-bill, Goose-tongue, Grip-grass, Gull-grass, Harif, Heiriff, Haireve, Haritch, Kandlegosses, Love-man, Mutton Chops, Mutton-Tops, and Turkey-grass.

PEACH STONES SPLITTING.—O. E. B., Warrington: I enclose a peach with the stone badly cracked; all the fruits are going the same way on one tree. The tree appears quite healthy and carries about a dozen and a-half fruits, and this is the second year the stones have split in this fashion. I shall be very grateful if you will tell me what is the cause of stone splitting, and how the trouble can be cured.—Uncongenial soil and imperfect root action are the cause of stone splitting in peaches. A warmer, lighter soil, with a good admixture of lime or plaster rubbish will encourage fibrous roots instead of strong, fleshy ones; the latter are easily injured, and when injured the tree is not able to properly bear the strain of cropping, whereas in the case of fibrous roots there are multitudinous "mouths" absorbing soil moisture. Lift the tree as soon as the wood is ripe and the leaves change colour, put soil and drainage in order, cut back all strong, fleshy roots, and replant firmly.

CARE OF A JAPANESE DWARFED TREE.—E. G., Minehead: I have a fair-sized Cupressus obtusa in a fancy Japanese bowl, and the tree is itself of the popular dwarfed Japanese style, and after the Fuji Yama model; it is not, however, looking in the best of health, although it has been carefully watered; it is kept inside the window of the drawing-room, and receives plenty of light. I shall be glad if you will suggest how I may keep the plant ingood health.—The little tree will be all the better for a sojourn out of doors until towards the end of October, but it should be so placed that the sun does not shine directly upon the bowl containing the soil and roots. Failing showers, water it overhead occasionally with soft water, and be quite sure that the roots

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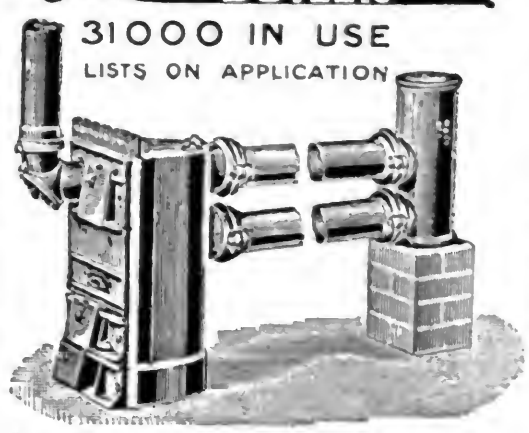

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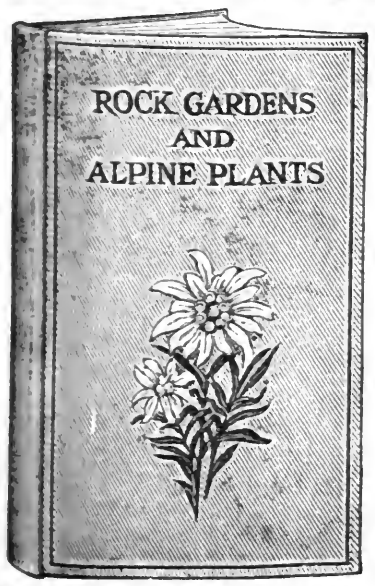

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do not suffer from lack of moisture. At the same time remember that the plant must not be allowed to stand continually in a pan of water. Give three teaspoonfuls of fine bone-meal four times between now and the end of October, mixing it with a little fine soil, and spreading it evenly over the soil surface. Such a dressing will suit a plant growing in a pot a foot in diameter, and must be reduced or increased according to the size of the bowl. These Japanese trees often suffer from semi-starvation.

THE LOOFAH.—E. C. C., Is not the Loofah a vegetable product; and, if so, what?—The Loofah so frequently used in the bath as a flesh rubber, is the vascular network of the interior of a gourd named Luffa egyptiaca. This gourd, known also as the Towel Gourd, is very largely grown in the tropics, and the vascular network of the fruits is put to a variety of uses, such as stuffing saddles, lining helmets, etc.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

M. M., Shirley.—Acanthus mollis.

L. B. C., Oxshott.—1, Globularia vulgaris; 2, Liatris pycnostachya.

D. W., Abingdon.—1, Eupatorium cannabinum; 2, Trachelium cæruleum.

O. F. R., Uttoxeter.—1, Cattleya Harrisonæ; 2, Odontoglossum Harryanum.

C. M., Aldershot.—1, Epidendrum vitellinum majus; 2, Pentstemon Newbury Gem; 3, Helianthus rigidus; 4, Statice latifolia.

B. G., Teignmouth.—1, Solanum jasminoides; 2, Hypericum Moserianum; 3, Olearia Haasti; 4, Veronica incana; 5, Leucophyta Brownei.

OBITUARY.

SIR RICHARD COOPER, BART.

With much regret we record the death of Sir Richard Cooper, Bart., which occurred recently at White Hill, Berkhamsted, in his 66th year. Sir Richard, who was a native of Shropshire, was the head of the firm of Messrs. Cooper and Nephews, Berkhamsted, the well-known manufacturers of fungicides and insecticides for use in the garden and on the farm, and exporters of pedigree live stock. Sir Richard Cooper was a keen agriculturist, farming some 2,000 acres of land chiefly in Shropshire, and a generous supporter of the Smithfield Club and other societies associated with the improvement of cattle.

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

WEDNESDAY, August 20.—Shrewsbury Floral Fête, two days.

THURSDAY, August 21. Aberdeen Horticultural Society; three days.

SATURDAY, August 23.—Bridge of Allan Horticultural Society.

The following dates of exhibitions have been recently announced:—

Brighton Chrysanthemum Show, November 11 and 12, in the Dome and Corn Exchange; thirty-first exhibition.

Bedford Chrysanthemum Show, November 12.

Chester Paxton Society's Chrysanthemum Show, November 18 and 19, in the Town Hall, Chester.

The Rev. J. Bernard Hall, B.A., secretary of the North of England Horticultural Society, has accepted the living of Farnham-with-Scotton, near Knaresborough, but will continue to act as hon. secretary of the northern society.

MARKETS.

COVENT GARDEN.

Flowers.

Hardy flowers are an excellent supply, and there is a steady demand.

		s.	d.		s.	d.
Achillea	per doz. bun.	1	6	to	2	6
Adiantum cuneatum	per doz. bun.	3	0		4	0
Alstromerias	per doz. bun.	2	6		4	0
Asparagus plumosus	per doz. bun.	10	0		18	0
,, Sprengeri	per doz. bun.	9	0		12	0
Asters	per doz. bun.	2	0		3	0
Campanulas	per bun.	2	0		4	0
Carnations	per doz.	0	9		1	6
,,	per doz. bun.	5	0		12	0
,, Malmaison	per doz.	4	0		5	0
Chrysanthemum max.	per doz bun.	1	6		2	6
Coreopsis	per doz. bun.	0	9		1	3
Cornflowers	per doz. bun.	0	9		2	0
Croton leaves	per doz. bun.	12	0		15	0
Eucharis	per doz.	2	0		4	0
French fern	per doz. bun.	2	6		4	0
Gaillardias	per doz. bun.	1	6		2	0
Gardenias	per doz.	1	0		3	0
Gerberas	per doz.	1	0		1	6
Gladioli	per doz.	1	6		6	0
Gypsophila	per doz. bun.	3	0		6	0
Lilium auratum	per bun.	3	0		4	6
,, speciosum	per doz.	1	3		2	0
,, longiflorum	per bun.	1	0		1	6
Lily of the Valley	per doz. bun.	9	0		15	0
Marguerites	per doz. bun.	1	0		2	0
Montbretia	per doz. bun.	4	0		4	6
Odontoglossums	per doz. blms.	3	0		4	0
Pelargoniums	per doz. bun.	3	0		4	0
Roses	per doz.	0	6		2	6
Scabious	per doz. bun.	2	0		4	0
Smilax	per doz. trails	1	6		2	0
Spiræa	per doz. bun.	4	0		8	0
Statice	per doz. bun.	3	0		4	0
Stephanotis	per gross	4	0		6	0
Stocks	per doz. bun.	3	0		5	0
Sweet Peas	per doz. bun.	1	3		2	6
Sweet Sultan	per doz. bun.	1	6		2	0

Fruits.

Moderate supplies are offered, and there is a fair demand; much produce is now being delivered to seaside resorts.

		s.	d.		s.	d.
Apples, Australian	per box	14	0	to	17	0
,, Tasmanian	per box	14	0		17	0
,, English	per bush.	2	0		3	0
Bananas, Canary	per bun.	7	0		12	0
,, Jamaica	per bun	3	0		5	6
Cocoanuts	per 100	17	0		23	0
Cherries	per ½ sieve	9	0		12	0
Currants, Black	per ½ sieve	6	0		10	0
,, Red	per ½ sieve	6	0		7	0
Dates	per doz. boxes	2	9		3	6
Figs	per doz.	1	6		6	0
Gooseberries	per ½ sieve	3	0		5	6
Grape Fruits	per case	12	0		20	0
Grapes, English	per lb.	1	6		3	6
,, Guernsey	per lb.	1	0		2	0
Greengages	per ½ sieve	8	0		12	0
Lemons	per case	10	0		30	0
Melons	each	0	9		2	0
Nectarines	per doz.	2	6		12	0
Oranges	per case	16	0		25	0
Peaches	per doz.	3	0		18	0
Pears, Californian	per box	10	0		12	0
Pineapples	each	3	0		5	0
Plums	per ½ sieve	4	0		10	0
,, Californian	per case	8	0		12	0
Raspberries	per doz. pun.	5	0		8	0
Walnuts, Pickling	per bush.	5	0		6	0

Vegetables.

The supplies of vegetables continue liberal, and the quality is good.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	2	6
Beet	per doz. bun.	2	0		3	0
Beans, Runner	per bush.	3	0		4	0
,, Broad	per bush.	2	0		3	0
Cabbage	per tally	2	6		4	6
Carrots	per doz. bun.	1	6		2	6
,, French	per doz. bun.	6	0		8	0
Cauliflowers	per doz.	1	6		3	0
Cucumbers	per doz.	1	6		3	0
Endive	per doz.	1	6		2	0
Horseradish	per doz. bun.	10	0		12	0
Lettuce, Cos	per score	1	6		2	6
Marrows	per tally	3	0		5	0
Mint	per doz. bun.	1	6		3	0
Mushrooms	per doz. lbs.	5	0		7	6
Onions	per bag	4	0		4	6
,, Spring	per doz. bun.	2	0		3	0
Parsley	per doz. bun.	3	0		4	0
Peas	per bush.	4	0		4	6
Radishes	per doz. bun.	0	10		2	0
Spinach	per bush.	1	6		2	0
Tomatoes, English	per doz. lbs.	2	6		3	0
,, Guernsey	per doz. lbs.	2	0		2	6
Turnips	per doz. bun.	2	0		6	0
Watercress	per doz. bun.	0	4		0	6

LONDON POTATO MARKETS.

The demand is rather quiet, and supplies are steady.

		s.	d.		s.	d.
Kents	per cwt.	4	0	to	5	0
Lincolns	per cwt.	3	6		4	6
Bedfords	per cwt.	4	0		5	0
Blacklands	per cwt.	3	6		4	0

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TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1913. August 3 to August 9.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 3—Sunday	10 0	61	56	73	47
,, 4—Monday	2 48	61	58	69	48
,, 5—Tuesday	8 18	55	49	66	50
,, 6—Wednesday	5 30	59	53	64	48
,, 7—Thursday	2 12	58	53	67	45
,, 8—Friday	2 0	59	55	66	46
,, 9—Saturday	0 54	56	52	65	47
Means	(total) 31 42	58	54	67	47

Date. 1913. August 3 to August 9.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Aug. 3—Sunday	—	61	61	59	38
,, 4—Monday	—	62	61	58	41
,, 5—Tuesday	—	61	61	59	44
,, 6—Wednesday	—	62	61	59	36
,, 7—Thursday	—	60	60	59	34
,, 8—Friday	—	60	60	59	37
,, 9—Saturday	—	60	60	58	38
Means	(total) —	61	60	59	38

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CHARGES FOR ADVERTISEMENTS IN THE GARDENERS' MAGAZINE.

Five Lines and under	£0 2 6
Per Line beyond	0 0 6
,, Inch	0 6 0
,, Half Column	1 10 0
,, Column	3 0 0
,, Page	9 0 0

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Haze.

Though it is difficult, if not impossible, to draw any definite line between haze, mist, and actual fog, the two latter may, in a general way, be imputed to the existence of aerial moisture alone while the former may be due entirely to suspended solid matter of a quite different nature. The air, as is well known in these days, by no means consists solely of the two gases—oxygen, the active principle of life; and nitrogen, as a diluent of apparent innocuous nature, though capable of forming materials of a terribly explosive character in combination with other elements, but also acts as a vehicle for an infinite number of solid particles even in its most transparent and apparently pure state. It is also pervaded by an immense proportion of water in an invisible form, but not in a gaseous form despite its invisibility. Since it is still composed of its constituent two gases, oxygen and nitrogen, and only maintains its invisibility in proportion to the temperature which, higher or lower, determines the amount which the air can contain at any given time. Thus the atmosphere may on a hot day be perfectly transparent but given a cooling wind from a cold quarter, and clouds will immediately form, and if the cold be sufficiently maintained, these will condense still further and rain result. Both mist and fog are the result of such suspended moisture pervading the lower atmosphere in varied degrees. Haze, on the other hand, may, as we have said, affect the transparency of the atmosphere by other means, the true nature of which can only be evidenced by the microscopist. Some years ago investigation was undertaken with almost incredible results, though confirmation by a number of eminent scientists established their correctness beyond all doubt. It was found that practically everywhere, but particularly in, or in the vicinity of, large towns, the air, even when optically clear, contained enormous numbers of solid particles, consisting both of living germs and of the débris of both organic and inorganic matter, raised by traffic and other means, and conveyed by the wind from the surface. So great was the number of these suspended particles of dust that, incredible as it appears, a single cubic inch of air may contain from many thousands up to several millions of them, according to the locality chosen for their collection. These immense numbers, therefore, may be taken as doubled within the area of an ordinary match-box. At Hyères, in the Mediterranean, with the wind from the land, some 60,000 to 1,200,000 per cubic inch were so collected, and with the wind from the sea, as many as 90,000. At Cannes the difference between the air from the mountains and that from the town was 75,000 in the one case, as compared with no fewer than 7,000,000 in the other, due doubtless to the disturbance caused by traffic, and the generation of germs etc., in the town refuse, a fact more or less confirmed by much lower figures being recorded at night-time. At the top of the Eiffel Tower only 11,300 were recorded after a heavy shower which purified the air, as against 5,000,000 at another time. The presence of these particles had been also determined by passing a beam of light through a cylinder filled with air, in a dark room, the result being the appearance of a "haze." This haze, however, disappeared gradually and entirely as the dust settled down, leaving the air pure, and no such "haze" was produced when the air was previously filtered through cotton-wool.

Now it has furthermore been abundantly demonstrated that a large proportion of this dust consists of living spores of fungi and disease-producing germs, which are responsible not merely for human diseases but also for those of plants, and as from their enormous numbers and practical ubiquity it is clear that if a suitable nidus or breeding-place be afforded, it is bound to be speedily utilised. So we have here the strongest possible arguments for cleanliness in our greenhouses, conservatories, and propagating houses, and the careful removal and destruction of all sources of infection, since in the contrary case the plant lover, to say nothing of humanity in general, is simply adding to the myriads of noxious germs against which he has ever to contend.

MR. MARK WEBSTER.

Mr. Mark Webster,

who has had charge of the beautiful gardens of Kelsey Park, Beckenham, the residence of E. J. Preston, Esq., during the past twenty-three years, has shown such conspicuous ability in the discharge of his multifarious duties as to have attained to a high position among the leading practical horticulturists of the present day. Evidently at the commencement of his gardening career Mr. Webster fully appreciated the importance of a thorough acquaintance of the gardening art to those who are desirous of achieving a high degree of success therein, for at the first stage of his training he entered the gardens of Endcliff Hall, Sheffield, where he remained seven years, and passed through the several departments with much success. Leaving Endcliff Hall gardens, he entered those of Widmerpool, Nottingham; and subsequently served in those of Newstead Abbey, Cyfartha Castle, and Caversham

Park, the period of training in these well-known gardening establishments extending over about eight years. By this time he had proceeded far enough in the pursuit of knowledge as to fit himself for bearing the highest responsibilities associated with the gardening craft, and on his leaving Caversham Park he received the appointment he now holds. At Kelsey Park he has afforded ample proof of his skill in the cultivation of the several classes of ornamental and useful plants that receive attention in gardens of the first class, and in association with his employer has done much to enhance the beauty and interest of the ornamental aspects of the gardens. In no sense a specialist, as that term is usually understood, Mr. Webster endeavours, and with much success, to obtain the best possible results in the cultivation of both useful crops and ornamental plants. This is plainly evident in a leisurely walk round the gardens, and a further proof is found in the reports of the exhibitions held during the past twenty years. Mr. Webster has exhibited, and with much success, at the leading flower shows held in the district of which Beckenham is the centre, and the products of the Kelsey Park gardens have been prominent at such important gatherings as the Royal International Horticultural Exhibition, 1912, those of the Royal Horticultural Society, the Royal Caledonian Horticultural Society, the National Chrysanthemum Society, and at those held at Brighton, Crystal Palace, Southampton, and Sevenoaks. The awards comprise gold and silver medals, challenge cups, and some hundreds of ordinary prizes. While in no way boastful of his successes, Mr. Webster appreciates the honour of having been awarded the gold medal as the most successful exhibitor at the Co-operative Flower Show at the Crystal Palace in 1896, and the gold medal at Beckenham in 1912, for a remarkably fine group of plants. One of the most interesting of his achievements has, perhaps, been the winning of the first prize of £5 offered by Messrs. Selfridge and Co. for plants of cotton grown in this country. The firm gave away seeds of the cotton, and offered a number of prizes for the best-grown plants. There were many entries, but the plants from the Kelsey Park gardens were so finely developed as to occasion no difficulty to assign them their proper position in the competition.

Selection and Culture of Daffodils.—As the season has now arrived when those who would achieve success in the cultivation of daffodils should proceed with the selection of varieties and the planting of bulbs, we shall give special attention to these beautiful flowers in our next issue. The contributions specially dealing with daffodils will include notes on the new varieties, a selection of inexpensive varieties for exhibition, the forcing of daffodils, the most useful varieties for the supply of cut flowers from the open, daffodils on clay soil, and the increase and usefulness of daffodil exhibitions.

Kendal Fruit and Potato Congress.—On Wednesday and Thursday, September 24 and 25, a Fruit and Potato Conference will be held at Kendal, under the auspices of the North of England Horticultural Society and the Northern Fruit Congress. There will be an exhibition of fruits and potatoes, and the congress will be attended by delegates from the Royal Horticultural Society. Mr. W. B. Little, Petterie Street, Carlisle, is organising an exhibit of potato diseases. On the first day, at 6 p.m., Mr. C. J. R. Tipper, B.Sc., will lecture on "The Organisation of the Fruit Industry in Westmorland, with Special Reference to Damsons"; at 8 p.m. Mr. R. A. H. Gray, M.A., M.Sc., of Armstrong College, will deal with "Fruit Insect Pests." The first meeting on Thursday commences at 3 p.m., when Mr. W. F. Emptage will lecture on "Land Tenure and Fruit Culture"; at 5.30, Mr. G. P. Berry, Chief Inspector of the Horticultural Branch of the Board of Agriculture, will discourse upon "Potato Culture"; and at 8 o'clock, Mr. W. B. Mercer, B.Sc., of Armstrong College, will deliver the concluding lecture, on "Diseases of Potatoes."

Centenary of Lawes and Gilbert.—It has been decided to commemorate the centenaries of Lawes and Gilbert, the founders of the Rothamsted Experimental Station, and committees are being formed for giving practical expression to this decision. Sir John Lawes was born in 1814, and Sir Henry Gilbert in 1817, and it is proposed to erect at Rothamsted, at a cost of £12,000, a commemoration laboratory. It is proposed to raise half this sum by public subscription; and, if this is done, a grant of £6,000 can be obtained from the Development Fund.

Begonias.—At the afternoon meeting of the Royal Horticultural Society on Tuesday next a lecture on begonias will be given by Messrs. Blackmore and Langdon.

Royal Botanic Society.—According to the report presented to the Fellows at the recent annual meeting, the attendance of visitors, inclusive of Fellows, to the Gardens last year amounted to 121,000. During the present season the weather had been exceptionally fine, and it was believed that a great increase would be shown at the end of 1913. The total of new Fellows elected in 1912 numbered 275, and for the first seven months of the present year 240. During the first sixty years of the Society's history the average yearly increase of new Fellows was only 104. In the last four years there had been added to the list over 1,400. Many improvements had been carried out in the Gardens. A large portion of the paths have been regravelled, and a rose bed made and planted with all the varieties of roses likely to do well in London.

An Exhibition of Gladioli was held by Messrs. Kelway and Son at Messrs. Selfridge and Co.'s establishment in Oxford Street, London, on Wednesday, and two following days. The array of splendidly-developed flower-spikes proved highly attractive to the many visitors. All the types for which the Langport firm has become famous were admirably represented, and the display produced was not less remarkable for its educational value than for the diversity of form and colour of the flowers.

Midland Daffodil Society.—Mr. C. Lemeslie Adams, Pendeford Hall, Wolverhampton, writes: "As the R.H.S. have responded to so large an extent to the wants of those who advocated a National Daffodil Society, and consequently the foundation of such a society is likely to be postponed sine die, may I urge the claims of the Midland Society to the support of all lovers of daffodils, and to the advantages that such membership confers. Firstly, the society (owing greatly to the energy of the late Mr. Robert Sydenham), after struggling in its early days, now holds the premier position amongst daffodil societies, and its shows have done very much to encourage and popularise the love of the daffodil, and impart a knowledge of what the capabilities of the flower are. Consequently I think a debt of gratitude is due from all lovers of the flower, and especially from those who are hybridisers, as the shows have been the means of encouraging more new seedlings being shown than any others. Secondly, membership means (1) joining the leading "club" of the daffodil world, and bringing a member into touch with those who are the busiest workers amongst the daffodils. (2) the right to attend and exhibit at the shows, which are acknowledged to be the pleasantest gatherings of the kind, and where the leaders in the cult are always to be found with the latest up-to-date flowers. With a larger membership and more funds at command, more could be done by the committee on the lines of the suggestions of those in favour of a national society. I would ask all lovers of the daffodil who are not already members to write now to Mr. Herbert Smith, Secretary of the Midland Daffodil Society, Tenby Street, Birmingham, intimating their willingness to join the society.

Queen Adelaide Hill, Windermere.—The hon. secretaries (Canon H. D. Rawnsley, Keswick, and Mr. Gordon Somervell, Windermere) of the committee which has done such excellent service in connection with the preservation of beauty spots in the Lake Country, write with reference to the purchase of Adelaide Hill: "Your readers who realise what a boon it will be to those who take their holiday on Windermere to have the chance of free landing and rambling on the shore will be glad to know that all but £200 out of the necessary £5,000 has been raised for the actual purchase of Adelaide Hill. This hill commemorates the only visit of a British Queen to our Lake Country. From its grassy height is obtained one of the finest panoramic views of Windermere and the surrounding hills, from Coniston Old Man in the west round to the High Street range in the east. It lies within a walk of 12 minutes from the railway station, and the right of way through the Rayrigg Woods to Miller Ground landing is part of the purchase. The Speaker has kindly consented to declare the property open to the public on the afternoon of Thursday, September 11. After the opening ceremony guests may like to go forward to Borran's Field, at Waterhead, another of the lately-acquired trust properties, when Professor Haverfield will give an address on the Roman Fort and recent excavations." It need hardly be said that subscriptions towards the deficit of £200 will be gladly received by either of the hon. secretaries.

Presentation to Messrs. W. H. Adnitt and W. W. Naunton.—Advantage was taken of the Shrewsbury Show to present Messrs. Adnitt and Naunton with a testimonial in recognition of the services they have rendered to horticulture as hon. secretaries of the Shrewsbury Floral Fête over a period of thirty-eight years. The presentation was made in the committee tent at 3 p.m. on Wednesday, August 20, when E. B. Fielding, Esq., the President, presided over a very influential gathering of horticulturists from all parts of the United Kingdom. The testimonial consisted of a cheque for £125 to each of these gentlemen. The President made the presentation in a few graceful words, and amid great applause. Sir Harry J Veitch presented Veitch Memorial Medals on behalf of the Veitch Memorial Trustees, and diplomas from the Royal Horticultural Society, conferring honorary life Fellowships upon Messrs. Adnitt and Naunton. Mr. Naunton replied for himself and his lifelong colleague, Mr. Adnitt being unavoidably absent owing to ill-health. Votes of thanks were accorded the President and Sir Harry J. Veitch, and reference was made to the services of Mr. N. F. Barnes and Mr. Brazier, who have acted as hon. secretaries to the testimonial fund.

SHREWSBURY FLORAL FÊTE.

We have often written that the exhibition of the Shropshire Horticultural Society was better than ever, but we have never written it with such ready emphasis as on this occasion. The Quarry Grounds were at their best, the avenues of trees in full leafage, the beautiful little Dingle at its gayest with summer flowers, and the weather was behaving splendidly on the opening day of the show—Wednesday, August 20. The sun shone brightly, but a little breeze tempered the heat, although the latter was almost overpowering in the great tents when the visitors crowded in during the early part of the afternoon. It was a gaily-dressed crowd, and the ladies took full advantage of the occasion to come in their lightest and brightest dresses. The show was larger than usual, there being one extra tent and some large exhibits out of doors. In point of quality it was superb, "never better" was the general comment. Groups, grapes, vegetables, roses, plants, sweet peas, and begonias deserve special mention.

One of the features of the first day was the presentation of a testimonial to Messrs. Admitt and Naunton, who for thirty-eight years were hon. secretaries of the show; the president made the presentation of cheques, and Sir Harry Veitch presented diplomas from the R.H.S., and Veitch Memorial Medals from the Veitch Memorial Trustees. Mr. Brazier, the new secretary, is to be congratulated upon the success of his first year of office, and the various chairmen of sub-committees, Mr. Andrews, Mr. Deakin, Mr. Trevor Corbett, Mr. H. W. Hughes, and Mr. Bromley also merit a word of thanks for work capably done. We may add that in no year have so many cheap admission tickets been purchased before the show date as this year, the income from this source alone amounting to nearly £1,000. So far as we could judge, and also so far as we could gather from the gate-keepers, the gate was a record one for a first afternoon.

GROUPS AND PLANTS.

There were three competitors in the great class for a group of miscellaneous flowering and foliage plants. Here Messrs. Jas. Cypher and Sons, Cheltenham, occupied their accustomed first place, winning the £25 prize with a very charming arrangement. The high background of palms was particularly light and elegant above an arch of crotons, ixoras, and liliums. In the foreground the use of Oncidium flexuosum, O. phymato chilum, O. oblongatum, O. Forbes, and O. incurvum, with Francoa ramosa, was particularly pleasing; in the basal portion, cattleyas, crotons, and odontoglossums gave colour, and Nertera depressa was used as an edging. Mr. J. V. Macdonald, gardener to Sir J. H. Kenrick, Whetstone, Edgbaston, came second with a grand group in which crotons, ixoras, and cattleyas were very fine, and Nandina domestica gave colour to the foreground; Mr. W. R. Manning, Dudley, third, with a group that lacked finish towards the back.

Five entrants came forward in the county class for a group of miscellaneous plants, and here Mr. Bernard Howson, Market Drayton, was first with crotons, Humea elegans, and campanulas as chief subjects; Mr. F. Brummell, gardener to A. M. Barber, Esq., Wellington, second, and Mr. Edwards, gardener to Mrs. F. Burd, Shrewsbury, third.

In a very close competition Messrs. Blackmore and Langdon, Bath, secured first prize for a group of begonias, the space allowed being 25ft. by 4ft. They had a superb lot of plants and charming varieties; their Princess Victoria Louise, Royal George, Mrs. Peter Blair, Mrs. W. L. Ainslie, the hanging baskets of Lena, Golden Shower, and Mrs. Bilkey, and the erect spikes of B. Martiana grandiflora commanding attention. Messrs. Thos. S. Ware, Lim., Feltham, came second, and in their display the lovely pink variety Lady Cromer was a central feature, and a great attraction; theirs was a grand exhibit, but arranged a little too flatly.

A magnificent exhibit of fifteen stove and greenhouse plants from Messrs. J. Cypher and Sons, Cheltenham, secured for that firm the first prize. We thought last year the Cheltenham firm had reached high-water mark for specimens, but they were even better on this occasion. They staged huge, freely-flowered, fresh examples of Allamanda nobilis, Bougainvillea Sanderiana, Statice Gilberti, S. profusa, Erica Aitoniana, E. Eweriana, a superb plant six feet through; Ixora Duffi, Clerodendron Balfouri, and Rondeletia speciosa, with Croton Countess, C. Warreni, and Kentia Fosteriana. Mr. W. R. Manning, Dudley, second with much smaller plants. Messrs. J. Cypher and Sons also led for thirty stove and greenhouse plants arranged on a space of 250 sq. ft.; here the leading kinds were Ixora Regina, I. Duffi, Croton Sunset, and Statice Gilberti; Mr. W. R. Manning again second.

PRIZE COLLECTIONS OF CHOICE DESSERT FRUITS AT SHREWSBURY FLORAL FETE.
Mr. S. Barker's first prize collection of twelve dishes on the right; Mr. D. McIntosh's second prize collection on the left.

HARDY PLANT AND ALPINE GROUPS.

The schedule required a group of hardy flowering plants and aquatics (cut flowers staged in water allowed). Artistic arrangement, and the most natural presentment of established growth to count; 300 sq. ft. allowed. Messrs. Gunn and Sons, Olton, were placed first, and their design was that of a broad, semi-circular border, grass verged, and a small semi-circular pool of water-lilies, rimmed with rockwork, in front. It was a

capital effort, and certainly did suggest natural conditions better than is usually the case in such exhibits. Liliums and helianthuses formed a background, with masses of hollyhocks, Lilium auratum, campanulas, and Galtonia candicans rising above phloxes, gladioli, violas, montbretias, scabious, etc.; Messrs. W. Artindale and Son, Sheffield, second, their design being a border with an irregular pool of nymphæas in front. The background was chiefly of phloxes and senecios, and was a trifle flat for its width. The astilbes and montbretias by the water side were very bright.

A quite new class was one for a rock garden, arranged out of doors on a space of 500 sq. ft. The three competitors arranged their exhibits on the far left-hand side of the Quarry grounds, and the crowds of visitors who thronged each display, traversing the tiny pathways, and carefully inspecting the designs and plants, showed how keenly interested they were in this class. The difficulty was to get anywhere near the exhibits during the afternoon. The prizes were £50, £30, and £20 respectively, and the premier position was filled by Mr. T. R. Hayes, Keswick, whose arrangement of finely-weathered grey stone was good, and was not overdone. There were dry watercourses and tiny pathways amid the low mounds of rocky outcrop, and heather of various kinds, St. Dabeoc's Heath, and hardy ferns were planted in the most natural fashion. Pinus austriaca formed a background, and dwarf pines topped the rocks here and there. Primula capitata, gentians, double Welsh poppies, hypericums, dianthuses, and berberis were the most showy subjects, and they were disposed in suitable colonies. Three red Japanese maples capped vantage points, and did not seem quite in keeping with the rest of the vegetation. The second prize fell to Mr. J. Woods, Boston Spa, Yorks, arranged a beautiful rock garden, wherein the rocks and water were disposed in the most natural fashion, but the planting was in no degree effective, and, indeed, was a trifle weak. The idea was a rocky mound with a watercourse leading to a little pool. Sedums, heather, ferns, campanulas, antirrhinums, and Thalictrum dipterocarpum were a few of the plants most in evidence. Mr. J. E. Knight, Wolverhampton, had a quite effective contribution, but it was scarcely in accordance with the best ideas of a rock garden. Liliums, astilbes, spiræas, bamboos, achilleas, and Hydrangea paniculata were grouped high at the back above a mound of rock, with a pool of lilies, etc., at the base. Other mounds of rock were planted with bamboos, campanulas, statice, lilies, berberis, spiræas, etc. Mr. Knight gained third prize.

THE GREAT GRAPE CLASS.

Tremendous interest always centres in the great grape class, for a dozen bunches in four or more distinct varieties, but not more than four bunches of any one variety. The prizes offered were £20, £16, £12, £9, and £6. A space allowed for each exhibit is 8ft. by 4ft., and the grapes have to be set up in two tiers, with floral decorations.

The premier award of £20 was won by Mr. S. Barker, gardener to the Duke of Newcastle, Clumber, Worksop, with medium-sized bunches of very high-quality grapes, beautifully decorated with blush carnations, pink Lilium speciosum, Francoa ramosa, and Thalictrum dipterocarpum spikes. His bunches were as follows, with maximum and awarded points:—

Variety.	Maximum Points.	Points Awarded.
1. Black Hamburgh	10	9
2. Madresfield Court	10	9½
3. Muscat of Alexandria ...	11	9
4. Muscat Hamburgh ...	10	9½
5. Muscat of Alexandria ...	11	9½
6. Madresfield Court	10	8½
7. Black Hamburgh	10	8½
8. Madresfield Court	10	8
9. Muscat of Alexandria ...	11	6½
10. Madresfield Court	10	8
11. Muscat of Alexandria ...	11	6½
12. Black Hamburgh	10	7
	124	99½

Second prize fell to Mr. J. Dixon, gardener to Lord Rowallan, Kilmarnock, for enormous bunches, which, however, did not carry the bloom and finish of Mr. Barker's, though they greatly outweighed his bunches. Mr. Dixon's points were:

Variety.	Maximum Points.	Points Awarded.
1 Gros Maroc	9	9
2 Muscat of Alexandria ...	11	9
3 Madresfield Court	10	8
4 Muscat Hamburgh	10	8
5 Muscat of Alexandria ...	11	9
6 Black Hamburgh	10	7½
7 Madresfield Court	10	9
8 Muscat Hamburgh	10	7
9 Muscat of Alexandria ...	11	8
10 Madresfield Court	10	8
11 Muscat Hamburgh	10	7
12 Muscat of Alexandria ...	11	9
	123	98½

Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was third, with 96 points out of a possible 122; Mr. G. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, Ledbury, fourth, with 94 points out of 122; Mr. G. Richardson, gardener to H. St. Maur, Esq., Newton Abbott, fifth, with 90½ points out of a possible 124. The unplaced exhibitors were Mr. T. Pateman, gardener to C. A. Cain, Esq., J.P., Welwyn, Herts, with 89 points out of 121; Mr. J. R. Tooley, gardener to Hugh Andrews, Esq., Winchcombe, also with 89 points out of a possible 121; and Mr. T. Wilkinson, gardener to Colonel G. A. Gibbs, M.P., Tyntesfield, Bristol, with 69½ points out of a possible 123. It will thus be seen that there were eight competitors in this important class.

CHAMPION DESSERT TABLE CLASS.

In the champion class for a decorated table of dessert fruit, there were three competitors. A table 10ft. by 4ft. 3in. was allowed, and thirty dishes of fruit (not more than fourteen bunches of grapes allowed) required, with cut flower decorations. The prizes offered were £25, £20, £17 10s., and £10 respectively, but no points or awards were allowed on this occasion for the decorations. The successful exhibitor was Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton Hall, Chester, who had a grand exhibit daintily decorated with Montbretias and francoa sprays. His dishes were: Grapes—Muscat of Alexandria (four bunches—(11), 8½, 6½, 7, and 6½; Madresfield Court, four bunches (10), 8½, 8, 9, and 7½; Appley Towers, four bunches (9), 7, 7, 6½, and 7; Chasselas Napoleon, two bunches (9), 6½ and 7½. Brunswick and Brown Turkey figs (7), 5½ and 6. Melons (8)—Eaton Seedling, 6½ and 7, and Hero of Lockinge, 6½. Nectarines (8)—Pineapple 7; Dryden, 5; Dryden, 5½; and Pineapple, 6. Peaches (8)—Bellegarde, 6½; Royal George, 6; Royal George, 6; and Merlin, 6½. Plums (8)—Jefferson, 5½. Pears (8)—Marguerite Marrillat, Louise Bonne of Jersey, Doyenne du Comice, and Doyenne du Comice, 6½, 6, 5½, and 5. Apples (7)—Cox's Orange Pippin, Gascoigne's Scarlet, Cox's Orange Pippin, and Charles Ross, 6½, 6½, 6½, and 6½. Total, 240 points. The figures in brackets are the possible points obtainable.

Second award fell to Mr. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, Ledbury, who scored 217 points, with a grand table of fruit. Mr. J. H. Goodacre, Elvaston Castle Gardens, third, with 213½ points, his peaches being fine.

CHOICE DESSERT FRUITS.

A first prize of £10 was offered in a class for a florally-decorated collection of twelve dishes of dessert fruits. There were two entries, first place falling to Mr. S. Barker, gardener to the Duke of Newcastle, for capital Madresfield Court, Muscat of Alexandria, and Black Hamburgh grapes, a melon, Triomphe de Vienne pears, Wealthy and Ribston Pippin apples, Crimson Galande and Stirling Castle peaches, Humboldt nectarines, Negro Largo figs, and Golden Gage plums. Second prize was won by Mr. D. McIntosh, gardener to E. Bewley, Esq., Rathgar, Dublin, his Peasgood's Nonsuch apples and Marguerite Marrillat pears being extra good.

There were four entries in the class for nine dishes of dessert fruit, and here Mr. J. Mills, gardener to Captan Heywood Lonsdale, Shevington Hall, gained premier place, with Madresfield Court and Muscat of Alexandria grapes, Barrington and Royal George peaches, Pineapple and Swanwick Elruge nectarines, Brown Turkey figs, James Grieve apples, and New Peerless melon. Mr. W. Willdig, West Felton, second; Mr. W. Catt, gardener to A. H. Heber Percy, Esq., Hodnet Hall, third, his Gascoigne's Scarlet apples being excellent. Mr. Staward, gardener to Major-Gen. Sir F. Lloyd, K.C.B., Aston Hall, fourth.

Mr. A. H. Heber Percy, Hodnet Hall, was a capital first for a collection of six dishes of hardy fruits, currants, gooseberries, raspberries, and apples being very fine. The same competitor was first for a dish of apples with Gascoigne's Scarlet. Mr. Mullins led for Morello cherries.

GRAPE CLASSES.

Mr. T. Mills, gardener to Captain Heywood Lonsdale, Shevington, came first for two bunches each of white and black grapes, scoring with Madresfield Court and Muscat of Alexandria, the latter finely coloured. Mr. A. J. Cook, gardener to Colonel H. C. Legh, Knutsford, second; and Mr. D. McIntosh, gardener to E. Bewley, Esq., Dublin, third. Five entries.

Out of eleven competitors, Mr. J. H. Goodacre scored for two bunches of Black Hamburgh grapes, with solid clusters of deeply-coloured berries. Mr. J. Dixon, gardener to Lord Rowallan, Kilmarnock, second; and Mr. G. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, Ledbury, third. For a single bunch of this variety, Mr. J. Dixon was first, followed by Mr. G. Richardson, gardener to H. St. Maur, Esq., Newton Abbot; and Mr. S. Barker, Clumber Gardens, third.

Mr. J. H. Goodacre led for a brace of bunches of Black Muscat grapes, with Muscat Hamburgh. Mr. J. J. Cook had the finest pair of bunches of Madresfield Court, with Mr. Goodacre second, and Mr. W. H. Wilson, Stourport, third. Mr. Mullins led for two bunches of Alicante, with big bunches, well coloured. For two bunches of any other black variety, Mr. J. Dixon was first with Gros Maroc in grand form, the berries like plums. Mr. Mullins second.

For two bunches of white muscats Mr. W. Campbell, gardener to Lord Seaforth, Barham Castle, scored with Muscat of Alexandria, with Mr. S. Barker second, and Mr. J. R. Tooley third. For any other white grape, two bunches, Mr. S. Barker, gardener to the Duke of Newcastle, Worksop, led with Buckland Sweetwater. Mr. G. Davies, gardener to F. Alderson, Esq., Oswestry, second; and Mr. Curtis, gardener to Sir Howell Davies, M.P., Stoke Bishop, Bristol, third.

In the county classes (Shropshire) for grapes, Mr. J. Mills, Shevington Hall; Mr. J. Birch, gardener to Lady Mary Herbert, Market Drayton; Mr. W. Ashwood, gardener to Major Newill, Admaston; Mr. W. Willdig, gardener to Colonel Mainwaring Jackson, West Felton; Mr. J. Hopwood, gardener to J. Barker, Esq., Shrewsbury; and Mr. A. Jones, gardener to G. Burr, Esq., Oaklands, were the successful prize-winners.

CUT FLOWERS.

There were four competitors in the fine class for twenty-four bunches of hardy flowers, and the only fault one had to find with the class was lack of space for the splendid bunches displayed. Premier award fell to Messrs. Harkness and Sons Leeming Bar, for a famous lot, wherein Verbascum New Departure (soft nankeen-yellow), gladioli, Gaillardia Miss Mackellar, Galtonia candicans, Lilium longiflorum, and Helianthus multiflora maximus were very fine. Second prize fell to Messrs. W. Artindale and Son,

(Continued on page 643.)

NEW PLANTS AND FLOWERS.

AGAPANTHUS WEILLIGI.

A new species that is likely to prove hardy in many parts of the country. It bears a large umbellate head of fifty or sixty violet-blue flowers, which are of deeper violet shade at the base. The head is denser than in A. umbellatus, and the individual blooms are more tubular than in that species. Where A. Mooreanus does well this newcomer should also be a success. The leaves are rather short for the genus, stiff and erect. A.M., R.H.S., August 12. A. Worsley, Esq., Mandeville House, Isleworth.

DAHLIA DUNGENESS.

This is the first variety to gain an award this season, and, curiously enough, it is a variety belonging to the new collarette section. The blooms are about five inches across, bright rich crimson-scarlet, and the quilled collar florets are light yellow. A very effective and striking variety. A.M., R.H.S., August 12. Messrs. Dobbie and Co., Edinburgh.

GLADIOLUS CRAIGANOUR.

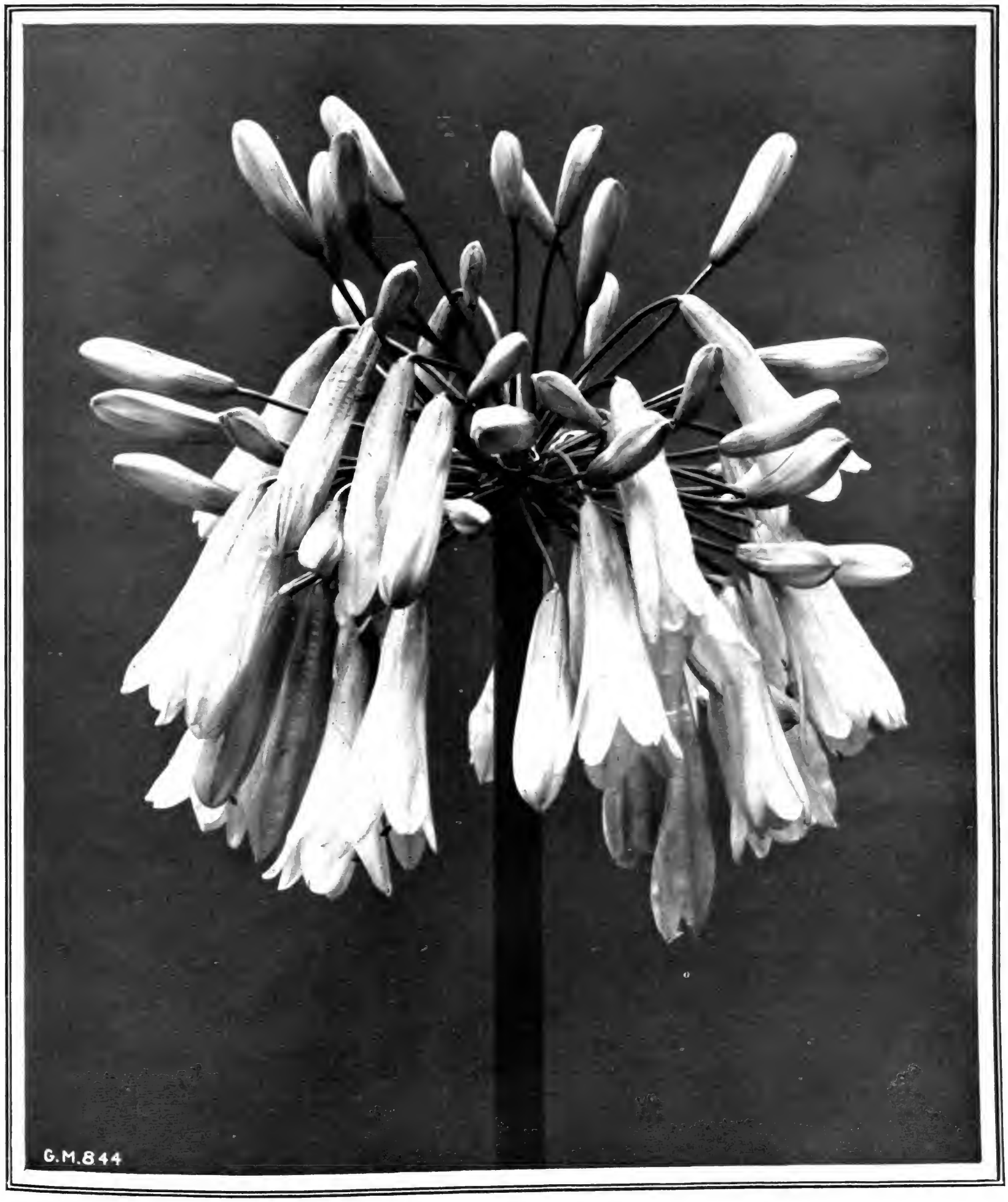
A very fine variety, with well expanded flowers, carried boldly on a stout spike. The colouring is rather difficult to describe, but light rose-red about fits it, though there is a white line down the middle of each inner segment, and the lower petal is deeper and brighter red with a light sheen or suffusion of purple. A.M., R.H.S., August 12. Messrs. Kelway and Son, Langport, Somerset.

LYSIONOTUS WARLEYENSIS.

Forming a little bush about nine inches high, bearing oblong-lanceolate, fleshy leaves that are white on the under surface, and white, purple-lined, tubular flowers, this Chinese plant attracted a good deal of attention. Both flowers and leaves are about two inches long, and the former are produced in the axils of the upper leaves. This gesneriad was collected by Mr. E. H. Wilson, and, though interesting, it is not especially attractive. A.M., R.H.S., August 12. Miss Willmott, V.M.H. (gardener, Mr. C. Fielder, V.M.H.), Warley Place, Great Warley, Essex.

CALADIUM MADAME RENE MAROT.

A delightful variety, chiefly of crimson colouring, with silvery-pink central area, deep carmine veins, and bronze shading at the margins of the moderate-sized leaves.



AGAPANTHUS WEILLIGI.

Flowers violet-blue. A.M., R.H.S., August 12. A. Worsley, Esq., Isleworth.

A.M., R.H.S., August 12. Mr. Hoffmann, Tower House, Streatham.

CROTALARIA AGATIFLORA.

This crotalaria is described as one of the finest and one of the largest-flowered of the African species of this genus, and the specimen figured fully justifies this description. It is a native of Uganda, and British East Africa, and forms in a wild state a large handsome shrub, and bears numerous long racemes of large, bright, greenish-yellow flowers. The credit of first flowering this species in England belongs to Mr. W. F. Hamilton, gardener to Ingham Whitaker, Esq., Pylewell Park, Lymington, who appears not to have experienced any great difficulty in growing and flowering the plant. "Bot. Mag.," t. 8,505.

LÆLIO-CATTLEYA URSULA.

A new hybrid derived from L.-c. Ingrami and C. Mantini, and one that will doubtless become finer as the plant develops. In form and substance the flower is strongly reminiscent of L.-c. Ingrami, while the colouring is very like the deep rose-purple of C. Mantini. A.M., R.H.S., August 12. Messrs. J. and A. McBean, Cooksbridge, Sussex.

LÆLIO-CATTLEYA WELLESLEYI VAR. FLAMBEAU.

A fine bold form of the hybrid between C. Warscewiczi and L.-c. Martinetti, and one in which the influence of the first-named parent is very marked. The sepals and petals are rose-purple with old gold shading, and the large lip is rich purplish-crimson shading to red-purple near the yellow disk. A.M., R.H.S., August 12. Mr. E. H. Davidson, Orchid Dene, Twyford.

DAHLIA DUNGENESS.

Flowers rich scarlet with light yellow collar. A.M., R.H.S., August 12. Messrs. Dobbie and Co., Edinburgh.

(See page 633.)

Veronica Autumn Beauty. — This is an exceedingly pretty free-flowering veronica of garden origin, whose rich, bluish-purple-coloured blossoms are borne over a lengthened period. It is a dwarfer plant than the varieties which have originated from Veronica speciosa. Though bearing the name of Autumn Beauty, it is finely in flower in the month of July.—K.

ROSES FLOWERING LATE.

During the first week in August hundreds of rose trees, especially those of climbing varieties such as Dorothy Perkins, Hiawatha, and Stella, seemed to be at their best, flowering profusely. Hybrid teas and hybrid perpetuals, too, were masses of blossom. This condition obtained in Bournemouth, where roses are usually in bloom early in the season; this year the display has been a prolonged one. Owing to the prevalence of green aphides at the end of May and early in June, many rose trees, especially those of Dorothy Perkins, were almost denuded of foliage. Since then new growths have come, and much blossom of a particularly bright colour. A large plant of Mdme. Berard in my garden is only just commencing to flower, and the foliage is lovely, showing off the pleasing light yellow flowers to the best possible advantage.

G. B.

CHRYSANTHEMUM NOTES.

The plants generally make rapid growth from the middle of July to the same date in September. In dull and rather cool weather the growth is very free even after the buds are "taken." But as it is not possible to have all plants in the same condition at a given time, the cultivator should very carefully examine them, and give treatment accordingly.

The wood and main leaves of some varieties may be much riper than the stems and leaves of others. Plants in such a condition can be well fed, whereas much feeding of plants that are less matured would do harm, as the unripe shoots would grow unduly, and the buds be of little value for developing into fine flowers. The little extra labour entailed in picking out the plants possessing the hardest wood, and top-dressing and feeding them more frequently, will be more than compensated for, as the resultant blooms will be good ones. And if those plants that are not as matured be grown for a time without the aid of strong stimulants, the blooms they bear will be more refined and suitable for the show table.

It is a mistake to overfeed plants of the incurved section. When the blooms are three-parts developed, a small dose or two of nitrate of soda, or some approved concentrated chemical manure, would soon have the effect of forcing out the central petals and deepening the flower considerably. If given too early, such stimulants would cause the basal petals to reflex.

Border Varieties.

There are now some very beautiful varieties among the early-flowering section, and those generally grown in the open borders. The dwarf habit of growth is a vast improvement on that of some of the older sorts, and very little staking is necessary. But where it is, the final staking and tying-out of the stems is work that must be done at once.

The presence of these plants in the open borders adds considerably to the variety and general beauty of autumn-flowering subjects in them—not only in herbaceous borders, but those in the flower garden too.

Here, again, the matter of feeding should receive attention. I have recently had an opportunity of examining many batches of plants growing in districts wide apart. Some cultivators were content to put out plants in poor, unmanured ground last May, and these have not grown satisfactorily. Only repeated doses of diluted liquid manure or chemicals will assist the plants to yield a moderate harvest of bloom in September and October.

There are other cases where one or two applications of liquid manure will be sufficient, as the plants are now making good progress in fairly rich soil, and much feeding would make them gross and too tall.

Where plants are growing in beds in the flower garden some disbudding may be essential. When the work is judiciously done the blooms are more erect, and possess more substance; and, if the plants are not tied too stiffly, they present a very fine appearance, and add considerably to the cheerful displays of autumn flowers.

GEO. GARNER.

Lantanas. — These have doubtless within recent years made great headway in popular favour, both for the embellishment of the greenhouse and for bedding out during the summer months. This is not surprising, as the different varieties are profuse in flowering, of easy culture, and readily wintered much as fuchsias are. Among the best are Drap d'Or, golden-yellow; Incendie, scarlet; and salviæfolia, lilac.—S. W.

WINTER ONIONS.

Winter onions and spring cabbages are two of the most important crops to be sown during the present month. Especial care should be taken in preparing the site for onions, as the crop will have to stand the varying weather the whole winter through. It is necessary to choose soil of fairly light texture; to secure this, if the ground is heavy, thoroughly dig a plot from which the main crop of potatoes are being lifted. Over this strew a good dressing of burnt garden refuse, with soot and lime rubble added; then roll or tread the whole firmly; this will bring the plot into good tilth, quite suitable for sowing the seeds without much raking. It is possible to make the surface too fine at this season, and it would then harden under rain, and prevent a free passage of air.

Sow thinly in drills, and when the seeds have germinated all that will be necessary is to ply the Dutch hoe regularly, and give an occasional dusting of soot. The latter will prevent the ravages of slugs, and act as a splendid fertiliser. Two sowings should be made, one during the middle of August and the other a week later. Well-tried varieties are White Leviathan, White Emperor, White Tripoli, Blood Rocca, and Lemon Rocca.

During late autumn a plot of ground should be trenched in readiness to receive the plants the following February or March as the climatic conditions allow. Any ground will do, providing it is given a good dressing of farmyard or stable manure. Place the longest manure in the bottom of the trench where it will drain and thereby lighten and warm the soil. Under the top spit place a layer of fairly-decayed manure. Leave the surface as rough as possible.

Nothing further will be needed until planting time arrives, when, in dry weather, the surface should be strewn with wood ashes, then broken down with a fork, and levelled up. Plant in lines one foot apart. When lifting the onions from the seed bed use a hand fork, so as to avoid breaking the roots; plant shallow and firmly, and if the weather is dry, water in thoroughly.

GEO. ELLWOOD.

Swanmore Park Gardens.

GLADIOLUS CRAIGANOUR.

Flowers bright rose-red, with darker shade on lower segment. A.M., R.H.S., August 12. Messrs. Kelway and Son, Langport. (See page 633.)

Potentilla Gibson's Scarlet.—A spreading mass of this potentilla, thickly studded with its brilliantly-coloured blossoms, forms a prominent feature on an elevated portion of the open border. When growing freely its plaited leaves are in themselves very ornamental, while the flowers attract by reason of their vivid tints.—K.

HAMPTON COURT GARDENS.

The gardens at Hampton Court have long been famous for their different phases of beauty at various periods of the year. Of the present summer's display it may be safely said that the high standard so generally recognised has been fully maintained, or even, in some instances, surpassed.

Despite the fact that the Palace itself is, owing to the militant suffragists, closed to the public, the gardens prove a source of attraction to a very large number, including many artists seeking to reproduce the various features on canvas.

While the summer bedding may be looked upon as the dominant feature at the present time, it by no means stands alone, for there are many other features which prove valuable accessories to the floral display. The rich green of the elastic turf, for instance, is unsurpassed as a setting for the masses of brightly-hued flowers, while the remarkable old yews, in their dark sombre tone of green, stand out like sentinels against the light tint of the lime trees which encircle that portion of the gardens. These limes, too, form, when devoid of foliage, a very uncommon winter feature, as they are heavily laden with mistletoe, which stands out very conspicuously when all around is devoid of leafage.

The many climbers on the old walls include some very fine forms of clematis and of rambler roses, among which last Dorothy Perkins and Hiawatha occupy a foremost position. These roses are by no means the only ones there represented, for some beds of the most suitable kinds are very attractive, and one very large bed planted with a varied selection is particularly striking at a distance, and, closely inspected, full of interest. Some of the weeping standards are unusually good, while the value of the dwarfer members of the polyantha race as an edging, or in the foreground of the larger-growing kinds, is well exemplified. The tall ramblers, secured to stout, erect poles, show off their beauty admirably.

The herbaceous border is always a source of attraction, chiefly owing to the fact that the various subjects planted there are quite hardy. The plants therein are so well assorted that a display is kept up until the autumn frosts end the last of the chrysanthemums and Michaelmas daisies. Just now the phloxes are very beautiful, and beside these may be especially noted various pentstemons and antirrhinums, now so popular; potentillas of sorts, Gibson's Scarlet being very conspicuous; Geum Mrs. Bradshaw, already a well-established favourite; Salvia nemorosa, well worthy of extended cultivation; the ubiquitous Galega officinalis, and its white variety, both good border plants; Lychnis Haageana, distinct in its tone of red; heleniums, of sorts; chrysanthemums, of which Mrs. Lowthian Bell is one of the best; Sidalcea alba, whose flowering season extends over a lengthened period; the brilliantly-coloured and highly-fragrant Bergamot or Oswego Tea (Monarda didyma), and many others.

In addition to the different subjects in the herbaceous border there is a large bed filled with the choicer varieties of delphinium, and while the main spikes are, in most cases, exhausted, the policy of cutting them away directly the flowers are over is well exemplified, as the secondary crop of blossoms is quite sufficient to make a goodly show. This is a point that is not so generally borne in mind as it should be.

The water lilies in the circular pond in the front of the Palace are at times surrounded by admirers, while the old historic vine, which has its regular stream of visitors, is in very good condition.

Of tender subjects there is a varied collection in the long border on the opposite side of the Palace to that given up to herbaceous plants. For the most part the plants of which this border is composed are arranged in blocks, or groups, containing several of each kind, a method far preferable to planting them in straight lines. Most of them are flowering with great freedom, and the chief are Bougainvillea glabra, Calceolaria Burbidgei, C. amplexicaulis, fuchsias in variety, Carnation Britannia, Salvia patens, S. Pride of Zurich, Acalypha musaica, heliotrope, astilbes in variety, pelargoniums of sorts, antirrhinums in variety, Gilia coronopifolia, Cacalia aurea, lantanas, Solanum jasminoides, S. Wendlandi, Humea elegans, Asclepias curassavica, Lilium longiflorum, sweet peas, annual chrysanthemums, celosias, and Marguerite Mrs. F. Sander.

Of the different pelargoniums planted in the various beds the variety Paul Crampel still holds its own as the finest of the scarlets, while as a white Queen of the

A CHARMING BED OF BOUVARDIAS AND IVY-LEAF PELARGONIUMS, HAMPTON COURT.
The bouvardia is B. Humboldti corymbiflora, and the pelargonium Rose Queen.

Belgians has yet to be beaten. At a little distance the strange orange tint of the variety Maxime Kovalevsky is somewhat of a puzzle to the uninitiated. It fills a large bed, with a few tall plants of Leucophyta Brownei raised above it. Of ivy-leaved pelargoniums those two old varieties, Galilee and Souvenir de Charles Turner are, in their way, unsurpassed. The pale mauve-tinted Baden Powell is admired by some, and its growth seems to be on the increase. Its fine large flowers are certainly very effective.

No flower garden seems to be complete without a selection of fuchsias, and though at Hampton Court they are not grown to the same extent as in some places, there is quite sufficient to form a fine display. Prominent among them are the varieties Ballet Girl, Alice Hoffmann, Mrs. Marshall, Mrs. Rundle, Scarcity, Annette, Rose of Castile, Madame Cornellison, Riccartoni (a good hardy kind), Erecta Another bed suitable for a similar position has also a carpet of koniga, but the begonia employed is apparently of local origin, the name of Hampton Court being applied to it. It is a dwarf variety, with large double flowers of a pleasing shade of cherry-red. The dot plants are Phlox Comtesse de Jarnac, Kochia scoparia, and Centaurea candidissima.

Another pretty bed is planted with the upright-growing, orange-scarlet Begonia Bertini, springing from a carpet of koniga. A few plants of variegated grass and Leucophyta Brownei complete the bed, which is edged with Echeveria secunda glauca. A bold effect is produced by a bed of cannas well overtopped by Humea elegans and Campanula pyramidalis, and edged with white violas, beds of sweet peas grown in pots are very striking, while an unexpected floral display at the end of July was a bed of Aubrietia Dr. Mules laden with blossoms.

AN EFFECTIVE BORDER OF SUMMER FLOWERS, HAMPTON COURT.
Both hardy and half-hardy plants are utilised in the furnishing of this border.

Novelty, remarkable for its upright flowers, and the two variegated-leaved forms, namely, gracilis variegata and Sunray.

Other subjects include Humea elegans, always well done at Hampton Court; Lantana Drap d'Or, yellow; L. delicatissima, lilac; and L. Incendie, scarlet; Streptosolen Jamesoni, cannas, verbenas, Leucophyta Brownei, in all sizes; Cuphea ignea, several varieties of begonia, and numerous others.

Space only permits mention of a few of the most pleasing or more uncommon floral combinations, though there are many worthy of note. One particularly suitable for inspection from high windows is planted with Koniga maritima, over which is dotted the pretty pink Begonia Major Hope. A few tall slender plants of Leucophyta Brownei complete the bed, except for an edging of Echeveria secunda glauca.

This notice might be indefinitely extended, but enough has, I think, been said to show that the condition of the gardens and their surroundings is such that the superintendent, Mr. W. J. Marlow, is justly entitled to feel proud of it.

W. Truelove.

The Golden-leaved Elder.—It is a well-recognised fact that the common elder will hold its own in poor, dry, stony soils, a remark that applies equally to the golden-leaved kind. It is, in fact, under such conditions that it is seen at its best, for in moist spots it does not acquire that richness of colouring which it does under less liberal conditions. The colour intensifies by exposure to the summer's sun, instead of being burnt up as some of them do. The beautifully variegated Cornus Spathi is another of this class.—S. W.

GALTONIA CANDICANS.

The Cape hyacinth, which was formerly styled Hyacinthus candicans, is one of the most decorative plants for the embellishment of the garden. It is of the easiest possible culture, and bulbs may now be procured at a remarkably cheap rate, while anyone possessing plants may readily increase their number by sowing seeds, which will produce flowering plants within three or four years. The seeds should be sown as soon as ripe, in pans of porous soil, and placed in a cold frame, while, since it requires no heat, it may be raised by amateurs not having a greenhouse. In their second year the seedlings should be planted out in a prepared bed, and transferred to their permanent quarters after they have become dormant the following autumn.

Early in August the Cape hyacinth is at its best, its tall flower-spires, with pendant, ivory-white bells rising, in the case of vigorous specimens, to a height of five feet or more. Associated with the deep blue Salvia patens or the scarlet Gladiolus Brenchleyensis, the effect of this galtonia is especially striking, while it is equally valuable when planted among low-growing, fine-leaved subjects, such as the funkias. F. Sieboldi, with its cordate, glaucous foliage, interspersed with the lofty shafts and graceful flower-heads of Galtonia candicans, presents a satisfying picture, but of a subdued colour scheme, that, though lacking the vivid contrasts afforded by the salvia and gladiolus before referred to, is restful to the eye.

As a cut flower the Cape hyacinth yields to few in excellence, the lofty bloom-scapes, with their white blossoms poised at the extremities of the long foot-stalks, creating a stately effect when arranged loosely in vases. Wyndham Fitzherbert.

NOTES ON HARDY FLOWERS.

Statice latifolia.

This is the best of all the sea lavenders or statices for the ordinary flower border, and it is a pity such a plant is so little known, although, of course, it is not a rare one. In a good border, not too wet, yet not poverty-stricken, S. latifolia is really very fine. A large plant, between two and three feet high, is most ornamental with its handsome spreading spikes of blue or lilac-blue flowers, which, though individually small, are effective in a mass. The leaves are handsome, and the general effect of a specimen is decidedly good. Although a nominal June flowerer, it lasts a long time in bloom, and we see it in flower into August. Apart from its value in the garden, the flowers are in request for cutting, and the fact that they can be dried for winter decoration adds greatly to their value to many. One finds that a good, though not too heavy, soil suits it well. S. latifolia is increased by means of division or seeds, and is quite hardy. It is a native of South Russia, whence it was introduced in 1791.

Chrysanthemum maximum Hendersoni.

There is a bewildering array of varieties of Chrysanthemum maximum nowadays, and the purchaser is at a loss which to choose from among such a host, many of which differ only in name. The laciniated varieties are highly ornamental, and lend themselves to purposes where the other forms are not so valuable, and quite a number of those with the ends of the ray petals laciniated are in commerce. One which is, I am certain, of long-past introduction is named C. m. Hendersoni, and, when well grown, is very difficult to beat in its way. Growing variously from two to three and a-half feet high, it gives a mass of shapely, prettily-cut flowers of purest white, save for the golden centre, for a considerable time in succession. This is a very handsome chrysanthemum, and may well be placed among the best of the really good varieties now so common. In a good soil it is of special excellence, and gives for a considerable time handsome flowers for cutting, as well as for the decoration of the border. I do not know its origin with any certainty, but, unless I am mistaken it came from the once-famous nursery of E. G. Henderson and Son, St. John's Wood, London, who sent out so many good hardy plants.

Agapanthus umbellatus, var. Mooreanus.

For garden purposes we may well be content to call this little blue African lily simply Agapanthus Mooreanus, although we have it on the highest authority that it is only a variety of the well-known A. umbellatus. It is inferior in size and effect to the ordinary A. umbellatus, but to the many who are debarred from cultivating its more impressive sister flower it has the merit of being much hardier, and of thriving where the other would fail because of the severity of the winters. Of course, when properly treated, A. umbellatus itself, and its white variety, are much hardier than is generally understood, but A. Mooreanus is really hardy throughout a great part of the United Kingdom. The writer has grown it for five and twenty years or more in the open border, and that without a shred of protection during winter. A. Mooreanus is much smaller in its scapes and individual flowers than the type. It has also shorter and blunter leaves, and does not usually grow so tall. I see that an authoritative work gives the height as eighteen inches, but I have measured a clump in my own garden to-day, and the stems and their surmounting scape reach at least fifteen inches more. The flowers are of a good blue, and a large clump in autumn is a pleasing feature of the border. It likes a good, but well-drained soil, and occasional applications of weak liquid manure will help to give the plant vigour and the flowers a greater size. This is not necessary, however, and in fairly good soil the agapanthus will increase in size and beauty with the ordinary treatment afforded to other border plants. I prefer spring planting, and the crowns should be about two inches beneath the surface. Increase is effected by division.

Inula Hookeri.

A capital hardy effective border plant for autumn flowering is Inula Hookeri, a handsome subject, with ornamental flowers of a good orange, with a deep centre, and very pleasing in the autumn months from July, late in the month, to the end of September, and in this garden even into October if the frost is only moderate in its touch. It is variously from two to three feet high, according to the nature of the season or the character of the soil and position. Its one fault in the border is that it is apt to spread too much at the roots, but this is easily condoned for the sake of the effectiveness of this handsome composite plant, and the value of its blooms, either in the garden or cut for the home. It is increased by division, and is quite hardy.

S. Arnott.

LEUCOPHYTA BROWNEI.

The above is the name most generally used in gardens for this well-known plant, but by botanists it is placed in the genus Calocephalus, the specific name remaining the same. Owing to the intense silvery-whiteness of the entire plant, it is much used for bedding purposes, the neutral tint serving admirably as a foil to the brighter-hued blossoms. It is employed in several different ways—firstly, when pegged down, it may be used as an edging or a carpet to taller-growing subjects; next, as dot plants of any height from 1ft. to 4ft., it is in considerable demand. It can be readily struck from cuttings inserted at any time during the growing season, and kept close till rooted. In early spring they are benefited by a gentle bottom heat, but in summer this is not needed. The cutting-pots should be filled with light, sandy soil, sifted moderately fine and pressed down firmly. Plants struck in the autumn, or even early in the spring, are available for edging or for carpeting, but the dot plants will, of course, be older. From a flowering point of view, this leucophyta has nothing to recommend it, the whitish blossoms being borne in small terminal heads. It is a native of Australia, and has been long grown in this country, but it has not previously been so popular as it is at the present time.

W.

SAXIFRAGA UMBROSA AND ITS ALLIES.

There is probably no better-known plant than the old "London Pride" (Saxifraga umbrosa), which is still one of the delights of the old cottage gardens. This useful species, which is charming by reason of its clouds of pinkish blossom and its evergreen foliage, is a wildling in many parts of the west and south-west of Ireland, and naturalised in other places.

The easy manner in which S. umbrosa adapts itself to varied positions and soils is very noticeable, and it seems to delight in a cool, sandy soil, either in sunshine or half-shade. It is especially suitable for rock garden grouping, particularly where one has plenty of space to fill, and it can be used in conjunction with some of the stronger-growing, spring-flowering bulbs, which should be chosen so as to give early patches of colour before the saxifrages are in blossom.

Selected spots in the wild garden might also be planted up with this subject, it being extremely pretty for crowning small hillocks, or for breaking over the edges of informal pathways. Gracilis, the dainty white-flowered variety of S. umbrosa, is charming, with its misty masses of graceful blossoms. Serratifolia, a slightly dwarfer form, with serrated foliage, is much the same colour as its parent, while variegata is interesting by reason of its white and green foliage.

Saxifraga geum, a near relative of S. umbrosa, is found in quantity on the mountains of Cork and Kerry, and is a useful little plant for the rock garden. Its neat habit, its white blossoms borne freely upon slender stems, and the toothed, reniform, hairy leafage, combine to make it a serviceable little subject. There are several interesting varieties of S. geum, among which are minima, Doni, Linnæi, and others. As these differ slightly in size and in formation of the foliage, while occasionally the tiny flowers exhibit pinkish or rose-spotted colourings, they are certainly replete with interest.

In S. cuneifolia we have one of the prettiest gems of the whole group. Its small tufts of green, leathery, miniature leaves, which possess a reddish reverse, and the tiny spikes, gemmed with white blossoms, spotted with yellow, are delightful in well-drained spots on the rocks. Its varieties, which include the snow-white appennina (or subintegra) and multicaulis, are full of interest and charm.

Other interesting allies of S. umbrosa are S. Andrewsi, a natural hybrid between S. umbrosa and S. aizoon, which was found in Ireland. The foliage is bright green, and the serrate edges are margined with silver. The blossoms are white, prettily spotted with red. S. hirsuta, a useful saxifrage of dwarf habit, in character midway between S. umbrosa and S. geum, has pink-shaded flowers, and S. pseudo-Forsteri, a dainty hybrid form, which claims S. cuneifolia as one of its parents, is also good.

In addition to these there is the little pink-flowered S. primuloides, which is a choice little subject and quite a miniature plant. Taken together, the little Robertsonia section of the saxifrages, which contains the foregoing species and varieties, is well worth the attention of those who have the planning and planting of rock gardens, and during early summer the wealth of tiny blossoms produced by these subjects, and their neat, effective appearance at all times, should ensure them due appreciation from the garden lover.

P. S. Hayward.

PERPETUAL CARNATIONS AT SAFFRON WALDEN.

A very clear and convincing demonstration of the important position the perpetual-flowering carnation has attained in this country is available to anyone who takes the journey to Saffron Walden, and visits Horneybrook Nurseries, where Mr. C. Engelmann grows a marvellous quantity of practically all varieties worth cultivating. It is not my intention here to dwell upon the extent of the nursery or the area of glass devoted to carnation culture, for I was far more impressed by the quality of the flowers, the robust vigour of the plants in all stages of growth, and the superb varieties—many of them quite new—among which I spent a most enjoyable afternoon, and of which I am anxious to tell the readers of The Gardeners' Magazine.

The general collection numbers about seven dozen varieties, besides the novelties of both Continental, American, and British origin, which are at present either under trial at Saffron Walden or are being propagated prior to distribution. Mr. Engelmann has also a large number of well-bred seedlings of his own raising, and some of these are destined to become general favourites and useful additions to the best collections. A goodly number of varieties that already have made their mark and become widely grown had their birth-place in Horneybrook Nurseries, and almost every one that Mr. Engelmann has sent out possesses some important quality that makes it quite distinct and especially desirable, either for exhibition or ordinary decorative purposes. Rex, for instance, which was sent out in 1911, has perfection of form and a delightful pale rose colour, and is so profuse in flowering during the early part of the year, as well as during the longer and sunnier days, that it is a decided acquisition to either trade or private growers, albeit the individual flowers are not so large as in some other varieties. Rosa has flowers of large size, and is of a shade of pink, somewhat brighter than the old favourite, Mrs. T. W. Lawson, and the distinguishing feature of this flower is its splendid substance and long-keeping qualities.

Sunstar stands alone, as an almost self yellow of wonderful vigour and freedom. The petals are just slightly splashed with pink, but whether on the plant or in a cut state the flowers of Sunstar are delightful, and in contrast with other varieties of this much-desired hue the plants of Sunstar are conspicuous for their strong, healthy growth and abundance of flowers and buds. Salome is quite a fancy variety; indeed, it is almost fantastic in colouring. Mr. Englemann's own description is "deep pink, shaded round the margin of the petals with heliotrope. There is a shimmering sheen over the flower that makes it bright and attractive, and the flower is well built in a strong non-splitting calyx."

British Triumph, the splendid crimson self, which received the distinction of the Perpetual Carnation Society's First Class Certificate, has already become so widely known that it needs but little recommendation from me. It is a grand flower. As the raiser, Mr. Engelmann might well be excused for claiming that there is nothing of its colour to equal it, but we know sufficient of him to affirm that he is a keen, impartial judge, and is as critical of his own productions as of those of his compeers. Of course, Carola is very largely grown, big houses being filled with this remarkable variety. It seems to me that the coarseness that at first was too evident in Carola has disappeared, and the flower is now far more pleasing. My opinion is that in its early days it was endowed with more strength than it could make good use of, but the hard propagation which was necessary to keep pace with the demand for plants resulted in toning it down, and now, provided propagation is not overdone, we shall find Carola a good grower, and its flowers bold and handsome, but not too coarse. A scarlet sport from Carola, which I saw at Saffron Walden, and Mr. Engelmann has already exhibited, is a most striking flower that will be highly valued, and the striped Carola will also take the fancy of many growers.

One may be pretty sure that when Mr. Engelmann sets himself to grow a certain carnation in exceptionally large quantities, there is something of more than ordinary merit in that variety, and it is therefore worthy of note that Lady Northcliffe is grown at Saffron Walden in exceptionally large numbers. Walking through one of the large houses filled with plants in full bloom, I noticed that the plants were vigorous, the grass broad and handsome, and there were literally sheaves of big, well-built flowers borne on splendid stems. The petals are broad and substantial, so that the blooms both pack and keep well, and in colour it is a very pleasing shade of the ever-popular salmon-pink. Another exceptionally good winter-blooming variety is Lucy, which is about the same shade of colour as May Day, and, as it is quite one of the best keepers, Mr. Engelmann is devoting a large space to its cultivation.

Among the seedlings to which reference is made above was one large, symmetrical flower that pleased me very much. It is a "fancy," with a lilac-mauve ground, closely and evenly chequered or splashed with a lively red. The habit of the plant is as good as the form of the flower, and I venture to predict a great future for this variety. Another flower of unique colouring, and of a perfection of form almost equalling an ideal border carnation, had peculiar but pretty flowers, with orange and white markings on a buff ground. I also saw a good scarlet sport from Lady Northcliffe, and a seedling white that answered in all respects the description of a pure white of first-class quality.

In a batch of seedling Malmaisons was one of a real slate-grey shade, and also a white of large size. Among American-raised varieties which find favour at Horneybrook that fine fancy, Benora, holds a prominent place. This is a big flower and full of quality, and does as much credit to its raiser as Enchantress, which was brought out by the same grower. May Day has from the first appealed to me on account of its perfect form, and I was not surprised to find it well done at Saffron Walden. But one might continue until every variety in the nursery had been mentioned, so interesting is the admirably-formed collection.

The whole place is arranged and managed in a manner that convinces one of the keenness, enthusiasm, and careful forethought of the man at the helm. The houses are in two big batches on either side of the road. A huge water-tank, 90ft. long, 20ft. wide, and 16ft. deep, is kept filled with water by a powerful pump, and from this tank the whole of the water is obtained for the plants, all the watering being done through the hose-pipe. The packing sheds are cool, airy, and convenient, as they need to be, for in addition to an extensive home trade, both wholesale and retail, Mr. Engelmann is constantly shipping large consignments of plants to distant countries, and his cut flower trade is also extensive, while, as our readers know, the exhibits of carnations staged at important shows by Mr. Engelmann are extensive as well as highly meritorious. Visitor.

Chironia ixifera.—This is a valuable greenhouse-flowering plant for the summer months. Like some other subjects, it was introduced very many years ago, and for a time was popular in gardens, then disappeared, or nearly so, and, after a long rest, again made its appearance to be now extensively grown. It is a South African member of the Gentian Wort family, which forms a shrubby plant of a somewhat erect habit and bears a great profusion of pretty lilac-pink blossoms. In the narrow leaves, and their greyish tone, it is somewhat suggestive of one of the dianthuses.—T.

A PROFITABLE SMALL HOLDING.

Prominent among the instances of successful small holdings given in the annual report of the Board of Agriculture for 1912 is the following description of a holding of seven acres, which is all the more interesting from the fact that it is wholly devoted to fruit and flowers:

The tenant in this case began with one rood of land and he has now seven acres, of which three acres are leased from the County Council. One acre was taken from the Council at Michaelmas, 1908, at a rent of £3 5s., and the other two acres were taken from Michaelmas, 1912, at a rent of £3 10s. per acre. The tenant pays, therefore, a rent of £10 5s. for his holding under the Act comprising three acres without buildings, but as he had previously to rent small pieces of land at £5 5s. an acre, he is well content.

The land which was first hired from the Council was part of a 21-acre field which they purchased in 1908 for £50 an acre. It was then a piece of stubble in bad condition, but the present tenant has devoted it mainly to fruit and flower growing. The crops grown thereon in 1912 consisted of asparagus, apple stocks, plums, raspberries, strawberries, and gooseberries, and the following flowers, viz., marguerite daisies, Spanish iris, asters, Michaelmas daisies, and pyrethrums. Prior to Michaelmas, 1912, the holding of 5½ acres afforded employment for the tenant, his son, and one other man, and provided them with their whole living. The flowers are grown between bush fruit, and the tenant estimates that they produce a profit of £50 an acre. They are mostly sold as cut flowers in Manchester and Sheffield, and the tenant also sells plants and apple stocks to other growers, and makes a speciality of mint.

The tenant has also a good-sized glasshouse in his home garden. He grows chrysanthemums and tomatoes with a crop of mint between the two. This year (1912) he cleared out his chrysanthemums before Christmas, and on Boxing Day planted the whole ground space with mint, which was nearly ready for picking on January 20. It will make way for tomatoes. The glasshouse is heated by a central overhead flow pipe, the return pipes being laid on the ground level round the two sides. This arrangement saves the necessity of putting the boiler in a pit, and secures a more rapid circulation and more even heat throughout.

A remarkable feature in the development of fruit and flower growing in this village is the rapid rise in the land values. In 1908 the Council bought land for small holdings at £50 an acre. In 1912 the adjoining field was sold by auction in 2-acre plots. The two plots next the Council's small holdings realised £130 and £125 per acre respectively. The whole field averaged £112 per acre. It is let until Michaelmas, 1913, to a farmer at 30s. an acre rent, and it is now planted with wheat. The purchasers were small men who in several cases have risen from agricultural labourers, and will themselves occupy the land. An allotment field, let at £4 an acre, sold at the same sale for £106 an acre to a purchaser who requires it for fruit-growing, probably raspberries. The County Council purchased 71 acres at the same sale, of which 35 acres of land suitable for fruit-growing averaged £71 per acre. This land was let for farming at 30s. per acre, and is now let by the Council in small holdings at £3 10s. per acre. The development of fruit and flower growing in this village is chiefly the work of small holders, and has been much stimulated by the Small Holdings Act.

Clethra arborea. — Unlike the hardy species of clethra, this is evergreen in character, while it also needs the protection of a greenhouse during the winter months. It forms a large shrub or small tree, clothed with dark green arbutus-like leaves, and the spikes of pure white bell-shaped flowers are borne in great profusion from the points of the shoots during the summer months.—W.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

EPIDENDRUM VITELLINUM. — The plants of this species, and the finer variety E. v. majus, will now be starting into growth, and will need more liberal treatment in respect to root moisture and conditions that will give every assistance in the development of growth. The plants will be found to do quite satisfactory in a light position of the cool or odontoglossum house. In respect to the repotting that may be necessary, this may be done as soon as root action commences about the end of the present month or during the first fortnight in September. I would particularly advise that this species should not be disturbed at the roots more frequently than is absolutely necessary. As long as there is ample room in the pots and the potting compost is in a good state of preservation it is not advisable to disturb them. It will generally be found that they suffer more or less from the effects of repotting, generally shrivelling, and it takes a season before they regain their normal plump state. When the plants are repotted the material used should be of a lasting nature, such as good fibrous peat, two parts to one of chopped sphagnum moss, with sufficient silver sand and broken crocks added to render the compost porous. The pots or pans used should be clean, and at least filled to one-third their depth with drainage. The young or leading growth should be kept slightly above the level of the compost. Shade after repotting, and spray daily overhead, when the outside conditions permit. The variety majus blooms in the autumn, and the growths are more advanced than the type. Immediately the flower spikes make their appearance close observation is necessary to protect them from attacks of thrips and other insect pests, but where the plants are sprayed with some safe insecticide about once a fortnight, these pests will be kept in check.

DISA GRANDIFLORA.—This attractive Cape species will now be flowering freely, and every care is necessary to guard the flowers and young growths at the base from being injured by thrips and greenfly. The plants should be carefully sprayed overhead once or twice daily, taking care not to wet the flowers after they are expanded. The repotting of disas may be done immediately after they pass out of bloom, but here again potting must not be done unless absolutely necessary, and when the plants need more root room. Larger pots may be used than is the case of most orchids. Where plants do well it is surprising the amount of root space they require. The compost used should be of a lasting nature, and made moderately firm, and as they require liberal watering at all seasons of the year, plenty of drainage must be given. The plants should be placed in a moist position where they may have ample light and an abundance of air at all seasons.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CYCLAMEN.—The pots being now full of roots, it will be safe to give the plants more liberal treatment in regard to watering and feeding. The stimulant should take the form of diluted liquid manure made from cow's or sheep dung, or soot-water. This may with advantage be supplemented occasionally with a little Clay's fertilizer. Keep a sharp look-out for aphis, which attacks the leaves on the under-side. Let the lights be entirely removed on warm nights. Seed may now be sown for raising the early batch of plants. There is nothing better than shallow pans for this purpose, and these must be well drained. The soil must be of a light nature, and free from insect life. Loam, leaf-soil, and sand will form a suitable compost, the latter constituents must be used in accordance with the nature of the loam. Place the seeds about an inch apart on the surface and cover lightly with finely-sifted soil. After a thorough soaking with water cover the pans with a sheet of glass, and place them in a warm house, keeping them shaded till the seedlings are seen.

ARUM LILIES.—These must now be put into the pots in which they are to produce their spathes. The tubers must be carefully divided, keeping those together which look strong enough to bloom. Unless very large plants are desired, 6-inch or 7-inch pots will be quite large enough to use, placing one or two tubers in each. A compost of loam, leaf-soil, cow manure, and old mortar rubble will be suitable, and this must be in proper condition, so that potting may be done quite firmly. When potted place them on the north side of a wall till they have commenced to grow freely. Water must be applied with care till the pots are full of roots. On the approach of frost they must be placed in a light, airy structure.

BOUVARDIAS.—Water to these must be given more freely now that the pots are full of roots, supplying a stimulant at every alternate watering. The growth must not be stopped after this date. Plants growing in an outside border must be lifted before there is any danger of frost and put into pots of a suitable size. Place them in a close frame or pit, and keep close and shaded till they have recovered from the check.

ANNUALS FOR POT CULTURE.—Seeds of various kinds of annuals may be sown now for flowering in spring and early summer. The schizanthuses are perhaps the most popular of all the annuals grown for this purpose, especially the Wisetonensis and Retusus strains. Clarkia elegans is also a very beautiful plant for the conservatory, and is very useful for cutting. Seeds should be sown at the end of the month or early in September in three-inch pots. Place the pots in a frame, and when the seedlings make their appearance thin them to one or two plants. Maintain a steady growth in the frame till the approach of severe frost, and then place in a cool house near the glass.—E. Harriss, Lockinge Park Gardens.

HARDY FRUITS.

STRAWBERRIES.—Layers pegged on small pots, filled with suitable soil, in the beginning of July, will now be well rooted and fit for planting, and they should be set out as early as possible to give the plants ample time to develop good fruiting crowns by the end of the year. See that the land is in good heart, and made somewhat firm; a liberal dressing of soot well raked in will prove very helpful to the young plants. Set out the rows two feet apart, and plant quite that distance in the rows if the beds are to be permanent. If only to fruit one year sixteen inches apart will be ample on warm borders. See that the ball of soil is thoroughly wet before turning them out of the pots, when slightly disentangle the outer roots and plant firmly. If the weather continues dry give the beds a good soaking with water to settle the soil, and in dry weather syringe well overhead on bright afternoons to encourage a free, healthy growth. Keep the soil between the rows free from weeds and the plants from runners. Label correctly, and use large, stout tallies, driving them well into the soil to prevent them being shifted when working amongst the plants.

PLUMS ON WALLS.—Train the young shoots thinly and evenly all over the bare spaces, and if this is not done shorten back to within a few buds the young growths not required. I am greatly in favour of training plum trees fan-shape, and each year adding a few young shoots at intervals all to within a few buds the young growths trained to the walls I mostly obtain the best fruits. Where the growths are too strong to be fruitful, take note of the trees, and root prune during the latter part of October, and in some cases a little earlier. These remarks will apply with equal force to other unfruitful trees.

PEARS.—If not already done it will be advisable to shorten the young shoots back to within a few buds of the base. The leaders, etc., if required for extension, can be left at their full length. Although most of the trees are very lightly cropped, do not neglect the roots, especially surface rooting, feed liberally if the land is poor, and the growths weak. I strongly advise this treatment, so that the buds forming may be strengthened. Soak thoroughly the roots of all trees bearing good crops. We have thoroughly watered all our bush trees three time, the soil being light. Keep the surface between all fruit trees thoroughly hoed and free from weeds, and remove all suckers springing up. It will also be well to see that the ties of young trees are not so tight as to injure the bark, also the suspended labels which may have been fixed with wire.

WASPS.—Should these pests become troublesome, look out for the nests and destroy them. One of the quickest ways is to pour a pint of tar into the entrance of the nest, and place a good turf over it.—H. Markham, Wrotham Park, Barnet.

THE KITCHEN GARDEN.

SPINACH.—To ensure a good supply of this useful vegetable all through the winter at least two sowings should be made. This is necessary in case the earlier sowing runs to seed before the early spring-sown spinach comes into use. For the early sowing it is somewhat difficult to advise as to dates, so much depending upon the locality and character of the soil of the garden. In the majority of cases the first sowing may be made at once, successive sowings (if more than two are required) at intervals of a fortnight. For this crop the soil should be in good condition and should have a good surface dressing of soot and freshly-slaked lime, thoroughly raked in with a wooden rake. If the soil is on the dry side, give it a good watering, and when in a suitable condition, sow in drills drawn about 14in. apart. Land may now be prepared for later sowings, for which Long Standing Prickly is the best variety.

MUSHROOMS.—The material for making up beds in the mushroom house should now be collected; for this purpose stable dung from corn-fed horses is much the best, but this is not always available, and it is necessary to make use of what is procurable. If the necessary amount of material can be quickly collected it should be thinly spread out for a few days to sweeten and then thrown into a heap, which must be turned over several times until the heat is on the decline. When making up the beds the manure should be put together as firmly as possible. Examine the beds daily, and when the heat has declined to about 85 degrees, the spawn may be inserted and the beds covered with loamy soil to a depth of two inches. If the heat declines too rapidly, cover the beds with a good thickness of stable litter. The temperature of the house should be kept at about 60 degrees. In many cases it is not possible to secure material in quantity; it is therefore advisable to make up half beds in preference to having the material laying about too long, and most probably becoming sour and mouldy.

SALADING.—Seeds of corn-salad, mustard and cress, and radishes may still be sown weekly, first giving a copious watering to the soil if dry; cover the beds with mats until germination takes place. Chervil is a herb much in demand in some gardens, and a bed may now be sown on a warm border, the soil being kept moist. It may be either sown broadcast or in drills and not very thickly.—W. Messenger, Woolverstone Park Gardens.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Carlisle and Cumberland Horticultural Association.

This border society held its sixth exhibition in the Market Hall, Carlisle, on Wednesday and Thursday, August 13 and 14, and on the same dates entertained the National Sweet Pea Society, which was holding there its provincial exhibition. The Market Hall is a fine place for a flower show, spacious, airy, and well lighted, and the society has a splendid opportunity for good work because of the fine hall at its disposal and the unique facilities Carlisle possesses in being a great railway centre for the North of England and Scotland.

We confess to some disappointment with the Carlisle Show, but it must be remembered that practically all the sweet pea classes were on this occasion under the ægis of the National Sweet Pea Society. It is unfortunate that here, as in the case of so many provincial societies, no addresses are placed upon the exhibitor's class cards, and few exhibitors appear to understand that a great deal of the educational value of an exhibition depends upon the legible and correct naming of their exhibits.

Messrs. Thos. Smith and Sons, Annan, led for a dozen roses with capital blooms in a close competition; Mr. F. J. Harrison was a close second, and did well in this open class; Lieut.-Colonel Woodburne third. For eighteen roses the chief award fell to Messrs. Hugh Dickson, Lim., Belfast, whose G. Dickson, Coronation, Mrs. Cornwallis West, and Ferniehurst were superb flowers; Mr. F. France, Kircudbright, second, and Messrs. Thos. Smith and Sons third. Messrs. Thos. Smith and Sons led for four vases of roses, and Mr. France for six bunches of garden roses. Mr. Thos. McGarr scored for stocks with splendid spikes, his yellow being very fine. Asters were poor, the date of the show being too early for these flowers. For annuals, Mr. E. Keith was placed first for Clarkia Firefly, stocks, and candytuft.

First prize for six bunches of early chrysanthemums was won by Mr. G. Bowness, Burly, with grand bunches of Roi des Blancs, Mrs. W. Sydenham, Crimson Polly, Hector, Leslie, and G. Bowness; Mr. J. Smellie second. In the carnation classes the chief winners were Mr. Joseph Shaw, who had two firsts, and Mr. Jas. Hay. Mr. Thos. McGarr was first for six vases of phloxes, but neither he nor his fellow competitors thought it worth while to label the varieties they exhibited.

Mr. James Hay had the finest collection of hardy flowers, and he set up capital bunches of Romneya Coulteri, Chrysanthemum Mrs. C. H. Bell, fine gaillardias, Bocconia cordata, and Galega officinalis; Mr. W. Hodgson, gardener to F. W. Chance, Esq., second.

The best six bunches of hardy flowers came from Mr. W. Grice, and his best were Helianthus Miss Mellish, a good form of Chrysanthemum maximum, and Achillea ptarmica The Pearl; Mr. Thos. McGarr second, and Mr. J. Hodgson, gardener to Lieut.-Colonel Woodburne, third. Mr. Herbert Thackray, Eda Place, Stanwix, led for a vase of phloxes in a keen competition, and Mr. J. Hodgson was second.

In the class for a dozen bunches of sweet peas, prizes given by Mr. R. Bolton, there were thirteen entries, and the awards fell as named to Mr. Joseph Shaw, Mr. A. W. Appleton, and Mr. J. Farquaharson. The prizes for a dozen varieties offered by Robert Sydenham Limited were given in a local class, and here Messrs. E. Keith, Cambo, Mr. Jas. Hay, and Mr. Hallett were first, second and third respectively. The local sweet pea cup was won by Mr. Thos. Abbott.

The plant classes were not a success, the leading prize-winners being Mr. Jas. Hay, Mr. John Bolton, and Mr. C. Lewis, the first-named taking the lion's share of the awards.

Mr. G. F. Hallett, gardener to Sir R. J. Graham, Bart., Netherby, was a grand first for a collection of six kinds of vegetables, and also first in another class for six kinds where the prizes were given by Messrs. Webb and Son. Mr. F. France, gardener to Samuel Brown, Esq., J.P., Kircudbright, led for twelve kinds of vegetables, and he had grand onions, runner beans, cauliflowers, carrots, beets, leeks, and potatoes; Mr. W. Walton second, and Mr. Hallett third.

The competition in the single-dish classes was capital, but methods of staging were rather rough. Mr. J. Forrester was credited with first place for tomatoes; Mr. J. Farquaharson for onions, a weighty lot; Mr. T. Abbott, for six cauliflowers.

In the fruit classes Mr. W. Scott, gardener to C. H. Shaw, Esq., scored for six dishes of outdoor fruits with fine gooseberries, plums, red currants, and strawberry Givon's Late Prolific. Miss Grill led for two dozen apples. Mr. W. Scott scored for black grapes with heavy clusters of Black Hamburgh, and Mr. Hallett was second. For one bunch of black grapes Mr. T. Fixter led with a beautiful bunch of Madresfield Court. Mr. Fixter was also first for white grapes with Muscat of Alexandria, beautifully coloured; Mr. A. W. Appleton coming second. Apparently no first prize was awarded for six dishes of dessert fruits, but Mr. W. Scott was awarded a second for Muscat and Madresfield Court grapes, Luck of Edenhall melon, Princess of Wales peaches, Spencer nectarines, and Czar plums. Princess of Wales was the peach with which Mr. Scott won first prize for a dish of six.

NON-COMPETITIVE.

The collarette dahlias presented by Messrs. Dobbie and Co., Edinburgh, associated with Gypsophila paniculata, were especially bright, and proved a great atraction, particularly the varieties Princess Louise, Queen Bess, Holyrood, The Czar, Comtesse Icy Hartegge, Goldstein, Prince de Venosa, Skerryvale, a new scarlet and yellow; and May, pure white. The roses from the same firm were fragrant and bright, but in some cases the vases were scarcely large enough for the large bunches staged. Messrs. E. F. Fairbairn and Sons, Edentown, Carlisle, were represented by delphiniums, lupins, hybrid astilbes, double tropæolums, cactus, pompon, and pæony-flowered dahlias, associated with palms and hardy ferns.

A large, circular, and fairly central exhibit put up by Messrs. Little and Ballantyne, Carlisle, was, we thought, rather spoiled by the display of four very large cards high up in the centre. However, it was a good exhibit of well-grown palms, nephrolepis, adiantums, hybrid astilbes, variegated ivies, Vitis Henryi, Salvia splendens, Lilium longiflorum and L. speciosum, crotons, roses, phloxes, and some superb heads of hydrangea. In another part of the hall this firm showed sweet peas.

The most extensive non-competitive exhibitors on this occasion were Messrs. George Fairbairn and Sons, English Street, Carlisle. Arches of smilax formed an elegant background for sweet peas, dahlias, and carnations; to the former we refer to elsewhere. The carnations were perpetual varieties arranged lightly in vases; the pick of these were Geisha, Britannia, Enchantress, the new mauve and red fancy named Cinderella, a new clear seedling yellow of great promise, and a deep crimson, provisionally named Dreadnought. The dahlias were also good, and consisted of tall stands of pæony-flowered varieties behind vases of cactus and pompon sorts, with stands of selected blooms of leading cactus varieties in front.

Messrs. Hugh Dickson, Lim., Belfast, made a handsome display of roses: they used rambling roses on arches as a background, and in front of these they displayed handsome blooms of such capital varieties as Lyon Rose, Pharisaer, Hugh Dickson, Edward Mawley, and H. E. Richardson, brilliant crimson. Mr. H. A. Ellison, West Bromwich, contributed a large and interesting collection of choice ferns that was particularly rich in fine varieties of nephrolepis.

Scottish Horticultural Association.

The monthly meeting of this association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on the 5th inst. Mr. King, the president, was in the chair, and there were 75 members present.

A paper, entitled "Villa Gardening from the Professional Gardener's Point of View," was read by Mr. John Highgate, Hopetoun Gardens, South Queensferry. One thing, Mr. Highgate said, which struck one more than any other in connection with villa gardening was the sameness of the subjects used in their embellishment. Possibly what attracted most attention was the lawn, no matter how small, and it added a charm to every flower and shrub around it; yet how often was grass expected to thrive on impoverished soil? Like every other plant, grass required nourishment, and to keep a lawn in good condition it required to be top-dressed with some fertiliser annually. Next to the lawn, perhaps the most important feature of a villa garden was the trees and shrubs. Trees like the lime, chestnut, elm, etc., were entirely out of place in the average villa garden, and when they were lopped to keep them within bounds they lost their true character, and often became hideous. But there were many other suitable subjects for the purpose. True, in our northern climate we had not the extensive variety of trees and shrubs that dwellers in the south had to draw from, yet a large number of very effective subjects, which were little known, could be employed, and among climbing and wall shrubs such things as Wistaria, evergreen thorn, ceanothus, buddleia, escallonia, etc., were recommended. There had been a tendency to belittle the scarlet geranium, calceolaria, and lobelia, but they afforded a great amount of pleasure to those who had not the means or opportunity to grow other things. Nevertheless, there was necessity for greater variety in floral decoration, and begonias, pentstemons, antirrhinums, etc., were mentioned as being well-suited to the purpose. It was a common practice to plant apples and pears on the walls of back gardens, with the view of obtaining fruit, but the walls were generally too low, and cordon gooseberries and red currants would give more satisfactory results, and were much easier to manage.

The exhibits were: Lilium testaceum, L. Humboldti magnificum, L. chalcedonicum, L. chalcedonicum maculatum, and "Feather Fleece" (Stenanthium robustum), from Messrs. Dicksons and Co., Edinburgh, who were awarded a Cultural Certificate for the liliums; Astilbe Pink Pearl, from Mr. John Downie, Edinburgh.

At the meeting on September 2, Mr. J. Stuart, of the Edinburgh and East of Scotland College of Agriculture, will give a lecture on "Fruit and Vegetable Bottling" (with demonstration).

On Saturday, 9th inst., on the invitation of Lord Elphinstone, ninety members of the Scottish Horticultural Association, under the leadership of Mr. King, the president, paid a visit to Carberry Tower. On arrival, the party was met by Mr. Kidd, the head gardener at Carberry, who conducted them over the beautiful gardens and grounds. The ground in the vicinity of the lake, where many hardy shrubs and herbaceous plants have been naturalised, was first inspected, and afterwards the party made their way to the garden, where the artistic displays of roses and hardy herbaceous plants, which are two of the leading features of Carberry, were much admired. A visit was also paid to the quaint Dutch garden, and before leaving

the party was very kindly entertained to tea by Lord and Lady Elphinstone, to whom, on the motion of Mr. King, a very hearty vote of thanks was accorded. Mr. Kidd was also cordially thanked for his kindness and courtesy in showing the party over the grounds.

A visit was afterwards paid to the newly-formed experiment garden of the Edinburgh and East of Scotland College of Agriculture at Liberton, where, in the unavoidable absence of Mr. Chisholm, the party was conducted over the establishment by Mr. J. Harris.

Market Bosworth Agricultural and Horticultural Society.

This society held its annual show on Thursday, August 7, in the beautiful park surrounding Bosworth Hall, and in every respect it may be recorded as a most excellent show so far as the horticultural section is concerned. The entries reached the remarkable total of 1,863, and throughout the keenly-contested classes for flowers and vegetables, as well as fruits, the quality was highly creditable to the exhibitors.

It is customary to make reference to non-competitive exhibits at the end of a report, but the remarkable display of hardy flowers arranged by Mr. F. Bouskell, was so far beyond the average exhibit, and so full of real merit that we feel bound to lead off with a brief description of what we have no hesitation in designating one of the finest exhibits of hardy border perennials ever arranged in a flower show in this country. We have more than once suggested that the best method of showing hardy perennials is to group them on the ground, and in connection with the National Hardy Plant Society we gave at Harrogate The Gardeners' Magazine Gold Medal for a group of hardy flowers arranged in the form of a bed. Mr. Bouskell's exhibit was literally a reproduction of a well-arranged border of excellent hardy perennials, showing as nearly as possible the natural habit, and decorative effect of every subject.

This is exactly what we wish to see, and we are glad to have the opportunity to remark that Market Bosworth has done great service in that its exhibition has been the birthplace of the ideal method of showing hardy border flowers. The exhibit occupied the end of the largest tent. A suitable background was made with bamboos. Prunus Pissardi, acers, etc., and among the principal flowers used were some grand verbascums, liliums in variety, Scabiosa caucasica, and several varieties of heleniums and gaillardias. A gold medal was awarded this exhibit. Mr. H. Rogers, Leicester, also received a gold medal for an effective group of flowering and foliage plants, among which heliotropes, hydrangeas, salvias, and ferns contributed to a fine display. Mr. P. Hurst, gardener to the Earl of Huntingdon, staged a table of choice fruit, which, with the aid of cut flowers and trails of asparagus, etc., was made most attractive. Mr. Hurst was awarded a silver medal.

Sweet peas were very well shown, competition being keen throughout the classes, and the winners may be congratulated on the excellent manner in which their flowers were shown. Roses brought a good number of entries, but it was evident that most of the exhibitors lack the experience in exhibiting necessary to avoid pitfalls in the way of showing uneven sized blooms, staging H.P.'s in classes for teas or hybrid teas, and putting up flowers that only have size to their credit whilst being bad in form and colour.

The flowers of herbaceous plants are evidently much in favour at Market Bosworth, and the classes for nine bunches, six bunches, and single vase brought not only numerous entries but excellent flowers. A vase of Scabiosa caucasica which received a first prize was particularly good, the flowers being of fine form and rich colour. Mr. Bonskell was the exhibitor.

Taunton Deane.

The exhibition held at Taunton on Thursday, August 14, was the forty-sixth annual show organised by the Taunton Deane Horticultural Society, and in extent and excellence it was, despite the fact that the whole district around has suffered a prolonged drought, quite in accordance with the society's high reputation.

PLANTS (OPEN).

The principal class for plants was for a miscellaneous group occupying a space of 13ft. by 10ft. Messrs. Jas. Cypher and Sons, Cheltenham, were the successful exhibitors, their plants being set up in an oval group spanned lengthwise by a rustic arch. A fine Kentia crowned the group, supported on either side the arch by small Cocos Weddelliana, crotons and ferns. Tall, brightly-coloured crotons were tastefully used in the body of the group, and chief among the flowering subjects were cattleyas and odontoglossums, with a few liliums and the graceful spikes of Francoa ramosa. Mr. C. J. Ellis, Weston-super-Mare, was second, his group being bright and effective. Third prize was awarded Mr. A. E. Truman, gardener to A. W. Brock, Esq.

The Messrs. Cypher had the only exhibit of four orchids, for which first prize was awarded. Three entries were staged in the class for a plant introduced within two years, the leading award being made to a splendid plant of Nephrolepis Marshalli, shown by Messrs. Cypher and Son; Mr. J. Stuckey, gardener to Mrs. Shepherd, was second with Nephrolepis Willmottæ. Mr. J. Stuckey took the lead with six begonias, double and single, showing some large, well-flowered plants; second prize going to Mr. W. Hayward, gardener to Miss Neal. These two exhibitors were placed in reverse order for one plant of begonia, and Mr. A. E. Truman took leading honours for four fuchsias. Four zonal pelargoniums found Mr. H. Bruford in the leading position, followed by Mr. J. Parrish, gardener to R. A. Goodman, Esq.

CUT FLOWERS.

A new class was introduced this year for a collection of cut roses, arranged for effect on 6ft. by 4ft. of staging. Only two entries were forthcoming, but they were very good. Mr. J. Mattock, Headington, Oxford, was adjudged the winner of the premier award. Messrs. Jarman and Co., Chard, were second, their stand being nicely built up, but the flowers lacked something of freshness. For eighteen roses, distinct, Messrs. Jarman and Co. received first prize, varieties included in their stand being J. B. Clarke, Florence Pemberton, Mrs. Foley Hobbs, and others. Mr. J. Mattock was second.

Mr. Mattock led the way for eighteen teas, his flowers of Molly Sharman Crawford, Muriel Grahame, E. V. Hermanos, and Mrs. E. Mawley being very good. Second prize went to Messrs. Jarman and Co.

Messrs. Charles Wall, Melrose Nursery, Bath, put up a good group of carnations in a new class for a display occupying 6ft. by 4ft. The blooms were splendidly grown and very fresh and clean, the arrangement was artistic, and the varieties included such good things as Lady Fuller (a rich salmon-rose coloured flower of capital substance), White Wonder, C. W. Ward, Scarlet Glow, and others. First prize was worthily awarded this fine exhibit. Messrs. A. R. Brown, Lim., King's Norton, scored a good win with six bunches of border carnations, each bunch containing six blooms. They had Agnes Sorrel, Clement, Mrs. Ethel Ellson, Lara, Bridesmaid, and Mrs. Chas. Russell; Mr. C. W. Ward came second in this class, and Mr. Jas. Webber third.

A class for dahlias arranged effectively on 6ft. of staging, found Messrs. Jarman and Co. easily first, their flowers and style of arrangement being both good. Messrs. Jarman and Co. were equally successful with six varieties of cactus dahlias arranged in triplets. The varieties used were H. H. Thomas, Mrs. Dyer, Arthur Pickard, Red Admiral, The Imp, and Johannesburg; Mr. J. Stuckey was second, third prize going to Mr. G. Humphries. Mr. Humphries received first prize for nine bunches of pompons, showing a neat, refined set. We heard visitors regretting that none of the varieties bore labels.

SWEET PEAS.

The sweet pea classes were more strongly contested than any other of the flower classes and there were flowers of very good quality shown. Mr. F. Tomlin took the lead for twelve bunches, each containing twenty-five stems, showing remarkably fine flowers on long, stout stems. Etta Dyke, Barbara, Queen of Norway, and May Campbell were noted among others. In a special class provided by Robert Sydenham Limited for twelve bunches, containing fifteen to twenty stems, there were nine entries, Mr. H. Cullwick, gardener to Captain D. MacPherson, securing the first prize. He had Red Chief, Scarlet Emperor, Thos. Stevenson, Barbara, Lilian, Etta Dyke, Lady Evelyn Eyre, Edith Taylor, Princess May, Lord Nelson Spencer, Bertrand Deal, and Moonstone. Second prize was awarded to Mr. A. W. Hosegood, and third to Mr. Chas. Purchase, gardener to W. MacMillan, Esq.

HARDY FLOWERS.

There were four entries in the class for a collection of hardy perennial and bulbous flowers occupying 9ft. by 4ft. Mr. H. Clarke led the way, gladioli being a feature of his exhibit, the spikes, however, being somewhat densely packed into the vases. He had good bunches of Sidalcea Rosy Gem, Chelone barbata, Asclepias tuberosa, and Lilium tigrinum splendens. Mr. Jas. Webber received second prize, but we did not like the manner in which he had mixed his bunches, phloxes, gladioli, and late spikes of delphiniums all being shown in a mixture of colours. Mr. Geo. Humphries was third with a rather stiffly arranged group of very nice flowers. Mr. Jas. Webber was first for twelve spikes of phloxes, Messrs. Rich and Co., Bath, being second prize winners, third place being taken by H. Byard Sheppard, Esq. Mr. Webber also took the lead for twenty-four gladioli, his flowers being of good size.

PLANTS—AMATEURS' AND GARDENERS'.

Some nice groups, occupying a space 10ft. by 8ft., were arranged in the amateurs' class, the first prize being secured by Mr. W. Sims, gardener to the exors. of Major D. H. Doughty. Mr. Chas. Cook, gardener to H. Cornelius, Esq., was second, and Mr. A. E. Truman third. For twelve specimen stove and greenhouse plants, Mr. A. E. Truman scored with some well-grown allamandas, bougainvilleas, palms, etc.; second prize going to Mr. J. Stuckey, who had gloriosa, lantana, crotons, etc. Mr. Truman was again first for six plants, second prize being accounted for by Mr. Chas. Cook. Six ferns, distinct, brought success to Mr. W. H. Bruford. The Mayoress of Taunton offered prizes for six ferns, any one or more varieties, and here again Mr. Bruford scored, Mr. Chas. Cook taking second prize.

CUT FLOWERS.

A class for eighteen bunches of hardy flowers brought some good exhibits, but there was room for improvement in the method of arrangement. Mr. J. Cording, gardener to Rev. P. W. Brancker, was first, showing Romneya Coulteri, Lobelia fulgens, Chelone barbata, Lathyrus latifolius albus, and other useful flowers. Mr. W. Norris, gardener to the Hon. Mrs. Stanley, came second. A very big class for twelve bunches found Mr. H. Ellis the winner, a capital lot of flowers being rather cramped for room on the side staging. Mr. T. Harriss's second prize lot was likewise not seen to the best advantage.

FRUIT.

For a collection of eight dishes of dessert fruit, Mr. G. F. Richardson, gardener to H. St. Maur, Esq., was a capital first. He had both black and white grapes, Melon

Emerald Gem, Plum Orleans, Peach Grosse Mignonne, Apple Rival, and nice dishes of nectarines and pears. Mr. Richardson also won for four dishes with three good bunches of Muscat grapes, melon, peaches, and nectarines; second prize was awarded Mr. J. Stuckey, who lost points on his grapes. The best three bunches of Black Hamburgh grapes were shown by Mr. W. C. Hancock, gardener to Mrs. W. S. Battiscombe, second prize going to Mr. F. J. Little, gardener to Right. Hon. Sir G. Farwell, P.C., and third to Mr. J. Webber. Mr. Richardson took first place for three bunches of black grapes other than Black Hamburgh with fine Madresfield Court, Mr. J. Webber showing the same variety for second prize. Mr. J. Webber won again for three bunches of Muscat of Alexandra with some very good clusters.

VEGETABLES.

Several classes for collections of vegetables were provided by various seed firms. The first prize in Messrs. Carter and Co.'s class was won by Mr. Stuckey with six excellent dishes Mr. T. Harrison was second. Messrs. Sutton and Sons, Reading, also found Mr. Stuckey at the head of the class they provided, Mr. Harrison again occupying second place. The same order was maintained in Messrs. Webbs' class, Mr. Stuckey also winning first prizes provided by Messrs. R. Veitch and Son and Messrs. Clibrans.

NON-COMPETITIVE.

Messrs. J. Kelway and Son, Langport, exhibited a magnificent display of gladioli occupying 100ft. run of table space, and the flushed white flowers of Lady Scott, which received an Award of Merit at the hands of the National Hardy Plant Society's deputation, were of superb form and rich quality. Craiganour, another certificated variety, was grand. Mr. Vincent Slade, Staplegrove Nursery, Taunton, put up an exhibit of large extent and comprehensive character. Zonal pelargoniums were a bold feature, these being Mr. Slade's speciality. Messrs. Isaac House and Son, Westbury-on-Trym, showed a splendid lot of phloxes, border perennials, and a range of choice alpine plants in pans. Messrs. R. Veitch and Son, Exeter, put up a group of shrubby plants, alpines, etc., of great interest. Pentstemon heterophyllus, Pentstemon cordifolium with tubular orange-scarlet flowers, Perowskia atriplicifolia, and Lobelia Cavanillesi were there, but the whole stand teemed with rarities and plants of unusual character. From Mr. Vernon T. Hill, Mendip Nurseries, came bright phloxes and an assortment of hardy flowers. Messrs. A. A. Walters and Son, Bath, showed some good phloxes, pentstemons, kniphofias, and a variety of other hardy flowers, as also did Messrs. Rich and Co., Bath.

Messrs. A. R. Brown, Lim., King's Norton, made a fine display of border carnations, which they set up in an attractive manner in tall tubes and vases. Among their most attractive varieties were Lady Golightly, Royal Velvet, Iberia, Droitwich, Father O'Flynn, and Madge. Messrs. W. E. and T. Cousins, Taunton, had some very artistic floral designs which were pleasing in conception and execution. Mr. C. J. Ellis, Weston-super-Mare, had a number of more or less uncommon plants.

AWARDS.

Gold Medals.—Messrs. J. Kelway and Son, Langport.

Silver-gilt Medals.—Messrs. R. Veitch and Son, Messrs. Isaac House and Son, Messrs. W. E. and T. Cousins, and Mr. Vernon T. Hill.

Silver Medals.—Mr. Vincent Slade, Messrs. A. R. Brown, Lim., and Messrs. A. A. Walters and Son.

NATIONAL HARDY PLANT SOCIETY'S AWARDS.

Gold Medals.—To Messrs. J. Kelway and Son, and Messrs. Isaac House and Son.

Silver Medal.—To Mr. Vernon T. Hill.

Award of Merit.—To Gladiolus Craiganour and Gladiolus Lady Scott, from Messrs. J. Kelway and Son.

Shrewsbury Floral Fete.

(Continued from page 632.)

Sheffield; and third to Messrs. W. and C. Bull, Frome. Messrs. G. Mair and Son, Prestwick, were easily first for two dozen gladioli, with superb spikes of clear, well-opened flowers, their Camicule and Alexander being extra fine; Messrs. Harkness and Sons, second.

Five competitors came forward in the class for a collection of perpetual carnations arranged on a space 15ft. by 4ft. The £15 first prize fell to Mr. Chas. Wall, Melrose Nursery, Bath, who won with a delightful exhibit of well-arranged bunches of Lady Fuller, White Perfection, Geisha, Carola, Mrs. C. W. Waud, White Wonder, Rose Doré, etc., disposed over asparagus sprays and a little Gypsophila paniculata. The second prize fell to Messrs. Young and Co., Hatherley, Cheltenham, who had an imposing display from the ground up to about 12ft. high; they had Mrs. Raphael, Mr. C. W. Waud, Mikado, Sunstar, Empire Day, and Scarlet Gem in splendid form and in quantity. Mr. J. E. Knight, Wolverhampton, third.

A BEAUTIFUL BASKET OF FLOWERS.

Exhibited by Mr. A. Adshead, of Gatley, at Shrewsbury Floral Fête.

First prize for a collection of carnations and picotees was secured by Mr. C. H. Herbert, Acocks Green, Birmingham, with a bright and rather massive display, wherein yellow selfs and yellow-ground picotees and fancies were the chief feature; Messrs. A. R. Brown, Lim., King's Norton, second; and Messrs. M. Campbell and Son, High Blantyre, third.

A good class was the one for a dozen bunches of hardy or half-hardy annuals, the first prize falling to Mr. G. Bamfield, gardener to W. H. Banks, Esq., Kington, who showed scarlet Phlox Drummondi, candytuft, sweet sultan, cactus-flowered sunflowers, Nigella Miss Jekyll, Godetia Schamini, lupins, mallows, yellow stocks, double clarkia (spoiled because all leaves and buds had been cut out of the spikes), and eschscholtzia; Mr. O. Oakley, gardener to A. E. Humphreys Owen, Esq., Berriew, a good second; and Mr. G. Tagg, Stafford, third; ten entries.

For cut pelargoniums the chief awards fell to Mr. A. Myers, Sutton Lane, Shrewsbury; and Mr. E. Bewley, Rathgar, Dublin.

Messrs. Bottomley and Burton, Ellard, beat Messrs. G. Fairbairn and Sons, Carlisle, for a dozen bunches of cactus dahlias, and they were also first for two dozen cactus dahlia blooms on boards, leading with a capital lot for such an early date; Messrs. H. Clarke and Son, Leeds, second. Mr. J. W. Barker, gardener to F. R. Dixon Nuttall, Esq., Prescot, scored for twelve bunches of choice cut flowers, his crinums, lapagerias, anthuriums, gloriosas, and bruguansias being very good; Mr. J. Taylor, gardener to Frank Bibby, Esq., Hardwicke Grange, second.

SWEET PEAS AND ROSES.

Out of a dozen entries in the class for eighteen bunches of sweet peas, arranged on a space 8ft. by 3ft. 6in., Mr. Thos. Jones, Ruabon, was once more the champion, and he set up grand bunches of Etta Dyke, Edrom Beauty, Elsie Herbert, Syeira Lee, Mrs. C. W. Breadmore, Melba, Dobbie's Cream, King Manoel, Agricola, Thos. Stevenson, May Campbell, Marks Tey, Marjorie Linzee, Lavender George Herbert, Audrey Crier, Rosabelle, R. F. Felton, and Prince George; Mr. J. Haycocks, Gyfelia, Welshpool, second; Mr. J. A. Whittaker, gardener to G. H. Garnett Orme, Esq., Skipton, third; and Mr. G. Bowness, Busby, fourth.

Twelve bunches of sweet peas was also a fine class, and there were no fewer than seven entries, the winner of the first prize being Mr. Stewart Robinson, Kington, whose collection included glorious bunches of Anglian Pink, Lady Miller, Hercules, Thos. Stevenson, and Elfrida Pearson; Mr. W. H. Holloway, Port Hill, Shrewsbury, second; and Mr. H. Forder, gardener to Colonel Cornwallis West, Ruthin Castle, third. Mr. J. Roberts, Gresford, won first place for six bunches of sweet peas with excellent bunches of King Manoel, Chas. Foster, Melba, John Ingman, White Queen, and Hercules; Mr. St. Robinson, Kington, second; and Mr. E. Price, Skipton, third.

The displays of roses made a grand feature; the space allowed is 20ft. by 4ft., and the

premier award is a beautiful silver champion rose-bowl value £45, a large gold medal, and £10, the cup to be won three times before becoming the property of a winner. Messrs. Gunn and Sons, Olton, won the cup with a glorious arrangement of roses on pillars, arches, and stands of varying height, the whole exhibit rising above 12ft. high. Lyon, Hiawatha, Molly Sharman Crawford, Irish Elegance, Lady Hillingdon, and Mrs. David McKee were a few of the varieties so delightfully displayed; Messrs. Hugh Dickson, Lim., Belfast, a good second, their general design being much the same as that of the first prize-winner; their blooms on the lower part of the exhibit were of very fine quality, notably King George V., Mrs. Cooper, and Muriel Dickson. Messrs. W. and J. Brown, Peterborough, fourth.

Mr. J. Mattock, Headington, Oxford, was a good first for a dozen bunches of decorative roses with a lovely set of Duchess of Wellington, Lady Waterlow, Mrs. A. Tate, etc.; Messrs. W. and J. Brown second.

FLORAL DESIGNS.

In the floral decorations section, Messrs. Felton and Sons, Hanover Square, London, gained a first for a bouquet of roses with a lovely design in light orange-yellow flowers; Mr. Adshead, Gatley, was placed equal first with a somewhat similar design. Messrs. Felton and Mr. Adshead were first and second for a bouquet of flowers, and both used orchids in a light and dainty fashion. For a bouquet, orchids excluded, Mr. A. Adshead scored with gloriosa flowers and croton leaves, Messrs. Felton and Son coming second with carnations. In the class for a bouquet of carnations, Messrs. Felton and Sons beat Mr. Adshead. The best hand basket of flowers was a magnificent but rather too large exhibit of blue vandas, golden oncidiums, and white odontoglossums and phalænopsis, arranged by Mr. J. Sheratt, Burton-on-Trent. Messrs. Felton and Sons second with a very light design, more in keeping with the schedule requirements. For a hand basket of flowers, orchids excluded, Messrs. Felton and Sons scored with a charming bouquet of pale yellow roses, and Mr. Adshead was a very close second with pink carnations and francoa sprays. Miss Newham, of Ormskirk, led for an epergne of flowers with gloriosas, gerberas, and yellow sweet sultans; Mrs. Verron second.

VEGETABLES.

In the open class for a dozen dishes of vegetables, Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, won the leading award with Early Giant cauliflowers (7), 6½; Prizetaker leeks (7), 7; Superb Pink celery (7), 6; Tender and True parsnips (7), 5½; Delicacy cucumbers (7), 6; Ailsa Craig onions (7), 6½; Sutton's Black beet (7), 6; Intermediate carrots (7), 5; Up-to-Date peas (7), 7; Best of All tomatoes (7), 6½; Best of All runner beans (7), 6; Windsor Castle potatoes (7) 6; total, 74 points out of a possible 84. Mr. J. R. Tooley second. Mr. Searle, Castle Ashby Gardens, led in the class provided by Messrs. Clibrans for nine dishes of vegetables; Mr. T. Sanderson, Whittington, second. Mr. J. Taylor, Hardwicke Gardens, led for a county collection of vegetables.

Messrs. Sutton and Sons' prizes for a collection of nine dishes of vegetables brought out seven competitors. Mr. David Gibson, gardener to Captain H. Spender Clay, M.P., Lingfield, Sussex, led the way with splendid Solid White celery, Ailsa Craig onions, New Red Intermediate carrots, Autumn Giant cauliflowers, Satisfaction potatoes, Prizetaker leeks, Best of All runner beans, Best of All tomatoes, and Duke of Albany peas; Mr. James, gardener to Lord North, Wroxton Abbey, Banbury, second, and Mr. J. R. Tooley, Winchcombe, Gloucester, third. The competition for Messrs. J. Carter and Co.'s prizes was also very keen and the best six dishes here came from Mr. F. Barnett, Ellesmere; Mr. E. Deakin, Hay Mills, Birmingham, second, and Mr. T. H. Pugh, Newtown, third.

Mr. A. H. Searle, gardener to the Marquis of Northampton, Castle Ashby, led in Messrs. Dickson and Robinson's class for nine dishes of vegetables; his carrots, Perfection Intermediate, were marvellously long and clean, and his onions were great; Mr. Thos. Jones, Ruabon, a good second, his runner beans and onions being extra good; Mr. W. Griffiths, gardener to F. Rule Owen, Esq., Haverford West, third. The single dish classes for vegetables were remarkably well filled, and leading winners were Mr. J. Birch, Styche, cauliflowers; Mr. J. Wainwright, Nantwich, celery; Mr. Wheeler, Wenvoe Castle Gardens, Cardiff, onions; Rev. J. Davies, Crowle, Worcester, parsnips; Mr. J. Breeze, Coleham, turnips; Mr. W. Weaver, Mold, potatoes; Mr. D. Gibson, runner beans, and Mr. H. L. Collins, Lindley, peas.

Mr. E. Winchester, Birmingham, led for Messrs. Webb and Sons' prizes. Mr. F. Barnett, Overton, Ellesmere, scored in the class provided by Robert Sydenham Limited, followed by Mr. E. R. James, Wroxton, and Mr. E. Deakin, Hay Mills, in a very good class.

MEDAL AWARDS.

We are compelled to hold over our report of the non-competitive groups, but append the awards made in this section:

Large Gold Medals.—Messrs. Hobbies, Lim., Dereham; King's Acre Nurseries, Lim., Hereford; Messrs. Sutton and Sons, Reading; Messrs. Alex. Dickson and Sons, Lim., Newtownards; Mr. Robert Bolton, Warton Carnforth; Messrs. Dickson and Robinson, Manchester; Mr. Amos Perry, Enfield; Messrs. Jas. Veitch and Sons, Lim., Chelsea; Messrs. E. Webb and Sons, Wordsley; Messrs. Bakers, Codsall, Wolverhampton; Mr. E. Beckett, Aldenham House, Elstree.

Small Gold Medals.—Messrs. Jones and Son, Shrewsbury; Mr. E. Murrell, Shrewsbury; Messrs. F. W. Rideout, Cherry Nurseries, Langley, Bucks; Messrs. George Fairbairn and Sons, Botcherby, Carlisle; Mr. James Box, Lindfield; Mr. L. R. Russell, Richmond.

Silver-gilt Medals.—Messrs. John Forbes, Lim., Hawick; Messrs. Dicksons, Lim., Chester; Messrs. Isaac House and Son, Westbury-on-Trym; Messrs. R. Wallace and Co., Colchester; Messrs. Pipers, Bayswater; Mr. R. C. Notcutt, Woodbridge; Mr. Henry Eckford, Wem; Messrs. H. B. May and Sons, Edmonton; Messrs. John Peed and Sons, Norwood; Messrs. Pritchard and Sons, Shrewsbury; Mr. Maurice Prichard, Christchurch; Messrs. Hewitt and Co., Lim., Solihull; Messrs. J. Vert and Sons, Saffron Walden; Messrs. Barr and Sons, Covent Garden, W.C.; Messrs. Fred Smith and Co., Woodbridge; Messrs. Rich and Co., Bath; Messrs. Robert Sydenham Limited, Birmingham; and Messrs. S. R. Compston and Sons, Macclesfield.

Silver Medals.—Mr. H. N. Ellison, West Bromwich; Messrs. G. Gibson and Co., Leeming Bar; Mr. A. Myers, Shrewsbury; Messrs. Jones, Gowram Kilkenny; Messrs. Jarman and Co., Chard; Messrs. Aldersey, Aldersey Hall, Chester; Messrs. A. R. Brown, Lim., King's Norton; Messrs. Stuart Low and Co., Enfield; Messrs. W. H. Simpson and Sons, Birmingham; Messrs. Caldwell and Sons, Knutsford; Messrs. R. P. Ker and Sons, Aigburth, Liverpool; Mr. A. W. Thorpe, Lichfield; Mr. Vincent Slade, Taunton; Mr. H. Woolman, Shirley, Birmingham; Mr. Vernon T. Hill, Longford, Bristol; Mr. G. W. Miller, Wisbech; Mr. G. Underwood, Leicester; and Mr. G. Redmond, Clapham, Yorks.

Bronze Medals.—Miss S. S. Thompson, Handsworth; and Mr. C. W. Price, Brecon.

Fuchsia Alice Hoffmann.—This fuchsia did not take long to become popular for beautifying the flower garden, as its comparatively dwarf, compact habit and great profusion of bloom eminently fits it for bedding purposes. As an edging or an undergrowth to the large growing kinds, it is just the thing. In this variety the tube and sepals are red and the corolla white.—K.

ANSWERS TO CORRESPONDENTS.

DISTRIBUTION OF BARTSIA ALPINA.—S. H., Chard: I believe Bartsia alpina is found in Great Britain; can you tell me whereabouts it has been found at home, and where it is chiefly found on the Continent? My excuse for sending two questions is that, having been released from pressing official duties in another land, I am resuming my old interest in gardening, and have begun to find a great liking for alpine plants. — Bartsia alpina, the little blue-purple-flowered scrophulariad, is found at home, according to Hooker's "Student's Flora," in sub-alpine meadows and wet banks in Yorkshire, Durham, and Westmorland, on the mountains in Perthshire, Ross-shire, and Inverness, and flourishes up to 3,000ft. in Scotland. On the Continent it is found in practically all mountainous regions, and in Arctic Russia. It is recorded from the Sudetic Mountains, the Carpathians, the Pyrenees, the Jura, Vosges, and the Black Forest, and from the Central, Eastern, and Western Alps. We are pleased to hear you are finding an interest in hardy plants, and, so far as possible, we shall be pleased to help you.

APPLE WILLIAM CRUMP.—N. E. M., Canterbury: Some time last autumn you described some of the newer apples in The Gardeners' Magazine. I do not file the "G.M.," but make indexed notes of anything that specially appeals to me, and which I think will be valuable in my particular position. I made notes of the apples described, but, unfortunately, those of William Crump apple have gone astray. If not asking too much, I should be very grateful if you will repeat the description, as probably it may help others who contemplate planting dessert apples in the approaching autumn.—Apple William Crump was described as follows in our issue of November 23, 1912: A dessert apple of so high a degree of excellence as to be worthy of the name it bears. The variety was raised from a cross effected between Cox's Orange Pippin and Worcester Pearmain, and the fruits have much the appearance of those of the latter, both in shape and colour. It is of much higher quality than Worcester Pearmain, the flavour being intermediate between that of the two parents. It is later, and has a much longer season than the last-named, the fruit keeping well into the new year.

ADDRESS.—T. J., Shaftesbury: Mr. S Wyndham Fitzherbert's address is Kingswear, South Devon; we have only one Mr. Wyndham Fitzherbert contributing to our pages, and the address given is quite sufficient.

BRITISH GARDENERS' ASSOCIATION.—G. C. L., Oswestry: During my holidays here I have heard something that has interested me in the British Gardeners' Association, and I should therefore be glad if you will let me know the association's secretary and his address, and where the various branches are.—The secretary of the B.G.A. is Mr. C. Harding, and his address Ulysses, Fortune Green, London, N.W. There are branches of the association at Altrincham, secretary, Mr. W. Ellis, Denzell Gardens, Bowden; Birmingham, secretary, Mr. D. Jones, Bournville; Blackburn, secretary, Mr. J. Batty, The Cemetery, Blackburn; Cardiff, Mr. P. Meyer, Malefort Place, Cathays, Cardiff; Carlisle, secretary, Mr. J. Tait, Lynehow Gardens, Carlile; Colwyn Bay, secretary Mr. C. Cheese, Beech Holm Gardens, Colwyn Bay; Edinburgh, secretary, Mr. J. Harris, College Garden, Liberton; Haslemere, secretary, Mr. H. Eavis, Fir Cottage, Hazel Grove, Hindhead; Kew, secretary, Mr. H. Tindall, Alexandra Road, Richmond; Leeds, secretary, Mr. J. R. Groundwell, Scott Hall Gardens, Buslingthorpe, Leeds; London, secretary, Mr. W. H. North, 18, South Vale, Blackheath; Oxton (Cheshire), secretary, Mr. F. E. Childs, Houghton Road, Upton, Birkenhead; Penrith, secretary, Mr. C. Lamb, Carleton Hill Gardens, Penrith; Sunderland, secretary, Mr. W. Hall, Mowbray Park, Sunderland; Swansea, secretary,

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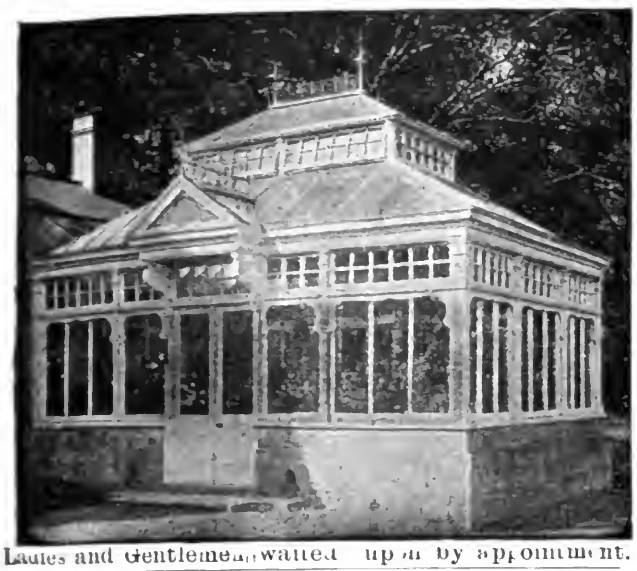

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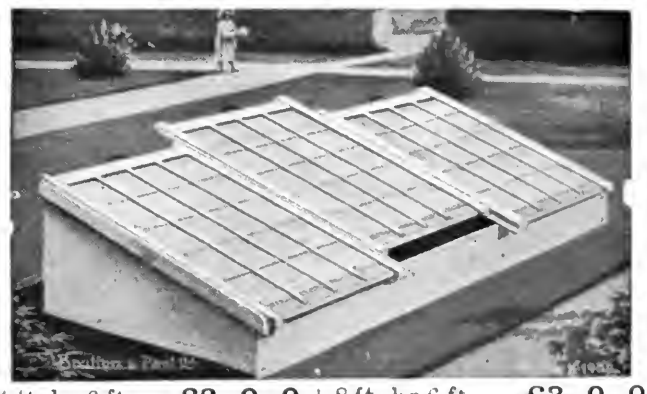

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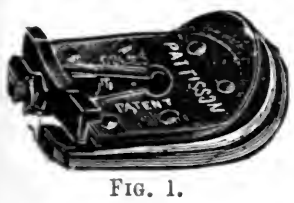

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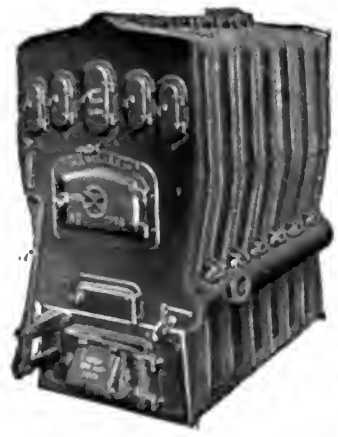

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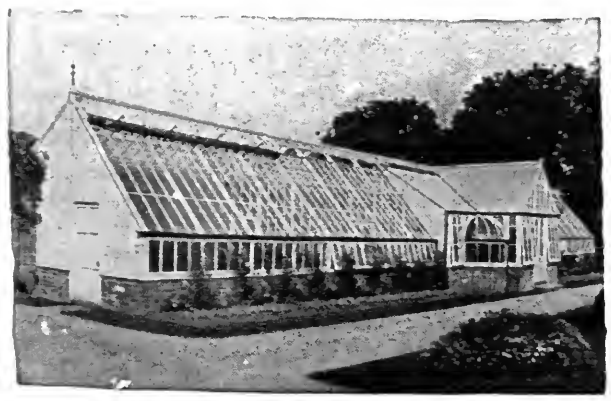

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February, 1911.

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"They have been most obliging throughout the whole job, and have endeavoured to do everything in an efficient and thoroughly workmanlike manner, and I must congratulate you upon having such capable employees."

Mr. A. Blackburn, 17, Queen's Road, Mumbles, Swansea; Watford, secretary, Mr. E. G. Hartley, The Lodge, Glenthorne, Harrow Weald; and St. Albans, secretary, Mr. T. Ely, Lower Cravells Road, Harpenden.

EUROPEAN ALPINE CAMPANULAS.—S. H., Chard: Will you kindly give me as complete a list as possible of European alpine campanulas, in an early issue?—The following are all European alpine species of campanula: C. alpina, C. Allioni, C. barbata, C. cenisia, C. excisa, C. linifolia, C. Morettiana, C. pusilla, C. pulla, C. Raineri Perpeti, C. rhomboidalis, C. rotundifolia, C. Scheucheri, C. spicata, C. thyrsoidea, and C. Zoysi.

DISEASED VIOLAS.—B., Suffolk: I enclose a few specimens of violas which represent the condition of scores of plants in my garden. The leaves become spotted, and in many cases punctured with small clean cut holes; the foliage turns yellow and the plants collapse. Kindly say what the disease is, and, what is of more importance, please tell me how to cure it so that I may save the apparently healthy plants.—The disease that has attacked your violas is a fungus named Cercospora violæ, a species that is often troublesome on violets grown under glass. Lift and burn all the plants that are suffering badly, and spray the rest with weak Bordeaux mixture. Propagate from clean stock, and when the bed or border is cleared burn all the old plants, and remove the top two or three inches of soil, burning it or burying it very deeply, so that the possibility of infection from the conidia in the dropped-out circular portions may be reduced to a minimum. Plant new stock on a new site if possible, and spray occasionally with weak Bordeaux mixture as a preventive.

NAMES OF PLANTS.

B. R., Sherborne.—Calochortus venustus.

L. A., Upminster.—1, Drosera rotundifolia; 2, Eecremocarpus scaber.

M. E. H., Bowden.—1, Sedum Sieboldi variegata; 2, Watsonia Ardernei; 3, Hibiscus Cooperi.

S. D., Bingley.—1, Bouvardia Humboldti; 2, Rhodochiton volubile; 3, Thunbergia alata; 4, Calceolaria Burbidgei.

G. J. G., Hertford.—1, Sidalcea candida; 2, Rudbeckia laciniata; 3, Polygonum Baldschuanicum; 4, Potentilla argentea; 5, Isatis glauca.

M. C. G., Warminster.—1, Alonsoa Warscewiczi; 2, Actæa spicata; 3, Lysimachia vulgaris; 4, Trachelium cœruleum; 5, Platystemon californicus.

OBITUARY.

MR. JOHN FURSE.

We regret to record the death of Mr. John Furse, of Raglan, Briton Ferry, South Wales, which occurred on the 15th inst. in his 71st year. A native of Paignton, South Devon, he migrated some fifty years ago to South Wales, where he had obtained an appointment in the gardens of Rheola. Later he was appointed head gardener to the late Griffith Llewellyn, Esq., at Raglan Hall, where he eventually became gardener and bailiff, and later was appointed steward also. The late Mr. Furse was forty-five years at Raglan Hall, and retired in February last owing to ill-health. He was highly esteemed by his employers, and also by the many men who passed through the gardens during his long term of office.

GARDENING ENGAGEMENT.

Mr. R. Day, for eleven years head gardener to G. F. Rutter, Esq., Coulamore Priory, Bedford, and seven years head gardener to S. E. Hurst Hodgson, Esq., St. Mary's Abbey, Bedford, has been appointed head gardener to F. Langdon, Esq., J.P., Highfield, Boston Road, Derby.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1913. August 10 to August 16.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 10—Sunday	9 30	60	54	69	47
,, 11—Monday	2 48	61	58	73	55
,, 12—Tuesday	2 0	59	58	67	50
,, 13—Wednesday	0 6	59	55	66	55
,, 14—Thursday	2 24	62	56	69	56
,, 15—Friday	—	59	58	65	58
,, 16—Saturday	4 12	62	58	73	56
	(total)				
Means	21 0	60	57	69	54

Date. 1913. August 10 to August 16.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Aug. 10—Sunday	0·06	60	60	58	36
,, 11—Monday	—	61	60	58	46
,, 12—Tuesday	—	61	60	58	40
,, 13—Wednesday	0·01	61	60	58	47
,, 14—Thursday	0·04	60	60	58	45
,, 15—Friday	—	62	60	58	53
,, 16—Saturday	—	61	60	58	54
	(total)				
Means	0·11	61	60	58	46

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

TUESDAY, August 26.—Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Begonias," by Messrs. Blackmore and Langdon; Scientific Committee at 4 o'clock.

Royal Horticultural Society of Ireland; Summer Show.

FRIDAY, August 29.—Dunfermline Show; two days.

Dundee Show; two days.

CATALOGUES RECEIVED.

JAMES VEITCH AND SONS, CHELSEA.—An admirably illustrated catalogue of bulbs, roots, and shrubs for forcing, and of seeds for autumn sowing, etc.

LAXTON BROTHERS, BEDFORD.—Strawberries, small fruits, and roses are included in the present catalogue, but strawberries are the most prominent feature.

WILLIAM PAUL AND SON, WALTHAM CROSS.—An illustrated catalogue of bulbs and other winter and spring-flowering plants, together with strawberries, etc.

DICKSON AND ROBINSON, CATHEDRAL STREET, MANCHESTER.—Bulbous plants, shrubs for forcing, strawberries, and roses are all listed in this firm's new issue.

ANT. ROOZEN AND SON, OVERVEEN, near HAARLEM.—A very comprehensive and interesting bulb catalogue. The general agents for Great Britain are Messrs. Mertens and Co., Cross Lane, St. Mary-at-Hill, E.C.

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INDEX to Volume LV. may be obtained through any Newsagent, price 2d.; or 2½d. post free from the Publisher.

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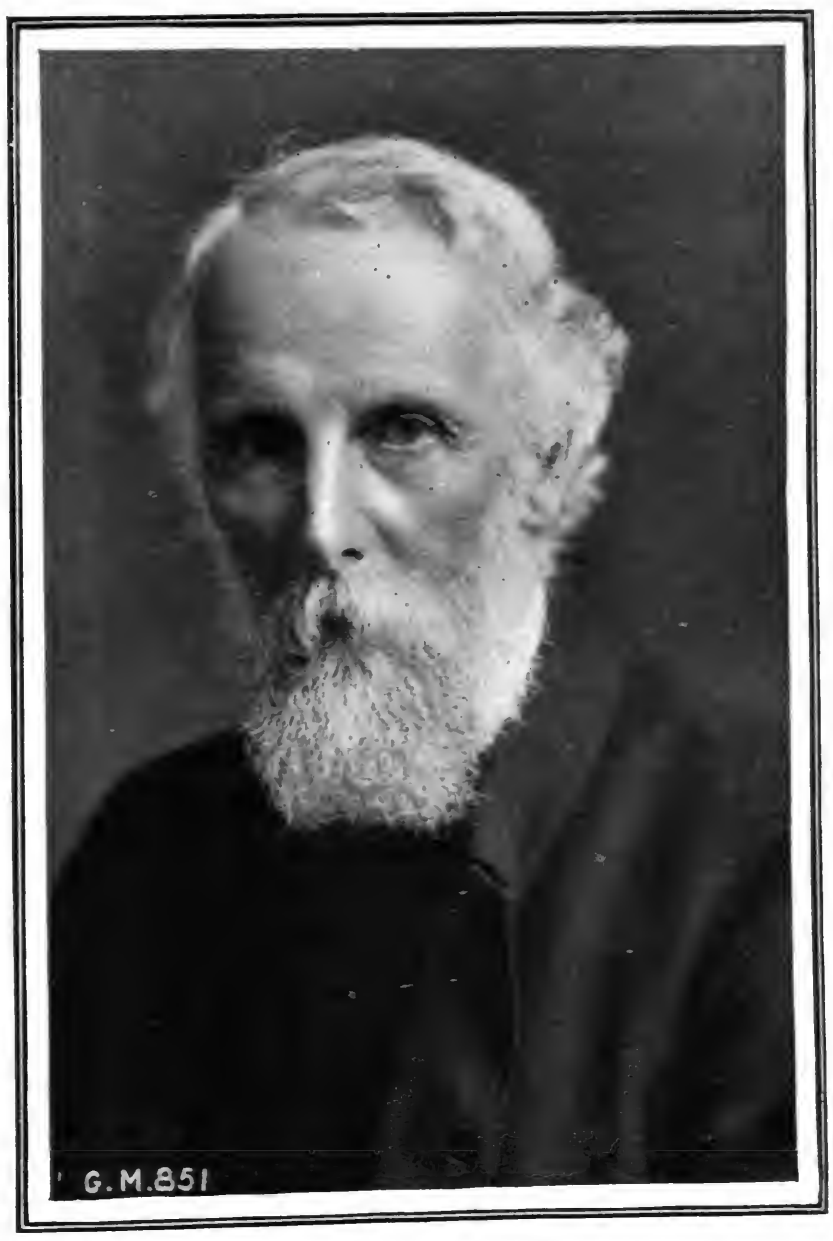
VOL. LVI.—No. 3,122. SATURDAY, AUGUST 30, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Increase and Usefulness of Daffodil Shows.

However divergent may be the views held with regard to the usefulness, or otherwise, of many of the horticultural exhibitions held in this country, there can be no question that those held with the object of extending the cultivation and encouraging the development of daffodils have exercised a highly beneficial influence upon both the culture and the improvement of these delightful flowers. We have only to go back some thirty years, which is by no means a lengthy period in the history of either the garden or these flowers, to find ample evidence of the assistance the exhibitions have rendered in popularising the daffodils as garden flowers, and in bringing into prominence the many beautiful varieties that we owe to the energy and judgment of the raisers. Forty years ago daffodils were practically unknown to the general body of horticulturists. Many owners of gardens, and a considerable number of those engaged in garden management, had, it may be assumed, read of the work that had been accomplished by Dean Herbert in the hybridisation of certain of the species. Some may also have heard of the splendid work that was being done in the creation of new forms by the late William Backhouse and Edward Leeds, whose accomplishments will long remain fresh in the memories of those who have a strong affection for these flowers. Beyond this the knowledge of daffodils did not extend very far. Few indeed were those who, between thirty and forty years ago, gave serious attention to their cultivation, as proved by the fact that not in one garden in five hundred were daffodils to be met with. Here and there, during the season of spring, a few flowers of the common Lent lily might, in some old orchard, have been seen nodding their golden flowers to the passing breeze, and in a few gardens, early in the year, the old Narcissus telamonus plenus might have been met with growing in pots for the supply of cut flowers or for contributing to the attractions of the conservatory. There were a few to whom the daffodils were well known—the late Peter Barr, for example; but daffodil culture, as we now understand the term, was practically unknown. It was not, indeed, until the exhibition and conference held by the Royal Horticultural Society at South Kensington, in the spring of 1884, that daffodils attracted any considerable share of attention from the flower-loving community. The exhibition was, with the conference, held in the great conservatory, and, as the pioneers of the cult made strenuous endeavours to obtain an adequate representation of the species and their varieties then available, the flowers shown produced a display that was very attractive, and of much interest. It was, indeed, so comprehensive and beautiful as to come as a veritable surprise to the greater proportion of the visitors, of whom not a few at once recognised their charms, and also their possibilities, in spring gardening. Subsequent to this epoch-making show the daffodil cult made rapid progress, but the pace was not such as to exhaust even those who had proceeded to enrich their gardens with the finer varieties, without giving much consideration to the question of cost The impetus given to the interest in daffodils by the 1884 exhibition was unquestionably great, and it was well maintained until 1896, when a second exhibition, with conference, was held by the Royal Horticultural Society at Chiswick. In far greater numbers were the flowers shown on this occasion than at South Kensington six years previously. A larger number of the seedlings that had been raised by William Backhouse and Edward Leeds were represented, and there was a considerable increase in the exhibitors, this last point being of interest as evidence of the greatly-increased popularity of the daffodil. After the Chiswick exhibition the cultivation of the older forms, and the production of new varieties, proceeded by leaps and bounds, and, in due course the Royal Horticultural Society found it necessary to add a Daffodil and Tulip Committee to its existing agencies for dealing with new introductions. The society has, by means of its fortnightly meetings held during the spring season, afforded further opportunities to both growers and raisers for presenting the finest examples of their skill to public notice. These have been taken advantage of, and visitors have been able to see the novelties as they made their appearance, and to become well acquainted with all the finest of the varieties that are in commerce, while the facilities for determining the relative merits of new varieties, and for showing visitors the best of those which are no longer new, have been increased. Much has, within the past twenty years, been done in the provinces to stimulate increased interest in daffodils and their cultivation. There are now ten provincial societies that have for their object the extension and improvement of daffodil culture, and the oldest of these is the Cornwall Daffodil Society, which was founded in 1896, and has its headquarters at Truro. From the first its exhibitions have been



REV. T. G. WYATT.

of a high order of merit, and the influence for good they have had on the daffodil cult throughout the West of England would be difficult to overestimate. Two years later the Midland Daffodil Society was formed, with Birmingham as its headquarters, and, having regard to its constitution and the lines along which its work has been conducted, it may be described as very closely approaching the ideal special society. The schedule has from the first been of so comprehensive a character as to enable all classes of cultivators to take part in the competition. There are classes adapted to the requirements of the leading trade cultivators, and classes that are specially suited to the amateur with but limited scope for the exercise of his skill; there are classes in which raisers alone can stage varieties raised by themselves, and there are others in which varieties that have not been in commerce more than four years can alone be shown. On the other hand, there are classes from which varieties exceeding in value a specified sum are excluded. Thus it is that all who are desirous of competing can do so under conditions that possess the element of equality, and then, at the close of the first day, the exhibitors and others interested in the show dined together through the liberality of the late Mr. Robert Sydenham, and, after the function, talked over matters relating to the society and the flowers with which it is concerned. The other daffodil societies are Lincolnshire (1901), Devon (1903), Huntingdon and Kent (1906), Hereford and Kingsbridge (1909), Glamorgan, and Presteigne, and they are all doing excellent work. Whether the number of societies specially associated with these flowers should be increased depends, in a large measure, upon local conditions, but there can be no doubt as to the advantages that would result from giving daffodils greater prominence in the schedules of spring exhibitions of a general character than has yet been assigned them.

Rev. T. G. Wyatt, the Vicar of Hayward's Heath, is a lover of gardens and gardening because he delights in all that is beautiful in nature and in the "art which does mend nature," and also because he finds that a knowledge of gardening enables him the more readily to reach the hearts of his people, and is a distinct asset in his ministrations. He is an enthusiast, and ever since he, with a few others, instituted the Haywards Heath Horticultural Society over five and twenty years ago, he has been the moving spirit in the society's work. For many years he acted as treasurer of the society, and he has invariably advocated a forward movement consistent with the society's finances and the growth of the district. It is his great hope that the Haywards Heath Society may become the central horticultural body for the county of Sussex, and he points out that his church, St. Wilfrid's, is exactly in the middle of the county, and that Haywards Heath is admirably served by railways, and has in late years become a great centre of commercial horticulture, especially in connection with orchids, carnations, and hardy plants. He is himself very keenly interested in roses and hardy border flowers, but the former have to give place to the latter in their importance in his garden. He is an excellent showman, and with his gardener, Mr. J. E. Shirley, succeeds years after year in winning the chief award in a special class for eighteen bunches of hardy perennials. For three successive years he has held the premier position, and now the coming of age cup, presented by Sir J. E. Kleinwort four years ago, becomes his property, and Mr. Shirley has a gold medal to remind him of these successes. Haywards Heath is fortunate in having such an able and enthusiastic worker as the vicar, a fact that is fully recognised by the residents, as evidenced by the high degree of popularity he enjoys. If the county families rally round the Rev. T. G. Wyatt, there is no good reason why the vicar's dream of a great central county show should not come true in a few years hence.

Salix magnifica.—With reference to this new and handsome willow, the Hon. Vicary Gibbs writes from Aldenham House as follows: "I was interested to read in your issue of August 16, p. 612, Mr. W. J. Bean's remarks on the above. I am entirely in agreement with him that it is one of the most striking among the many plants introduced from China by Mr. Wilson, and should prove to be an invaluable plant for marshy places in the ornamental grounds. I came possesed of a small plant through the kindness of Professor Sargent, of the Arnold Arboretum, about two years ago, which is, at the time of writing, 7ft. 7½in. in height. The size of our largest leaf is, length including petiole, 11½in., without petiole, 10in.; breadth of leaf, 5in., which I may mention is considerably larger than those described by Mr. Bean; and it will be interesting to observe what height it will attain in this country. Judging from its present behaviour, it promises to exceed that of its native habitat. Our plant this year has made growth 5ft. 10in., with its roots confined in a pot."

Instruction in Practical Forestry.—A scheme has been prepared by the Board of Agriculture with a view to afford an opportunity for young men who have had a scientific training, and are desirous of entering the Forestry Service in the Dominions or under the Indian Government, to receive practical forestry instruction in the Forest of Dean from the Chief Administrator of the Forest. An application has been made to the Development Commissioners for assistance in financing the scheme, and they have undertaken to give it sympathetic consideration. Within recent years the Forest of Dean has been greatly improved under the administration of the Department of Woods and Forests. The erection of a wood distillation factory at Park End, in the forest, should be useful to the owners of large woods who are desirous of obtaining a knowledge of the best methods of disposing of their bye-products. In the distillation factory the wood-refuse which would otherwise go to waste is distilled, and from it are produced acetate of lime, tar, wood-spirit, etc. It is proposed to erect a hostelry for the accommodation of the students.

Fairy Flies and their Hosts.—So little, comparatively speaking, is known of the somewhat large group of minute flies scientifically known as the mymaridæ, that the recent lecture given by Mr. F. Enock, F.L.S., before the Royal Horticultural Society possessed, in a marked degree, the element of freshness. It was also so intensely interesting that, in thanking Mr. Enock at the close of the proceedings for his lecture, Mr. George Gordon, who presided, said he had no doubt not a few of the large number of Fellows present would be under the impression that they had been listening to a fairy tale rather than to the exposition of great scientific truths. Eighty years ago some thirty or forty species were known, but now the number is large, and Mr. Enock stated that since he had turned his attention to them he had added 180 species to the list. All the known species are small in size, even Polynema flanipes, the largest of them, being only one-twentieth of an inch in length, while the smallest, Alaptus minimus, is one-ninety-fifth of an inch long. For elegance of form and richness of colour these microscopic flies are veritable fairies. Their chief interest to horticulturists consists in the fact that they lay their eggs in the eggs of other insects, with the result that the latter are destroyed. One of the species lays its eggs in those of the white cabbage butterfly, and thereby renders material aid in checking the multiplication of this handsome, but troublesome, butterfly. Mr. Enock showed on the screen a batch of about 600 eggs that had thus been destroyed.

A Famous Bird Charmer.—A short time since the National Horticultural Society of France awarded its gold medal to M. Pol, who for nearly a quarter of a century has been a well-known figure in the gardens of the Tuileries, and his remarkable influence over the sparrows, which he fed daily, has interested many thousands of visitors. The society which has recognised M. Pol's work in the training of the sparrow has of late years devoted special attention to the protection of wild birds in France, and, in accordance with the fitness of things, made the presentation in the Tuileries Gardens.

The Florist's Bibliography.—We learn that a new edition of this useful work of reference by our old correspondent Mr. Harman Payne, is in the press, and will be shortly ready for publication. By the addition of a supplement the work has been brought up to date, and it now contains the details of every work, in all languages, that deals with florists' flowers and the flower garden. A comprehensive index of authors is also added, thus rendering research much more easy. The publishers are Messrs. Wesley and Son, 28, Essex Street, Strand.

The Public in Private Grounds.—On the 20th inst. "The Times" devoted one of its leaders to the question of opening private parks and gardens to the public, and strongly advocated an extension of this privilege wherever practicable. With reference thereto Sir Frank Crisp, Bart., who has freely opened the beautiful gardens and grounds of Friars Park to the public, wrote as follows: "May I support your article of yesterday on this subject by my personal experience of admitting the public to private gardens? I first opened my garden (which is a garden, and not a park) at Henley-on-Thames, 15 years ago, and it has been open ever since on Wednesdays in each week from May to October. On Bank Holiday fêtes over 4,000 people visit it, and on ordinary Wednesdays the record stands at over 700. Children are not excluded. The garden is of a special character in so far as it consists of a variety of more or less unusual features (including mediæval gardens, a Japanese garden, underground caves by land and water, sundials, a maze, Alpine effects, greenhouses, etc.) that require careful treatment, and in parts specially careful treatment where the ordered tracks are narrow and deviation likely to be injurious to plants. During the whole 15 years, with more than 100,000 visitors, only three cases of definite damage have been recorded. Ten years ago a man gathered a bunch of rhododendrons; five years ago a cannon was taken from a sundial, and last Bank Holiday a china image was broken. Full freedom is given to all, and a notice at the entrance gate has the (strange to say puzzling) inscription, 'Don't

keep off the grass." On the day following the 4,000-people fêtes the only difference to be seen in the garden may be compared to the difference between the head-dressing of my cottage neighbours' wives when in their morning attire, and that of the afternoon, when a light touch has removed a little dishevelment. After ordinary days no difference can be detected even by a critical eye."

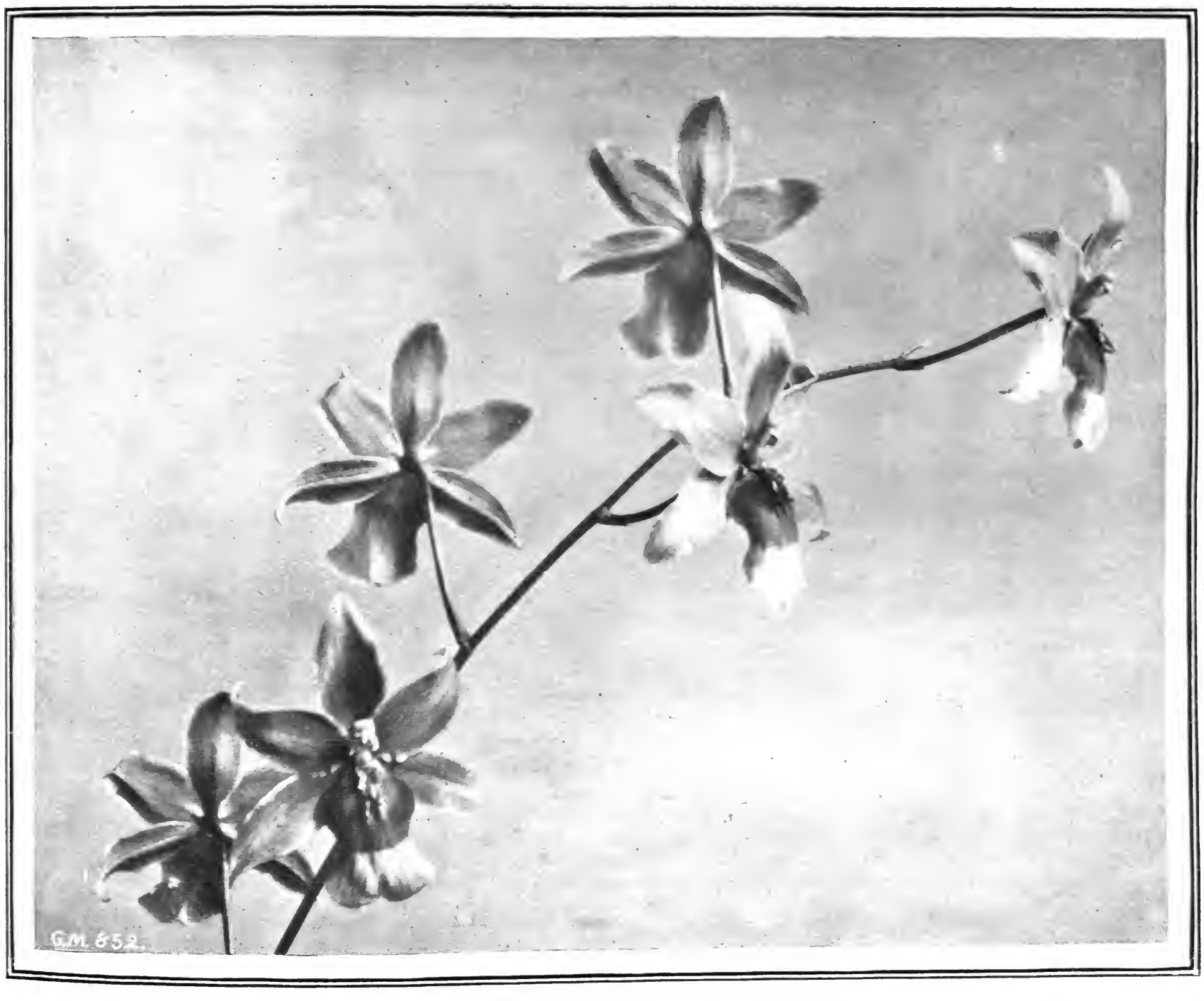
The National Diploma in Horticulture.—For a considerable time it has been felt desirable by the more advanced horticulturists that a Diploma should be available for professional gardeners which would be an indication of real professional ability on the part of the holder. In 1912 the Council of the Royal Horticultural Society approached the Board of Agriculture on the subject, with the result that the approval of the Board was given to the proposal, and authority from his Majesty's Government obtained for the Diploma to carry the title "National." The Diploma will be awarded by the Royal Horticultural Society on the result of examinations, which will, as far as possible, be held in the latter part of June of each year, and we give, in another part of this issue, the scheme that has been prepared for carrying them out. To this we specially direct the attention of our readers, especially those who are entering on their gardening career, and have a real desire to attain, in due course, a high position in the craft. We derive much satisfaction from the fact that the candidates will be required to show that they have a sound general education before proceeding to the preliminary, for it is hardly less essential to success than the higher distinction, and certainly not difficult to attain by those possessing an ordinary degree of intelligence, and are equal to some amount of sustained effort in the utilisation of the time available for leisure. It is satisfactory also to find that candidates must have served at least four years in a public or private garden, nursery, or approved public institution, or in two or more of the several establishments. We would strongly advise all young men who have adopted horticulture as their profession to take advantage of the opportunities the examinations will afford of testing their knowledge of the practical and scientific sides of horticulture, and, if possible, of obtaining a distinction that will afford evidence of considerable ability. While it will be possible for those engaged in gardens and nurseries to obtain the Diploma, their chances will be considerably enhanced by their entering an approved institution wherein special attention is given to examination work, for two years or so.

New Park for South London.—It is satisfactory to be able to record the fact that the London County Council have included a public park in their scheme for the clearance and development of the Tabard Street area, which is a short distance from the Southwark Bridge Road, on the south side of the Thames, and one of the largest of the slums in London. The nearest open spaces are Kennington Park and Southwark Park, and both are about one and a-half miles from the area. The need for a small park, or recreation ground, in the locality is, therefore, great, and the London County Council have decided to devote the central portion, about five acres in extent, to public use, and lay it out as a recreation ground.

King of Buganda at Reading.—A few days since the King of Buganda, who is now in England, paid a visit to Messrs. Sutton and Sons' establishment at Reading. The King, who was accompanied by five of his chiefs, was received by the members of the firm, and shown over the various departments in the Market Place, and was subsequently taken to the trial grounds in the London Road. Need it be said the many features of the establishment proved of much interest to the King?

Discolouration of Peaches when Packed.—The brownish colouring and unpleasant flavour assumed by peaches in course of transit over long distances has for some years past been a matter of considerable concern to the American growers of these fruits. This deterioration has been generally attributed to what is known as "ice-scald"; but, according to the investigations made by Mr. G. R. Hill, of the Cornell University, the injury is not the effect of temperature, but is due to an accumulation of carbon-dioxide within the paper wrapped round the fruits to protect them in the course of transit.

New Open Space for Chertsey.—Mr. H. E. Paine, lord of the manor for Chertsey, has presented to the town the land known as the Sand Pits, and has offered to contribute to the cost of providing seats, etc.



ODONTIODA CRUYENSIS VAR. EILEEN.

Flowers purple, with large crimson blotch on the lip. F.C.C., R.H.S., August 26. J. Gurney Fowler, Esq., Glebelands, South Woodford.

THE NATIONAL DIPLOMA IN HORTICULTURE.

The following is the scheme for the National Diploma in Horticulture to be awarded by the Royal Horticultural Society under the arrangements approved by the Board of Agriculture and Fisheries:

1. Candidates for the Diploma must
   (a) Register themselves with the Society, and
   (b) Pass two examinations, a Preliminary and a Final.

2. The Examinations are open to both men and women.

Registration.

3. Candidates must register themselves at least four months before the date fixed for the Preliminary Examination, and may do so at any time after they have attained the age of 19.

4. In order to register themselves candidates must supply the Council of the R.H.S. with
   (a) A birth certificate as evidence of age, and
   (b) Some documentary evidence of the sufficiency of their previous general education (paragraph 5).

5. To satisfy the requirements under 4b, the certificate of the College of Preceptors, the Oxford and Cambridge Local Examinations Boards, Matriculation at any British University, or any similar certificate which may from time to time be approved by the Council of the Society will be accepted.

Candidates who are unable to produce any such certificate must submit themselves to (and pass) a qualifying test established by the Society in the simple subjects mentioned in Syllabus 1.

Qualifications for the Preliminary Examination.

6. Registered candidates before sitting for the Preliminary Examination must, by the date of the examination,
   (a) Have reached the age of 21 years, and
   (b) Have served at least four years
      (1) in a public or private garden or nursery; or
      (2) in an approved Horticultural Institution, and have received a satisfactory report as regards conduct and work from the authorities of such Institution; or
      (3) partly as in (1) and partly as in (2).

Note.—It is absolutely necessary for all Candidates for the Diploma to pass the Preliminary Examination before they can enter for the Final, but the Preliminary Examination by itself does not entitle those who pass it to any form of Diploma.

Qualifications for Final Examination.

7. The Final Examination is only open to those who have passed the Preliminary Examination, and have subsequently been engaged for not less than two years in the Practice of Horticulture.

The Practice of Horticulture includes the following:—Florists, Fruit Growers, Gardeners, Horticultural Inspectors, Horticultural Instructors, Landscape Gardeners, Market Gardeners, Nurserymen, Public Park Gardeners, and Seedsmen.

8. Candidates for the Final Examination must give at least four months' notice to the Society of their intention to present themselves in order that sufficient arrangements may be made.

Nature of Examination.

9. In both Examinations the principal part will consist of tests of the candidates' practical acquaintance with plants and general garden work, and practical knowledge of horticulture. The practical tests will be conducted in a suitable garden or nursery, and will be supplemented by viva voce questions and written papers. Candidates will be required to pass in all three parts of the examinations: practical, viva voce, and written; but no amount of excellence in the written part will qualify a candidate if he fail in the practical.

Time of Examinations.

10. The Examinations will, as far as possible, be held in the latter part of June of each year.

Fees.

11. The entrance fees, which are payable in advance, are—
   (a) for the Preliminary Examination, £1;
   (b) for the Final Examination, £3.

Half the entrance fee will be returned to candidates unavoidably prevented from attending the examination.

There will be no fee for registration, or for the qualifying test when that is necessary.

12. The fees payable by rejected candidates entering again will be 10s. for the Preliminary Examination, and £1 10s. for the Final.

Examination Centres.

13. The Examinations will be held at different centres in Great Britain, regard being had especially to
   (a) The number of candidates in any district, and
   (b) The suitability of a locality for the practical part of the examination.

14. All particulars, forms, etc., may be obtained from the Secretary of the Royal Horticultural Society, Vincent Square, London, S.W.

SYLLABUS.

I.—Qualifying Tests.

Candidates requiring to take this test (paragraph 5) will be expected to

15. Write on some given subject of general knowledge, as a test of their handwriting, spelling, and ability to express themselves clearly and grammatically.

16. Show an acquaintance with arithmetic up to and including decimals and elementary mensuration. The questions asked will usually be such as might occur in ordinary garden practice.

17. Having a general elementary knowledge of geography, such as the relative positions of the principal countries of the world, with some knowledge of their climates and of the causes which determine climate.

At this stage no special knowledge of plants will be expected of the candidates.

II.—Preliminary Examination.

The Preliminary Examination will be based upon the general principles of plant-growing, an elementary knowledge of botany, chemistry, and physics, as far as acquaintance with these subjects is essential to an understanding of garden practice. Care will be taken to ascertain that the Candidate is able to perform the operations of gardening with proper skill, and also that he understands the reasons for the methods employed.

The Examination will be based on the subjects mentioned in the following Syllabus, many more questions being asked than will be required to be answered, so that candidates will be given considerable choice.

Syllabus.

18. Choice of site, laying out, levelling, etc., of a garden.

19. Composition of soils, and the manner of their formation.

20. Cultivation of the soil: Trenching, digging, hoeing, raking, rolling; drainage and its effects upon soil and crops; the relation of the plant to the soil. The making of composts.

21. Preparation of the ground for crops, and rotation in cropping.

22. Nature and uses of manures in the garden.

23. The part played by root, stem, leaf, flower, fruit, and seed in the life of the plant. The effect of water, air, light, and temperature on the growth of plants, and the influence of these on the choice of aspect and soil.

24. Seed sowing, transplanting, and permanent planting.

25. Cultivation of kitchen garden plants.

26. Care of lawns, paths, flower beds, herbaceous borders, and rock gardens.

27. Methods of propagation by seeds and vegetative processes.

28. Cultivation of ornamental plants under glass: ventilation, watering, and regulation of light and temperature.

29. Fruit and vegetable cultivation under glass.

30. Planting, pruning, and training of fruit trees and bushes in the open on walls and otherwise.

31. Planting, pruning, and training of ornamental trees and shrubs, including roses.

32. Knowledge of the ordinary names, Latin or English, of garden plants, shrubs, trees, and weeds.

33. Symptoms and treatment of the commonest plant diseases and insect pests. Methods of fumigation and spraying.

34. Use and care of tools and implements employed in the making and maintenance of gardens.

III.—Final Examination.

The Syllabus for the Final Examination will be divided into sections, each dealing with one particular branch of horticulture. Candidates may enter for the branch in which they feel themselves most proficient. Syllabuses will be published later.

SUBSIDISED ORGANISATIONS.

The President and Council of the Royal Horticultural Society have asked me to communicate to you the following report of their Parliamentary Committee on Subsidies to Co-operative Organisations:—

"Your Committee, whilst welcoming the subsidies given out of public monies to agricultural and horticultural organisations, when such organisations confine themselves to educational, experimental, and research subjects, deprecates any subsidies from Government, County Council, and other public bodies being granted to any organisation which is allowed to embark in trading pursuits, holding it to be manifestly unfair to private traders to allow such subsidised organisations to be financially helped to compete with the trade. Your Committee desires also to point out a further aggravation of the injustice, viz., that often such subsidised organisations do not pay local rates and taxes, nor income tax, whereas private traders have to bear their full share of such burdens."

The Parliamentary Committee of the R.H.S. was established in March last. Its object is generally to watch over the interests of horticulture in all its branches, and to advise the council of the society of opportunities (1) for using the great influence of the society, either in initiating legislation in favour of horticulture, or for influencing measures in any way affecting horticulture which may at any time be introduced into Parliament: and (2) for informing the Department of Agriculture and Horticulture of the views, wishes, and wants of horticulturists; and (3) for co-operating with the Department in any useful and desirable horticultural movement.

W. WILKS,
Secretary, R.H.S.

Plumbago rosea.—The plants of this attractive species are now growing apace, and where attention has been paid to stopping and giving plenty of room for development, they are well furnished with side growths. Those required for early winter-flowering should be pinched for the last time about this date, while those required to be at their best after Christmas may be stopped again about the last week in September for the last time. They must not be allowed to suffer from dryness at the roots, and they will be greatly improved by a weekly application of some approved plant fertiliser until the colour of the flower is seen.—H. Prime.

NEW DAFFODILS.

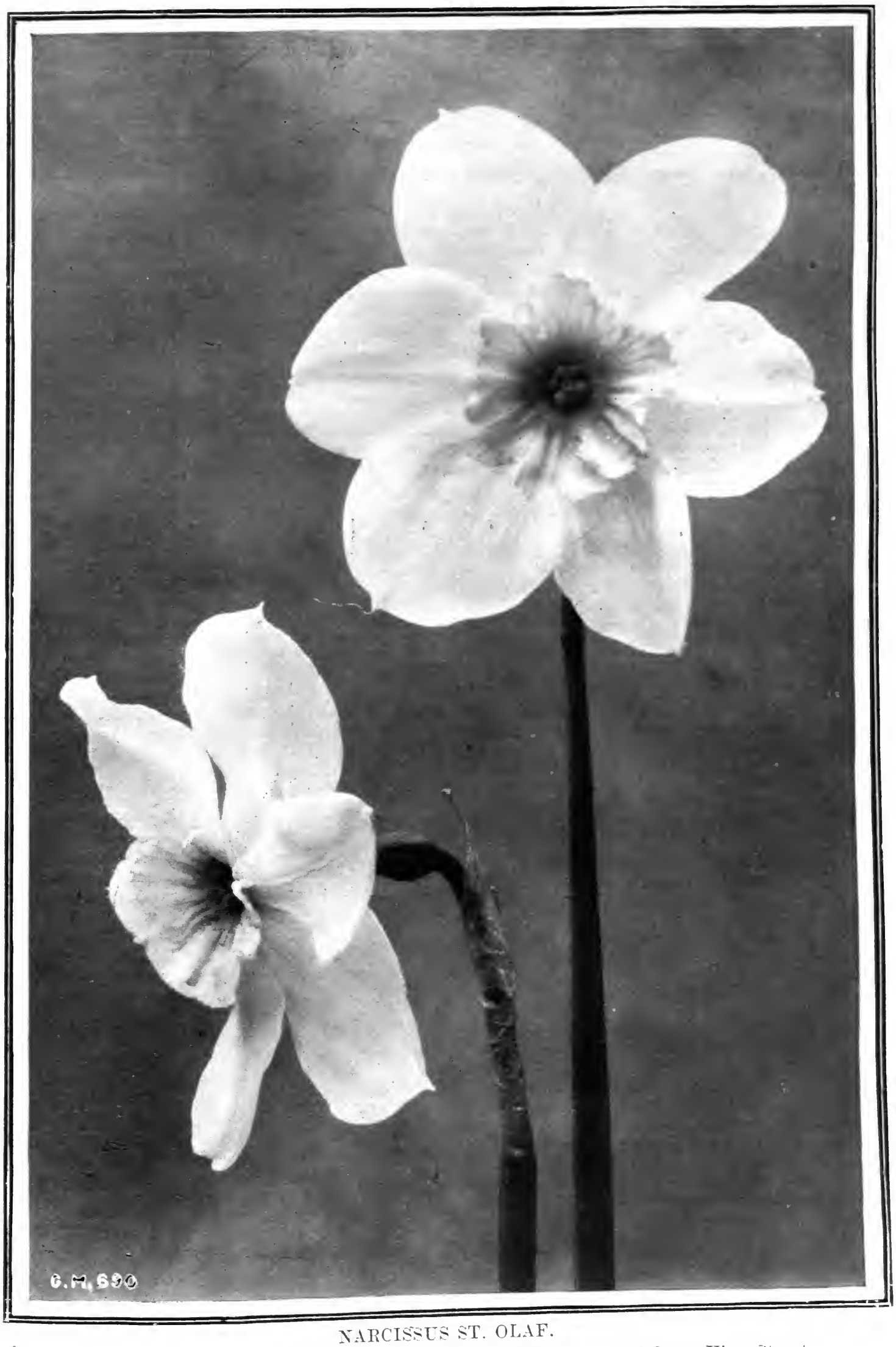
The following descriptive notes of new daffodils, will, I hope, prove of service to readers of The Gardeners' Magazine, especially at this season, when the best varieties are being ordered and planted.

and the trumpet is exquisitely rolled back at the mouth. This variety gained a F.C.C. at the hands of the R.H.S., April 15, 1913—a rare honour nowadays.

Brilliancy (R. H. Bath, Lim.).—This is flower is a very much glorified Barri conspicuus. It is a large and very showy flower, and lasts wonderfully when cut. I have seen blooms three weeks old still looking quite passable. The plant is a good doer, and increases rapidly.

Kingdom (W. T. Ware).—A giant Leedsi of faultless form, with overlapping segments of pure white, large, well expanded cup of pale lemon-yellow, prettily frilled. A.M., Midland Daffodil Society, 1913.

Norah Pearson (J. R. Pearson and Sons).



NARCISSUS ST. OLAF.

A distinct and beautiful Leedsi, raised by Messrs. Barr and Sons, King Street, Covent Garden, W.C. A.M., R.H.S., April 15, 1913.

Mdme. Ernst Krelage (Krelage).—A very perfect white trumpet daffodil, somewhat like Mdme. de Graaff, but superior in every way. The perianth is very flat and firm, not quite a novelty, but is a grand thing, and deserves to be widely known. There are many of the same breed (C. J. Berkeley x Red Cup), but I think this is the best. The —A very distinct giant Leedsi. A very firm-looking flower with somewhat pointed petals, large, deep cup of deep lemon-yellow. A.M., Midland Daffodil Society, 1913.

Lord Lister (Welchman). — A very fine white trumpet exhibited by Mr. Welchman in his prize collection of white trumpets at Birmingham, 1913.

Emerald Eye (Cartwright and Goodwin). —A very distinct and dainty Leedsi, with the deepest green eye I have yet seen. This novelty was much admired at the Midland Daffodil Show this year.

Queen of Hearts (C. Bourne). — Not quite a novelty, but still one of the best of the red-cupped section. The flower is of good size, and well set up; the perianth is of a pale maize tint, with large expanded cup of brilliant orange. A.M., Midland Daffodil Society, 1913.

Challenger (J. R. Pearson and Sons).— This variety, raised by Mr. Crosfield some years ago, has not been much seen by the public, as it is very late; it is a faultless flower of the Barri type, with pure white segments of an almost leathery texture, and a nearly flat eye, yellow, with deep band of bright red. A very healthy plant, but a slow propagater.

Poeticus Dulcimer (Hawker).—A very fine poet, of the Recurvus type; the eye is deeply banded with crimson. A.M., Midland Daffodil Society, 1913.

Evangeline is quite an old friend with some of us, but it only gained its A.M. this year, when it was wonderfully well shown by Mr. Phillips, of Olton. The first year or two I had this plant I thought very little of it, but this year, on bulbs which had stood for two years on light soil, it was grand, the rows being covered with blooms, nearly all of which were fit for exhibition.

Vestal Virgin (J. R. Pearson and Sons). —This was bought from Mr. Henry Backhouse as a white trumpet, but I can hardly classify it as such. It comes in the same category as Mdme. de Graaff—i.e., it is white if one cuts it young and opens it in water. Nevertheless, whether it be called white or pale bicolor, it is a grand thing—the blooms are so very firm and perfect in form; it is also a very robust plant, and the flowers are carried on really long stems.

Poeticus Caedmon (Barr and Sons). A very large and well-formed flower of the Recurvus type, with a beautifully-banded eye of deep crimson. (A.M., R.H.S., April 15, 1913). Admirers of this fine novelty will have to wait a while, as Messrs. Barr and Sons tell me they have already parted with all the stock they have to spare.

Crœsus (A. M. Wilson).—This is generally considered the finest red-cupped variety which has been as yet sent out. It is a large and almost perfectly round flower of pale maize, with a very large and widely-expanded cup of deep orange-red. Besides being a flower of the highest exhibition character, it has a fine long stalk, and the plant is very robust in habit; while the bulb is large and shapely. I remember when unpacking my bulb from Mr. Wilson, exclaiming: "What a grand bulb for a red-cupped daffodil!" First-class Certificate, R.H.S., and Midland Daffodil Society.

Europa (W. T. Ware).—This is a very fine pale bicolor trumpet daffodil, with a long stalk and nice pose. The blooms exhibited on April 15, 1913, at Vincent Square, gave promise of a vigorous plant, and received an A.M. at the hands of the Daffodil Committee.

Gipsy Queen (J. R. Pearson and Sons).— A large and attractive Barri. The segments are pale maize colour when the bloom is young, passing to white with age. The cup is large and spreading, yellow-edged, deep orange-red; long stalk, and a healthy and rapidly-increasing plant on light land.

St. Olaf (Barr and Sons).—A perfectly distinct and very attractive Leedsi, which should in the near future be frequently met with at exhibitions. The flower is pure white, of good size, and perfect form. The cup or disc is of the flat or Englehearti type of a pale citron shade. A.M., R.H.S., April 15, 1913.

White Emperor (C. Bourne and Cartwright and Goodwin).—This is a very beautiful and perfectly white trumpet daffodil, much in the way of Mdme. E. Krelage, but, to my mind, a better flower. It is perfect in form, balance, and pose. A.M., R.H.S., April 1, 1913.

The above does not exhaust the list of good things exhibited this season, but I think the editor would grumble at the space required if the list were to be extended.

Duncan Pearson.

Lowdham, Notts.

INEXPENSIVE DAFFODILS FOR EXHIBITION.

Daffodils are so accommodating in their cultural requirements that they may, with a few exceptions, be planted at any time between the months of August and December, with the full assurance of their yielding freely in the following spring of the floral wealth with which Nature has so liberally endowed them. The late period at which the bulbs can be planted with satisfactory results is an advantage to those who grow daffodils specially for the production of colour effects in the flower garden, inasmuch as it enables them to defer the planting of the bulbs until the beds have been cleared of their summer occupants. There is no other advantage in delaying planting operations after the proper season for such work, and, as in the case of the bulbs of other plants, those of daffodils undergo some deterioration when they remain out of the ground for any considerable period. The large, solid bulbs of such varieties as the Emperor and Empress suffer less from exposure than do those belonging to the incomparabilis section, but in no case is it possible to obtain such finely-developed flowers as from bulbs that are planted within a comparatively short period of their being lifted. Early planting is, therefore, essential to success in growing for exhibition, and it is most desirable in the case of choice varieties, for from that practice alone can bulbs of the finest possible quality be obtained in the following season.

Therefore those who are desirous of achieving success in the production of flowers for exhibition should make a beginning at once by purchasing bulbs of the varieties they are desirous of growing Those to whom the cost of the bulbs is not a matter requiring serious consideration will select from the newest of the varieties they have seen at the exhibitions, or that have been described in these pages. Others there are who fully appreciate the charms of these flowers, but have to be content with varieties that are so moderate in price that they may be described as inexpensive. At the exhibitions of a considerable number of daffodil societies classes are provided for collections of varieties that may be purchased at a certain price, and usually there is a spirited contest for the prizes offered. In some cases these classes constitute a feature of much interest, for fortunately the number of the finer forms that are inexpensive is now very considerable.

For the guidance of those who purpose exhibiting in the restricted classes the following selection has been prepared. It should be useful also to those who wish to grow a selection of varieties of a higher order of merit than those grown for decorative purposes, for the purpose of enjoying the individuality of the flowers. None of those mentioned exceed four shillings per bulb, but the majority are much lower in price. The catalogues of the firms advertising in the pages of The Gardeners' Magazine will give all the information necessary with regard to this detail. The selection is as follows:

Trumpet Varieties.

Bennett Poë.—A beautiful triandrus hybrid; the flowers pale yellow with elegant trumpet.

Cornelia.—A late-flowering variety, the perianth of great breadth and the trumpet finely expanded; the colour soft yellow.

Duke of Bedford.—A superb bicolor, the flowers of the largest size and superb form, the perianth white, and the trumpet soft yellow.

Glory of Leiden.—A remarkably handsome variety that possesses much value for the garden as well as for the exhibition stage; the perianth is soft yellow, and the trumpet deep rich yellow.

King Alfred.—One of the finest of the rich golden trumpets; the flowers are of the largest size and fine form. It is vigorous in growth.

Glory of Noordwijk.—A remarkably fine bicolor, the flowers similar in form and colour to Empress, but at least double the size. They are highly refined, and the elegant frilling of the trumpet adds considerably to the charm of the flower. The plant is very strong in growth.

Mrs. H. J. Veitch.—In its general aspect this beautiful variety bears a resemblance to the Emperor, but the flowers are larger, and possess greater refinement. The broad perianth is pale yellow, and the finely-expanded trumpet is rich golden-yellow.

Madame de Graaff.—Unquestionably the best of the cream-coloured varieties in its section, and fortunately now so inexpensive that it may be planted by the hundred in the garden. The flowers are of large size, with stout perianth, lemon-white passing to cream-white, and the finely-formed trumpet is soft primrose passing to white. Twenty-six years have elapsed since this variety received the distinction of a F.C.C. from the Royal Horticultural Society, and as yet it has no superior.

Mrs. Betteridge.—A beautiful variety, with stout, regular perianth and a straight trumpet of considerable length, and with an elegant fringe or rim; colour ivory-white.

Victoria.—A handsome bicolor, the flowers large in size and of good form; the cream-white perianth is broad and of good substance, and the elegantly-frilled trumpet is bright yellow.

Weardale Perfection.—One of the finest varieties of its class, for while possessing a constitution and effectiveness that renders it of the highest value in the garden, it bears flowers of so high a quality as to place it in the front rank of exhibition varieties. The flowers are of large size, the cream-white perianth is of great breadth with overlapping segments, and the finely-shaped trumpet is of a pleasing yellow hue.

Incomparabilis Varieties.

Amber.—A charming variety with broad, white perianth and a rather deep, bright yellow cup, which is sometimes suffused with amber.

Flambeau.—An effective flower, the perianth yellow and the large cup bright orange.

Fusilier.—A charming variety, with flowers of comparatively large size, the perianth cream-white and the cup scarlet.

Gloria Mundi.—A superb and deservedly popular variety, the flowers large, with fine, rich yellow perianth and large, fully-expanded orange-red cup.

Homespun.—A remarkably fine flower, large in size, with superb form, and of a rich yellow colour.

Lady Margaret Boscawen.—An exquisitely beautiful variety, the flowers large and of fine form, the perianth pure white, and the well-expanded cup deep yellow.

Magpie.—A large, well-formed flower, with white perianth and lemon-coloured cup.

Queen Sophia.—A charming flower, with sulphur-coloured perianth and a bright orange-coloured, widely-expanded cup.

Solfatare.—A pleasing flower of high quality and of a pleasing lemon colour; the perianth is formed with broad, stout segments, and the cup is of considerable length and well expanded.

Strongbow.—A handsome flower, the segments pure white, smooth, and of great breadth, and the cup rich yellow and widely expanded.

Barri Varieties.

Armorel.—An attractive variety, the flowers large with white perianth, the centre light green with orange margin.

Beacon.—A very handsome flower, with finely-formed, yellow perianth, and deep red, flat crown.

Circlet.—A charming flower of large size, the perianth even in outline with overlapping segments and of the purest white, the centre yellow with deep orange margin.

Cresset.—An excellent variety, the flowers of fine form, the perianth white, and the cup bright red.

Incognita. — An exquisitely beautiful flower of rather large size, the perianth cream-white, and the centre apricot.

Red Armorel.—An effective flower, the perianth white, and the centre red.

Sea Bird.—A distinct variety, with flowers of relatively large size, perianth white, tinted green at the base of the segments, and crown deep yellow.

Southern Star.—A comparatively large flower of fine form, the perianth white, and the crown yellow with red margin.

Leedsi Varieties.

Ariadne.—A distinct and beautiful variety, the flowers of fine form, the perianth pure white, and the spreading, frilled cup ivory-white.

Bianca.—A charming variety, with pure white perianth and bright yellow cup.

Evangeline.—A beautiful variety, with flowers of exquisite form, the perianth white with overlapping segments, and the widely-expanded cup lemon-yellow.

Maggie May.—A large flower of superb form, the perianth white, and cup bright lemon-yellow.

Selene.—A distinct variety, with large, finely-formed flowers, the perianth white, with long, citron-coloured cup. The plant has a robust habit.

White Lady.—A popular and beautiful variety; the flowers large, with broad, smooth, white perianth, and finely-frilled, pale yellow cup.

Poeticus Varieties.

Barcarolle.—An effective variety, the flowers of large size and fine form; the white segments of great breadth, and the centre margined with red.

Cassandra.—A vigorous-growing variety, bearing large flowers with broad, overlapping pure white segments, and a small centre with deep red margin.

Comus.—A handsome flower of large size and fine form, the perianth pure white, and the centre with broad edge of bright red.

Horace. — A handsome variety, the flowers large and symmetrical, and the centre brilliant red.

Laureate.—A beautiful flower with large perianth, the segments slightly recurved, the centre yellowish with red margin.

Virgil.—A distinct flower of large size and superb form, the perianth white and of good substance, the centre bright red.

Walt Whitman.—An attractive flower of good form; the perianth is regular in outline, and the centre is pale green, passing to light red at the margin. G.

DAFFODILS FOR CUTTING.

The cultivation of daffodils for the production of cut flowers has of late become an important branch of horticulture, both commercially and for private use. It is not, however, on the subject of growing for market that we wish to deal at the present time, but the production of flowers for home decorations. There being few, if any, of our early spring flowers that are more popular than these, it is necessary, where large quantities are required for decorating rooms, that special treatment be afforded them. It will, however, be found that of the numerous varieties in cultivation not many are suitable for cutting, for though the flowers are most beautiful in themselves, and are borne on long stems that enable them to be arranged with effect, they are wanting in substance, and on that account soon fade when introduced into the dry atmosphere of a warm room in the dwelling-house.

NARCISSUS EUROPA.

A fine bicolor trumpet variety, raised by Messrs. W. T. Ware, Lim., Inglescombe, Bath. A.M., R.H.S., April 15, 1913.

Soil Preparation.

To grow daffodils well a deep, rich, loamy soil is necessary, and the plants must have ample room to develop their foliage. It is surprising what a difference there is in the quality of the flowers even of the same variety when liberal treatment has been afforded them. In private gardens quarters in the kitchen garden, or a piece of spare ground, should be set apart for the plants required to give a supply of cut flowers. This will obviate the necessity of cutting flowers from those in the beds

and borders, which remain where they will continue to bloom and make the place gay. It is a mistake to cut the flowers growing in the borders. This often renders the latter unattractive. The plot of ground set apart for this purpose need not be a large one, but should be of sufficient size for the requirements of the establishment, and situated in a rather sheltered position, and out of sight as much as possible. for such a place cannot always be kept as tidy as one would wish. A piece of land of this description is always useful, not only for providing cut flowers, but for growing plants and bulbs to fill up gaps elsewhere. As it will be found necessary to lift a portion of the bulbs each year, the space should be sufficiently large to admit of this being done, as the best and finest flowers are obtained from bulbs the second season after planting. They have then become established but not so overcrowded as to deteriorate, as in the case of those undisturbed for a number of years. To ensure the production of finely-developed flowers the ground must be liberally treated. For this reason, as soon as the bulbs have been lifted, which should be directly the foliage has died down in summer, give a liberal dressing of thoroughly decayed manure, and dig this in as deeply as the soil will admit, then leave rough until planting time.

Planting.

The best time for planting is the first opportunity in September, for the earlier the bulbs are planted after the present month the better will they become rooted before winter sets in. A stronger growth will, as the result, be made in spring.

Planting is most readily performed by taking out small trenches. These should vary from three to six inches deep, according to the size of the bulbs to be planted. If these lines are a foot apart this will admit of a person walking between the rows to gather the flowers without injuring the foliage. The bulbs should be placed at even distances from each other, the larger size about three inches, and those of the smaller kinds two, which will allow ample room for them to attain full development. When planting is completed the ground should be raked over to make it level. It can then be left until spring, when a hoe should be run between the rows to destroy any small weeds that may be making their appearance.

Cutting the Flowers.

Gathering the flowers is an operation that requires more care than is generally bestowed on such work, and those who have the responsibility of filling the vases would do well to only gather those flowers that are just expanding, as such will last much longer when placed in water.

Varieties to Grow.

As the daffodils may be in season from the open ground for at least four months in the year, care should be taken to make a selection that will ensure flowers both early and late. The first variety to bloom in the open that has any substance in its flowers is the well-known and popular yellow variety, obvallaris or Tenby. If given some protection, flowers of this may be had from a sheltered spot as early in the season as February. To have really good early flowers we must turn our attention to Golden Spur. When grown in a sheltered place, and the winter is mild, flowers of this may be had towards the end of February. Their rich golden colour is very effective, and as the stems are of considerable length, the flowers are useful for large vases, which is a consideration.

When we look back to the days of the introduction of Emperor, one wonders how it was that this did not command a higher price, seeing so many of less value that have been placed on the market since. It is now more than thirty years since we purchased the first bulbs of this variety, and still look upon it as one of the best of its class. The flowers are large in size, of good substance, standing on long, stout stems, which when well grown often exceed eighteen inches in length. For cutting this is without doubt a fine kind, as the blooms remain a long time in perfection when placed in water. Horsfieldi was introduced more than a quarter of a century ago, and though not so large as Empress it is earlier, and on that account more useful, though a few of each may be planted. Their flower-stems are a foot or more in length. Sir Watkin is a variety that has become so very popular that acres of it are grown specially for the production of cut flowers. It is a mid-season kind, which produces large yellow flowers of good substance. When grown in a deep, rich soil, in a moist, sheltered place, the flower-stems exceed two feet in length. Barri conspicuus is a grand variety, especially when grown in a moist, shady place, as the flowers are then much larger and of a better colour; the stems are also much longer than they are when grown in the open. M. J. Berkeley, when well grown, is one of the best late varieties we have. The large yellow flowers are borne on long, rather slender, stems of a very dark green hue. As a decorative variety this is par excellence, as it stands well in water. Poeticus ornatus should be grown by all who have to provide large quantities of flowers for decoration, it being the most useful of its class.

J. B. M. Camm is a most beautiful variety, having long, trumpet-shaped flowers, which when grown in the shade are pure white, and keep fresh for a considerable time in water. Grandee is a late bicolor that should be grown in a moist, shady place so as to prolong the season of its usefulness. Should the ground be inclined to become dry, give a copious watering; this will somewhat retard the blooming period. Madame de Graaff is somewhat after the form of J. B. M. Camm, but the flowers are larger and produced on longer stems. Maximus is also a deep orange-coloured variety that lasts well in water. Gloria Mundi is one of rather recent introduction, that will prove to be a good variety for decorative purposes. When well grown the flower-stems of this are about fifteen inches in length, and of sufficient substance to hold the flowers well up. There are, of course, many others, but those named have proved with us to be amongst the best.

Some of the light forms of Leedsi and Barri are very pretty, and look well in vases, but they have not the lasting properties of those named, and where flowers are required in great quantities the gardener has to make them last as long as possible, especially where space for their production is limited. We have grown many thousands of daffodils of different kinds for the production of cut flowers, but found there was always the greatest demand for those that remain fresh the longest.

H. C. Prinsep.

Salvia patens.—In the beautiful blue of its flowers, this salvia has but few rivals, on which account it is always admired. It was introduced from Mexico in 1838, and, as might be expected of a native of that region, it is none too hardy in this country. Owing to this its tuberous roots are often lifted in the autumn, and wintered where safe from frost as dahlias are.—T.

DAFFODILS FOR FORCING.

The forcing of daffodils for winter and early spring-flowering is becoming more popular year by year, and this is not to be wondered at, seeing the very many beautiful varieties that are being raised, some of which are probably more suitable for cultivation under glass or shelter of some kind than for the open ground. But my task is to give a few notes on those varieties which can be had in quantity, and cheaply, and with a minimum of attention will produce a wealth of bloom early in the year. Narcissi, to be of much use as a source of profit, must be early, as one cannot always depend on the Scilly Islands crop being a failure, and when the flowers from these isles are put on the market, it naturally means that there is a distinct drop in price. Private growers have not this matter to worry about, but they nevertheless require to have narcissi in bloom as early as they are to be seen in the shops, or they will have some very pointed questions to answer.

Forced daffodils certainly do come in at a time of the year when they can be appreciated, for, if we leave out the chrysanthemums and carnations, there are very few flowers at this season which can be cut with good stems, and they are a welcome change after a long season of the two other flowers.

Early potting or boxing is decidedly an advantage, and the work must be done in the latter part of August or early September for the earliest varieties, following on as soon as possible with the later ones. Boxes possibly produce the best results, as the greater amount of soil ensures a more equable state of moisture than where pots are used, and though this may not make much difference while they are plunged out of doors, yet, when taken from under the plunging material, the pot-grown plants are likely to receive a check by becoming dry, and more often than not the failure of early forced bulbs is, I think, a result of insufficient moisture at the roots. At Woburn Place we have the banks of a stream planted with various varieties of daffodils, and those nearest the water, which are flooded two or three times during the winter, are invariably earlier and stronger than those further up the banks; from this one can judge that daffodils like a fair amount of moisture; even when ours have been covered with water for two or three weeks it has not appeared in any way detrimental to them.

The amount of heat daffodils will stand after being brought indoors is also a very important point, and, though they appreciate a fair amount after the flowers have begun to show among the foliage, they do not like being hurried before this stage, and when batches of daffodils have gone blind, or, more correctly, when the flowers have died in the sheath, we may put it down to one of two things—i.e., being allowed to get too dry, or given too much heat at the outset.

As with other forced plants, so with daffodils, there are a few standard varieties that we cannot possibly do without, such as Telamonius plenus (double Van Sion) for very early use, followed very closely by Golden Spur, after which we have Emperor and Victoria, probably the two finest daffodils for any purpose; the latter is a much better bicolor grown indoors than when flowered outside, and entirely supersedes Empress for forcing purposes. Sir Watkin, an incomparabilis, is a fitting companion to these two, and comes in at about the same time. Poeticus ornatus comes at about the same time as these varieties, as also does Barri

conspicuus, though this variety out of doors is considerably later. As a late trumpet variety Mdme. Plemp is decidedly good, the somewhat whorled perianth making it quite distinct; Vanilla should be grown on account of its perfume.

The Leedsi variety Mrs. Langtry is also a good forcer, and, with the other varieties named, is cheap. Among the newer varieties that I have tried for pot culture are Madame de Graaff, excellent, and a fine grower; King Alfred, one of the finest in form and colour, but still rather expensive; Whitewell, an incomparabilis, its bold, expanded cup, making it a very telling variety; Glory of Leiden, sometimes streaky in the perianth, but very fine for pots, its great size being sufficient to recommend it; Gloria Mundi, Evangeline, Lucifer, Firebrand, Ariadne, White Lady, and Dairymaid are all varieties that do well in pots, being particularly pleasing in form, and, when grouped with some of the more bold trumpet varieties, make a very pleasing contrast. One of the most striking varieties I noted last season (in quantity) was Dazzler, its very large orange scarlet cup providing colour rarely equalled in a narcissus.

The double incomparabilis varieties, though somewhat heavy, make good pot plants if carefully staked, and Sulphur Phœnix is probably the best. The newer Poetaz varieties I am quite pleased with as pot plants, the foliage and flowers standing up well under conditions where many of the other varieties would be limp. Klondyke, Alsace, Elvira, and Jaune à Merveille are about the best.

Daffodils are probably grown more for cut flower purposes than as pot plants, but grown under proper conditions they are equally as useful in pots, while for filling large bowls, jardinières, etc., I think they are unequalled, and if we could see more exhibits staged similar to those at the Surbiton show last spring, it would tend to still further popularise one of the most beautiful of spring-flowering bulbs.

T. Stevenson.

Woburn Place Gardens.

THE TUPELO TREE.

This North American tree is known under the scientific name of Nyssa sylvatica, and, although it was introduced into European gardens about ninety years ago, it is still very uncommon. In America it is usually met with between forty and sixty feet in height although when grown under the most satisfactory conditions it sometimes attains a height of one hundred feet, with a diameter of five feet. Belonging to the order Cornaceæ, it is recognised by its usually oblong or oval leaves, which are dark green and glossy, and up to five inches long and three inches wide. They are at their best in autumn, for towards the last week in August they commence to change colour, and throughout September are of a brilliant red or orange-scarlet hue. The flowers are borne during early June, but they are small and inconspicuous.

In this country the tree is only suitable for planting for ornamental purposes, and it thrives most satisfactorily in moist loamy soil, but in America its wood is used for various purposes, such as hubbs of wheels, rollers, etc. An effort has been made to introduce the wood of this and other species of nyssa into this country under the name of bay poplar, but without much success, the wood of the yellow poplar, or tulip tree, Liriodendron tulipifera, which has sometimes a very similar appearance, being considered a better wood for the various purposes for which the wood of the nyssa can be used. W. D.

NARCISSUS ON HEAVY SOILS.

The unfavourable character of my Essex clay for the cultivation of narcissus may be gathered from the fact that bulbs of the old double daffodil cease to flower if not taken up and replanted after two or three years, and after the wet summer of 1909 most of them disappeared altogether. The soil in its unameliorated condition is a very tenacious clay, and the top soil naturally very thin, clear yellow clay being found at a depth of two or three inches under the lawn. In the kitchen garden quarters, thirty years of good cultivation has resulted in a considerable raising of the ground level, and made it pretty rich and fairly friable.

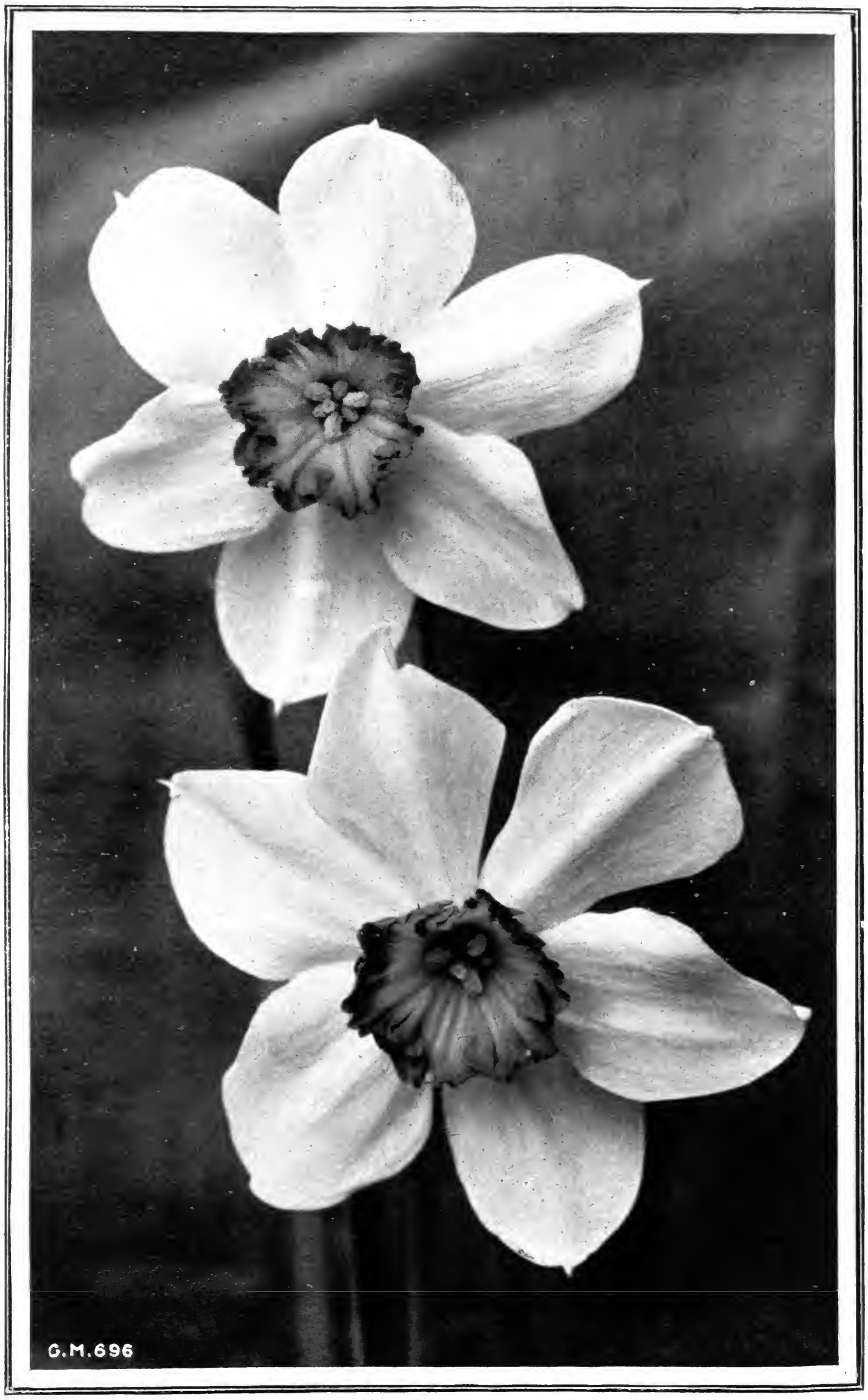
NARCISSUS CRŒSUS.

A handsome red-cupped variety, raised by Mr. A. M. Wilson, Shovel, Bridgewater. F.C.C., R.H.S. and Midland Daffodil Society, in 1912.

It was on this latter, in a partially-shaded position, that an experiment was conducted with ten varieties of narcissus, extending over a period of six years with some and five years with others, twelve bulbs being planted of each variety. All of the bulbs were of the best quality, being obtained from one of the leading English narcissus specialists, and were very large and sound, the twelve bulbs of Sir Watkin weighing exactly six pounds. The bulbs were first planted the latter part of August, and after the second year's flowering were lifted in late June or early July, with the exception of double Poeticus, and replanted in late August or early September in different soil, though in a similar position, this lifting and replanting being repeated each alternate year afterwards. On each occasion the ground was well dressed before planting with basic slag or bone-meal, and sometimes some sulphate of potash or fish guano was hoed in between the rows in February or March. In any ordinary soil they should have done splendidly, and though there were some good average blooms, both in size and texture, there were none of really first quality, and the increase of bulbs, taking all varieties together, must be considered very poor. The following table shows the number of blooms produced each year; three varieties were not planted till 1908.

	Planted.		No. of blooms.					
			1908	1909	1910	1911	1912	1913
Henry Irving ...	Aug.,	1907	14	15	4	—	—	—
Golden Spur ...	,,	,,	23	9	10	5	—	—
Horsfieldi ...	,,	,,	24	29	34	22	49	64
Emperor	,,	,,	16	30	26	26	53	46
Empress	,,	,,	18	29	32	22	40	64
Grandis	,,	,,	23	19	5	4	8	7
Double Poeticus	,,	,,	2	3	10	9	—	—
Mrs. Langtry ...	Aug.,	1908	—	22	32	26	22	22
Barri conspicuus	,,	,,	—	32	47	74	48	88
Sir Watkin ...	,,	,,	—	42	81	117	148	285

Henry Irving was one of the most conspicuous failures. The blossoms were very fine the first year, but were not more than half the size the second year, and not much larger than N. minimus the third year, after which the bulbs were taken up and thrown away, every one being diseased. It teriorating after the dull season of 1910, but improving after the hot summer of 1911, though never robust. Emperor was fairly satisfactory, especially after 1911, but the blossoms were not, as a rule, very fine for this variety, though of good substance. Empress was the most successful of the height. In 1910 the bulbs were treated differently from the others, being taken up from a well-cultivated border and planted in a dry part, which was raided by the roots of clematis and other hungry things. Two years showed a considerable improvement, the blooms being not much below



NARCISSUS GIPSY QUEEN.

A large and beautiful Barri variety, raised by Messrs. J. R. Pearson and Sons, Lowdham, Notts.

has the reputation of being an uncertain grower, but it should always be tried, as it is one of the earliest and best, both in form and colour. Golden Spur did not do much better, though it was allowed to linger on for a fourth season. Horsfieldi never produced any blossoms of first quality, especially detrumpets next to Emperor, but, as with that variety, no exhibition blooms were ever produced.

Grandis was a signal failure. The blooms were only half the proper size the first year, and the second and third years even smaller, the stems being less than six inches in average size. It was the fine blossoms of this variety to be seen in the light, dry soil at Wisley which suggested this treatment.

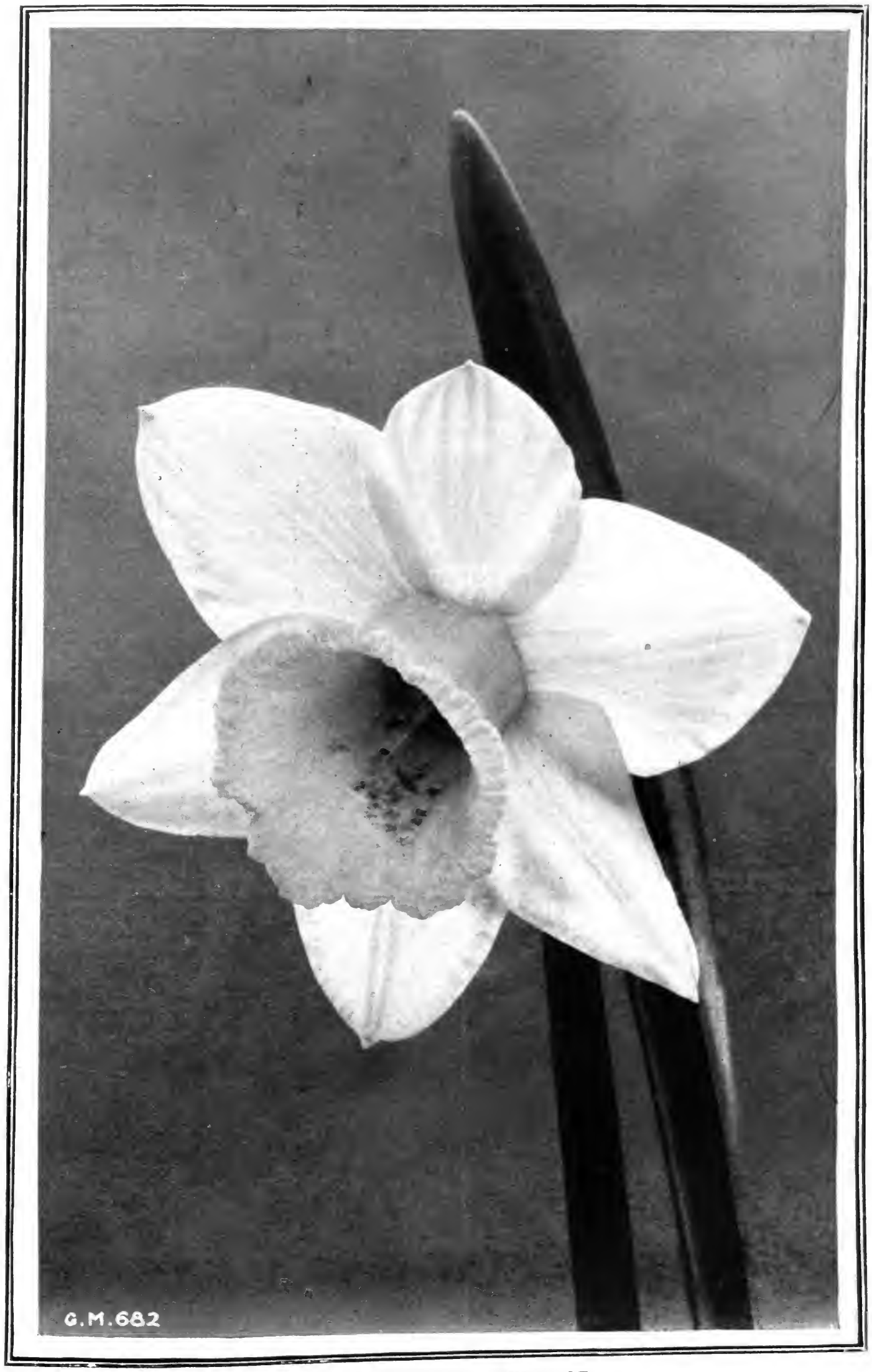
Double Poeticus was another failure. The first year there were twenty buds, and all but two dried up; the third year there

were thirty buds, and all but ten did the same, those that lived to open being very poor specimens. After the second year's growth the bulbs were lifted in July while the leaves were yet green, and replanted at once in a different situation, with a drier and more friable soil, but the results were no better, and the bulbs were done away with. It was thought that the cool, damp soil in partial shade would have suited this variety admirably. It was never dryness at the roots which caused the buds to dry up.

Mrs. Langtry grew rather feebly from the first, and the blooms became smaller each year. Barri conspicuus did fairly well, though the immense size of the blossoms of the first year was not repeated. The setback in number after 1911 was probably due to their having become very crowded that year, following on their rapid increase the previous year. Sir Watkin, as might have been expected, was certainly the most successful of all, though the flowers were not of such extraordinary size again as they were the first year. Alger Petts.

GLADIOLUS COLVILLEI.

The two varieties of this early-flowering gladiolus, rosea and alba The Bride, are very popular for growing to supppply cut flowers for house decoration in various forms. When given ordinary but correct treatment the corms rarely fail to produce good flower-spikes, provided they are of proper size and well matured. I have seen so many fail through unsuitable treatment that it may be of advantage to inexperienced cultivators to state the conditions under which the corms were grown. They



NARCISSUS WHITE EMPEROR.

A fine white trumpet variety, introduced to commerce by Mr. C. Bourne, Bletchley, and Messrs. Cartwright and Goodwin, Kidderminster. A.M., R.H.S., April 1.

were put in very close together in deep boxes of rather heavy soil, the boxes being placed on wet borders. Nearly all the leaves turned yellow. A lighter loam should have been used and the drainage made efficient; then, with careful watering, success, even in boxes, would have been secured. The beginner, however, will be wise if he grows these flowers in clean, well-drained pots. G. B.

AWARDS TO NEW ROSES.

An article by your contributor, Mr. H. C. Prinsep, in the issue of The Gardeners' Magazine for the 16th inst. under the above heading, would appear to call for some comment, as if allowed to pass unnoticed it might help to create a false impression with regard to these awards. He states that "one is greatly disappointed to find that many (of the roses) are lacking in perfume, that most essential point in all good roses." I would suggest that, so far as the awards of the N.R.S. are concerned, the statement is not correct.

Roses are broadly divided into two classes—decorative or garden roses and exhibition roses. With regard to the latter class, scent, although much to be desired, is not essential; but with regard to the first-named, scent, or its absence, is a factor that should be considered, and in making these awards is certainly taken into consideration.

As a matter of curiosity I have examined the gold medal awards of the N.R.S. for the last three years, namely, 1910, 1911, and 1912; they have been twenty-five in number—ten in 1910, three in 1911, and 12 in 1912.

The ten gold medals awarded in 1910 were given to three garden roses and seven exhibition varieties. Now every single one of these ten roses have perfume, some more so than others. Mrs. A. E. Coxhead, an exhibition variety, has a perfume that can hardly be surpassed by any rose. In 1911 the three roses, although all exhibition varieties, are all fragrant. In 1912 I can vouch that ten out of the twelve have fragrance, as I have them growing here in my garden; two only I cannot speak so positively about, namely, Mrs. A. Carnegie and Coronation, though I believe the raisers claim some fragrance for both of them.

With these facts before us, what becomes of your correspondent's grievance? I see he quotes as an example Bessie Brown, that was given a gold medal (and rightly so, as it is one of the most beautiful roses we have) back in the last century—in 1898, I think. He was foolish enough to plant a bed of this variety a year or two after it was introduced, and finds fault with the award because the rose was unsuitable for his purpose.

I respectfully submit that the only party to blame in the matter was himself. An enquiry of you, Sir, or of anyone who knew, would have prevented his mistake—told him that Bessie Brown was a rose requiring high culture, and some care and attention if you want to see her at her best.

Now the gold medal is open, and rightly so, to all classes of roses, and your contributor has no more right to complain about the behaviour of Bessie Brown than he would have if he had planted an Irish single, say, Irish Fireflame, and expected it to produce exhibition blooms, or to climb to the top of his pergola; in other words, he must not use a rose fitted for one purpose for quite another, and then blame someone else for his own ignorance, because, in blunt English, that is what it amounts to.

I am glad your correspondent does not desire to discourage the production of new varieties (I do not think he need worry himself that anything he has written will have that effect), but it might tend to foster or create a wrong impression that the new roses have very little or no scent; it might have been true 20 years ago, it certainly is not true to-day.

Herbert E. Molyneux.

NOTES ON SMALL FRUITS.

Raspberries.

The crops of this most accommodating and valuable fruit have been exceptionally fine here, both as regards size, firmness of berry, and flavour; in fact, very much superior to that of last year. We depend almost entirely on Superlative for our main supply, and right well does it succeed at Wrotham. It was raised, if my memory serves me well, by Mr. Merryfield, at Waldersham Park, Dover, in the year 1883, and is the result of a cross between the old white and Falstaff. This variety is at the present time one of the most popular, and when given good treatment rarely fails to yield excellent crops.

Our soil here is light and porous, so that heavy feeding, annually is necessary, with attention to cutting out old canes that have ceased to bear, and training to the wires or stakes just the required number of new canes for next year's crop. Any delay in this respect results in loss. It has been my practice for many years, the instant all the fruits have been gathered, to remove the nets when dry, fold them up, and put them away, and then clear away weeds, cut out all the old useless canes, so that air and light may circulate freely amongst the remaining ones; give the roots a thorough supply of liquid manure, and a good mulching.

If young canes are wanted for planting the small ones should be lifted carefully with roots attached, and planted elsewhere until the proper times arrives for making new plantations.

Black Currants.

More frequently than otherwise we find black currant bushes much too dense, overcrowded, and, in some instances, planted in an out-of-the-way place, where they are very apt to be overlooked. The fruits are borne on the young wood, so that the growth is best when about one and a-half to two feet long, stout, and firm. I am strongly in favour of going over the bushes after the fruits have all been gathered, and giving them a good thinning, so that light and air may reach and ripen up the new growths by the end of the season. Old bushes well thinned at the present time of all useless wood ought to produce much finer berries, and require but little further pruning in winter. When thinning the bushes at this season remove some of the oldest branches, and allow strong healthy young wood to take their places.

Black currants delight in a rather deep, cool, well-drained soil, and when in this medium the growths annually made are strong and fruitful, without much assistance at the roots, but just the opposite is the case on light soils.

It is a good plan when the bushes are in a bad state to cut down alternate ones to the ground level, and encourage fresh young wood; this is best done in the spring. All bushes growing on poor land should be well fed with liquid manure, and receive every encouragement to build up strength and vigour.

The variety Baldwin is good, producing capital crops of large firm berries that travel well when gathered a trifle under than over-ripe. Boskoop Giant we grow, and find it crops heavily, but it should be gathered as soon as ripe, otherwise it travels badly.

Red Currants.

These, too, should not be neglected if good and regular crops are to be expected. They fruit quite differently from the blacks, and require rather severe spurring after the main branches have been formed, but the heads of bushes should not be allowed to become too crowded. The same remarks apply to trees trained on walls. After the crops have been gathered the land between the bushes should be thoroughly cleaned, and the young growths shortened back a little to allow light and air to reach all parts of the bushes.

The varieties Fay's Prolific and Raby Castle are very good, and crop freely in most seasons, but there are others which grow to a good size and crop satisfactorily.

Loganberries.

These do well when planted and trained to fences, posts, etc., and require similar treatment to the American blackberries. At this time of the year all old fruiting shoots should be removed to give room for the new growths required to fruit next year. Remove them very carefully, and train the new growths rather thinly in their stead. H. Markham.

Wrotham Park Gardens.

FLORAL TABLE DECORATIONS AT EXHIBITIONS.

Can anything be done to improve the floral table decorations at our flower shows? I have been decorator, or assistant, for the past sixteen years in some of the best private establishments in the country, and have attended the principal shows; but at the latter I have hardly seen half a dozen table decorations that I would dare to place on a gentleman's dinner table. I should think 99 out of every 100 exhibitors use what are called rustic or rural stands to place their flowers in. I cannot say arrange the flowers, because the exhibitor simply fills the tubes that are distributed about the devices. But has any decorator of repute ever seen anything approaching these metal constructions in any mansion?

I was an exhibitor at a local show recently in a class for "best arrangement of sweet peas suitable for a dinner table, 4ft. by 3ft." I was the only one who used vases, and I arranged my exhibit about eighteen inches high at the highest point. All the other competitors used the articles referred to above, and the first prize was awarded to a display between three and four feet high, and with not six inches of space between any flowers or foliage from end to end. Would any decorator in a good establishment be bold enough to place the like on a dinner table in his charge? May I say I am not disappointed with the awards. I told my employer previously that the judges would not look at a table as arranged for a private house. It was solely to try and improve the public taste that I entered the competition.

Now, the object of my remarks is this. Practically every young gardener goes to a show to add to his knowledge and become acquainted with plants, fruits, etc., he is not familiar with, and to pick up fresh ideas. Of all the branches of his business he is expected to have experience in later on, dinner-table decoration is one he has least opportunity of practising, for the simple reason that a decorator or foreman makes this his personal charge, and it is only with his consent that a journeyman is allowed in the room while the work is being done. Thus it is that the only insight the majority have of decorated tables is at our flower shows, and where is the dining-room in a large house where a rustic stand would be tolerated? If glass or china vases (silver is not always used) are good enough for the nobility, why not for the show tent? Will some employers and other decorators give their views on present-day floral decorations for competition?

E. B. Wise (Foreman).

Swinfen Hall.

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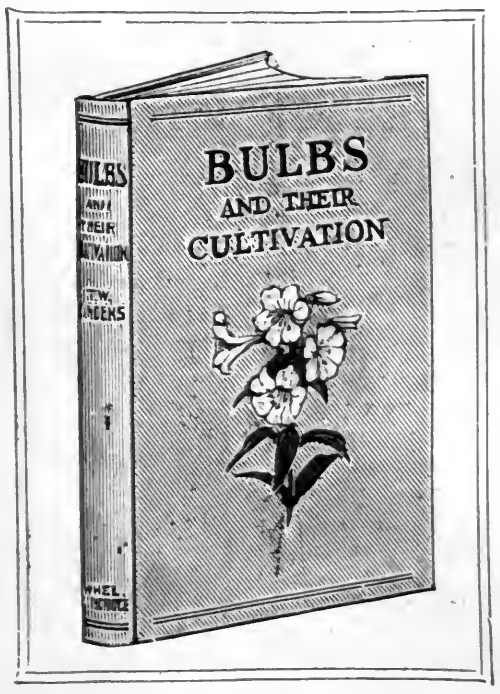

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NOTES FROM SCOTLAND.

The Drought.

Not for many years has such a protracted drought been experienced in Scotland as that prevailing at the present time. In many districts not an inch of rain has been recorded during the past six weeks, the last four of which in the Glasgow district have been almost rainless. Throughout generally bright, warm weather has been the rule, and as a consequence the soil is dry and contracted to an extent seldom witnessed in the northern kingdom.

Drought Effects upon Fruit Crops.

Strawberries were well advanced ere the want of moisture was very seriously felt, and the crop in general gathered in the best possible condition, and with a minimum of loss and anxiety to the grower. Moreover, fair prices were maintained, as at no period was there anything approaching a surfeit of produce at one time. Notwithstanding this, well-founded complaints have been made by growers at the great disparity of the market returns and the charges made in the retail trade, which indicate that the greater proportion of the profit connected therewith is annexed by the latter. On the other hand the retailer has bitterly complained of short weight in the bulk supplies delivered to him, these having compelled him to charge a higher price to recoup himself for the losses sustained from this cause.

Raspberries, which promised so well in June, have not realised expectations, the latter portion of the crop being very much curtailed through the drought. On raised or shallow soils the plants at present bear a very poor appearance, as the current year's shoots are making but little progress, hence the crop prospects for the succeeding season are not viewed with complacency.

Bush Fruits.

Gooseberries, taken all over, are a variable crop, in some parts plentiful, in others quite the reverse. Fruiterers, however, have been well supplied with the immature as well as, at present, with the ripe fruits, and the quality in general has left but little to be desired.

Some few years ago it was feared that the black currant would become well-nigh exterminated owing to the ravages of the well-known bud disease, as in some districts extensive plantations were rendered useless through its attack. Perseverance in cultivation, and probably remedial measures taken, have to some extent at least dispelled such fears, and supplies of fruit seem now to be as plentiful as formerly, while the quality is generally a fair average.

Black currants are largely in demand in Scotland, and full value is always easily obtained for the produce. So much is this the case that one might be pardoned for expressing surprise that larger areas of suitable land are not devoted to their culture, seeing that the cost is considerably less and the attendant risks (disease apart) smaller than in the case of most other fruits. The red variety, on the other hand, apart from the larger households, is not much in request, and is used to give sprightliness or tone to other fruits rather than as a preserve separate by itself.

Apples, Pears, and Plums.

The crops of these, which comprise the bulk of the orchard fruits of Scotland, can only be described as very moderate, the two last-named particularly so, and in some places, even where provided with efficient wall space, the crops of both are failures. Apples are variable, the most fruitful being the early-maturing varieties, as Keswick Codlin, Lord Suffield, Golden Spire, Domino, The Queen, Stirling Castle, and Lane's Prince Albert. In the same order the earlier dessert varieties present a much better appearance than do those of mid-season, or later, but why such should be is difficult to comprehend. Taken in its widest scope, the home supply of apples, so far as the northern portion of the kingdom is concerned, will not be heavy, though the size and quality may be very good.

James Day.

THE AVENS, OR GEUMS.

Of considerable decorative value are the various species and varieties of geums, and happily they are represented in most gardens. In addition to being very accommodating in their cultural requirements, they possess a continuous flowering habit, or, at any rate, blossoms are produced in rapid succession over a considerable period. Further, the habit of the plant is elegant and pleasing, and its behaviour is everything that can be desired in town gardens and congested areas.

The best results are obtained where the soil is of a loamy and retentive nature, and, in view of the fact that they are impatient of drought at the roots, it is advisable to mulch with manure in the early part of the season. In order to maintain rude health and vigour it is necessary to divide the plants once in three or four years, and I would advise that new sites be found for them on each occasion. I have noted colonies doing remarkably well in shady spots in the country, but they are a dismal failure when given shady positions in city gardens.

The geums are easily and readily raised from seeds, and the plan adopted by the writer is to form a shallow hotbed in a sheltered spot in the nursery ground, and here sowings are made in April of hollyhocks, potentillas, geums, hybrid gaillardias, Coreopsis grandiflora, sweet williams, foxgloves, and other hardy plants, and immediately the frames are cleared of bedding plants large batches of seedlings of each kind are planted therein. The lights, of course, are not required, and by the end of the season splendid plants are produced which go through our smoke and chemical-laden atmosphere unscathed, and yield a great wealth of flowers.

In speaking of the best geums for garden work, the newcomer, Mrs. J. Bradshaw must be given first place. It is a fine acquisition in a beautiful and soft scarlet shade, while the individual flowers are of fine proportions. Following closely to the foregoing is G. chilense fl. pl., which is perhaps best known as G. coccineum plenum, which produces semi-double flowers of an extremely brilliant shade of scarlet. Both G. miniatum and G. Heldreichi give us similar colouring, and are of great merit, while a variety of the last-named bears yellow flowers, and is known as G. H. luteum. We also obtain yellow colouring in G. montanum, and its variety aurantiacum, and then we have G. Eweni, whose orange blossoms are produced over a long period. What may be termed an art shade is found in G. hybridum, which attains to a height of 3ft., and, although this is not intended as an exhaustive list, it represents the best for garden decoration. Several species and varieties are of botanic interest only. Walter H. Aggett.

Gilia coronopifolia.—Whether indoors or out, this biennial species of gilia attracts attention by reason of the soft scarlet hue of its flowers, which are borne on erect spikes. For this reason it has made great headway in popular favour within the last few years.—W.

WINTER SPINACH.

Few of our winter green crops are more appreciated than spinach, yet it does not always receive the attention necessary to ensure success. It should be remembered that vegetation is very slow in winter, and unless plants have made good headway before the severe weather sets in it is impossible for them to make growth when the ground is frozen and covered with snow. Spinach does not require a very high temperature to induce growth, but no plant, even of the hardiest nature, can grow when the conditions are so adverse, as frequently happens during our winters; for this reason growth should have been made beforehand, when, if not too sappy, the leaves will remain fresh, and in otherwise good condition, during the greater part of the winter.

To grow good spinach the seeds should be sown fairly early in August, so as to allow ample time for the plants to develop themselves slowly. It is not advisable to have the soil too rich for this crop, though there must be sufficient fertility in it to promote a healthy growth. On cold heavy soils, and in low, damp situations, the plants suffer more in winter than they do on high, dry, and light gravelly ones. Therefore, in damp situations, the highest and driest places should be chosen for the crop. The soil ought to be well tilled to let the long tap roots descend readily, but if too rich there will be a superabundance of luxurious leaves that will be cut down by the first severe frost.

The seeds should be sown in drills about fifteen inches apart, and when the plants have made three or four rough leaves they should be thinned, leaving them about four inches from each other in the row. A second thinning may take place later, finally leaving them about eight inches apart. These second thinnings may be found useful in the kitchen, as the foliage will then be large enough for cooking, but should they not be required for that purpose, they ought to be pulled up and thrown away, so as to allow the remaining plants ample space. The foliage made should be as sturdy as possible, otherwise it will be too tender to withstand the frost.

Gathering the leaves for use needs great care; to strip the plants promiscuously, as is often done, is a great mistake; the outer leaves only should be removed, leaving all the others to become more fully developed, and if this method was followed generally we should hear of fewer failures than is now the case. As previously pointed out, spinach on dry soils and in elevated situations stands much better than in low and damp places. This being so, in some seasons it is necessary to afford the plants some protection where they are likely to suffer seriously in heavy soils. A few spruce boughs stuck into the ground on the north and east sides of the plot will often break the force of cold winds, and thus save the crop, which is a matter of no small importance.

There has been much controversy of late as to which is the most hardy, the prickly or the round-seeded spinach, but having grown both side by side I have found little, if any, difference between them. The round-seeded form is usually sown in January for an early crop, and the weather is often as severe after that date as at any time during the winter, yet this has no effect on the small plants. Therefore, whether the prickly or round-seeded forms be grown, it is always essential to allow the plants ample room to fully develop their leaves. H. C.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

INCREASING STOCK OF COOL ORHIDS.—There are many cases in which it is desirable to increase the stock of odontoglossums, odontiodas, oncidiodas, masdevallias, and other cool house orchids, and the potting season affords a good opportunity for the purpose of making divisions. In the case of odontoglossums, odontiodas, oncidiodas, and allied genera, it is a good practice to sever the rhizome between the pseudo-bulbs some weeks before for repotting plants of those kinds from which increased stock is desired. It is generally considered now that the back pseudo-bulbs, which have shed their leaves, obtain their sustenance from the more active portions of the plants. Thus in many cases, if they are not removed by severing the rhizome, they become a strain on the developing growths, and these in consequence are generally found to be more or less retarded or stunted. There is no reason why the divisions of the pseudo-bulbs should not be effected, for even if it is not desirable to increase the stock of plants, it is generally the aim to produce nice specimens. As the only means of increasing the leading growths of many plants is by making these divisions, no opportunity should be lost in effecting them some time previous to repotting. When the division is made it will usually be found that the new growths from the divided pseudo-bulbs will have commenced, and they may thus be potted at the time when the repotting is in progress; and, as most of the growths produced form fresh roots at an early stage of development, with ordinary care they soon become established in the new potting compost. The pots used should be of just sufficient size to contain the plants comfortably, using ample drainage and a good open compost. Plants that require immediate repotting, and have numerous leafless pseudo-bulbs, these latter may be cut off at the time of repotting. It is best to place these bulbs in a dry, airy position for a few days, after which they may be laid on a bed of chopped sphagnum moss, or placed in small pots with little potting compost about them. The same method may be applied to pseudo-bulbs that have been previously severed and have not produced new growths at the time of potting.

MASDEVALLIAS and other tufted-leaved kinds are divided at the time of repotting. It is generally found when repotting the large-flowered section of masdevallias, especially in the case of large specimens, that they have become hollow from loss of leaves in the centre. To convert them into good specimens again, the only thing that can be done is to divide them and arrange the growths towards the centre. Small pieces not required for making up the specimens may be placed in suitable sized pots. Masdevallias do not require a deep root run, being practically surface-rooting. As they require a liberal supply of moisture at all seasons of the year, ample and clean drainage must be given. No stagnant water must remain about the plants at any season.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

WINTER-FLOWERING GESNERAS. — Plants of Gesnera refulgens and G. exoniensis, raised from corms put singly in three-inch pots as previously recommended, will by this time be ready for shifting into their flowering pots—six-inch for the larger and five-inch for the weaker will be found the most suitable. The compost should be the same as previously advised, but be used in a rougher condition. After repotting place a neat stake to each plant, and stand them, if possible, on a damp surface within a warm pit; syringe daily in bright weather, and until well rooted water sparingly that the soil does not become soured. For the next few weeks shading from bright sunshine will be necessary.

CENTROPOGON LUCYANUS. — Plants should not be stopped after this date, but must be given ample room, for, in addition to the growths from the head, they will throw up several strong shoots from the base which will carry fine racemes of flowers. Great care must be exercised in watering, for, while they should not be allowed to suffer from drought, they must not be overwatered; when this happens they quickly assume a sickly appearance, and good flowers are out of the question. They should at present be growing in an intermediate house, but they must be transferred to stove conditions before the damp autumn weather commences.

ISOLOMA HIRSUTUM.—If not already in their flowering pots the plants should be shifted without delay. Pinch out the point when the plants are about six inches in height, which will be sufficient to produce good bushy examples. Place under similar conditions to those recommended for gesneras.

EUPHORBIA FULGENS (SYN. JACQUINIÆFLORA).—With the commencement of September the house in which this species has been growing will probably be required for housing plants from frames while the euphorbias will also need a house where warmer conditions may be applied. A pit used recently for melon culture will provide a suitable place. If not already done, a stake should be placed to the plants as they are moved, and this should be of such length as to allow a graceful curve to the upper part of the growths. A little food will assist greatly from now, but it must be used carefully. Damp down frequently in bright weather, syringe lightly occasionally. A thin shading during the brightest part of the day will be necessary for three or four weeks longer. Poinsettias will require very similar treatment.—H. Prime, Hatfield Gardens.

FRUITS UNDER GLASS.

PINES.—Plants that are swelling their fruits will now require careful attention to keep the soil in a moderate state of moisture. Do not give them too strong doses of liquid manure as the sun declines in power, and use the syringe with caution on swelling fruits, otherwise the crowns will develop to a large size. Let the temperature be about 80 degrees at 10 p.m., falling to 70 degrees at daybreak, sprinkling the paths and plunging material on the morning and evenings of fine days.

SUCCESSIONS.—The plants of Queens that are intended for starting early next year may be maintained in a progressive state a little longer, but a certain amount of rest being essential to a good start into growth, they should be induced to rest by gradually reducing the water, lowering the temperature, and giving a freer admission of air on all favourable occasions. Cease overhead syringings and sprinkle the paths and other surfaces. Maintain a temperature of 70 degrees at 10 p.m., falling to 65 degrees in the morning. Growing stock should be kept steadily moving until growth is fully made, which to the experienced eye is easily perceptible.

FIGS.—The weather for some time has been of a favourable character for the production of this luscious fruit, the temperature having been maintained without the use of much artificial heat. Where the trees that fruited early are producing their second crop of fruit, the atmosphere will have to be kept much drier than was recommended for the trees when swelling their crop. It must, however, be remembered that excessive dryness causes red spider to put in an appearance. When the fruits which are ready are picked, a good syringing may be given the trees, and the night temperature maintained at about 75 degrees with ventilation. Where the trees are grown in tubs or pots liberal supplies of weak liquid manure must be given to assist them to finish their crops. Strip off all late fruits that appear, and any trees that require shifting should be seen to as soon as they have finished fruiting. Guard against overpotting, once in two years being sufficient if all has gone well. Use good turfy loam, with lime rubble and a fair sprinkling of bone-meal, and see that the drainage is efficient.

STRAWBERRIES.—Plants that were in a condition to be potted in July will have now well filled their pots with roots, and a little weak liquid manure may be given them twice a week. Do not overcrowd them, but let them stand clear of each other. Keep the pots clear of weeds, and pick off all runners as they appear. Look over duplicate crowns and reduce to one, and raise the pots on boards or trellises should the weather be wet.—F. Jordan, Warter Priory Gardens.

THE FLOWER GARDEN.

BORDER CARNATIONS.—Layers of carnations that were put down in July will now be rooting freely, and the most forward can be severed from the old plants, making them self-supporting. Preparations for planting must now be considered, as directly the young plants are ready nothing should delay this operation, thus giving them an opportunity to become well established before winter. The practice of providing a change of ground each season is well worth adhering to whenever it can be arranged, especially so in districts not particularly suited to carnation culture. The soil should at all times be deeply worked, and if it is of a heavy, retentive nature an addition of burnt earth and wood ashes will give better results than by digging in manure. To very light sandy soil must be added materials that will assist in retaining moisture, such as good stiff loam, and well-rotted cow manure.

HERBACEOUS PÆONIES.—Once established, pæonies usually flourish a number of years without being disturbed, provided they receive a mulch, or the assistance of dressings of well-decayed manure each season. At times it becomes necessary to replant owing to their becoming overcrowded, or some other cause. It is generally supposed that at least a season's flowers must be forfeited by doing so, but this is not the case should the operation be carried out at the right time, and in a proper manner. The first opportunity from this date should be taken advantage of to proceed with such work, as their foliage at this period is becoming matured, and their roots less active than at any other period. The soil should be in a moist condition at the time of planting. Every care must be exercised in lifting the plants to avoid injury to the roots, and to retain soil about them.

PROPAGATING SUMMER BEDDING PLANTS.—Numerous kinds of summer bedders require propagating at this time to provide either individual plants for another season, or stock plants from which to obtain cuttings early in the year. As many of them are tender, it is advisable not to delay the operation until there is a risk of injury from early frosts. Heliotropiums, iresine, lobelias, lantanas, coleus, ageratum, etc., should be placed in a close pit having a brisk bottom heat. Cuttings of pentstemons and marguerites should also be rooted, but a cold frame containing sandy soil from which frost can be excluded will be found most suitable for them. The cuttings, if not inserted too thickly, can remain undisturbed until early spring without fear of injury from overcrowding.—T. B. Field, Wych Cross Place Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

AUGUST 26.

This meeting, like its two predecessors, was somewhat small as the exhibitions held at Vincent Square usually go by comparison. On the other hand, the exhibits as a whole were really fine for the last meeting in August. The outstanding features were the gladioli, the hardy flowers, and the real advent of the dahlias; while the collections of fruit denoted early autumn.

FLORAL COMMITTEE.

Messrs. Dobbie and Co., Edinburgh, had a fine exhibit of collarette dahlias, arranged in a light style with gypsophila, asparagus, and tamarisk. Fine bold masses of Buckingham, Holyrood, Princess Louise, Balmoral, Meteor, Queen Anne, May, and Goldstern were to be seen, and were certainly the most distinct in this now well-known section.

From Messrs. John Piper and Sons, Bayswater, came an attractive exhibit of pæony-flowered dahlias. These were arranged in large vases, with sprays of elm foliage. The most striking varieties were Cæsar, Hortulanus Budde, Liberty, Germania, Warrior, and Hortulanus Witte. The flowers had evidently been cut too early, for there was a dullness not usually associated with this section.

Messrs. Kelway and Sons, Langport, had a large exhibit of gladioli, beyond a doubt the best effort of the firm this season. The beautiful hybrids of G. primulinus were greatly admired, the yellow and apricot shades being especially good, as were also fine vases of Duchess of Somerset, Golden Ray, Taddes, Langport Queen, Duke of Richmond, Queen Maud, and Marie Studholme. The whole exhibit was delightfully fresh and bright.

A magnificent group of double begonias came from Messrs. Blackmore and Langdon, Twerton Hill Nursery, Bath. Not only were the flowers large, but each plant was carrying plenty of flowers. A few of the most striking were R. F. Awdry, Mrs. R. Norton, Mrs. A. S. Hitchins, Mrs. J. B. Blackmore, Mrs. Peter Blair, Grand Monarch, Irene Tambling, and Lady Dorrington. A few single frilled varieties were also very fine. The entire exhibit was well arranged with suitable foliage plants. Mention should also be made of the bedding varieties.

Messrs. Barr and Sons, King Street, Covent Garden, had an interesting display of hardy flowers. The vases of Nepeta Mussini, Salvia virgata nemorosa, and Statice Lavender were the objects of much attention, as were also the lupines in a variety of art colours, while a collection of gladioli included La Nuit, a deep blue variety; Royal Purple, Madame Mounet Sullay, Afterglow, Negro Prince, and America. A fine feature were the Lilium tigrinums in three varieties in splendid condition.

From Messrs. Carter Page and Co., 52 and 53, London Wall, came a very bright collection of dahlias, which embraced the cactus, pæony, single, and collarette types. The latter were very bright, especially the varieties Giant de Lyon, Madame E. Wauters, and Holyrood. In the singles Union Jack was most striking, while the best of the cactus varieties were Florid, Dr. Roy Appleton, and Mary Purrier.

Mr. A. F. Dutton, Iver, Bucks, staged an attractive display of his carnation novelty, Mrs. A. F. Dutton. The blooms were arranged in huge baskets with asparagus, and presented a delightful appearance. The variety was certainly in its top form, the colour being especially good.

Mr. A. Perry, Hardy Plant Farm, Enfield, presented a fine group of Achillea Perry's White, which were arranged in deep bays, relieved by semi-circular groups of delphiniums. There is no doubt as to the merits of this achillea, which will undoubtedly become a great favourite for cutting purposes.

Messrs. Whitelegg and Page, Chislehurst, were represented by a table of hardy flowers, in which were noted some nice hardy fuchsias, tall stands of Lilium tigrinum, L. speciosum, L. speciosum magnificum, and L. speciosum album.

Mr. Jas. Box, Lindfield Nurseries, Haywards Heath, arranged a splendid display of hardy flowers on the floor of the hall in his well-known style. Huge clusters of phloxes amply displayed the value of these flowers in the border, the most conspicuous being Widar, Glorie de Marc, Baron von Dedom, Albert Leteur, and Hodur, all more or less new varieties, while gladioli were equally conspicuous, especially Baron Hulot, Hollandia, White Excelsior, and America. Montbretias were also very good. Border flowers also came from Mr. G. Reuthe, Hardy Plant Nursery, Keston. The ericas were a feature here, as were also hardy cyclamen. Desfontainea spinosa was also flowering freely, while a collection of alpine plants in pots seemed a source of attraction to some of the visitors.

Messrs. S. Low and Co., Bush Hill Park, exhibited a small group of Chironia baccifera in fine condition, the plants being well flowered and developed.

Messrs. W. Cutbush and Son, Highgate, staged a fine exhibit of gladioli and pentstemons, with a separate collection of antirrhinums.

Mr. A. Ll. Gwillim, Cambria Nursery, Sidcup, staged both double and single tuberous begonias, the doubles being excellent. Begonias were also splendidly staged by Messrs. T. S. Ware, Lim., Feltham, the exhibit making a fine bank in a foil of maidenhair ferns, abutilons, and grasses. The best begonias were Lady Cromer, still the finest of its colour; Dorando, R. H. Whitelaw, Mrs. P. Blair, and Lady Dorrington; at the same time no doubt there were numbers equally good.

Mons. Jules Ragot, 211, Rue Lafayette, Paris, staged some nice novelties in his collection of gladioli; the weird colours of Mons. Picot and Iris were quite new to the flower, while other fine varieties were Jean Ragot, and Madame Bienfait; the seedlings included some fine hybrids of G. primulinus.

Phloxes were well staged by Messrs. W. Wells and Co., Merstham, who had excellent examples of Selma, Iris, Mons. Kind, Dove, Glorie du Marc, and Distinction.

Messrs. J. Cheal and Sons, Lim., Crawley, Sussex, staged some very fine dahlias, which embraced all sections. The singles were, however, a splendid feature, the best being Leander, Leopold, Glencoe, Marion, Aurore, very fine; the pompon cactus were exhibited in their true form, and were a source of attraction. The new single variety, Crawley Star, was once more in evidence, and was greatly admired for its colour and decorative value.

Messrs. J. Veitch and Sons, Lim., Chelsea, staged a beautiful collection of streptocarpus in pots, the seeds being sown in February, 1913. The colours ranged from pure white, through pink, rose, blue, and violet shades. The plants were splendidly developed in such a short period. Hardy flowers came from Messrs. T. S. Ware, Lim., and included some good examples of Crinum Moorei, pentstemons in variety, phloxes, and the double gypsophila.

From Messrs. R. Wallace and Co., Colchester, came a fine collection of montbretias, with a few bunches of kniphofias in the rear. The montbretias included such varieties as Westwick, the yellow King Edmund, Prometheus, Germania, Star of the East in grand style, Lord Nelson, and Lady Hamilton.

Messrs. Jas. Cocker and Sons, Aberdeen, staged blooms of their new rose, Mrs. Andrew Carnegie, a fine deep form of Scabiosa caucasica named Magnifica, and Potentilla atrosanguinea Cocker's Scarlet. From Messrs. Jas. Stredwick and Son, St. Leonards-on-Sea, came some good seedling dahlias of the cactus type.

Messrs. H. B. May and Sons, Lim., Upper Edmonton, staged a miscellaneous exhibit of ferns, aloiasias, Ixora Fraseri and I. Williamsi being well flowered in five-inch pots; while a group of Croton Edmontoniense were beautifully coloured and developed. Tall plants of Selaginella cæsia arborea were taking on their autumn tints, which were most striking.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. G. Bunyard and Co., Lim., Maidstone, exhibited about fifty dishes of apples and pears. The best of the former were Gold Medal, No Surrender, Norfolk Beauty, Ben's Red, Lady Sudeley (splendidly coloured), Maidstone Favourite (fine specimens), Emperor Napoleon, and Rev. W. Wilks. The pears were good examples of Triomphe de Vienne, Clapp's Favourite, and Souvenir du Congrès.

Messrs. Bakers, Wolverhampton, staged a very good display of vegetables up to exhibition form. The background was made up with huge mounds of Seakale beet, Lyon leeks, Autumn Giant cauliflower, and Celery Clayworth Prize Pink. The Ailsa Craig onions, too, were excellent, as were also the various types of carrots, tomatoes, potatoes, and cucumbers. The arrangement was distinctly good and attractive.

Messrs. S. Spooner and Sons, Hounslow Nurseries, Hounslow, exhibited a nice collection of fruit, which embraced some fine baskets of apples, including Grenadier, Stirling Castle, Lord Suffield, Duchess Favourite, and Lady Sudeley. Blackberries and the fruit of the strawberry-raspberry were also on view.

Mr. C. E. Baring Young, Oak Hill Park, East Barnet (gardener, Mr. J. G. Walker), sent some well-grown peaches, nectarines, pears, and plums. These would have been more interesting to the visitors had they been named.

Messrs. Bucks, Tresco Nursery, Ipswich, exhibited their new tomato Buck's Tresco, which they exhibited in the bunches as gathered; also individual fruits.

ORCHID COMMITTEE.

Messrs. Sander and Sons, St. Albans, staged a small group which included Cattleya Davisi, C. Pittiana var. Colossa, with three fine flowers; some fine forms of C. Atalanta, with Lælio-cattleya Invincible, a fine variety with a rich velvety purple lip; L.-c. Phœnix, a good dark form; while a plant of Vanda Sanderiana, with nine developed flowers, was most attractive, as were Odontoglossum armainvilliersense album and Lycaste hybrida.

Messrs. Jas. Veitch and Sons, Lim., Chelsea, contributed a display rich in Lælio-cattleyas, such as L.-c. callistoglossa, L.-c. Gertrude, L.-c. Ettrick, a fine large flower; also well-flowered plants of Odontoglossum grande, some carrying eighteen flowers, with odontoglossums chiefly of the crispum type.

Messrs. Armstrong and Brown, Tunbridge Wells, staged a fine group of Lælio-cattleyas, which included fine specimens of L.-c. Bletchleyensis, L.-c. eximia, Orchidhurst var., a large, handsome form; L.-c. Geo. Woodhams, L.-c. Baroness Schröder, also some fine forms of Cattleya Hardyana.

Mr. Pitt, Rosslyn, Stamford Hill, N., staged a small exhibit in which were noted some good cypripediums, Miltonia Bleuana, Cattleya Venus, and Brasso-cattleya Thwaitesi. From Messrs. Hassall and Co., Southgate, came a small group of orchids, in which was noted a fine specimen of Cypripedium A. de Lairesse, with six fine flowers; Cattleya aurea was also good and numerous, as were also plants of Cattleya Hardyana, Odontoglossum Uro-Skinneri, and Cattleya Gaskelliana alba.

Messrs. Charlesworth and Co., Haywards Heath, also staged a small group. The chief features were well-flowered plants of Vanda cærulea in fine colour, Odontoglossum Phœbe with two beautiful spikes, a fine example of O. Armainvilliersense Xanthotes and the quaint Paphinia cristata.

Sir J. Coleman, Bart., Gatton Park, Surrey (gardener, Mr. T. Collier), staged a few plants, which included a charming example of Ornithidium sophronites covered with flowers; also Brassia brachiata, Lælia monophylla, and Pleurothallis velaticaulis.

MEDALS AND AWARDS.

First-class Certificates.—To Baron Bruno Schröder, Englefield, for Brasso-lælio Cattleya The Baroness; to Mr. J. Gurney Fowler, for Odontioda Cruyensis var. Eileen.

Awards of Merit.—To Mr. W. Waters Butler, Edgbaston, for Cattleya Hardyana Mrs. Waters Butler; to Messrs. Armstrong and Brown, Tunbridge Wells, for Lælio-cattleya Marquis de Waverin var. Orchidhurst; to Messrs. Jas. Veitch and Sons, Chelsea, for Lælio-cattleya Ettrich; to Messrs. G. Bunyard and Co., Lim., Maidstone, for apple Maidstone Favourite; to Messrs. R. Veitch and Sons, Exeter, for potato Great Scot; to gladioli Lady Faire, Lady Northcote, and Mrs. Bromet, all from Messrs. Kelway and Son, Langport; to Messrs. J. Cocker and Son, Aberdeen, for rose Mrs. Andrew Carnegie, and for Scabiosa caucasica magnifica; to Mr. S. Morris, for montbretia Queen Adelaide; to Messrs. Dobbie and Co., Edinburgh, for chrysanthemum Improved Northern Star.

The following awards were made by a joint committee of the Royal Horticultural Society and the National Dahlia Society: To Mr. H. Shoesmith, Woking, for cactus dahlia Lily Reed; to Mr. Chas. Turner, Slough, for pæony dahlia Aphrodite; to Messrs. Dobbie and Co., Edinburgh, for collarette dahlias Tuscan and Prince of Orange; to Messrs. J. Cheal and Sons, Lim., Crawley, for pompon dahlia Regulus; to Messrs. Barr and Sons, Covent Garden, for potato Irish King and tomato Lightning.

Silver-gilt Flora.—To Mr. J. Box, Lindfield, for phloxes, etc.; to Messrs. J. Kelway and Son, Langport, for gladioli.

Silver-gilt Knightian.—To Messrs. Baker, Wolverhampton, for vegetables.

Silver-gilt Banksian Medals.—To Messrs. Blackmore and Langdon, Bath, for tuberous begonias; to Messrs. T. S. Ware, Lim., Feltham, for tuberous begonias; to Messrs. G. Bunyard and Co., Lim., Maidstone, for collection of fruit.

Silver Flora Medals.—To Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. Jas. Veitch and Sons, Lim., Chelsea, for orchids; to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Mr. A. F. Dutton, Iver, Bucks, for carnations; to Messrs. R. Wallace and Co., Colchester, for montbretias; to Messrs. Dobbie and Co., Edinburgh, for collarette dahlias.

Silver Knightian Medal.—To Messrs. S. Spooner and Sons, Hounslow, for a collection of fruit.

Silver Banksian Medals.—To Messrs. W. Cutbush and Son, Highgate, for gladioli; to Mr. A. L. Gwillim, New Eltham, for begonias; to Messrs. H. B. May and Sons, Upper Edmonton, for miscellaneous plants; to Messrs. Carter Page and Co., London Wall, E.C., for dahlias; to Messrs. W. Wells and Co., Lim., Merstham, for phloxes; to Messrs. Whitelegg and Page, Chislehurst, for hardy flowers; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Hassall, Southgate, for orchids; to Mr. Pitt, Stamford Hill, N.E., for orchids.

Bronze Flora Medals.—To Mons. Jules Ragot, Paris, for gladioli; to Messrs. Barr and Sons, King Street, Covent Garden, for hardy plants.

Bronze Banksian Medals.—To Messrs. J. Cheal and Sons, Lim., Crawley, for dahlias; to Messrs. J. Piper and Son, Bayswater, for pæony dahlias; to Mr. L. R. Russell, Richmond, for hardy heaths; to Mr. C. E. Baring Young, East Barnet, for hardy fruit.

SCIENTIFIC COMMITTEE, August 12.

Present: Mr. E. A. Bowles, M.A., F.E.S., F.L.S. (in the chair), Messrs. J. Fraser, A. Worsley, E. M. Holmes, and F. J. Chittenden (hon. sec.), with Mr. R. Farrer, visitor.

AGAPANTHUS WEILLIGI.—Mr. Worsley showed a specimen of this beautiful species of agapanthus, which he had obtained from Holland. It was admirably illustrated in our issue of August 23.

DOUBLE CINERARIA.—Mr. Worsley also showed heads of a cineraria with proliferation similar to that seen in the "hen and chickens" daisies, but with the separate capitula more congested. He remarked that this type of doubling often occurred in forms that normally bear single flowers when they blossom in summer, as in the present instance, and that the normal type would be resumed later on.

SAXIFRAGA FLORULENTA.—This curious species of saxifraga was sent by Mr. Chaplin, of Great Amwell, Ware, in whose garden it had flowered. It was collected by him, and had apparently been growing in shade in cultivation, though it appears to grow alike in sun and shade in its home in the Maritime Alps, where it occurs at high altitudes. It has, perhaps, only once before flowered in this country, when it received a first-class certificate in June, 1872, when shown by Mr. Maw. Its foliage is more attractive than its flowers.

RUBUS DISCOLOR DOUBLE-FLOWERED.—Mr. Chittenden showed from a correspondent at Haywards Heath a beautiful pink-flowered form of the common bramble, with double flowers. It had been found in a hedge, and apparently wild. Several such forms are in cultivation.

XANTHORRHŒA AUSTRALIS. — Mr. E. M. Holmes showed the lower part of the leaf-rosette of this plant, which is now being imported for cattle food on account of the sugar it contains.

APHIS ON PICEA.—Some shoots of the Piceas pungens glauca and magnifica were sent from Lexden attacked by the large aphis which has been so prevalent this year and last on these trees in several parts of the country, and has worked great damage to them. Mr. Chittenden said that several trees had been attacked at Wisley, but the insects had all been killed by one thorough spraying with "Niquas" in May, and the trees had quite regained their beauty. The winter is passed in the egg stage, and spraying should be resorted to as soon as the insects hatch out in spring, any wash containing nicotine being useful.

APPLES SHOWING GLASSINESS.—Some specimens of the apple Lord Derby were sent from South Devon, from some cordon trees, and showed the curious phenomenon known as glassiness in a marked manner. The cause leading to this peculiar condition is so far unknown, though frost is often credited with it. It is evident that in this, and in several similar cases that have recently come to our notice, this cause cannot have been acting.

CROWN GALL.—Mr. H. T. Gussow sent a cultivation of the Bacterium tumefaciens, which Dr. Erwin Smith has shown to be the cause of the disease known as Crown Gall. This disease attacks a large variety of plants, producing large swelling, generally of a soft nature, on the roots and lower parts of the stems, and in America is frequently credited with doing damage to the plants attacked. The committee would be glad to learn whether any serious results have followed the occurrence of such swellings on the roots of plants. Instances of their occurrence have been brought to our notice on apple, plum, birch, cherry, peach, carnation, marguerite, blackberry, loganberry, and cupressus.

Shrewsbury Floral Fete.

The following notes concerning the trade displays at Shrewsbury on August 20 and 21 were unavoidably held over from our previous issue.

We need add nothing to the following extract we made from Mr. S. T. Wright's judging book in connection with the trade displays: "During the many years I have had the honour of judging at this show the trade exhibits have never been better, and they show a marked improvement in staging and quality, both individually and collectively. I congratulate the society upon such a magnificent lot."

The great feature of Messrs. R. Wallace and Co.'s exhibit from Colchester was a grand lot of montbretias. Star of the East was a sheet of glorious gold, and Germania, Lord Nelson, Comet, and Pageant were each exquisite and desirable. Messrs. Wallace also showed a few good liliums and a select lot of gladioli and phloxes, whilst remarkable for the season was a good bunch of Iris germanica Mrs. Alan Gray. King's Acre Nurseries, Hereford, made a splendid exhibit of fruit trees in pots, which were loaded with fruit of tip-top quality. Lady Sudeley and Chas. Ross apples, Marguerite Marrillat and Duroudeau pears, and a splendid tree of Peach Exquisite were particularly noteworthy; whilst Gloria Mundi apples were of remarkable size. Grapes, plums, nectarines, and other fruits helped to make up a grand exhibit.

Among the exhibitors of sweet peas Messrs. Geo. Fairbairn and Sons, Botcherby, Carlisle, were well to the fore with a big stand, on which such things as Audrey Crier, Safrano, Lady Cynthia, and a host of other nice varieties were shown in grand bunches. Mr. Henry Eckford, Wem, Salop, also occupied a lengthy stage with sweet peas of quality and variety that upheld the fame of this great sweet pea house.

The Clury Nurseries, Langley, Bucks, showed a big group of perpetual carnations, put up in bamboo stands, the varieties including most of the more popular varieties in commerce. An exhibit of the strawberry-raspberry was put up by Mr. B. Bowdler, 33, New Street, Shrewsbury. Messrs. Jones, Kilkenny, Ireland, showed gladioli in good form. Zonal pelargoniums from Mr. A. Myers, Sutton Lane Nurseries, Shrewsbury, provided a splash of vivid colour. Hardy perennials were effectively staged by Messrs. Dicksons Lim., Chester. Romneya Coulteri, Iceland poppies, late spikes of delphiniums, and bright montbretias were backed up by some great sheaves of Lilium auratum, and its varieties rubro vittatum and platyphyllum, and there were also a number of fresh roses on the stand.

Messrs. Jones and Sons, Coton Hill Nursery, Shrewsbury, occupied their usual position immediately in front of the entrance to the big fruit tent, and on an extensive double-fronted stage they displayed sweet peas, carnations, gladioli, and a variety of annual and perennial flowers, and a large bed of violas on the ground contained useful bright-coloured sorts of close habit and freely flowered. Messrs. Hobbies, Lim., Norfolk Nurseries, Dereham, filled one of the bays in the fruit tent with a varied and pleasing assortment of dahlias and garden roses. Rayon d'Or was very rich, and so also was The Lyon. Beauté de Lyon was one of the newer things that stood out well. Its coppery tints were very lovely.

Quite in their best form was the large exhibit staged by Messrs. Sutton and Sons, Reading. There was a deal of merit in the vegetables, and their quality was well backed up by the great taste exercised in the staging, the tints of sweet peas, antirrhinums, and other flowers used being just such as provided the best possible setting to the vegetables without detracting in the slightest degree from the individuality of the various dishes. Ailsa Craig onions were represented by some really splendid bulbs. Beans of various colours, yellow, purple, and red, as well as green, golden tomatoes and ruddy red ones, purple aubergines, and showy capsicums, were as gay as many floral subjects in the show.

On the stand of ferns shown by Mr. H. N. Ellison, West Bromwich, there were some good plants of Polypodium glaucum crispum, Nephrolepis Neuberti, Nothoclæna sinuata, and Platycerium grande; but many of the smaller plants were of most interesting varieties. Messrs. Pipers, Bayswater, London, occupied a great length of staging with a creditable exhibit of herbaceous flowers. Lilium tigrinum flore plena, L. Melpomene, and L. auratum made good

mounds of colour between groups of white scabious, Achillea The Pearl, double gypsophila, and a variety of phloxes, gaillardias, and veronicas. At the back were some big masses of the brighter-coloured phloxes and the golden Gaillardia Lady Rolleston.

Pæony-flowered dahlias were also shown by Messrs. Piper, the flowers being massive and of dazzling colour. Messrs. Isaac House and Son, Westbury-on-Trym, showed capital phloxes in rather densely filled vases. Iris, Jocelyn, Jean Gerbaud, Genl. von Strohlein, Pyramide, and Boule de Feu, were a good half-dozen varieties among the many staged. Messrs. House's exhibit of alpine and herbaceous plants was full of merit, there being a large number of rarities, as well as the more familiar denizens of the border and rockery.

Phloxes, pentstemons, and carnations were equally fine on Messrs. John Forbes' stand, the well-known Hawick firm being well up to usual form. Among the phloxes, Salmonea, Muriel Rogers, Europa, and Aurore were a few we liked, and Pentstemons John Ruthven, Thomas Heron, Jessie, and George Horne were very nice. Messrs. G. Gibson and Co., Leeming Bar, Bedale, were large exhibitors of herbaceous flowers, Verbascum Caledonia, Scabiosa caucasica, Geum Mrs. Bradshaw, and Delphinium grandiflorum were prominent vases.

Messrs. Dobbie and Co., Edinburgh, made a feature of collarette dahlias, among which Queen Anne, Frogmore, Prince John, Goldstern, and Balmoral were distinct and good. A fine bank of roses and choice selections of sweet peas made up the firm's exhibit. Mr. Edwin Murrell, Shrewsbury, put up a grand lot of roses chiefly of the newer hybrid teas. Sunburst, Edu Meyer, Edward Mawley, and Hugh Dickson all possessed rich colour, against which Kaiserin Augusta Victoria, Frau Karl Druschki, and Mildred Grant showed up by contrast. An interesting exhibit of cacti came from Miss S. S. Thompson, Alfred Road, Handsworth. The plants were nicely developed specimens of choice mamillarias, opuntias, and phyllocacti, together with echeverias and other interesting succulents.

Messrs. Alex. Dickson and Sons, Lim., Newtownards, Co. Down, made a magnificent display of roses, the stage being devoted to boxes of superb blooms of the best exhibition varieties, a box of 24 blooms of George Dickson being simply grand. There were a series of arches running the whole length of the stand furnished with such good things as Red Letter Day, Irish Fireflame, Carine, and many other gems. Messrs. Dickson and Robinson, Cathedral Street, Manchester, staged choice vegetables, their stand being effectively decorated with groups of carnations, liliums, larkspurs, scabious, etc. The vegetables were clean, well grown, and well shown.

Messrs. Aldersey, Kingsbridge, Devon, showed new varieties of sweet peas, and a variety of choice hardy flowers, including good phloxes, and some good buddleias and ceanothus. A very fine lot of sweet peas was arranged in a tasteful manner by Mr. Robert Bolton, Warton, Carnforth. Barbara was fine in colour, as also were Edrom Beauty and Thos. Stevenson. Queen of Norway and Mrs. E. Cowdy were distinct colours, and Mrs. Hardcastle Sykes was very delicate. Zonal pelargoniums, cactus dahlias, centaureas, and carnations were all well shown by Messrs. Jarman and Co., Chard, who also showed good onions and Prizewinner scarlet runners.

Messrs. Stuart Low and Co., Bush Hill Park, displayed a quantity of their carnation Baroness de Brienen, which, as has been remarked in these pages before, is of fine form and a pleasing shade of pale salmon-pink. Mr. J. E. Knight, Wolverhampton, had a varied and bright collection of carnations in baskets and tubes; and Mr. A. F. Dutton, Iver, confined himself to a display of his fine variety Mrs. A. F. Dutton, the flowers being well arranged in baskets. Messrs. W. H. Simpson and Sons, Birmingham, arranged in round baskets a splendid lot of antirrhinums, each basket being filled with a distinct named variety, there being about twenty in all, and every one a really good one. Colours were bright in Mr. Vincent Slade's zonal pelargoniums. The varieties were of the best, as might be expected from this well-known exhibitor from Taunton. Mr. H. Woolman, Shirley, Birmingham, showed early chrysanthemums, which seemed almost too early for such a summer's day, but still were very nice.

Hardy flowers shown by Mr. Maurice Prichard, Christchurch, contained many things of interest, the gladioli, kniphofias, and the exquisite flowers of Crinum Powelli album being about the most attractive things. Mr. A. W. Thorpe, Lichfield, showed early chrysanthemums; and Mr. Vernon Hill, Langford, put up alpines on a bank of virgin cork. Messrs. S. R. Compston and Sons, Macclesfield, were large exhibitors of violas, as also was Mr. G. Underwood, Leicester.

From Wordsley, Messrs. E. Webb and Sons, Stourbridge, brought melons, tomatoes, and a wide range of good vegetables, which they set up with sweet peas, petunias, Lilium Melpomene, and L. auratum as furnishing. New Champion Prize leeks were grandly shown, Exhibition runner beans, Green Globe artichoke, and purple kohl rabi being other good dishes.

The group of stove and greenhouse plants exhibited by Messrs. Jas. Veitch and Sons, Lim., Chelsea, teemed with quality and remarkable beauty of form and colour. Crotons and nepenthes were a feature, and a central group of orchids naturally attracted vast numbers of the public, who were profuse in their expressions of delight. Solanum Wendlandi, Ixora Duffi, and batches of Lilium Melpomene added colour among the dracænas, alocasias, and ferns, that were so arranged as to show their individual charm, and at the same time throw into relief the beauty of their neighbours.

Mr. L. R. Russell, Richmond, put up a group of bush ivies in a great many beautiful varieties. The colours in both golden and silver forms were bright and effective. Mr. Jas. Box, Lindfield, Sussex, arranged on the ground a big mass of border flowers and waterside plants. Liatris pycnostachya, montbretias, phloxes and gladioli were represented by big sheaves that made a blaze of colour, and very beautiful were the ferns and other moisture-loving plants surrounding a cool-looking lily pool.

The ferns shown by Messrs. H. B. May and Sons, Dysons Lane Nurseries, Edmonton, N., comprised choice nephrolepis, osmundas, platyceriums, and adiantums, as well as uncommon species and varieties for both warm and cool ferneries. Messrs. Caldwell and Sons, Knutsford, had border flowers of good quality, their Scabiosa caucasica being particularly rich in colour, and Gaillardia Magenta Queen was distinct among other varieties. Messrs. R. P. Ker and Sons, Aigburth, Liverpool, confined themselves to a table of neat, healthy-looking crotons of convenient size for table work. Aigburth Gem was very nice, and Reidi was of good colouring. Golden Chain, too, was elegant in the extreme.

For extent and originality of scheme the exhibit of Messrs. Amos Perry, Enfield, Middlesex, was noteworthy. Great masses of Achillea Perry's White were very fine, and backed up by equally large masses of deep blue delphiniums, the effect of the whole was very striking. Messrs. John Peed and Son, West Norwood, S.E., showed caladiums as only they can. Rufus (with bright red leaves), Sir Henry Irving (white), and King George (with beautifully mottled foliage) were very noticeable. The Craven Nurseries, Clapham, York, had a table of alpine plants in the open, which for the month of August was very gay with quaint, beautiful little gems of the rock garden. Eritrichium nanum, Campanula Zoysi, and other miniature bell flowers were full of bloom, but there were plenty of good plants that limits of space forbid us to mention.

Messrs. Bakers, Wolverhampton, had a large rock and water garden in the open, with herbaceous borders and beds of gladioli; gunneras, and bamboos were planted on the margins of the water, on the surface of which floated nymphæas in choice variety. Astilbes, senecios, and heleniums led on from the water to rocky ledges clothed with suitable plants. Mr. G. W. Miller, Wisbech, brought hardy flowers, among which late-flowered pyrethrums were a feature. Mr. Weaver Price, Ashgrove, Brecon, had an exhibit of violas on moss, good bedding varieties being shown. Sweet peas from Robert Sydenham Limited, Birmingham, were arranged in the well-known rustic decorations, making a very good display.

It has been written before anent exhibits of vegetables staged by Mr. Edwin Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, that the vegetables were as fine a lot as has ever been seen at a flower show. It is difficult to find a truer description of the wonderful exhibit this champion of exhibitors brought to Shrewsbury. Whether one looked at potatoes, onions, beans, peas, or celery, there was nothing but first-class quality to be seen, and so far as uncommon things are concerned, it may be said that, whilst we made our notes, numerous remarks were overheard, implying that spectators did not even know what a great many of the vegetables were. Aubergines, capsicums, yellow turnips, crimson spinach, beet, and Painted Lady beans gave colour to the stand such as one hardly associates with vegetables. Another excellent stand of vegetables was put up by Messrs. Barr and Sons, Covent Garden, London. Their Chilian beet was fine, and Red Cherry tomato, purple aubergines, Alderman peas, and Blood Red onions were a few attractive dishes.

Messrs. Bees, Lim., Liverpool, showed phloxes, Romneya Coulteri, liliums, delphiniums, and a variety of other hardy flowers, and also a good collection of garden roses, among which Juliet, Frau Karl Druschki, Lady Hillingdon, and Liberty were a few very showy things. Another bank of herbaceous flowers was that put up by Messrs. Hewitt and Co., Solihull, Birmingham. The colours were gorgeous, and the arrangement bold and telling. Something of the grandeur of the palmy days of the hollyhock was reflected in the exhibit of these good old flowers, staged by Messrs. Jas. Vert and Sons, Saffron Walden. The spikes of fine double flowers were of great length, and there was a wonderful range of colour. The foliage was good and the size of the individual blooms demonstrative of good culture. Primrose Queen, Lady Bailey, and Oliver Chater were three of the best sorts among many excellent ones.

Flowering shrubs and small alpine plants came from Mr. G. Reuthe, Keston, Kent. Messrs. Rich and Co., Bath, showed hardy flowers in bold masses, among which were some good pentstemons and gaillardias, as well as phloxes. Mr. R. C. Notcutt, Woodbridge, exhibited apples, both dessert and culinary varieties being well represented by first-class specimens.

Royal Horticultural Society of Aberdeen.

AUG. 21, 22, and 23.

The annual exhibition of this society was held in the Duthie Public Park, Aberdeen, once again kindly placed at the disposal of the society by the City Council. Than the setting which this park provides for such a purpose nothing finer could be wished, and not a few visiting strangers declared that the admirable surroundings were alone ample value for the entry money. The long-continued drought militated a little against some of the exhibits, especially fruit, but it was hardly noticeable. Altgether the entries numbered over 1,400—a little less than last year—but the quality was excellent, and all declared the show to be one of the best yet held under the auspices of the society. An uncommonly fine feature was the exquisite displays made for exhibition purposes by nurserymen and florists. These included not only the leading local houses, but they came from Dundee and Edinburgh, and proved a

source of much pleasure and interest. Admirable arrangements were, as usual, made by Mr. J. B. Rennett, the worthy secretary, who left nothing undone to further the attractiveness of the show.

PLANTS.

The display made in the tent devoted to plants was really fine, and the quality in many cases exceptionally good. For best specimen plant in flower the silver medal of the society was worthily won by Mr. Alexander Brebner, gardener to Mr. W. S. Gill, of Dalhebity, Aberdeenshire, and chairman of the society. The winning entry was a capital specimen of Disa grandiflora. Mr. Alexander Duncan, gardener to Lord Provost Maitland, Rubislaw Den House, Aberdeen, was a good second. For best specimen foliage plant a very fine win was made by Mr. John Elder, gardener to Professor Baillie, Norwood, Cults, Aberdeenshire, and he also gained leading honours for four best specimen foliage plants and two specimen palms. They were all admirably grown. Ferns were very fine, and here again Mr. Brebner had a most meritorious first, staging among others a remarkably good specimen of Adiantum gracillimum. Mr. Duncan made a good second, and gained the society's silver medal for six ferns in pots not exceeding six inches. Zonal pelargoniums made a superb display, and those from Mr. Brechin, Ardo, Belhelvie, Aberdeenshire, worthily earned the society's silver medal. For other pelargoniums Mr. Brechin was also first and second with capital entries. Fuchsias were not numerous, but Mr. James Coutts, 45, Sunnybank Place, Aberdeen, worthily obtained premier honours. For six plants for dinner-table decoration, Mr. John Petrie, gardener to Sir Thomas Burnett, Bart., Crathes Castle, Aberdeenshire, won easily. Begonias formed an attractive feature, the specimens being of great size and fine colour. Mr. Alexander Leith, gardener to Mrs. Hunter, Temora, Cults, Aberdeenshire, had matters entirely his own way. Gloxinias were well shown, Mr. Brechin, Ardo, and Mr. Brebner, Dalhebity, sharing the honours.

CUT FLOWERS.

These formed a specially fine feature. The silver challenge cup, presented to the society by Messrs. James Cocker and Sons, Aberdeen, for the best eighteen rose blooms, H.P.'s and H.T.'s, or either, was won in fine style by Mr. James Ireland, Park Place, Brechin; Mr. John Simpson, Panmure Gardens, Carnoustie, being a good second. For the best twelve rose blooms, H.P.'s and H.T.'s, or either, Mr. Alexander Rose, gardener to Mr. Charles Laing, Derncleugh, Cults, Aberdeenshire, obtained the premier award with well-developed blooms of well-known varieties. For decorative roses, and tea or noisette roses, leading places were taken by Mr. Alex. Brebner, Dalhebity, and Mr. J. Ireland, Brechin. Dahlias, pompon, cactus, and collarette, made a charming show. For the former Mr. G. Maclennan, Forres, was first. Cactus dahlias were, however, the most admired, and the fine collection sent in by Mr. William Lockart, Craigiebuckler Cottage, Aberdeenshire, proved highly attractive. Mr. Lockart was also leader for collarette dahlias, the Crathes Castle entry taking second place. The gladioli sent in by Mr. William Smith, gardener to Lord Sempill, Fintray House, Aberdeenshire, worthily gained for him leading place, and Mr. J. W. Brechin, Ardo, was a good second. There was rather keen competition in the class for hardy flowers, and Mr. James Barnett, Summerfield Hospital, obtained premier honours. Mr. Petrie, Crathes Castle, took second place.

TRADE CLASSES.

The nurserymen and florists contributed liberally to the attractions of the exhibition. For the second year in succession Messrs. Cocker and Sons, nurserymen, Springhill, Aberdeen, gained the silver challenge cup offered by the society for the best thirty-six rose blooms, H.P.'s and H.T.'s, or either, with superb flowers. The most notable roses included were fine examples of A. K. Williams, Gladys Harkness, Horace Vernet, Mrs. R. G. S. Crawford, Prince Arthur, Lohengrin, Marie Baumann, Gloire de Chedane Guinoisseau, Bessie Brown, Hugh Dickson, Her Majesty, Helen Keller, Caroline Testout, Frau Karl Druschki, Dean Hole, and Alfred Colomb, etc. Messrs. Adam and Craig, Fernielea Nursery, Aberdeen, were second. For best twenty-four varieties of teas or noisettes, the last-mentioned firm had a fine entry for the first place.

FRUIT.

There was a good display in the fruit classes. For the best collection of hardy fruits, Mr. J. A. Grigor, gardener to Mrs. Dunbar Dunbar, Seapark, Forres, had a good win. Mr. A. Taylor, Inchgarth, Cults, gained similar honours in the class open to market gardeners only. Strawberries were shown in goodly numbers, the leading places in the classes for them being taken by Mr. G. McLennan, Fetteresso Castle, and Mr. Barnett, Summerfield Hospital. Grapes were shown in greater numbers than last year, and the clusters were finely finished. Mr. Petrie, Mr. R. H. Grigor, Dalswinton, Dumfries, and Mr. Smith, Fintray House, were the leading prize-takers. Apples were fairly numerous, and of good quality, Mr. Ferguson, Linton, and Mr. J. A. Grigor, Seapark, taking the leading prizes. Mr. Smith, Fintray House, had a fine entry of plums, while Mr. John Elder, Norwood, had the best tomatoes.

VEGETABLES.

The display here was quite up to the average of past years at Aberdeen. As usual at this show, the outstanding feature in the vegetable section is the magnificent display made by potato growers. The collections of vegetables were not numerous, but Mr. R. A. Grigor, Dumfries, had the best, Springhill and Fintray House coming next in order. Mr. William Scorgie, Springhill, was first for basket of salad, and other prominent prize-winners were: Mr. William Reith, Fernbank, Crathes; Mr. J. McC. Brown, Park House, Aberdeen; Messrs. J. and D. Mackenzie, Lower Bucksburn, Aberdeenshire. The great feature was the large show of potatoes. Nothing finer has ever been seen in Aberdeen than the tubers sent by Mr. W. Lawson, Cornhill Road, Aberdeen; Mr. Grigor, Forres; Mr. Brebner, Dalhebity; Mr. G. Brown, Hazelhead, Aberdeen; and Mr. W. Webster, Muiresk Gardens, Turriff.

AMATEUR DIVISION.

Capital products were shown by the amateurs in all the sections. Mr. D. S. Fraser, Woodside, was very successful in the pot plant section with his ferns and begonias; and Mr. John Davidson, 323, Hardgate, Aberdeen, and Mr. W. B. Cormack, Gordon Terrace, Dyce, Aberdeenshire, had capital wins for pelargoniums, petunias, and begonias. In the cut flower section a most notable success was achieved by Mr. George Maclennan, Longley, Forres, who was awarded seventeen first prizes.

Broughty Ferry Horticultural Association.

The sweet pea show held on the 13th inst. by this association was an unqualified success, the quality of the flowers being on an average better than last year. Mr. J. McOrnish, nurseryman, Crieff, and the President, Mr. James Bethel, The Grange Gardens, again competed for the display on tables. The first-named again carried off the gold medal with a bright display of first-rate flowers, while Mr. Bethel made a better effect with flowers not so high in quality. Mr. George Masson, Aystre Gardens, again won the silver medal for twelve vases, and Mr. John Campbell, Forbes Court Gardens, secured first for eight vases in keen competition with Mr. James Staward, St. Fort Gardens, the blooms being throughout of much merit.

In other classes Dr. Sinclair, Forfar; Mr. James Duthie, Claverhouse; and Mr. J. Fraser, Cairneyhill, Arbroath, were well to the front with flowers of surpassing quality. In fact, the first-named obtained the distinction of having the finest flowers in the hall. Other prominent winners were Messrs. Brown, Cambustay; Fairweather, Airlie Park; Meston, The Lodge; and the President.

The best and most frequently-shown varieties were: Melba, Dorothy, Agricola, Hercules, Thos. Stevenson, Chas. Foster, Dobbies' Cream, Rosabella, Nubian, R. F. Felton, Maud Holmes, Elfrida Pearson, Queen of Norway, White Queen, Bertrand Deal, St. George, Mrs. Cuthbertson, Pedestal, and King Manuel. Messrs. Laird and Sinclair and Messrs. D. and W. Croll, Dalhousie Nur. series put up excellent displays. The latter-mentioned firm, as is their wont, excelled in their display of roses in upwards of a hundred varieties, backed up with about fifty varieties of sweet peas, all well grown. Amongst the roses, George Dickson had many admirers, and was reckoned amongst the best "darks."

Mr. James Slater, Panmure Villa Gardens, made an efficient secretary, and to him is mainly due the credit of the arrangement of a very pretty exhibition.

The British Pteridological Society.

This society held its annual meeting this year at Totnes, Devon, after a preliminary investigation of the locality as a promising fern-hunting region by the hon. secretary, Mr. Charles T. Druery, and Mr. W. B. Cranfield, the treasurer, who found it all that could be desired as regards abundance of ferns and of species. At the business meeting the balance-sheet and the membership were found to be highly satisfactory, no fewer than 160 members having replaced the original score existing at the time of the, so to speak, reconstruction of the society, and the establishment of the "British Fern Gazette," edited by Mr. Druery, which was at once recognised as deserving of the support of all lovers of British ferns in their beautiful and multiform varietal characters.

The Seven Stars Hotel was fixed as the meeting place, and prior to and after the meeting the members present organised various hunting expeditions to Dartmoor and the surrounding district of South Devon with very satisfactory results, although a two-months' drought had played havoc with all the exposed ferns, which in many places had been killed outright, and in most cases presented a flaccid and shrivelled appearance, which militated seriously against any recognition of varietal features. Notwithstanding, however, this handicap, a number of good varieties fell to the lot of the searchers, showing that Nature was still busy in producing "sports," although one might imagine that the great number of such acquisitions by the coterie of old pioneers, with their sharp eyes, would have practically exhausted the chances of fresh discoveries. A number of very beautiful forms obtained by selective sowing were sent by absent members as a proof that in this direction also much had been done, and was still doing, to improve, if possible, the original wild varieties through their capacity of further variation by their spores. From a patriotic point of view, therefore, the society devoting itself fully to our native ferns, it has proved itself to be well worthy of support, and it is hoped that its membership will continue to increase in view of the fact that the quarterly issue of the "British Fern Gazette," under the editorship of Mr. Charles T. Druery, V.M.H., F.L.S., is well worth the annual subscription. Mr. Druery is also the hon. secretary; his address is 11, Shaa Road, Acton.

Harrison's Musk.—Time was when this musk was very generally grown, both in pots for decorative purposes and for bedding out, but it is not so often met with as formerly. In some cases at least this is a pity, as it is remarkably floriferous, and the large golden-yellow blossoms make a goodly show, which, if the soil is not too dry, is spread over a lengthened period.—T.

THE LARGE LARCH SAW-FLY IN THE LAKE DISTRICT.

Mr. J. Mangan, of the University of Manchester, contributes the following interesting notes to "Nature" on the parasitic enemies of the large larch sawfly:

In the Lake District plantations, and elsewhere throughout the country, those interested in the welfare of the larch have viewed with no little apprehension, for some time past, the yearly ravages of the large larch saw-fly (Nematus erichsoni). As direct methods of control are out of the question over most of the affected areas, interest has been centred upon those natural agencies which in any way tend to limit the indefinite multiplication of this saw-fly, and it has been recognised that the atmospheric conditions, several of the common insectivorous birds, voles, certain insects, and parasitic fungus, are all capable of exercising a considerable if variable influence upon the numbers of the pest. To a combination of forces such as these must be attributed such respite as the trees have gained in certain of the infested areas, and in those cases where accurate observation of the facts was possible it was found that cessation of the saw-fly attack coincided with an overwhelming increase in the numbers of one of its insect enemies, an ichneumon, hitherto unknown to science, Mesoleius tenthredinis, Mor. This parasite, by eventually accounting for more than 70 per cent. of the larvæ within the cocoons, undoubtedly played a very large part in the reduction of the pest.

As M. tenthredinis was known to be present in most of the districts where the larch saw-fly was making itself felt, and as none of the other parasitic hymenoptera or diptera recovered from the cocoons from year to year showed signs of attaining to anything like its efficiency as a parasite, it was felt that the evèntual control of the pest possibly depended largely upon the future activities of this one species.

Shoulthwaite plantation at Thirlmere, the first in that area to suffer from attack, endured during several summers the severest defoliation, until in 1910, owing to the good offices of M. tenthredinis, the ravages of the pest abruptly and almost entirely ceased. In 1911 it was impossible to obtain from there any further cocoons for the purposes of the investigation owing to the scarcity of the saw-fly. In 1912, however, this plantation was invaded by a vast swarm of adult saw-flies, which there was reason to believe came from a badly-infested plantation some three miles away. Owing to a period of very unfavourable weather, and perhaps to other causes, the defoliation that ensued was not at all so extensive as it was feared it would be; however, it was distinctly noticeable, and the consequences of this re-infection of the area were looked forward to with some anxiety. Would the trees, weakened by the old outbreak, have to submit to renewed defoliations, until such time as M. tenthredinis, re-emerged Cincinnatus-like from its obscurity, regained sufficient strength to overcome the progeny of the invaders? An examination of the parasites that have emerged this year from cocoons collected in this area revealed a quite unexpected state of affairs. Scarcely 2 per cent. of the cocoons proved to be parasitised by M. tenthredinis, but some 25 per cent. yielded specimens of an ichneumon which had hitherto played quite an insignificant part as a parasite of the large larch saw-fly (a species of Mesoleius, as yet undetermined). From approximately 24 per cent. emerged tachinids belonging to the species Zenilla pexops, B. and B. (Mr. C. J. Wainwright, who kindly identified it for me, informs me that he knows of but one other record of its having been taken in Britain.) It seems highly probable that both these parasites have followed in the wake of the invading saw-fly, particularly as observation of material from the locality from which it was suspected that the latter had flown has shown that the tachinid at all events is exceedingly abundant there.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of The Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of The Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in The Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

———

ALYSSUM SAXATILE.—K. M., Rutland: I have raised a considerable stock of Alyssum saxatile, and its citron-coloured variety, from cuttings during the present summer, and I should like to know whether the plants should remain in the beds in which they have been raised, or be planted in nursery beds.—It would be a decided advantage to carefully lift the plants and put them in nursery beds, where they can remain until October. Lift them carefully and replant as expeditiously as possible, six inches apart in rows with twelve-inch spaces between them. If the soil is very dry, thoroughly water it one or two days before planting, and well water the plants when the operation has been completed. It is most important to avoid any serious check at this stage.

THOMAS TUSSER.—T. S., Suffolk: I have on several occasions heard of Thomas Tusser, and now and then I have read extracts from his "A Hundreth Good Pointes of Husbandrie." These have much interested me, and I should like to know something about this interesting writer who, I assume, was engaged in horticultural pursuits. — Thomas Tusser, who was born in 1583, and died in his 65th year, was not a horticulturist or gardener, but was a farmer. His poem "A Hundreth Good Pointes of Husbandrie" was published "in Flete Strete within Temple Barre at the syne of the Hand and Starre, by Richard Totell, in the year 1577." Written in the infancy of farming in this country, it is of much interest; the poem shows that he was well acquainted with the practices that obtained during the time of Mary and Elizabeth, and recognised the possibility of making considerable improvements in methods of tillage. He appears not, however, to have derived any material advantage from his advanced views, for his life appears to have been a series of misfortunes, and to have died poor. He is buried in St. Mildred's Church in the Poultry, and his epitaph which is assumed to have been written by himself, is preserved in "Stowe's Survey of London." His poem is written in familiar verse, and abounds in many curious particulars, that bespeak the manners, the customs, and the modes of living during the first half of the 16th century, and is of value as a picture of the state of agriculture in that period, and for the glimpses it gives of gardening practice. You should obtain a copy of the poem, which may be done by enquiry among the second-hand booksellers. The black-letter copies are rather expensive, but the others are quite cheap.

WALL GARDENING.—J. M., Norfolk: We are not acquainted with any book on this subject that is superior to the one you mention.

BOTTLING PLUMS.—H. B., Lancashire: I am desirous of bottling some Victoria plums, and shall appreciate your informing me whether the procedure essential to obtaining good results is troublesome or expensive.—The preservation of plums by the procedure known as bottling is quite simple and inexpensive, and you should not experience any difficulty in obtaining good results. All that is necessary are an iron pot large enough to hold six, seven, or eight 2lb. bottles, and a supply of bottles proportionate to the quantity of fruit available. Bottles fitted with glass caps and screw tops, and costing about four shillings per dozen, are preferable, but any with a rather wide mouth will be suitable, as the air can be readily excluded by pouring melted mutton fat into the neck of each bottle after the fruit has been sterilised and become cold. Select perfectly sound fruits that are commencing to ripen, and pack them closely in the bottles and fill to the upper part of the neck with cold water. Make a light framework with a few laths or strips of wood to place in the bottom

Robinsons' Guaranteed Gardenalities

Always pay their way and make up their cost, time and time over again. What they claim to do is always achieved—hence they are used by experts everywhere. Try them this year, and note results. You will be delighted, for they never fail to do good work.

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Sweet Pea Culture is so popular that they draw special attention to their **"Carmona" Sweet Pea Fertilizer.** This should be used by all growers and exhibitors.

"Carmona" Fertilizers are sold in all quantities. Note bulks and prices:—
1cwt., **20/-**; ½cwt., **12/6**; 28lb., **7/6**; 14lb., **4/6**; 7lb., **2/6**; **1/-** and **6d. Tins.**

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These are detested by every gardener, for they ruin one's best efforts. Half-hearted measures are no good. Don't play with insects, but **get rid** of them. You can exterminate them all, if you are wise enough to use the finest Insecticide on the market, **CLIFT'S FLUID INSECTICIDE.** Give your plants freedom from insects, it makes for success. Bulks and prices as follows:—
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Note these, for you may want them. **"Eradiweed"** guaranteed cent. per cent. **Weed Killer.** Sure and certain. **"Velvas" Lawn Sand**—just the sand needed. Robinson's send on all details, lists, etc., free of charge, and also include as a gift two valuable gardening books, which you will appreciate. (1) Robinson's "Guaranteed Gardenalities Booklet," and (2) Robinson's "Garden Enemies" Booklet. These are brimming over with serviceable gardening hints and advice. Address your p.c. or letter to:—

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of the pot for the bottles to stand upon. If the latter are fitted with glass caps and screw tops, place caps and tops in position and screw them down rather lightly, place in the pot, and fill with water to the neck. Heat the water slowly until it reaches a temperature of 160 degrees, and keep it at that point for about 50 minutes, when the bottles should be removed from the water and be screwed quite tight. If the bottles have no caps, fill as advised, and when sterilisation is effected stand them on one side, and when the contents have cooled down pour enough melted mutton fat into the neck of each to form a half-inch layer.

ANTIRRHINUMS.—W. W. H., Bournemouth: I have recently seen some remarkably fine displays of antirrhinums, both in private gardens and public gardens, that I have visited in the course of my holiday, and you will render me a service that will be much appreciated if you can tell me the course of procedure by which such good results are obtained.—The most simple and, in the case of those who have not much glass accommodation, the best practice is to sow the seed in June, or early in June prick out on a nursery bed, and plant in the beds and borders in the following spring. The soil in the nursery bed should not be very rich, as a firm, short-jointed growth is preferable, and the plants be put about six inches apart in rows with a sufficient space between them to allow the hoe to be freely used. The various shades of colour belonging to the intermediate section are the most useful.

SUMMER FLOWERS IN LONDON PARKS.—Young Gardener: I am about to make a short stay in London, and I should like to visit a few of the public parks and gardens wherein the bedding arrangements are well done.—Summer flowers are now so successfully utilised in the principal metropolitan parks, that all may be visited with profit and pleasure. If your time is not sufficient to allow you to see more than a few, we suggest that you make a point of visiting the Royal Gardens, Kew and Hampton Court, Hyde Park, and Regent's Park, Finsbury Park and Victoria Park, and Battersea Park and Dulwich Park. Take them in the order in which they are here placed, and you will have no difficulty in inspecting either two in one day. By commencing early you might include more than two in each day's programme, except that a whole day should be devoted to Kew and Hampton Court.

MEALY BUG ON GRAPE VINES.—Perplexed: This is, perhaps, the most vexatious of the pests with which the cultivator of fruits and plants under glass has to contend, for it is difficult to eradicate, and we are not surprised you should be perplexed. During the summer months you should dislodge the colonies as they make their appearance with a small brush that has been dipped in some approved insecticide. At the winter dressing, vines that are infested should have the loose bark removed, and be thoroughly washed with warm water, the brush being occasionally drawn across a lump of soft soap as the work proceeds. After the vines have been washed dress them with some suitable insecticide, such as a solution of a nicotine compound, the strength to be in accordance with the directions given with the preparations. Perseverance is an important point in the eradication of mealy bug in the vinery.

VIOLAS FOR BEDDING.—W. B., Leicester: I shall be much obliged by your giving me a short list of the best violas for bedding purposes.—We advise you to grow only the varieties that can be depended upon to pass safely through the winter, and of these the following can be specially recommended: Ardwell Gem, primrose; Ariel, lavender; Bullion, yellow; Blue Cloud, fancy; Blue Duchess, light blue; Christiana, white with yellow centre; Duchess of York, white; Jubilee, dark blue; Kingcup, yellow; Klondyke, yellow; Lilacina, light blue; Primrose Dame, primrose; Pentcaitland, white with yellow centre; Redbraes Yellow, bright yellow, Redbraes White, white; Royal Scot, dark blue; Snowflake, white; Sulphurea, light yellow; Sylvia, cream colour; William Neil, bright rose; and White Duchess, fancy.

SEEDLING CARNATIONS.—W. F. H., Essex: A friend of mine who is much interested in the cultivation of border carnations for the production of flowers for decorative purposes in a cut state, tells me that he finds seedlings of much value because of their robust habit, and the freedom with which they bloom. I have seen some beds of seedlings in his kitchen garden, and the plants are certainly very free-flowering. I should like to act upon his suggestion and grow a hundred plants or so. I shall therefore be greatly obliged by your informing me when to sow the seed. Is it too late to raise a stock of plants from seed for flowering next summer?—Plants of border carnations raised from seed saved from a really good collection of varieties are, as you have been advised, most useful for the supply of cut flowers, and you will do well to have a bed of them in your kitchen garden. It is now too late to sow seeds for the purpose of obtaining plants that will bloom in the course of next season. The seedlings should be raised under glass in April or May, and be pricked off into boxes containing light and moderately rich soil, and be transferred to the beds during June. They will then become well furnished with growths by the autumn, and produce sheaves of flowers in the summer of 1914. You can purchase seedling carnations of high quality from the leading growers, and if these are planted in their permanent quarters in the course of September they will be in every way satisfactory.

CARBON BISULPHIDE.—W. B., Sussex: I shall be much obliged by your stating whether carbon bisulphide, which is now being used as a vaporiser in combating insect pests and injurious fungi, requires special care in its use.—Carbon bisulphide is one of the most dangerous of the various materials used for the protection of plants from the attacks of injurious insects, and should be used with the greatest care. Carbon bisulphide is a colourless and mobile liquid which boils at 123 degrees, and vaporises with great rapidity when in an open vessel. The vapours form in combination with air mixtures that explode on coming into contact with flame. Owing to its inflammability the manipulation of carbon bisulphide should, as far as practicable, be carried out in the open air, and away from heat or flame, smoking being wholly forbidden. It diffuses very rapidly through the soil, and is most destructive to insect life, and, according to Dr. Bourcart, when injected into the soil at the rate of 1oz. per square yard and four inches deep, it will kill the insects in that depth. As you have not had any experience with carbon bisulphide, we advise you not to use it until you have had an opportunity of becoming acquainted with its properties under the direction of someone well acquainted with them.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

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Business continues rather slow, and prices unsteady owing to the holiday season.

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Achillea	per doz. bun.	1	6	to	2	6
Adiantum cuneatum	per doz. bun.	3	0		4	0
Alstromerias	per doz. bun.	2	6		4	0
Asparagus plumosus	per doz. bun.	10	0		18	0
,, Sprengeri	per doz. bun.	9	0		12	0
Asters	per doz. bun.	1	6		4	0
Campanulas	per bun.	2	0		4	0
Carnations	per doz.	0	9		1	3
,,	per doz. bun.	5	0		9	0
,, Malmaison	per doz.	4	0		5	0
Chrysanthem max.	per doz. bun.	1	0		2	0
Coreopsis	per doz. bun.	0	9		1	0
Cornflowers	per doz. bun.	0	9		1	6
Croton leaves	per doz. bun.	12	0		15	0
Eucharis	per doz.	1	6		3	0
French fern	per doz. bun.	2	6		4	0
Gaillardias	per doz. bun.	1	3		2	0
Gardenias	per doz.	1	0		3	0
Gerberas	per doz.	1	0		1	6
Gladioli	per doz.	1	3		6	0
Gypsophila	per doz. bun.	4	0		6	0
Lilium auratum	per bun.	4	0		4	6
,, speciosum	per doz.	1	3		2	0
,, longiflorum	per bun.	1	0		1	6
Lily of the Valley	per doz. bun.	9	0		15	0
Marguerites	per doz. bun.	1	0		2	0
Montbretia	per doz. bun.	3	0		3	6
Odontoglossums	per doz. blms.	3	0		4	0
Pelargoniums	per doz. bun.	3	0		4	0
Roses	per doz.	0	6		1	6
Scabious	per doz. bun.	2	0		4	0
Smilax	per doz. trails	1	6		2	0
Spiræa	per doz. bun.	5	0		8	0
Statice	per doz. bun.	3	0		4	0
Stephanotis	per gross	4	0		6	0
Stocks	per doz. bun.	3	0		4	0
Sweet Sultan	per doz. bun.	1	6		2	0
White Heather	per doz. bun.	3	0		5	0

Fruits.

Trade is fairly brisk for the season; apples are plentiful.

		s.	d.		s.	d.
Apples, Australian	per box	14	0	to	17	0
,, Tasmanian	per box	14	0		17	0
,, English	per bush.	3	0		10	0
Bananas, Canary	per bun.	7	0		12	0
,, Jamaica	per bun	3	0		5	0
Cocoanuts	per 100	17	0		23	0
Cherries	per ½ sieve	9	0		12	0
Dates	per doz. boxes	2	9		3	6
Figs	per doz.	1	6		6	0
Gooseberries	per ½ sieve	3	0		5	0
Grape Fruits	per case	12	0		30	0
Grapes, English	per lb.	0	8		5	0
,, Guernsey	per lb.	0	8		3	0
,, Denia	per barrel	6	0		9	0
Greengages	per ½ sieve	6	0		8	0
Lemons	per case	9	0		22	0
Melons	each	0	9		2	0
,, Spanish	per case	10	0		14	0
Nectarines	per doz.	2	6		12	0
Oranges	per case	20	0		30	0
,, Jamaica	per case	14	0		16	0
,, Natal	per case	16	0		18	0
Peaches	per doz.	1	6		18	0
Pears, Californian	per box	10	0		12	0
Pineapples	each	2	0		5	0
Plums	per ½ sieve	2	6		4	0
,, Californian	per case	10	0		14	0
Raspberries	per doz. pun.	5	0		8	0
Walnuts, Pickling	per bush.	5	0		6	0

Vegetables.

Vegetables are dearer, owing to the short supplies from the Midland districts, where the drought has been severely felt.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	1	6	to	2	0
Beet	per doz. bun.	2	0		3	0
Beans, Runner	per bush.	4	0		6	0
,, Broad	per bush.	2	0		3	0
Cabbage	per tally	3	0		4	0
Carrots	per doz. bun.	1	6		2	6
,, French	per doz. bun.	6	0		8	0
Cauliflowers	per doz.	1	6		2	6
Cucumbers	per doz.	1	6		3	0
Endive	per doz.	1	6		2	0
Horseradish	per doz. bun.	10	0		13	0
Lettuce, Cos	per score	1	6		2	6
Marrows	per tally	6	0		8	0
Mint	per doz. bun.	1	6		3	0
Mushrooms	per doz. lbs.	5	0		7	6
Onions	per bag	4	0		4	6
,, Spring	per doz. bun.	2	0		3	0
Parsley	per doz. bun.	3	0		4	0
Peas	per bush.	4	0		4	6
Radishes	per doz. bun.	0	10		2	0
Spinach	per bush.	1	6		2	0
Tomatoes, English	per doz. lbs.	2	0		3	0
,, Guernsey	per doz. lbs.	2	6		3	6
Turnips	per doz. bun.	0	4		0	6
Watercress	per doz. bun.					

LONDON POTATO MARKETS.

Supplies are short owing to harvest work; business is very quiet.

		s.	d.		s.	d.
Kents	per cwt.	4	0	to	4	3
Lincolns	per cwt.	3	9		4	3
Bedfords	per cwt.	3	9		4	0
Blacklands	per cwt.	3	6			

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Drought.

The abnormally-prolonged drought which prevailed for some months over most of England, Wales, and Scotland, but which has now been broken up by copious rains, became a very serious handicap to all vegetative growth in a country where, normally, there is a sufficient rainfall distributed throughout the year to meet the demands of indigenous and acclimatised plants of all kinds. Happily, the effects of this drought have been generally modified by cloudy conditions, instead of being aggravated by scorching sunshine, which inevitably increases the draught of vegetation upon what little moisture may still be retained in the soil. Nevertheless, the effect is clearly visible in the early shedding of the foliage of many trees, whose leaves have long since become brown, and more or less shrivelled, owing to the incapacity of their root-systems to obtain an aqueous supply adequate for their maintenance in a green and flourishing condition. When, indeed, we consider the requirements of a large tree, with a vast area of its myriad leaves, each of which, if it lives at all, is bound to be transpiring a given amount of water all the day long, it strikes us as truly wonderful that for weeks, and even months, at a stretch, a vast root-system of myriads upon myriads of absorbing fibrils can continue to find any water at all within the limited area available for their extension. We know that Nature has provided for a check upon the transpiration of the foliage in dry periods by enabling the innumerable transpiration pores, or "stomata," common to all leaves, to contract and all but close, but there is a limit to this, and, in any case, the amount of water needed is very large. Xerophytic, or drought-loving plants, introduced from dry regions of the earth, are, of course, not only quite at home under what are here abnormally dry conditions, but even benefit by a change to, to them, normal ones, but native plants, and particularly those with large foliage of a soft and succulent nature, are sorely put to it, and will die outright unless a supply is artificially provided, and in sufficient abundance. Here, however, the words "sufficient abundance" indicate the crux of the position. Given a long, dry period, the soil, deprived of its superficial moisture, shrinks and shrinks until it is penetrated by very deep cracks. Through these the moisture remaining lower down also evaporates until the cracks become so deep as to pass the limits of the root penetration of many non-tap-rooting plants. Hence, when an artificial supply is given by spraying or flooding, it is only the very surface which is moistened, the great bulk of the supply running directly down these cracks, or channels, and thus being of no service whatever to the plants it is intended to aid. The superficial moisture, indeed, probably does more harm than good. For the moment it may stimulate into activity the roots near the surface, and cause them to extend upwards towards the welcome moisture, but only with the result that before another watering on like lines a burst of hot sunshine may parch the soil and destroy them, while the wetted foliage has its transpiration pores opened, and increases the draught upon the root-system, the result being, possibly, an entire collapse instead of a resuscitation. If we investigate the plants in our gardens during extended periods of dry weather it is extraordinary to what extent many plants, even if not xerophytic, can live and retain their freshness when the soil, to all appearance, is as dry as dust. On the other hand there are many which, while apparently yielding to the strain on their tissues, seem to be irrecoverably shrivelled and dead, will, when the welcome rain comes, absorb it, and gradually resume their pristine verdure as if nothing had happened. There are many plants so constituted, especially those whose habitats are in regions where the seasons are divided into "dry" and "wet" ones, which, like the well-known resurrection plant of the American prairies (Selaginella lepidophylla) may be kept absolutely dry for many months together, but will become perfectly green and fresh, and in growing condition, after a few hours' soaking in water. It is this capacity, in a greater or less degree, in many of our native plants, to which we are doubtless indebted for innumerable survivals of our garden plants after the infliction of such a "drought" as that to which vegetation generally has been recently subjected.

MR. A. F. DUTTON.

Mr. A. F. Dutton, who may be regarded as one of the pioneers of the cultivation of the perpetual-flowering carnations in this country, has rendered such substantial service in popularising their exquisite beauty for decorative purposes, and developing the commercial side of

their culture, as to fully justify the high position he occupies among the leading trade growers. Comparatively few of the earlier perpetual-flowering varieties that were received from America were introduced when Mr. Dutton recognised their merits, and entered on their cultivation with his customary zeal, and we remember with pleasure several beautiful collections that he contributed to the Temple Shows before these carnations had made their way to any considerable number of private gardens. The position as a cultivator and exhibitor that was taken up by Mr. Dutton at the beginning has been fully maintained until the present time, notwithstanding the enormous development which the carnation industry has undergone, and the severity of the competition that has to be met. Of Mr. Dutton's taste and judgment in presenting carnations to public notice we had a fine example at the meeting of the Royal Horticultural Society on August 26, when he exhibited several hundred blooms of his exceedingly beautiful new rose-pink variety, Mrs. A. F. Dutton, of which an illustration was given in our issue of June 28 last. In the same issue we gave an account of some of the more salient features of the establishment Mr. Dutton has established at Iver, Bucks, which may well be regarded as a model of its kind, and to this we refer our readers for particulars of the extent to which the growth of carnations is carried on there.

Vacant Lectureships at Aberdeen University.—For the posts of Lecturer in Forestry and Lecturer in Horticulture, now vacant at the Aberdeen and North of Scotland College of Agriculture, many candidates have come forward. For the first-named post there are seven applicants, these being resident in England, Scotland, Ireland, or Wales. Twelve candidates have entered for the Lectureship in Horticulture, and these also come from all quarters of the United Kingdom. A meeting of the committee entrusted with the making of selections, which will be submitted to the Governors of the college, will be held at an early date.

Mr. George MacKinlay, of Pine View, Flitwick, Beds, who was head gardener at Wrest Park for upwards of seventeen years, serving during this period the late Earl Cowper, Lord Lucas, and the late American Ambassador, and previously in the employ of Sir Charles Isham, in Northamptonshire, left estate valued at £2,279 gross, with net personalty £2,258.

Royal Horticultural Society's Journal.—The current issue (Vol. XXXIX., Part 2) of this publication is of quite exceptional interest to those who devote special attention to hardy flowers, and has much value for purposes of reference in connection with rose literature and primulas. It contains a report of the Primula Conference, held under the presidency of Sir J. T. D. Llewelyn, Bart., at the Horticultural Hall on April 16 last. The text is given of the whole of the papers which were read by Dr. John MacWatt, Mr. Reginald Farrar, Professor I. Bayley Balfour, F.R.S., V.M.H., Mr. W. G. Craib, M.A., and Miss Jekyll. The comprehensive paper on "Indian Primulas" by Sir George Watt, C.I.G., has been reproduced from an earlier issue of the "Journal." There is also a list of European species of primula, with synonymy, based upon the arrangement of Pax's monograph in Engler's "Pflanzenreich," and the hope is expressed that it will prove useful to cultivators. The report is accompanied by seventy-nine photographic reproductions illustrative of the more important of the species, both new and old. Especially deserving of attention among the papers, other than those concerned with primulas, are Mr. Arthur Paul's important and entertaining "Literature of the Rose," Mr. W. H. Diver's instructive paper on "The Spring Flower Garden," and the Rev. Professor G. Henslow's carefully-considered paper on "The Origin of Life," which, he states, is, in his opinion, undiscoverable.

The Merite Agricole.—By decree signed by the Minister of Agriculture, and recently published in the "Journal Officiel," some alterations in the constitution of this order have been made, as recommended by the French Senate. The Council is composed of the Minister of Agriculture as president, together with a number of colleagues holding the highest positions in the agricultural community in France. The decoration is conferred not only upon agriculturists, but also upon eminent horticulturists, horticulture in France being regarded for this purpose as a branch of agriculture. To be entitled to the decoration in any grade, Chevalier, Officer, or Commander, the candidate must have ten years' genuine service to his credit. The decree limits the total number of recipients in each grade that are to be annually appointed.

Horticultural Instruction in Staffordshire. — Horticultural instruction has a prominent place in the directory for higher education which has been issued by the Education Committee of the Staffordshire County Council. The horticultural instructors for the county are Mr. J. Stoney and Mr. G. W. Pyman, and their activities include lectures on the cultivation of plants, flowers, and vegetables during the winter months, which for the most part are illustrated by lantern slides; and lectures and open-air demonstrations during the spring and summer months.

A New Grass Parasite (Cladochytrium graminis) is described by Mr. George Massee, V.M.H., in the current issue of the Kew Bulletin (No. 6, 1913), and the disease caused by the fungus may, unless due care is observed in the selection of seed, cause considerable trouble. The parasite was first observed in this country in 1908, when a sod of diseased grass was sent to Kew. In connection with this it was stated that the disease had appeared in every instance where portions of a consignment of Continental grass seed had been sown. The spread of the disease was checked by the removal and burning of all diseased patches, and nothing more had been heard of the parasite until the present season, when its presence was notified at Kew from several widely-separated localities in the South of England. At present the parasite has only been observed to attack species of festuca, and other grasses with small leaves, and is, consequently, most prevalent on lawns, tennis grounds, and bowling greens. The symptoms of its presence are the appearance of small yellowish patches, a few inches across, scattered over the lawn. These patches gradually increase in size, and often encroach on each other, forming large irregularly-shaped areas, which eventually become brown owing to the entire disappearance of the grass. This fungus is described by Mr. Massee as belonging to a primitive type, in which the reproductive bodies, called zoospores, possess the power of spontaneous movement in a film of water, by which they are enabled to migrate from their place of origin and infect adjacent plants. Mr. Massee found by watering the diseased grass with a solution of sulphate of iron, prepared by adding half a pound to a gallon of water, the spread of the disease is checked, and he emphasises the fact that it is important the treatment should be repeated two or three times, at intervals of ten days, as free zoospores only are killed, and these are liberated at intervals. In Mr. Massee's opinion, the most certain method for preventing the wholesale spread of the disease turns on the selection of seed from districts free therefrom, and this he considers should prove a comparatively easy matter.

Hardy Flowers at Greenwich Park.—Mr. T. Hay, the superintendent of this beautiful park, is repeating some of the successes he achieved in the Hopetoun House gardens, but on an even more extensive scale, and the attractions of the park have been enormously enhanced as the result thereof. A correspondent, who highly appreciates the distinctive charm and interest of hardy perennials, writes with reference to Mr. Hay's achievements: "A perfect object-lesson in the use and value of hardy perennials may now be seen in Greenwich Park for the third year in succession. In its initial stages the venture met with doubt and criticism. Long custom dies hard, as may naturally be expected in the case of those whose years are spent in the patient watching of seed and plant growth. We are all more or less creatures of circumstance. Although the victory may be said to have been won last year, when hardy plants quite came into their own, the effect this year on a largely-increased scale is more striking and convincing than ever. A huge border from a hundred and fifty to two hundred yards in length, and from ten to twenty feet wide, presents wonderful results in herbaceous gardening. It is worth a long journey to see such a massive colour scheme. If such a demonstration was necessary to prove the greater utility and beauty of hardy plants, then this bold conception has done something for the gardening world. It will be at once conceded that this style of gardening eminently accords with the bold dignity of a great park, and yet is capable of adoption on a small scale."

School Gardening.—The interest in school gardening in this country continues to increase, as proved by the fact that 50,000 children, of whom 2,000 are girls, in the elementary schools, are receiving instruction in the elements of the gardening art by means of school gardens.

Station Gardens on the Glasgow and South-Western Railway.—The directors of the Glasgow and South-Western Railway annually offer prizes for the best-kept station gardens on the system. Many of the gardens have been very fine this season, despite the dry weather, and our correspondent was much struck with their beauty. The following are the principal awards: First Class, £5 each.—Mr. James Candlish, Southwick; Mr. W. Taylor, Dalmellington; Mr. A. Morren, Annbank; Mr. W. B. Kirkpatrick, Dalbeattie; Mr. J. Rae, Carronbridge; Mr. G. Paterson, Glenside; Mr. G. Macdonald, Moniaive; Mr. R. Fisher, Dalrymple; Mr. T. Gillies, Alloway; Mr. James Barr, Ruthwell; Mr. W. R. Beckett, Dunure; and Mr. J. Mirrey, Lochanhead. Second Class, £4 each.—Mr. E. Blackwood, Mountgreenan; Mr. J. Houston, Closeburn; Mr. J. Reid, Sanquhar; Mr. J. S. Faulds, Maxwelltown; Mr. W. Chalmers, Kilkerran; Mr. J. Taylor, Maidens; Mr. J. Hamilton, Cunninghamhead; Mr. P. Lawson, Rankinston; Mr. G. Hay, Paisley West; and Mr. T. Murray, Howwood.

GLASGOW FLOWER SHOW,

SEPTEMBER 3 and 4.

The exhibition held by the Glasgow and West of Scotland Horticultural Society on September 3 and 4, was one of the few shows of which it may justly be said that this year's was better than usual. It is true that here, as elsewhere, some of the classes had not what may be called their full complement of entries, owing, of course, to the trying weather conditions, but quality was distinctly good, and the chief improvement was in the arrangement of the exhibits. The society changed their venue to the Zoo Buildings, a spacious, well-lit, and well-ventilated hall, where ample room could be provided alike for exhibits and spectators, and everything could be well seen, thanks to the capital light from a clear lantern roof.

PLANTS.

Mr. Adam Knight, gardener to Sir Wilfred Lawson, Bart., Brayton Hall, Carlisle, was the winner of first prize for a group of miscellaneous plants, occupying a circle of 9ft. in diameter. His arrangement was light and artistic, good use being made of pink and white spiræas, good sprays of oncidiums, and some salmon and rose-shaded clarkias. Lilium speciosum and a plant or two of malmaison carnations were also used, with a suitable variety of crotons and other foliage plants to break up the floral work. Mr. A. Kelly, gardener to Wm. Beattie, Esq., Dinwidding, Milnegavil, took second prize, arranging his group in a pyramidal mound with Lilium longiflorum, celosias, and caladiums supporting the central part of Phœnix Roebelini. A number of acalyphas were used as dot plants with good effect.

Mr. James Templeton, gardener to Mrs. Alexander Rose, Richmond House, Dowanhill, took first prize for three palms, showing a very good Phœnix rupicola, Areca lutescens, and Kentia Belmoriana. The best two greenhouse plants were shown by Mr. Thos. Nelson, Muirbank, Rutherglen, a well-flowered statice and a Dracæna australis variegata being his choice. Mr. Jas. Jamie, 3, Fotheringham Road, Ayr, had a red bouvardia and a white lapageria as his second prize plants. Three stove or greenhouse plants secured first prize for Mr. Adam Knight, who showed an oncidium, a croton, and Vallota purpurea; second prize went to Mr. Alex. L. Davidson, gardener to Sir Andrew H. Pettigrew, Baronald, Lanark; and third to Mr. John O'Neil, gardener to Mrs. Murray, Rosebank, Partick, Glasgow. Mr. John Davidson, gardener to John Reid, Esq., Ardencraig, Rothesay, showed three beautiful dracænas for first prize, a capital plant of D. atropurpurea being included in the set.

Six ferns for table decoration brought some very nice things. Mr. Thos. Nelson, Rutherglen, leading with Nephrolepis Marshalli, Gymnogramma Mertensi, and G. superba in his half-dozen. Mr. Nelson also took leading honours for three large British ferns, showing vigorous plants of Polystichium vulgare, Scolopendrium vulgare crispum, and an athyrium of pleasing character. Second prize was secured by Mr. Chas. Pattison, Paisley, whose Polypodium cambricum carried fine fronds.

Dwarf British ferns were nicely shown, Mr. Chas. Pattison, Bridge Street, Linwood, Paisley, obtaining first prize for a capital set. Asplenium trichomanes incisum was beautifully grown, and Blechnum spicant ramo-cristatum was particularly well crested and fringed. Mr. Thos. Nelson, Muirbank, Rutherglen, took second prize, showing Polystichium plumosum densum, and one or two very fine scolopendriums. Mr. Chas. McIver, gardener to T. Clement, Esq., Barcapel, Newton Mearns, came a good third. For Adiantum pedatum being very nice. For six nephrolepis first prizewinner was Mr. Jas. Thompson, Broomfield, Giffnock, his varieties being some of the latest developments, represented by well-grown plants. Three large specimen exotic ferns were shown by Mr. Alex. L. Davidson, and worthily awarded first prize. Nephrolepis todeaoides, N. exaltata Piersoni, and Adiantum cuneatum were the kinds shown. The beautiful moss-like Nephrolepis Rochfordi was included in Mr. Thos. Nelson's second-prize lot. A splendidly grown aspidistra brought first prize to Miss M. A. McCombie, St. Vincent Crescent, Glasgow, in the class for a plant grown in a dwelling house. Mr. G. R. McCallum, Regent Street, Shawlands, took second prize with a nice healthy Araucaria excelsa. Miss McCombie again beat Mr. McCallum for three house-grown plants.

Two capital pyramid fuchsias, well flowered from top to base, were given first prize, they being shown by Mr. Jas. Swan, Railway Buildings, Lennoxtown; Mr. Walter Rae, Woodville, Biggar, taking second prize. The winner for a single specimen fuchsia was Mr. Jas. Jamie, Mr. Swan in this case being second. Two good pots of Lilium speciosum vars. album and Melpomene were shown by Mr. Thos. Nelson, bringing him first prize. Mrs. Thos. Carlyle, Lilium Cottage, Maryhill, scored for a pot of Lilium auratum.

CUT FLOWERS.

Gladioli are regularly a great feature at Glasgow Show, and, although this year the drought had its effect on the number of entries, there were still some wonderful spikes of flowers shown. Messrs. Alex. E. Campbell and Son, Cove Gardens, Gourock, received first prize for twenty-four spikes. They were of great length, and carried as many as ten and twelve open bells per spike. Charles Bertier, a rosy-lilac with white throat; Bernina, a white, and Fournaise, scarlet, were three extremely good varieties.

Messrs. G. Mair and Son, Prestwick, were second prize winners, their exhibit containing some grand even spikes. Mr. James Stewart, jun., Woodend Cottage, Whins, Alloa, was first in the amateurs' class for six gladioli. He had Etincelle in nice form, Aristophane being a variety of charming salmon-rose colour, with yellow blotch. Mr. Thos. Nelson won second prize, Mr. R. S. Aitkenhead, Larkfield, Gourock, being third.

Twelve bunches of hardy herbaceous flowers made an excellent and pleasing class. First prize was placed to the credit of Mr. Chas. Pattison, Bridge Street, Linwood, Paisley, Scabiosa caucasica, Eucomis punctata, Lathyrus latifolius albus, and Chelone barbatus coccinea being beautiful bunches. Coreopsis grandiflora Meiklemi was well shown. It is broader in petal and more striking than ordinary forms of this useful plant. Mr. Robert McLelland was second, showing some very useful things. Artimisia lactiflora, Delphinium Mrs. Creighton, and Lobelia cardinalis were choice. The third prize lot came from Mr. Peter Anderson, gardener to W. Fleming, Esq., Park Inchinnan, Renfrew. Twelve bunches of hardy flowers, shown by Mr. Chas. Pattison, won first prize. Among the subjects staged were Montbretia Germania, Phlox Sheriff Ivory, and a good variety of Chrysanthemum maximum. Mr. Robert McLelland, gardener to Alex. Murray, Esq., Duncryne-by-Alexandria, was second.

Mr. Charles Pattison's first prize exhibit of six bunches of hardy border flowers were a very good lot. Sidalcea Rosy Gem, Artemisia lactiflora, Montbretia crocosmæflora, Helenium pumilum magnificum, Veronica longifolia subsessilis, and Lilium tigrinum splendens were all good bunches.

ROSES.

Some first-class roses were staged, and considerable enthusiasm was evidenced by the visitors, who pressed round the winning stands. Messrs. Hugh Dickson, Lim., Belfast, won the leading prize for thirty-six blooms. Their stand contained chiefly varieties introduced within the past few years, and it was interesting to note that in Ireland, anyway, good autumn roses are to be found in David Gilmore, Archie Gray, Triumph, and Mrs. Theodore Rooseveldt. One or two old favourites were Ulrich Brunner, Mrs. J. Laing, and Alfred Colomb. Second prize was awarded Mr. W. Ferguson, Dunfermline, whose flowers were fresh, and, for the most part, of good substance. Mr. R. G. Ferguson, South Nurseries, Dunfermline, came in third, the flowers lacking somewhat in size and substance.

The amateurs' class for twenty-four roses had but one entrant, the exhibitor being Mr. G. A. Turnbull, Gaselock, Helensburgh, who was awarded first prize. For twelve blooms Mr. Frank Watt, Firbank, Kilbirnie, was first with some very good blooms. Mr. R. S. Aitkenhead, Larkfield, Gourock, took second prize. Mr. Robert Barrowman, Rosebank, Bargeddie, taking the remaining prize. Messrs. Hugh Dickson, Lim., staged beautifully in the class for eight vases of decorative roses, their white variety, Simplicity, the brilliant Muriel Dickson, and velvety H. E. Richardson, with Golden Gem, being some lovely roses. Second prize went to Mr. W. Ferguson, Dunfermline, and third to Mr. R. C. Ferguson. Mr. W. Ferguson scored for six vases of five blooms each, Mr. R. C. Ferguson following. Vase classes for amateurs filled well, some of the single vases of certain colours producing very good blooms.

SWEET PEAS

made a big and, for so late in the season, a very noteworthy display. The quality from one end to the other was very good, some of the larger classes containing entries well above average exhibition quality. Mr. John Smellie, Pansy Gardens, Busby, put up a very pleasing stand of twelve vases, receiving first prize. Rosabelle, Lavender George Herbert, Hercules, R. F. Felton, King Manoel, Hilda, May Campbell, Dorothy, Scarlet Emperor, Barbara, Agricola, and Edrom Beauty were the varieties staged. Second prize was won by Mr. J. H. Crosby, The Ross, Comrie, whose flowers lacked a trifle of the freshness and size of the winners, but were still good. Mr. George Bowness, Riverside Nursery, Busby, was third with well-grown flowers, just here and there a bit weather worn.

The proprietors of the "Glasgow Evening Citizen" provided prizes for another class of twelve vases of sweet peas, to be selected from a list of varieties named in the schedule. First prize in this class went to Mr. J. H. Crosby, The Ross, Comrie. He had good flowers on capital stems, but could, we thought, have staged less stiffly, with better effect. Mr. George Bowness, Busby, received second prize with a very showy lot, and even the third prize set, put up by Mr. J. Smellie, was very little behind the first in quality. A very big class was that for nine bunches of sweet peas, the exhibits extending half the length of the hall. Mr. J. R. Paterson, Beild Farm, Gargunnock, led the way over quite an army of competitors.

Mr. J. Smellie, Busby, scored a good win for twelve bunches of early-flowering chrysanthemums, Abercorn Beauty, Busby Yellow, and Crimson Polly being three bright,

good varieties on the stand. Mr. Geo. Bowness, Busby, was given second prize. For six vases Mr. Robert Sutherland was the winner. He showed good bunches of useful sorts. Mr. W. P. Blyth, 11, Queen's Gate, Clarkston, claimed second prize, the third going to Mr. Geo. Robertson, Eastwood, Thornliebank. Mr. Thos. Nelson secured first prize for three bunches, showing Crimson Polly, Mina Blick, and White Masse.

DAHLIAS, CARNATIONS, AND VIOLAS.

Mr. J. Smellie, Busby, had some good blooms on his first-prize stand of twenty-four show and fancy dahlias. Such old favourites as Mrs. Saunders, Shottesham Hero, A. V. Rawlings, and Colonist were represented. Second prize was won by Messrs. Bannatyne and Jackson, Hamilton. Mr. David Barbour, Johnshill, Lochwinnoch, led with twelve blooms, followed by Mr. Wm. Jenkins, Lightburn Road, Cambuslang, and Mr. Robert Sutherland, Auld Isle, Kirkintilloch. Twenty-four cactus dahlias on boards brought another first prize to the credit of Mr. John Smellie, his stand containing capital flowers of modern varieties. Mr. Geo. Bowness, Busby, came just behind the winner, and was in turn followed by Mr. J. Sutherland, Victoria Nursery, Lenzie. Mr. Smellie led again for twelve vases of pompon dahlias, the winner for six vases being Mr. Jas. Paul, Drumbeg, Killearn, who also won first for three vases.

Mr. Jas. Nichol, gardener to Allan Kirkwood, Esq., Darnley, Nitshill, staged the winning twelve vases of border carnations, showing, among other varieties, Gertie, Lord Steyne, Alfonso, and Gretchen. The same exhibitor had the best three vases, being followed by Mr. Peter Anderson, Inchinnan, Renfrew, and Mr. Jas. Frew, Darnley, Nitshill. Forty-eight violas, shown on boards, was a class after the heart of the old florists, a few of whom yet remain to discuss with animation the points and merits of their favourite flowers. Mr. Alex. McAlpine, Viola Gardens, Cleland, took the leading prize, his flowers being large, smooth, clear in colour, and symmetrical in outline. Second prize was taken by Mr. Jas. McKellop, Craigbinning, Upshall, whose flowers just lacked the smoothness and evenness that is aimed at. Third prize went to Mr. John Johnstone, Law.

FRUIT

was remarkably fine, especially the grapes, competition throughout the extended classification being very keen. The opening class was for twelve dishes of fruit, Mr. Jas. Brown, gardener to A. A. Hagart Speirs, Esq., Houston, taking premier honours. Black and white grapes, Crimson Galande and Royal George peaches, and fine pears, apples, nectarines, and melons were beautiful produce. We could find no second award in this class. The winner for six dishes was Mr. D. McIntosh, gardener to E. Bewley, Esq., Danum, Rathgar, Dublin. His Peasgood apples were wonderful for size and colour, and his other dishes were also good. Second prize in this class went to Mr. Hugh MacSkimming, gardener to W. T. Machellan, Esq., Auchenault, Helensburgh; and third prize was awarded Mr. John Finnie, Summerhill, Shandon.

Eight bunches of grapes, to include no more than two of one variety, was the principal class, and the quality was splendid. First prize went to Mr. Robert Glen, gardener to R. M. Donaldson, Esq., Blairvaddick Row, Helensburgh. His bunches were Appley Towers, Muscat of Alexandria, Madresfield Court, and Black Hamburgh. The finish, as well as size of berry and build of bunch, was good all through. Mr. David Halliday, gardener to W. Mackay, Esq., Ascog, Rothesay, was close up for second place. Mrs. Pince was a huge bunch, Alicante had great merit for size, and carried beautiful bloom, Madresfield Court and Muscat of Alexandria were other varieties shown, and also Black Hamburgh. Mr. John Middleton, gardener to Wm. Forbes, Esq., Callendar House, Falkirk, took third prize. He had two bunches of Mrs. Pearson, Muscat Hamburgh, Black Hamburgh, Appley Towers, and Muscat of Alexandria, a set that showed skilful handling, but one or two bunches would have hung another week with advantage.

Mr. Hugh MacSkimming won first prize for four bunches of grapes, showing rich-coloured Muscats and heavy bunches of Black Hamburgh. The second prize went to Mr. John Finnie, who also had good colour in his white grapes, beating Mr. David Halliday, who took third place. Mr. MacSkimming took the lead for two bunches of white Muscats, beating Mr. John Finnie and Mr. D. McIntosh, Dublin. Again for two bunches of Black Hamburgh Mr. MacSkimming scored, second prize going to Mr. John Middleton, Mr. Robert Glen coming third. The best two bunches of Alicante were put up by Mr. David Halliday, the bunches being very weighty and carrying good bloom.

Mr. McIntosh, Dublin, had some grand apples in the class for twenty-four, in six varieties. First prize was easily won. Emperor Alexander, Rival, and Cox's Pomona were very fine indeed. Mr. Thomas Smith, Dundonald Road, Kilmarnock, had nice apples in his second prize exhibit, but they were practically green in comparison with the winner's. For a collection of pears the lead was taken by Mr. Andrew Harvey, gardener to Miss Hamilton, Rozelle, Ayr. He had Marguerite Marillat splendidly developed and coloured, and Beurre Hardy was also fine. Mr. McIntosh took second prize in this class.

VEGETABLES.

There were a number of collections of vegetables which possessed capital quality. Scottish growers are always keen on their vegetables for show, and we are never disappointed in our expectations of finding something really good. One class, for thirteen dishes, was contested only by two exhibitors, but the vegetables staged by them were of high quality. Mr. Charles Shaw, gardener to S. Mitchell, Esq., Boquhan, Kippen, was adjudged victor, and certainly he had the better of his opponent in onions, parsnips, yellow turnips, beetroot, and peas, but other dishes were very closely matched, and it was not just a walkover. Mr. William Bell, gardener to the Right Hon. Earl of Home, Bothwell Castle, received second prize.

In another class which was for nine dishes Mr. James Brown, Houston, came first. His produce was even and shapely, the parsnips and carrots being of good size. Mr. Charles Shaw took second prize in this class, the produce not being up to the standard of his bigger collection, but he had some capital potatoes and peas; Mr. John Gray, Middlewood, Uddingston, was placed third. In a second class for thirteen dishes, Mr. Charles Shaw was again first, with Mr. W. P. Bell once more closely following. Both exhibits were very creditable to the exhibitors, who know not only how to grow, but how to properly show vegetables.

In another nine-dish class, with a silver cup offered as the first prize, Mr. John Gray, Middlewood, Uddingston, was the fortunate winner. His leeks and Prolific potatoes were fine, and parsnips, too, were very long, even, and smooth. Second prize here went to Mr. Joseph Devoy, 30, Dalrymple Street, Stranraer, Mr. George Watson, Kirkhill, Kippenby-Stirling, taking the remaining prize. Messrs. Forrest and Co., Welldale Nurseries, Douglas, Lanarkshire, had a most remarkable collection of tomatoes, which were arranged in mounds and pyramids in a very effective manner. There were probably twenty or more varieties, and first prize was awarded them, second prize going to Mr. John Hood, Dalmore, Helensburgh.

NON-COMPETITIVE EXHIBITS.

These were numerous, extensive, and excellent. In fact, they would have made a good show in themselves. Messrs. Sutton and Sons, Reading, had one of their large decorative stands of choice vegetables, including a number of novelties that attracted a good deal of attention. The floral decorations were charming, the new red Sunflower being conspicuous. Messrs. Sander and Sons, St. Albans, brought up a choice little batch of orchids that were representative of some uncommon tribes, as well as the more familiar. Mr. D. G. Purdie, 6, Waterloo Street, Glasgow, showed a miscellaneous group of ferns and foliage plants with groups of begonias, liliums, and hydrangeas interspersed.

A great bank of collarette dahlias, with some good garden roses, and a host of sweet peas, came from Messrs. Dobbie and Co., Edinburgh. In each section the varieties were as good as could be obtained from any source at this season. The Killermont Nursery Company, Bearsden, Dumbartonshire, staged a good display of border carnations, together with a few roses, the whole being set up with an airy lightness that showed the flowers to advantage. Hardy flowers, including some very choice things, were shown by Messrs. Cunningham, Fraser, and Co., Comely Bank Nurseries, Edinburgh, and Messrs. Guthrie Bros., Priory Nursery, Ladybank, also showed hardy flowers with roses and sweet peas. Messrs. Bannatyne and Jackson, Hamilton, made a fine show of cactus, show, and pompon dahlias; and Mr. Arthur Brown, Blantyre, also showed dahlias beside a selection of pansies, violas, and early chrysanthemums. Mr. John Hood, Kerse Nursery, Kilbirnie, had some very good pansies, and a new tomato called Hood's Hero. Messrs. Pringle and Alexander, 17, Waterloo Street, Glasgow, showed samples of apples, vegetables, and a few roses and other choice flowers.

Mr. Amos Perry, Hardy Plant Farm, Enfield, Middlesex, showed a striking mass of the new Achillea Perry's White, and also a new and attractive helenium named Autumnale rubrum. Delphiniums Mrs. Creighton and Mrs. Perry were in the exhibit.

Sweet peas were the main feature of the exhibit staged by Messrs. Thyne and Son, Union Street, Dundee. The firm also had hardy border plants in variety, phloxes showing up well. The sweet peas were beautiful flowers, strong in stem, and embracing the best peas of the day.

Messrs. Williamson, Gemmell, and Co., Argyle Street, Glasgow, made quite a miscellaneous exhibit, covering floral and vegetable subjects, and also ferns and foliage plants. A magnificent lot of begonias were brought all the way from Bath by Messrs. Blackmore and Langdon. There is no necessity to speak of the quality of the flowers, for it may be taken for granted the firm only shows plants or flowers beyond reproach. Messrs. Malcolm Campbell, Lim., Glasgow, exhibited a table of choice fruit of the best sorts, both hardy and exotic. Pineapples, bananas, grapes, figs, plums, peaches, and pears were all picked specimens.

Messrs. Wells and Co., Merstham, Surrey, showed a nice group of early-flowering chrysanthemums, all of which were bright, free, and useful garden sorts. The same firm showed perpetual carnations and herbaceous phloxes in variety. Mr. Wm. Leighton 36, Renfield Street, Glasgow, arranged an exhibit of crotons, palms, and ferns, and also showed a good collection of dessert and culinary apples. Messrs. Austin and McAslan, Glasgow, occupied a large space with a collection of decorative foliage plants, large hydrangeas, Lilium auratum, and choice ferns.

Messrs. Geo. Fairbairn and Sons, Botcherby, Carlisle, had a nice exhibit of sweet peas, Safrano, Rosabelle, and Lady Cynthia being attractive, even though among many other good ones. The exhibit occupied about a hundred feet of tabling. Mr. Jones, Kilkenny, showed good gladioli, Princeps, Loyal, Klondyke, and America being a few very distinct sorts.

A most interesting exhibit of grapes was sent from the Royal Horticultural Society, Wisley, comprising quite a large number of varieties, some of which are scarcely ever seen in cultivation. Of course those, for the most part, are small-berried varieties, but some of these are particularly fine in flavour.

ANDROSACE LANUGINOSA.

This is without doubt the loveliest of the androsaces when seen in large masses covered with flower. Its rosy-lavender blossoms, with yellow centres, commence to expand during the month of May, and are at their best about midsummer or a little later, but continue to bloom well into the autumn, it being no uncommon occurrence to see an example bearing a dozen or more flower-heads as late as mid-November. Between these two dates it is never entirely flowerless, but generally reaches its zenith of perfection early in July.

In their native altitudes the plants are exposed to severe frosts, and during the winter are covered with deep snow, but in our climate, with its alternations of frost and damp, muggy weather, the androsaces often succumb. The silky foliage is greyish-white in colour, and large specimens have the appearance of cascades of silver falling over the rocks. The mass here illustrated, which measures over four feet each way, is the development of two tiny plants put out from thumb pots three years ago on a sunny bank, in soil mixed with a large proportion of small stones and rough grit.

Androsace lanuginosa makes prostrate stems a foot or more in length. Cuttings may be made of these, and, if they are placed in pure silver sand, and kept close for a short time, they will soon root. Planted in the spring, a few inches apart, these will soon form an effective mass. Old stems cut back make stronger growth, and bear larger heads of bloom. The best position for this androsace is one where its growths may hang over perpendicular rocks.

The silvery, silky foliage often suffers considerably from damp in the winter, but is less subject to its effects when the growths are pendent, and are backed by rocks. Where it is grown on a flat surface, this should be covered with small, flat stones, in order to prevent contact with the soil. Fibrous loam and peat, with which a liberal allowance of rough grit and rock chippings is mixed, proves, in most cases, a satisfactory compost. Overhead moisture during the winter can, to a certain extent, be obviated by fixing a large pane of glass horizontally a few inches above the plant, or, in the case of large plants, by placing a glass light a few inches above them.

It is surprising what difference of opinion exists regarding the culture of the subject of this note. A certain writer, a very successful rock gardener, once wrote of it as "one of the easiest grown of all alpine plants," though, by the way, it is a native, not of the Alps, but of the Himalayas. Another writer, particularly well versed in the culture of alpines and such-like subjects, stated, on the other hand, that he found no plant more difficult to cultivate successfully. Between these two extremes many instances of partial success or failure are recorded. Those who experience no difficulty in growing the plant fail to understand why others are not as successful, while the unfortunates who are unable to prevail upon it to live wonder at the easily-gained triumphs of their more favoured brethren.

Even where Androsace lanuginosa has flourished for years it sometimes dies out unexpectedly. In one of the best rock gardens in Devon this androsace grew with astonishing vigour, and formed a mass six feet in length and three feet in breadth. This suddenly died, and for some years, though strong young plants have been tried again and again, and the whole of the old soil removed, and prepared compost of the best description substituted, it absolutely refused to grow.

WYNDHAM FITZHERBERT.

Kingswear.

ANDROSACE LANUGINOSA IN A DEVONSHIRE GARDEN.

The flowers are rose-lavender, and freely produced over a long period.

TRITELEIA UNIFLORA.

Commonly known as the Spring Star Flower, and passing under the name of Triteleia uniflora in gardens, this bright and interesting half-hardy, bulbous plant is now placed by botanists in the genus Brodiæa. A native of the southern part of South America, chiefly around Buenos Ayres, it has been known in gardens since the early part of last century. The colour of the flowers is reminiscent of the chionodoxas, which bloom two months in advance of the species under notice. In other respects they are quite dissimilar. In Triteleia the flowers are borne singly, or more rarely in pairs, on simple stems; the flowers are large, over two inches in diameter, and open flat; the segments are arranged in two series in the form of regular, pointed triangles, hence the popular name of Star Flower is suggested. Provided that a sunny position and moderate rich, well-drained soil can be given it, this triteleia will add distinction and interest to the garden in spring. The best results I have obtained were with bulbs planted on low, sunny banks, in company with Anemones pulsatilla and apennina, and Tiarella cordifolia. In the third year after planting the colony became so dense as to convey an impression similar to that produced by overcrowding from seed-sowing. To those who garden on limestone or chalky soils this is a bulb to naturalise freely, as under these conditions I have found it most reliable in flowering, and prolific in increase, and it is one of the least expensive to procure. It is best planted in autumn at a depth of two to three inches in the soil.

THOMAS SMITH.

LITTLE AND OFTEN.

When trying to show people the inadvisability of taking very heavy meals, it is a common thing to enforce the advice by giving as an illustration the difference between keeping up a fire with an occasional shovel of coals, and putting on a whole scuttle at intervals of four or five hours. This is an instance of the "little and often" system which is such a good one to adopt in many horticultural practices. The man to whom all gardening operations are a nuisance, and merely so much work to be done, likes to do a thing all at once and get it over, while the lover of gardening will keep his protégés under observation and attend to them according to their needs. Let us look at a few of the commonest routine operations of the garden which are best done by easy stages. The

Summer Pruning

of fruit trees is the first one that comes to mind. Every leaf removed from a tree or plant weakens it to some extent—considerably when the plant has only three or four leaves, and infinitesimally when it has hundreds. We have all seen plants and trees weakened permanently by having a large proportion of their foliage removed by slugs, caterpillars, or birds, and when we summer-prune a bush apple by removing three-parts of its summer growth at one time, or disbud a peach by rubbing off all the young shoots except the first and last on each twig, we are giving a serious check to the growth, from which it will take some time to recover, especially if the weather should turn cold shortly afterwards. If we had begun by doing a quarter or a sixth of it, choosing the strongest growths to start with, the energy of the tree would have been diverted into the remaining growth, and little, if any, check would have been given, but, on the other hand, each successive stopping or disbudding would have sent a little additional strength to the weaker growths, and thus the growth would have tended to become better balanced. This gradual stopping is specially valuable with wall plum trees which are growing vigorously above the wall, while the lower branches are becoming weaker. The strong shoots at the top of the wall should be stopped first, doing this as soon as the basal leaves are well developed, and then, after a week or so, applying the same treatment to the strongest of the breast shoots. The difference in the growth of trees which are treated in this way over a course of years, as compared with those with which no such care has been taken will be very marked. The work need not be made a labour of, for any odd five minutes can be used for the purpose.

Another practice which might be mentioned is that of

Manuring,

liquid or otherwise. All who have used nitrate of soda know that "little and often" is the rule to abide by, heavy doses sometimes injuring the roots, rendering plants unhealthy, or even killing them outright, while a slight dusting on the soil once a fortnight or three weeks, according to the weather, will work wonders. It is the same in principle with liquid manure, except that small doses are even more essential, especially for pot plants, where the soil is so likely to get sour. Heavy doses applied to the soil, besides the lessened efficiency and even injury resulting from their use, also mean greater loss from heavy rains. With mulching it is a mistake to use a large quantity at once, as it excludes air from the soil, keeps it cold, and prevents the material used becoming broken up into its simple elements, and so feeding the tree or plant as quickly as it should do. A small quantity about the end of May, when the soil is becoming warmed, followed by another layer a month or six weeks later, will conserve the moisture just as well, and by the end of August the whole mulch will be decayed and almost powdery.

Potting.

affords us another illustration. Some people, usually very inexperienced amateurs, though in some cases lazy ones, put plants into their final pots straight away. The result is that, unless watering is done very carefully indeed, the portion of the soil which the plant does not use for some time will become sour and the plant will suffer. On the other hand, when plants are moved from sixties into forty-eights, and from these into thirty-twos, and so on, each shift seems to give the plants an impetus in their growth, or a fresh start, which is especially noticeable if the plants have nearly exhausted their former confined root-run. With some plants, most noticeably with chrysanthemums, a darker colour may be noticed in the leaves within two days of the shift.

Thinning

must be mentioned in this connection. If seedlings are thinned in wholesale fashion, not only will harm probably be done by deferring the work as long as possible, so that the seedlings may be big enough to handle, but many of the best plants will be sacrificed. It is an operation that should be lightly touched, it may almost be said played with, at short intervals, in warm, growing weather every day or two, beginning with the thick clusters, which had better be pulled up entirely, as they are bound to be leggy, and then pulling them almost entirely where they are at all thick; only leaving a few of the strongest and sturdiest, at every thinning leaving the best plants, in which way we shall ultimately reduce a patch of many hundreds to a dozen or two. The same principle should be applied to the thinning of fruit, except that it is not necessary to remove completely any thick clusters, but always beginning where they are thickest and most badly placed, and leaving the best fruits. Those which are all of a size two or three weeks after setting will often vary a good deal a month afterwards.

Gathering of Apples and Pears.

Where trees are at all inaccessible it is a great mistake, at least with dessert fruit, to pick all at once, as they do not mature simultaneously. Where long ladders have to be used, it is, as a rule, scarcely advisable to adopt the practice of gradual gathering, as so much harm will be done to the trees by the ladders. But otherwise a beginning should be made on the fruits which look most mature three or four weeks before the usual season of the final picking, and this should be followed after a week or ten days by gently lifting them all, and only removing those which come off easily. It will generally be found that those which are obtained from the last gathering will compare very favourably with the earlier pickings. In this way every fruit is obtained at its best, and there is the minimum risk of loss from storms. In the case of pears, too, there is the added advantage that the season of a given variety is prolonged, in the case of some varieties doubled.

These notes must not conclude without a warning that there is one operation, and that the commonest in garden practice, which must not be done little and often, and that is watering. Water thoroughly or not at all, whether the subjects are in pots or in the open ground. In the case of pots it is better to water twice, at intervals of an hour, and then, except in hot weather, they will usually last over two days, so that it will not take much longer on the average. ALGER PETTS.

ALTHÆA FICIFOLIA.

A few days since, when passing through the highway facing the long block of ancient and picturesque houses at Horsham termed "The Normandy," formerly the residences of the Normandy Brotherhood, my attention was drawn to one or two plants of the fig-leaved hollyhock growing in the garden of what is known as the Priests' House. The plants occupy a corner of a small front garden, and had tall spikes of pale yellow or primrose-coloured flowers. The palmate leaves were not, however, large, and had only five lobes, but the small size of the leaves, and the slender flower spikes may, no doubt, be attributed to the poverty of the soil, and the crowding of the other hardy plants. I ascertained from the occupant of the house that the seed had been obtained a few years ago from a garden in Surrey.

Relative to the country of which Althæa ficifolia is a native, it may be remarked that in Nicholson's "Dictionary" it is described as a native of Siberia, whereas Paxton's "Botanical Dictionary" and Johnson's "Gardeners' Dictionary" gives the Levant as its home. All the publications agree in giving 1597 as the year of introduction. It would be interesting to learn whether the Levant or Siberia be correct.

It should be mentioned that there was no indication of the presence on the leaves of the dreaded hollyhock fungus, although plants of the hollyhock growing within a distance of three or four yards were suffering severely from the disease. This confirms the opinion generally held with regard to immunity of the species from disease, and suggests that by the hybridisation of A. ficifolia and A. rosea a disease-proof race of varieties might be obtained. WILLIAM GARDINER.

Horsham.

[Althæa ficifolia is a handsome species, and so closely resembles A. rosea, better known as the common hollyhock, that the only point of difference is the narrow lobing of the leaves, and this is variable, and sometimes the leaves are as broad and as little lobed as those of the hollyhock. It inhabits an extensive area from Persia to Siberia, South Russia, Syria, and Egypt. —ED. "G.M."]

Pink Cuttings.—These will now be well rooted, and can be planted out in their permanent quarters, or otherwise on a reserve piece of ground, for a season to develop into nice tufts for planting another autumn.—T. B. FIELD.

WORK AMONG CHRYSANTHEMUMS.

Mildew is again crippling hundreds of chrysanthemum plants, and the largest and healthiest leaves seem to be those most severely attacked. Certain varieties, however, have almost entirely escaped injury. I have often wondered why they are more immune than others, and find that the undersides of the leaves appear to be more glossy and smoother than those which fall a ready prey to mildew. Few suffer more than that old favourite, F. S. Vallis, but Reginald Vallis and Madame G. Rivol are sometimes almost denuded of all their leaves through bad attacks of mildew.

While the plants are outside I favour remedies applied in liquid form chiefly. When placed under glass fungicides in the form of either a powder or spraying solution may be used. Where the attack is confined to a few leaves on a few plants only flowers of sulphur may be put on; but when the attack extends to many plants, and is quite general, a spraying solution is the best. I have not found anything better than a solution of sulphide of potassium, prepared by dissolving one ounce in two and a-half gallons of clear water. It is, however, preferable to dissolve the rock sulphide in about one pint of water, then cork it up tightly in a glass or earthenware bottle for several days before mixing with the full quantity of water. Weak sulphide of potassium turns the water to the colour of milk, while the best sulphide makes the water resemble pale brandy, and discolours the woodwork brown when wetted with it. The undersides of the leaves of the plants should be thoroughly wetted when the solution is applied; a syringe fitted with a spraying nozzle being preferable for its application. To carry out the work as it should be place the plants on their sides on mats, or, better still, in a long wooden trough sufficiently wide to contain the plant without bruising the leaves. The surplus liquid can then be collected, and any waste avoided. Repeat the syringing just before the plants are placed in the houses. On the day they are housed dust some flowers of sulphur on the undersides of the leaves of all plants that have been treated for mildew outside. If given fairly good treatment under glass as regards ventilation, so as to avoid draughts, the plants will not suffer much from mildew before the show dates come.

Chrysanthemums always do better if kept in the open air as long as possible, but no good purpose will be served if they are kept out after the buds commence to open, but damage may be done to the blooms if they are left outside after reaching that stage. Some of the very late-flowering varieties are the best as regards bearing blooms of exhibition standard, and it is imperative that they be put under glass at a much earlier date than the others.

Last year I "timed" a number of the new varieties as a guide to their treatment this year, although they can rarely be depended on to come to time every season. I found that by housing the variety Mrs. G. Drabble the last week in September the buds showed colour on October 14, and were fully developed blooms on November 14. To have this, and several other good late varieties at their best on November 1 it is advisable to put the plants under glass on September 18. Abundance of air must be admitted to all such early-housed plants. According to my experience it is a good plan to commence on September 13, placing the plants on the floor of a suitable house every evening, or thereabouts, and taking them into the open air again every morning. By so doing they are not weakened, and the buds advance very considerably.

Instead of arranging them all in groups, and so closely packing them that the lower leaves are soon lost, stand individual specimens of the best and new varieties in odd corners of the structure, where plenty of light and air can reach them.

GEORGE GARNER.

CUNNINGHAMIA SINENSIS.

Upwards of a century has elapsed since this tree was introduced into British gardens, for it was originally sent home in 1804 by Mr. William Kerr on behalf of the East India Company. A native of Southern China, it is too tender for general cultivation in the British Isles, although it is often met with in the southern and south-west counties. The accompanying illustration depicts a specimen growing in the choice collection at Bury Hill, in Surrey, whilst other fine trees are to be found in the same county in the gardens of H.R.H. the Duchess of Albany, at Claremont, and in the gardens of H.R.H. the Duke of Connaught, at Bagshot. In Devonshire and Cornwall, however, it is met with as an even finer specimen, and examples are to be found between thirty and forty feet high, with trunks twelve to fifteen inches in diameter. As a rule, however, the older trees are less ornamental than the younger ones, for they lose their lower branches, and become very ragged without the nobility of aspect which attaches to an old battered yew or Scots pine. In many gardens it is found with several trunks springing from one rootstock, as is shown by the present illustration. This can often be traced to the tree being killed to the ground line by a severe winter, such as was experienced in 1894-1895. It is, however, one of several conifers which is able to regenerate itself by shoots springing from near the ground, and it is rarely that a severe winter kills a tree outright.

CUNNINGHAMIA SINENSIS.

A fine specimen in the gardens of Bury Hill, Dorking.

The species is araucaria-like in character, the leaves being linear-lanceolate, and two to three inches long, sharp-pointed, and thick in texture. The cones resemble miniature araucaria cones, being rounded, and one to one and a-half inches in diameter. They are borne freely on trees in the gardens of Sir Thomas Dyke-Acland near Exeter, and at several other places. Although the tree is usually grown from seeds, it may also be increased by means of cuttings, the best being those obtained from the upright shoots which spring from a trunk that has been cut back in the course of a severe winter. W. D.

NEW PLANTS, FLOWERS AND FRUIT.

SCABIOSA CAUCASICA MAGNIFICA.

An exquisitely beautiful variety of this well-known and highly-appreciated species. The flowers are larger, and of finer form than are those of the type, and the shade of lavender-blue is rather more intense. It is a valuable addition to the hardy perennials flowering at this season of the year. A.M., R.H.S., August 26. Messrs. J. Cocker and Sons.

LÆLIO CATTLEYA ETTRICK.

A bold and handsome hybrid, obtained from a cross between Lælio-cattleya Bletchleyensis and Cattleya Dowiana. In general aspect this form suggests L.-c. callistoglossa, but the flowers are larger and more richly coloured, and it is much finer than that beautiful hybrid. The flowers are of large size, the sepals and petals purple-rose, and the lip crimson, marked with gold A.M., R.H.S., August 26. Messrs. J. Veitch and Sons, Chelsea.

ODONTIODA BRUGENSIS VAR. EILEEN.

A distinct and attractive form of the fine hybrid raised some time since by Messrs. Sander and Sons in their Bruges establishment. The flowers are rose-purple, with deep purple blotch at the base of the lip, and a bright yellow crest. We illustrated this variety in our issue of August 30,

SCABIOSA CAUCASICA MAGNIFICA.

Flowers, lavender-blue. A.M., R.H.S., August 26. Messrs. J. Cocker and Sons, Aberdeen.

CATTLEYA HARDYANA MRS. WATERS BUTLER.

A distinct and attractively-coloured form F.C.C., R.H.S., August 26. J. Gurney Fowler, Esq., Glebelands, South Woodford (gardener, Mr. J. Davis).

of this fine species; the sepals and petals light rose, and the lip rich gold and deep purple. A.M., R.H.S., August 26. W. Waters Butler, Esq., Southfield, Edgbaston (gardener, Mr. R. H. Jones).

LÆLIO-CATTLEYA MARQUIS DE WAVRIN. ORCHIDHURST VARIETY.

A good variety of this well-known hybrid. The sepals and petals are deep rose, and the lip deep crimson. A.M., R.H.S., August 26. Messrs. Armstrong and Brown, Tunbridge Wells.

CHRYSANTHEMUM IMPROVED NORTHERN STAR.

A distinct and effective form of the well-known annual Chrysanthemum carinatum. The flowers are about four inches in diameter, regular in outline, the ray florets white, with yellow base, the latter colour forming a regular band round the dark coloured marbling. F.C.C., R.H.S., August 26. Baron Bruno Schroder, The Dell, Englefield Green, Surrey (gardener, Mr. E. Shill).

CHRYSANTHEMUM LILY REED.

A distinct cactus variety, with long, elegantly-arranged florets; the colour is lemon-yellow, and the flower, which is highly finished, is of large size. A.M., R.H.S., and F.C.C., N.D.S., August 26. Mr. H. Shoesmith, Woking.

Prince of Orange.—A collarette variety with rather large flowers of good form; the ray florets deep orange-salmon, and the great merits of this variety is the length and rigidity of the flower stalks. A.M., R.H.S. and F.C.C., National Dahlia Society, August 26. Mr. C. Turner, Slough.

PÆONY-FLOWERED DAHLIA APHRODITE.

Flowers large, pure white. A.M., R.H.S., August 26. Mr. C. Turner, Slough.

BRASSO-LÆLIO-CATTLEYA THE BARONESS.

A remarkably handsome hybrid, derived from a cross effected between Brasso-cattleya Mrs. J. Leeman and Lælio-cattleya Ophir. The flowers are of medium size, and good form; the broad sepals and petals are bright yellow, and the fringed lip rich yellow, marked with red lines and a rose-brown disc. A.M., R.H.S., August 26. Messrs. Dobbie and Co., Edinburgh.

DAHLIAS.

Aphrodite.—A charming variety belonging to the pæony-flowered section. The blooms are about six inches in diameter, have three rows of somewhat regularly arranged ray florets, which are pure white, and the disc bright golden-yellow. One of quill florets a lighter shade of the same hue. The blooms are lightly poised on stiff, wiry stems. A.M., R.H.S., and F.C.C., N.D.S., August 26. Messrs. Dobbie and Co.

Tusca.—A collarette variety, with medium-sized flowers of a rich crimson colour, with white quills. Dwarf in growth, and free in blooming. A.M., R.H.S., and F.C.C., N.D.S., August 26. Messrs. Dobbie and Co.

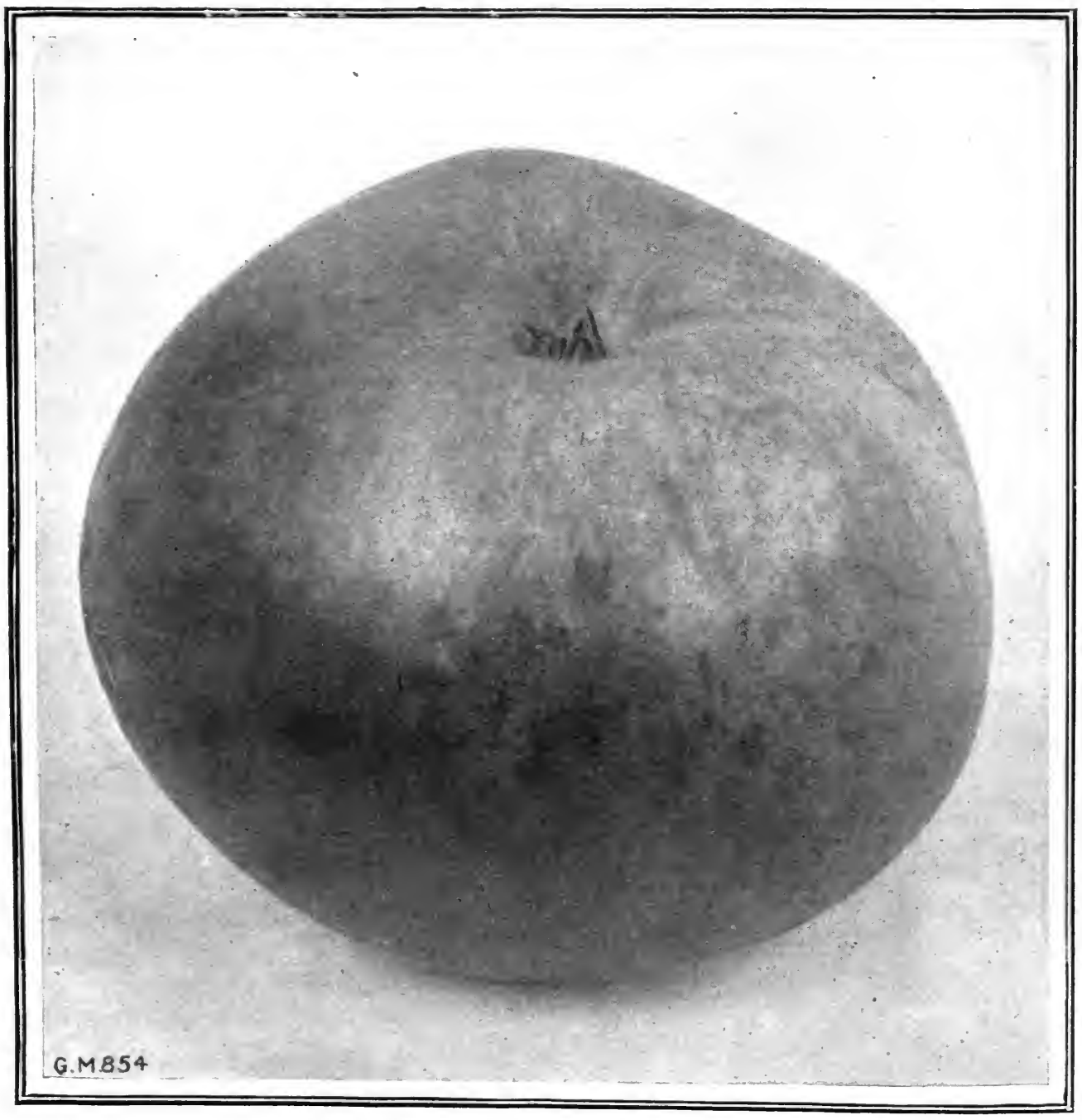
Regulus.—A distinct pompon; the blooms of exquisite form, and the colour bright ruby-purple. A.M., R.H.S., and F.C.C., N.D.S., August 26. Messrs. J. Cheal and Sons, Crawley.

GLADIOLI.

Lady Faire.—A charming variety of distinct character; the flowers large and of good form, the colour cream-white, passing to pure white, and marked with a crimson blotch on the lower segment. Messrs. Kelway and Son, Langport.

Lady Northcote.—A superb variety, the flowers of high quality, and so arranged as to form a noble spike; the colour buff-yellow, tinted pink towards the margin. A.M., R.H.S., August 26. Messrs. Kelway and Son.

Mrs. Bromet.—A remarkably beautiful variety, with flowers large in size, of superb form, and of a pleasing sulphur-yellow, marked with purple in the centre. A.M., R.H.S., August 26. Messrs. Kelway and Son.



APPLE MAIDSTONE FAVOURITE.

An early dessert variety. A.M., R.H.S., August 26. Messrs. G. Bunyard and Co., Maidstone.

MONTBRETIA QUEEN ADELAIDE.

A welcome addition to the already strong list of montbretias now in cultivation. The plant is robust, with stout, well-branched flower spikes, and the flowers are between three and four inches in diameter, and are brilliant orange, with yellow centre. A.M., R.H.S., August 26. S. Morris, Esq., Earlham Hall, Norwich (gardener, Mr. Henley).

ROSE MRS. ANDREW CARNEGIE.

An exceedingly beautiful white hybrid tea which is described as having been raised from a cross effected between Frau Karl Druschki and Niphetos, and was awarded the gold medal of the National Rose Society at the exhibition held in the Royal Botanic society's garden. 1912. At the exhibition held at the same place in July last the raisers were successful in taking the premier award for eighteen blooms, shown in a basket, of any rose other than a H.P., T., or N., with finely-developed blooms of Mrs. A. Carnegie, and this basket was illustrated in our issue of July 12. A.M., R.H.S., August 26. Messrs. J. Cocker and Sons, Aberdeen.

APPLE MAIDSTONE FAVOURITE.

An early dessert apple of quite exceptional promise, both for home use and market supplies. The fruit is of the size and shape shown in the illustration, with a rather deep eye, short stalk, and brilliantly-coloured skin, the latter being streaked red and yellow. The flesh is firm, crisp, juicy, and pleasantly flavoured. It originated as the result of a cross between Irish Peach and Beauty of Bath, and for market purposes should be of value for succeeding the second of the two varieties mentioned. The attractive colouring of the fruit, combined with high flavour, bespeak popularity in the markets. A.M., R.H.S., August 26. Messrs. G. Bunyard and Co., Maidstone.

Bouvardia Humboldti corymbiflora.—Autumn is generally regarded as the season of the bouvardias, but this is, as a rule, at its best during the summer months; indeed, so free does it then flower that it is often employed for bedding purposes. When used in this way, two-year-old plants are preferable to the young ones, as those struck in the spring have not time to attain an effective size by the bedding season. It is in many respects different from most of the bouvardias that are so much grown for greenhouse decoration; B. Humboldti corymbiflora is of upright growth, while the leaves are quite smooth. The flowers, too, are much larger, with a particularly long tube of the purest white, and deliciously scented. The cuttings of this kind take somewhat longer to root than most of the others.—K.

NOTES ON THE APPLE AND PEAR CROPS.

Of all the hardy fruit crops ripened in this country, the apple is of the greatest economic value, and ranks as a national asset of some importance. With its cultivation is bound up a wide variety of interests, and grower, distributor, and public alike stand to gain when the apple harvest is full and generous. Widely different reports are at present in circulation regarding this year's crop, but so far as our trees are concerned the quantity is quite up to the average, and I believe this fairly represents the district.

The early months of the year fostered premature swelling of the buds, but the low temperature and sunless days that prevailed throughout March and April arrested growth, so that at flowering-time the trees were quite seven to ten days later than a year ago. Blossom was abundant, the flowers perfect, and fruit was freely set. Unfortunately the season has been decidedly cool, and an interval of six weeks elapsed, from the middle of May to the end of June, during which no rain fell; consequently the fruit at present is under average size, and this is likely to continue unless rain, accompanied by greater warmth, comes within the next few days. The importance of moisture at the roots cannot be overrated, as where trees were taken in hand early, and systematically watered and mulched, the fruits are at least 25 per cent. larger than where no such assistance has been given. Early thinning tends to the same end, for even on the same tree where boughs have but a single or few fruits, these are appreciably larger than those on branches having the fruit crowded.

No recent year stands out in greater relief than the present for the infestations of insect pests, and from these the fruit trees have received every care. Aphides of various kinds have only been kept under by constant spraying and syringing. Grease-banding has been practised to some extent, and the foliage has benefited from the absence of caterpillars. Codlin moth grubs are not so prevalent as a year ago, but the ravages of American blight are still patent on some trees, Gascoigne's Scarlet being one of the earliest to succumb to this insidious pest.

Of the varieties that stand conspicuous for abundance of fruit, Stirling Castle, The Queen, Jas. Grieve, Allington, Coronation, Grenadier, Cox's Pomona, Ribston Pippin, Alfreston, Warner's King, Worcester Pearmain, Lady Sudeley, Duchess of Oldenburg, Lord Derby, Norfolk Beauty, Peasgood's Nonsuch, Tyler's Kernel, Wellington, Lord Suffield, Beauty of Kent, Tower of Glamais, and Lane's Prince Albert are all well above the average, and, with the exception of Cellini, Coronation, and Grenadier, were also up to average a year ago.

Ecklinville, Blenheim Pippin, Charles Ross, Mère de Ménage, New Hawthornden, Betty Geeson, Emperor Alexander, and Old Nonsuch carried heavy crops last season, but on these only a sprinkling of fruit is to be found this year.

Among pears there is a short crop, the one notable exception being Williams Bon Chrétien, which has here carried a full average crop of excellent fruit during the past three years.

Plums and gooseberries were practically failures, but Royal Sovereign and Giroux's Late strawberries, Superlative raspberry, and Boskoop Giant black currant have carried enormous crops of fruit of the highest quality.

THOS. SMITH.

Coombe Court Gardens.

SEASONABLE NOTES ON CLIMBING ROSES.

In almost all districts the early part of this spring was exceptionally trying to roses, and perhaps to none more than to the so-called tender climbers. A very mild and damp winter resulted in more or less continuous growth in the sheltered positions that are naturally selected for this class of rose; and when the cold, unkind spring came, we had a larger amount of young wood than was at all desirable with the almost certain prospect of spring frosts. The enormous amount of insect pests that actually seemed to revel in the unsuitable weather conditions for roses was a very great trial to them.

Positions for Climbers.

The main object of these notes is to point out what I have long thought a common error in the selection of sites for notoriously tender climbing and pillar roses. It is quite natural and right to afford these a well-sheltered position, but to have them practically shut up in a hot south-west or south-east corner is going to the extreme in the matter of shelter. Their tender and seldom well-matured wood does not become sufficiently matured to pass through the winter. In addition to this, we are encouraging early growths on what are naturally precocious varieties. It should be understood that in a sheltered position the extreme cold of an early spring morning is too great a contrast to the quite greenhouse temperature that is experienced when the sun rises.

To afford due protection from inclement weather is correct enough, but we might well try not to overdo this. I have more than once noticed how much more satisfactory many of the tender roses have been when in a colder position, so long as it was sheltered. As the majority of this class prefer a rather drier root run than colder places often afford, I would suggest a little more care in providing this, and raising the soil a little. Some of the best blooms of Rosa sinica anemone roses I saw during the past season were upon a north-west bank; and it is just such positions that are free from the sudden changes caused by a bright sun following a cold night and morning.

I have found L'Ideal, Climbing Perle des Jardins, the now too seldom seen Lamarque, Climbing Devoniensis, Fortune's Yellow, and Maréchal Niel doing better, or at any rate longer-lived, in such situations than when closed in a hot corner. Of course, one takes care that the plants are not fully exposed to keen frost-laden winds, but such protection should not be so near as to smother the roses in any way.

The Pruning of Climbers.

By the time this appears in print, all but those which are really perpetual will have done flowering. I am alluding to those varieties which seldom afford any later flowers after the first glut of summer bloom is over—such as the majority of Climbing Polyanthas, Ayrshires, and Wichuraianas. There can be little doubt that most of these produce their best crop of blossoms from growths made from now onward, which will, in all probability, flower throughout their length if properly matured. Therefore we should induce a good supply of such wood, and, in order to secure this, a certain amount of summer pruning is almost a necessity. Unless we use the knife now, the result will be a closer and more crowded growth than desired. The quantity of short lateral growths crowding the centre of the plants is comparatively useless against a smaller number of long and healthy shoots, which last are much better when secured from the base of the plants so far as possible. I do not advise the entire or complete cutting down that is sometimes practised, but would do the pruning in two or three operations, and thus avoid seriously upsetting the balance of root and wood growth.

In the case of many roses used for pegging down in beds, the removal of the long shoots as soon as they have finished flowering is very essential. This helps towards the better growth of successive shoots from the base of the plant, and also allows of the better cultivation between—work that is often difficult, if not impossible, while the whole surface of the beds is crossed and traversed by pegged-down growths. Care, and a little more consideration in thinning and pruning of climbing roses during summer, is well repaid if one bears in mind the object aimed at, and gives a little thought to the natural growth.

The prompt removal of decayed flowers or developing heps is not sufficiently attended to in the open. Unless it be desired to obtain heps or berries from such as the Rugosas and a few more, it is very important to do away with any tendency to ripen seeds, which has a serious check upon future growth and blossom. Nor do I think we give enough attention to cutting back the growths a little at this time, it being better to keep new breaks as low as possible, and so avoid the stretch of dormant buds or eyes so often met with between the new terminal shoots and the older wood. This might almost be styled another form of summer pruning, and it is surely well to cut back to the most serviceable point whenever using the knife.

Rosarian.

TURNIPS FOR WINTER USE.

Sweet, crisp roots of this vegetable are appreciated at all seasons of the year, but much more so during winter and early spring, when other kinds are less plentiful. To obtain an ample supply of fresh roots it is necessary to make two or three sowings of seed between the beginning of August and the end of the second week in September, regulating them according to the district in which the cultivator resides, the variety grown, and the fertility of the soil. It is almost impossible to produce tender roots of high quality unless the ground on which they are grown be in a high state of cultivation, and an abundance of moisture available to enable the plants to make a quick growth. When the roots are a long time in attaining their usual size they become tough and stringy, and indifferent in flavour.

A quarter from which early peas or potatoes have been taken is a suitable place for growing this crop, and in most gardens there will not be much difficulty in selecting a suitable position. The ground should be forked over, and all lumps of soil broken down as fine as possible in order to obtain a good tilth for sowing the seed. When this has been done give the plot a dressing of superphosphate or dissolved bones at the rate of about four or five pounds to the square rod, to which may be added about half that quantity of kainit. Failing these fertilisers give a liberal dressing of Peruvian guano, dried blood, or other quick-acting manure. Should the ground be very dry at the time a liberal soaking of water will be highly beneficial, and if this be given allow the soil to remain undisturbed for a time before raking it down. Should the soil be heavy and of a retentive nature, the raking of the surface may be deferred until the following day, when it will have become sufficiently dry to be trampled upon without adhering to the boots. If, on the other hand, it is light and gravelly, this operation may be performed in the course of a few hours after watering, especially in bright weather. Drills may subsequently be drawn from a foot to fifteen inches apart according to the variety intended to be sown and the quality of the soil. As some kinds make much larger foliage than others, it is obvious that the distance between the rows must be so regulated as to afford the variety room for its full development without there being any loss of space. For the strap-leaved varieties twelve inches between the rows will be sufficient, while for the other kinds from fifteen to eighteen inches will be none too much, as the plants bulb more freely and grow more sturdy if allowed ample room. The drills at this time of the year should be drawn rather deeper than in spring, so as to give more soil for covering the seeds. This will assist in retaining the moisture round them, and cause germination to take place more quickly.

When sown in very shallow drills, unless the soil is kept moist, the seeds are often subjected to dryness just as they are germinating. When this happens the young plants die off and the crop becomes irregular, therefore it is essential that the soil be kept moist. Birds are sometimes troublesome, but not so much at this time of the year as early in the spring, there being now ample food for them in the fields; but care should be taken to ward them off until the plants are large enough to need no further protection. When three or four rough leaves have formed thinning should be done, leaving the plants from six to nine inches apart according to the amount of foliage they are likely to produce.

Should the weather be dry it is essential the plants be well supplied with moisture to keep them growing. Frequently during August and September the weather is hot, and as the soil at this period has become parched, progress will be very slow unless some assistance in the shape of stimulants is given until the roots have extended to some depth in the soil.

We have usually made three sowings for the winter crop, the first about the second week in August, which consisted of such varieties as Red Globe and Green-top; while for later sowings the White Stone, All the Year Round, and Strap-leaved. We have made sowings as late as September 10 with excellent results, and when the winter has been mild these late sowings have proved invaluable in spring. Taken up in March, and removed to a cool place, such as to the foot of a north wall, they may be kept fresh until the roots from the spring sowings are of a suitable size for use.

It need scarcely be necessary to point out the advisability of keeping the plants free from weeds, especially during the early stage of their growth, for if these are allowed to make headway they are sure to retard the growth of the turnips. In very severe weather it is also advisable to take up sufficient roots for a week's supply, as it is difficult to lift them when they are frozen, especially where the soil is heavy. It is a good plan to cover a portion with litter should there be an appearance of severe frost, for the roots lose their sweet flavour when stored for any length of time. There is also another use to which this vegetable may be put, that is providing greens early in spring. It sometimes happens that the green tops are very useful, especially after a severe winter, when the broccoli and winter greens have been killed by the frost; therefore it is always advisable to sow a good breadth of late turnips, for if the roots are not wanted they will provide an abundance of valuable green food if allowed to stand until the end of March or early in April.

H. C. Prinsep.

WORK FOR THE WEEK.

CONSERVATORY AND GREENHOUSE.

CHRYSANTHEMUMS.—A house must be made ready for sheltering plants of the large-flowering kinds on which the buds are showing colour. Such buds are in danger of decaying should moisture settle on them. The flowering may be considerably retarded by placing them in a house with a northern aspect. The structures must also be prepared for housing the main batch of plants, as, although it may be too early yet to bring them indoors, it is wise to be in readiness should severe frosts be imminent. The late varieties will be the better if left outdoors as long as possible, but provision must be made to readily shelter them from early frosts. A temporary wooden structure may be erected, over which canvas blinds can be easily adjusted on cold nights. Before bringing chrysanthemums indoors it is a good plan to syringe them with a strong solution of soft soap and sulphur.

CLIMBING ROSES.—These are still in active growth, therefore they must be liberally supplied with water. Examine them periodically, and remove weak, useless growth. The flowering wood must be well exposed to light and air, so that it may become thoroughly matured. This is especially necessary in the case of those plants which are required for early blooming. Should aphis appear fumigate lightly with a nicotine compound.

HOUSING PLANTS.—It is time now that all greenhouse plants which are growing in cold frames be placed indoors. The opportunity should be taken when the houses are empty to give them a thorough cleansing. Any whiting or similar substance which has been employed for shading should now be washed off the glass, using the blinds only on bright sunny days, as it is important the plants should have all the light possible. Cyclamen, primulas, bouvardias, winter-flowering pelargoniums, etc., should be placed as near to the roof glass as possible. See that the pots are clean, and the plants are free from insect pests before bringing them indoors. They will need abundance of air for some time after they are removed to their indoor quarters.—E. HARRISS, Lockinge Park Gardens.

THE ORCHID HOUSES.

SEED SOWING.—Seed that is ripening at the present season of the year should be sown without the least delay, so that full advantage in the process of germination may be derived from the light now available and the favourable outside conditions. I consider that very little is gained by sowing seeds of epiphytal orchids after the end of September, and it is therefore better to wait until the turn of the days. Unless one has special facilities for the treatment of late autumn-sown orchid seeds, they make but little advancement, and frequently remain in a semi-dormant state. Even with every means at command to assist germination they do not make much progress until after the new year. In the case of seeds of cypripediums and other terrestrial kinds that take a long time to germinate, I do not think it matters much at what season of the year the seeds are sown, but it is preferable to sow them immediately they are ripe, rather than to keep them back, and sow them when the conditions are more favourable in the spring of the year. It is more than probable that when seeds of the large-seeded kinds are kept, after they have ripened, they will not germinate. Odontoglossum seeds are also best sown as soon as the seed pods ripen, although it is advisable to keep back a portion of the seed in cases where the maturity is reached late in the year, and make a second sowing after the days begin to lengthen. Odontoglossum seed sown now will germinate nearly as quickly as in the spring season, and the seedlings usually make considerable headway, so much so that they become far enough advanced for removal from the seed beds in the early months of the year.

PRICKING OFF SEEDLINGS.—This is a suitable time to transfer seedlings from the seed beds to the store pots. It will generally be found that where the young plants have developed their first leaf they commence to produce roots from the base of the growth. If plants are shifted in this state they soon become established in the fresh compost. The operation of transferring the small plants from the seed bed is a delicate one, and must be done with every care, due caution being necessary to avoid injury by bruising. I find a large pin with its point hammered flat as suitable as anything for the purpose, or a pointed soft stick will also answer the purpose. It is generally a question of room, where seedling raising is practised in most private gardens, and we have to overcome the difficulty of providing space by placing several seedlings in the same pots, but where there is ample room it is advisable to give them separate pots, even if they have to remain a little longer in the seed bed until they are large enough to be treated separately. There is no doubt that plants are not so liable to suffer from damping where grown separately, as when several occupy one pot. The potting compost used for all seedling orchids should not be coarse, and should be of the same nature as that found suitable for the parent plants. The pots used must be clean, and well drained. Keep all newly-potted seedlings carefully shaded from strong light until they have become well established, and maintain plenty of atmospheric moisture about them.—H. J. CHAPMAN, Oakwood Gardens.

HARDY FRUITS.

PEACHES AND NECTARINES.—Keep all sub-laterals on peach and nectarine trees removed as fast as they appear, and train the leaders straight from the base. Keep the foliage free from red spider, and the roots well supplied with water, especially in the warmer parts of the country and where the soil is light and well drained. When the fruits have been gathered the trees should be carefully attended to, and the shoots not required should be cut out, the aim being to keep the heads rather thinly trained, so that the wood may by the end of the season have thoroughly ripened. Take notes of those trees that, owing to an excess of vigour, have failed to fruit satisfactorily, and prepare for lifting the roots and pruning them at the end of October. Also make notes of trees that are of no use and grub them out as soon as time will allow. Prepare the borders for new trees, it being much easier where wheeling, etc., is to be done to push along the work in dry weather, so that, as soon as planting time arrives the trees may be put into their places before the soil becomes cold. Choose the kinds required well in advance, and when making the selection see that the varieties are of the best, and that they will maintain a long supply of good fruits. With careful attention peach and nectarine trees bear as regularly as most other kinds of fruit. After many years' experience, I should, if committed to one variety, choose Dymond. The fruit has a real Royal George flavour; the tree a strong constitution.

FIGS.—Old trees that are bearing good crops of fruits will be all the better for having the border thoroughly deluged with liquid manure; the fruits will then swell to a much larger size. Keep the shoots neatly trained and avoid overcrowding. Fig trees require ample room, and light and air, to mature the medium-sized growth, and a firm root run also. Keep the trees netted over should birds prove troublesome, and use light muslin bags to prevent destruction by wasps, these latter being very numerous this season.

VINES.—These must be attended to at intervals to keep the leading growths secured to the walls or trellises. All lateral growth should be closely pinched two or three joints above the bunches, and, in some cases, one joint will be quite enough to allow. Sub-laterals may be removed entirely, with the exception of the one at the end of the shoot, and this will need to be stopped at one joint. Should mildew put in appearance, dust all the affected leaves with sulphur, and syringe later with clean soft water to thoroughly cleanse the foliage.

STRAWBERRIES. — Autumn-fruiting kinds must not be overlooked; remove useless runners, keep the beds clear of weeds, put clean straw under the trusses of fruit, and well water the plants if the roots are in too dry a state. Should red spider prove troublesome syringe a few times with clean water.—H. MARKHAM, Wrotham Park, Barnet.

THE KITCHEN GARDEN.

MAIN CROP ONIONS.—The bulbs of spring-sown onions will, in most parts of the country, be well matured, and even those of strong growth will, if the tops were bent as advised in a previous calendar, be fit for lifting. If space is available in some sunny pits or cold frames, with their face to the south, the crop may be placed in them to dry thoroughly, the lights being put on during rainy weather. Where these conveniences do not exist the bulbs must be left on the ground, turning them over every other day. A wood trellis is useful on which to lay the bulbs. All thick-necked bulbs should be stored apart from the others, and used first.

SPRING CABBAGES.—The land should be prepared for the planting out of this most important crop. It is advisable to select two positions to ensure a plentiful supply of tender cabbages next spring. Select a warm sheltered border for the earliest varieties and an open position for the later and larger types. Land recently cleared of onions is most suitable for the later varieties; this only needs to be well hoed over and raked to be in readiness for planting. In any case the soil should be made very firm to induce sturdy growth. The very early small cabbages may be set out in rows fifteen inches apart and nine inches from plant to plant; an additional three inches may be allowed for medium-sized varieties, and large-growing cabbages should have another three inches each way. Keep a sharp look-out for grubs, which frequently attack the plants, eating them off just under the surface.

POTATOES.—As soon as the tops have decayed, no time should be lost in lifting the main and late crop potatoes. In digging, care must be taken not to damage the tubers with the fork, and to choose a dry day for the work. Damaged tubers or those having a diseased appearance should be put to one side, and those suitable for planting should be stored apart in a cool, dry place.

LETTUCE.—Plant out as soon as possible a good breadth of these plants, choosing for them a border in a sunny position. Ground that was well manured for some earlier crop will need only a moderate dressing of soot and wood ashes; to heavy soils give a liberal application of well-rotted leaf-mould and road scrapings. Some kind of protection will be needed during severe weather. More seeds may now be sown of the hardy winter kinds for planting in cold pits and frames. A suitable variety for the purpose is Hardy Hammersmith.—W. MESSENGER, Woolverstone Park Gardens.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Dundee Floral Fete.

AUGUST 28, 29, and 30.

The Dundee Horticultural Society is well over a half-century old, and for a long series of years its annual floral fete has been well organised, well patronised, and successfully carried out. The officers and committee form an ardent body of horticultural enthusiasts, and all strive hand in hand to secure success. The result is that no show beyond Edinburgh can compare with Dundee for extent, variety, and excellence.

Perhaps the most striking feature was the big display of stove and greenhouse plants shown by gentlemen's gardeners and amateurs in their respective sections. The Dundee amateurs are working men who do their gardening in their leisure hours, and many of these ardent cultivators possess small houses filled with shapely, well-grown crotons, bougainvilleas, cordylines, and caladiums, and of these their best were, as usual, exhibited in first-class style.

PLANTS—OPEN SECTION.

A class was provided for tables of stove and greenhouse plants, 12ft. by 7ft. There were three entries, but we were not greatly impressed by them, as all three exhibits were marred by overcrowding. Mr. Jas. Beats, gardener to Mrs. W. L. Rouse, Binrock, took first prize. His centre and four corners were built up with small bright crotons, and over a groundwork of nephrolepis, adiantums, and other ferns, rose the flowers of Clerodendron fallax, Schizanthus Wisetonensis, celosias, etc. The second prize went to Mr. J. Bethel, The Grange, Monifieth. Mr. Geo. Scott, Seathwood, Dundee, third.

Three flowering and three foliage plants brought good entries, the winning set being staged by Mr. Geo. Reid, who had a grand specimen of Asparagus plumosus, a nicely-flowered Statice intermedia, and anthuriums, bougainvillea, etc. Mr. Jas. Beat took second prize. Mr. Geo. Scott scored for two double begonias, followed by Mr Thos. C. Brown, Balcairn. Mr. Scott also took the lead with two zonal pelargoniums showing specimens carrying fine trusses; the second prize went to Mr. J. G. Clarke, Elmslie. Mr. Beat, Binrock, had leading honours for three crotons, Mr. Jas. Bethel following closely for second place.

Mr. Geo. Reid, Invertay, obtained premier honours for six stove and greenhouse plants in nine-inch pots, followed for second place by Mr. Jas. Beats. There were some good, well-grown specimens in this class. Mr. J. Bethel had the best three coleus plants, being closely followed by Mr. Jas. Beats. The winner for three dracænas was Mr. Wm. Grieve, Hazelwood, Broughty Ferry. Four British ferns were well shown by Mr. Jas. Bethel, who received first prize. Adiantum capillus veneris O'Brieniana was a beautiful specimen, as also was Athyrium angulare divisilobum densum Grimondi. Mr. Geo. Reid, Invertay, was second in this class; and Mr. T. Morrison, Gowrie House, Perth, came third. There was a nice display of British ferns in 6in. pots. Mr. Jas. Bethel once more obtained highest honours, with a choice set including Trichomanes radicans, Osmunda regalis cristata minor, Athyrium filix fœmina cristata Walkeri, A. f. f. congesta Edwardi, Adiantum capillus veneris magnificum, and Polystichum angulare congesta Lylei. Mr. T. Morrison came in second. The four best selaginellas came from Mr. Geo. Reid, Mr. Jas. Beats taking second prize.

The class for four exotic ferns in not less than three genera, constituted an interesting feature. Mr. Geo. Reid showed two beautiful gymnogrammas, a finely-crested nephrolepis, and a polystichum. Mr. Jas. Beats was second. Mr. Geo. Reid added to his successes by taking the highest awards for six exotic ferns in six-inch pots, and for six table plants, in both classes showing very nice plants. Some really fine cacti were exhibited by Mr. Robt. Birse, Carmichael Street, Dundee, who worthily received first prize for his finely-grown specimens. Cereus pernviana monstrosa was a capital specimen,

STOVE AND GREENHOUSE PLANTS AT DUNDEE.
Exhibited by amateurs who do not employ a gardener.

and Echinocactus Grusoni was good, while Mammillaria rubriosinia was beautifully developed and freely furnished with its crimson spines.

Although so late in the season, there was a capital display of alpine plants in pots six inches in diameter. The class for twenty plants, distinct, brought four good entries, and there was quite a nice bit of colour among the several collections. Mr. W. T. Morrison led the way, his exhibit containing, among other subjects, good examples of Arabis lucida variegata Acænaglumacea, Sedum kamschaticum variegatum, and Saxifraga longifolia. Mr. Robt. Birse, 28, Carmichael Street, Dundee, was second with beautiful examples.

PLANTS—AMATEURS ONLY.

Some capital stove and greenhouse plants were shown in the amateurs' section, and the first prize and Corporation Challenge Cup for three flowering and three foliage

plants were awarded to Mr. A. R. Easton, Lochee, who showed a well-flowered bougainvillea, rondeletia, and oleander, with a cocos, croton, and Yucca gloriosa variegata for foliage plants, all of which were of great excellence. Mr. Robertson, 6, Blyth Place, Dundee, was a good second. For two flowering and two foliage plants pride of place was given to Mr. W. Robertson, Mr. Easton being second, and Mr. R. H. Lowe, Wolseley Street, Dundee, third. Mr. Robertson scored another success with three foliage plants, staging a beautifully-grown cordyline, together with Asparagus plumosus and a fine yucca.

British ferns in threes were good, and the winning set was that shown by Mr. D. Smith, 10, Cleghorn Street, Dundee. Mr. W. Robertson, was a capital second. Mr. John Denholm showed three flowering plants in distinct varieties, for which he received first prize, the second going to Mr. John Ogilvie, 12, Rosebery Street, Dundee,

The amateurs' class for alpines was another strong one. Ten plants were required, and there were four entries. The first prize exhibit contained Nertera depressa, which, if hardy enough hereabouts for rockery work, is better behaved in Scotland than down south. The exhibitor was Mr. T. Shephard, Bridgend, Perth. The second prize was awarded Mr. Jas. G. Mathew, Inverary.

Mr. Easton had some grand cacti, taking the leading award for half a dozen. His specimen of the old man cactus was remarkably good. The class for three exotic ferns drew three entries, the best being shown by Mr. Wm. Dodds, Strathmore Road, Dundee, Mr. A. R. Easton and Mr. W. Robertson securing second and third prizes Mr. John Denholm took the lead with three good selaginellas, Mr. W. Robertson following. In the south we scarcely ever see tricolor pelargoniums exhibited, but the class for one tricolor and one bronze-leaved brought out seven entries. The plants were trained on wire frames, and the foliage was beautifully coloured. Mr. R. H. Lowe, 1, Wolseley Street, Dundee, took the leading place, Mr. Jas. Fyttes, 381, Clepington Road, and Mr. D. Craig, 21, Morgan Street, taking the other awards.

CUT FLOWERS—GARDENERS' SECTION.

The class for a table of cut flowers, excluding orchids, 10ft. long by 6ft. wide, had four good entries. Mr. Jas. Beats, Binrock, Dundee, took the coveted award. His centrepiece was a massive vase filled with Liliums speciosum roseum and album with Francoa ramosa and Humea elegans. At the corners were tall vases of carnations, chrysanthemums, roses, and liliums, and the table was filled in with smaller vases of clarkia, sweet peas, agapanthus, statice, and other suitable flowers. Mr. Geo. Scott, Seathwood, Dundee, took second prize. Third prize went to Mr. John Simpson, Panmure Gardens.

There was strong competition in the sweet pea classes, that for twelve bunches forming the opening class. In this there were nine entries. Mr. J. H. Crosby, The Ross, Comrie, took the leading position, his flowers being fresh and large in size on good, but not coarse, stems. Mr. Geo. Reid, Ruken Vale, Downfield, second; and Mr. Geo. Milne, Burnside, Dunnald, Montrose, third.

Mr. G. Reid, Invertay, West Ferry, was first for six bunches of early chrysanthemums, Mr. Geo. Scott taking second place. Flowers of hardy perennials in twelve bunches, distinct, were largely shown, but we did not consider the quality or arrangement quite up to high-water mark. Mr. Geo. Scott, Seathwood, was an easy first with nice bunches of gaillardias, pentstemons, montbrietias, statices, double gypsophila, and Aster acris. The second prize fell to Mr. J. S. Summers, Aschliff Gardens, Perth Road, Dundee.

It is often claimed that annuals are better shown at Dundee than anywhere, and this year's display was no variant to the rule. The flowers in Mr. G. Reid's first prize exhibit of eight vases were very fine, the collection including beautiful spikes of Statice Suworowi, clarkia, and godetia in double forms, together with fine Phlox Drummondi, sweet scabious, sweet sultans, and sweet peas. Mr. Thos. Butcher, Tay Lodge, West Ferry, took second honours, his flowers being good.

Some very nice border carnations were shown. In the class for twelve vases first honours were accorded to Mr. David Halley, Roycroft, Broughty Ferry. Linkman, Clement, Mandarin, Mrs. Geo. Hunter, Solfaterre, Aleppo, Mrs. Howard Green, and Crystal were all highly meritorious. Mr. J. S. Summers was second. In the gardeners' rose class Mr. John Ireland, Park Place, Brechin, staged the first prize twenty-four blooms, showing up-to-date varieties, Mr. John Simpson, Panmure Gardens, Carnoustie, taking second prize, his flowers being of good size and substance, and the third prize went to Mr. W. Lockhart, Rubie-law, Aberdeen.

Messrs. Adam and Craigmile, Ternilie, Rubieslaw, Aberdeen, received the leading prize for twenty-four H.P. or H.T. roses, showing a box of good, even flowers. Messrs. Croll came out premier with twenty-four teas and noisettes, there being nice flowers of Mrs. Foley Hobbs, Mdme. Constant Soupert, Miss Alice Rothschild, and Molly Sharman Crawford in their set; Messrs. Adam and Craigmile were second.

Mr. D. Smith, 10, Cleghorn Street, Dundee, obtained the first place in the amateurs' class for a table of cut flowers, using sweet peas, montbretia, and carnations to good effect. The second and third prizes were awarded respectively to Mr. A. R. Easton and Mr. Jas. L. Gray, Perth Road, Dundee. The numerous classes for florists' flowers, sweet peas, and border flowers in the amateurs' section were well filled, both as regards the number of entries and the quality of the exhibits.

FRUIT.

Fruits were largely shown, there being strong competition in the grape classes, and also in those for apples and soft fruits.

The chief class was for six bunches of grapes in not less than four varieties. There were four competitors, Mr. James Besiant, Castle Huntley, proving the champion. He had two splendid bunches of Muscat Hamburgh, a beautifully-finished bunch of Madresfield Court, and also Black Hamburgh and Muscat of Alexandria (two bunches). The pointing was as follows, the maximum obtainable being denoted by the bracketed figures: Black Hamburgh (9) 7½, Muscat of Alexandria (10) 7, 8, Muscat Hamburgh (9) 7½, 8, Madresfield Court (9) 8. Total points obtainable 56, points scored 46. The second prize was awarded to Mr. Geo. Mollison, gardener to J. H. Rigg, Esq., Cupar, who scored 40 out of a possible 56 points. Mr. Geo. Scott, gardener to A. S. Henderson, Esq., Seathwood, was third with 33 out of a possible 50 points. Mr. Besiant also obtained premier honours for four bunches, showing Madresfield Court, Black Hamburgh, Muscat Hamburgh, and Muscat of Alexandria, all good, well-finished bunches. Mr. Geo. Mollison was second with the same varieties. Mr. Wm. Nicholl, gardener to Wm. Henderson, Esq., West Park, was third. Mr. Besiant had the best two bunches of Black Hamburgh, and the first prize for two bunches of any other black variety went to Mr. Wm. Balfour, gardener to A. Moncur, Esq., Rockfield, who showed Lady Downes. Mr. Nicholl scored with two bunches of Muscat of Alexandria. Mr. Besiant again came foremost with two bunches of Black

A FINELY-GROWN COLLECTION OF CACTI AT DUNDEE.
For which the First Prize was awarded to Mr. Robert Birse, Carmichael Street, Dundee.

Alicante, and with a single bunch of Black Hamburgh. Mr. Wm. Balfour was first for a single bunch of Lady Downes, and the first prize for one bunch of Muscat of Alexandria was awarded to Mr. J. Bethel.

For a collection of twelve distinct kinds of apples, grown in the open, the winner was Mr. Geo. Scott, Seathwood, who had an even and otherwise excellent collection, Washington, Ecklinville, and Jas. Grieve being very good. Mr. Samuel Shields, Pitfour Castle, Glencarse, was second, his fruit being smaller, but of good quality; the third prize went to Mr. Wm. Benvie, gardener to Geo. Fairweather, Esq., Glencarse.

For three dishes of apples and three of pears, grown in an orchard house, Mr. G. Scott, Seathwood, took the lead. He had a really fine lot of fruit, his apples being of large size, as well as of good colour. Mr. Jas. Simpson, Panmuir, second. Mr. D. Milne, Linlathen, led for six dishes of hardy fruits, showing apples, plums, cherries, red currants, peaches, and nectarines. Mr. Jas. Birrell, Braid Castle, second.

VEGETABLES.

These filled a large space, and were, despite the drought that has prevailed through Scotland as well as England, of very fine quality; but then, as someone remarked as we were making our notes, Dundee show has never had poor vegetables.

The class for a collection of twelve kinds headed the section, and Mr. Wm. Harper, gardener to A. A. Allen, Esq., M.P., Tulliebelton, Perth, took the premier award with a splendid lot of produce. Mr. Jas. Kinnear, gardener to Mrs. Wienberg, Fernbrae, was second, only losing a point or two. Third prize was awarded Mr. Geo. Hendry, gardener to J. B. McNab, Esq., Keithlock. Mr. G. H. Young, Balmyle, Meigle, received first prize for a collection of twelve varieties of potatoes. It would be difficult to imagine tubers more symmetrical, smooth, and even than those shown in this collection.

In the amateurs' section, Mr. Alf. Drummond, Fowlis Wester, Crieff, showed a very good set of six kinds of vegetables, and was rewarded with first prize. Mr. John Hepburn, West Huntingtower, Perth, came second; and Mr. Wm. Goodall, Errol, third. Throughout the single dish classes the quality was high, and the competition keen.

NON-COMPETITIVE EXHIBITS.

There were numerous and attractive exhibits from the leading Scottish nurserymen, but the only English firm represented were Messrs. Sutton and Sons, Reading. It need hardly be said that their vegetables, melons, etc., were of remarkably high quality, and the tasteful manner in which the stand was decorated with flowers from their strains of seed reflected great credit upon those who arranged it.

Messrs. Dobbie and Co., Edinburgh, occupied a large space with gorgeous banks of collarette dahlias, roses, and sweet peas. Messrs. John Forbes, Lim., Hawick, were in great form with phloxes, pentstemons, carnations, and other florists' flowers. Four large tables were occupied by Messrs. Thyne and Son, 18, Union Street, Dundee, one being devoted to sweet peas, one to phloxes, and the others to choice annuals and to hardy border flowers. Messrs. Jas. Cocker and Sons, Aberdeen, put up choice roses and herbaceous flowers in variety, and Messrs. Laing and Mather, Kelso, made a good show of carnations. Gladioli were well shown by Messrs. Tillie, Whyte, and Co., Melbourne Place, Edinburgh. Roses played the leading part in Messrs. D. and W. Croll's exhibit, which contained also carnations, sweet peas, and hardy perennials. A large and elaborate exhibit was arranged by Messrs. W. P. Laird and Sinclair, Lim., Dundee. Floral designs of much artistic merit were a prominent feature, and there were also effective groups of decorative plants. A small rockery, furnished with alpines and dwarf shrubs, was built by Messrs. Jas. Laurie and Son, Blackness Nursery, Dundee, and Messrs. D. M'Omish, Crieff, put up a gay bank of phloxes. Messrs. Guthrie Bros., Priory Nursery, Ladybank, exhibited hardy border flowers and sweet peas, and Messrs. Harley and Sons, Dundee, staged some very artistic floral designs. Chrysanthemums, pentstemons, and carnations were the principal features of a very creditable exhibit from Messrs. Henderson and Sons, Dens Nurseries, Brechin.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, August 26.

Present: Mr. E. Bowles (in the chair), Dr. Bateson, F.R.S., Messrs. Bennett-Poë, John Fraser, F.L.S., W. Hales, A.L.S., J. W. Odell, W. Cuthbertson, and A. Worsley.

Mr. Chittenden reported that the violet leaves sent by Mr. Druery were attacked by the Gall Midge, Cecidromyia violæ, and this had nothing to do with the laciniation of the leaf edges.

DOUBLE GLADOLI.—A letter from Col. Sanderman was read in connection with the alleged doubling of gladioli. As no specimen came with the letter the committee could not decide the point raised. Incidentally, Dr. Bateson remarked that if the fact were established it would be interesting as there were several families or orders, such, for example, as the labiatæ, that although having peloric forms do not show true doubling of the flower.

CAMPANULA DISEASE.—Mr. Edwards, of Sylfaen Gardens, Welshpool, sent leaves of Campanula persicifolia affected with Puccinia Campanulæ (Plowright and Berkley).

LATE BROOD OF SAWFLY.—Mr. Edwards sent a brood of the Sawfly (Gooseberry) caterpillar, Nematus ribesi. The committee thought this should be recorded owing to the very late period of hatching.

MATRICARIA SUAVEOLENS = M. DISCORDEA.—Mr. Odell showed this little composite from N.W. Middlesex. It is a recent immigrant to this country, and has been recorded by Mr. E. Bowles from Essex and Hertfordshire, and by Mr. J. Fraser from Aberdeen, and has become common in several other localities.

FASCIATED ALOYSIA CITRIODORA.—Mr. Odell showed stems of this plant fasciated, and having a very mixed phylotaxis, with the terminal parts showing the normal terete stem and normal phylotaxis. Dr. Bateson remarked that the condition was similar to that of the Crown Pea, Pisum umbellatum, where from a densely fasciated stem normal shoots were developed with flowers.

Dunfermline Flower Show.

AUGUST 29 and 30.

Dunfermline Horticultural Society is highly favoured in more ways than one. It benefits financially from the support of the Carnegie Dunfermline Trust. Its place of exhibition is the wondrously beautiful Pittencrieff Glen, which is a veritable fairyland of natural and majestic beauty, and its affairs are in the hands of a most capable and courteous secretary, Mr. John Hynd, who has the loyal support of an enthusiastic band of ready workers as members of committee.

PLANTS.

Mr. Peter Keir, Logie, received first prize for three stove and greenhouse plants, his set containing a fine dieffenbachia; second prize was awarded Mr. Robert Johnston, who had Fuchsia Corale in fine form. A fine pair of pyramid fuchsias was shown by Mr. William Taylor, Cotton, in the class for two flowering greenhouse plants, and obtained for him the first prize, the second prize going to Mr. Robert Johnston, Lassodie. Mr. Peter Laing showed two good palms, for which he received first prize, followed by Mr. James Mitchell, Broomhall. Mr. Robert Johnston led the way for four exotic ferns, the second prize going to Mr. Peter Laing. There were some grand adiantums and the finer varieties of Nephrolepis exaltata in this class. Mr. A. W. Taylor, Cotton, took first prize for two fuchsias with nicely trained and finely flowered specimens; Mr. Peter Smith, Bank View, Dunfermline, was second with well-flowered plants. Mr. Taylor also scored for a single specimen fuchsia, second prize being awarded Mr. Thomas Morrison, Grieve Street, Dunfermline. Mr. Morrison received chief award also for two zonal pelargoniums, and Mr. Robert Johnston was first with a single specimen plant.

CUT FLOWERS.

Roses were very well shown, the winning stand of twelve blooms, staged by Mr. John Bower, 59, Elgin Street, Dunfermline, containing choice blooms of some of the best exhibition varieties. Mr. F. Macrae, Fossaway, was placed second. There were eight entries in the class. Mr. Andrew Campbell, Doinbristle, had some fine spikes of gladioli in his winning six. Phloxes were another good class, the best six spikes coming from Mr. James Mitchell, Mr. Thomas Morrison being second, his flowers being very fine. Mr. H. Sharp, James Place, put up two vases of very good cactus dahlias, for which he received first prize, Mr. Robert Johnston winning for pompons.

Show pansies made a nice little class, Mr. H. Anderson, Appin Crescent, taking first prize; his flowers were shapely, clean, and the markings well defined. Mr. Charles Grey, Cowdenbeath, took the lead for fancies, Mr. Anderson taking second place. Carnations shown on boards brought Mr. J. Mitchell the first prize for a dozen blooms, some being of good size and fair quality. Sweet peas made a brave show, and some fine flowers were staged. Mr. H. Cummins, Blairhill, led the way for six vases, also taking special prize for the best vase of sweet peas in the show. Second prize went to Mr. Thomas Ritchie, Brankstan Grange. Mr. David Bayne, Middlebank, staged some grand spikes of pentstemons, winning first prize among seven strong entries. Antirrhinums, marigolds, asters, and other flowers were provided with a number of classes, in which entries were numerous, and quality good.

A great bank of herbaceous flowers along one side of the large marquee was composed of amateurs' exhibits, the prizes being offered for the best six bunches. The quality of the flowers was very high, and the exhibits were staged in capital manner. Mr. H. Cummings received first prize, showing splendid bunches of gaillardias, montbretias, Rudbeckia Golden Glow, Chrysanthemum maximum, Lilium tigrinum, and Campanula pyramidalis. Mr. James Mitchell was second prize-winner; Mr. G. Thompson received third prize. In the class for six bunches of hardy border flowers, shown with foliage or other decorations, the leading award was credited to Mr. James Mitchell. Mr. George Thomson was second.

Annuals were largely shown, and included some very effective subjects, such as godetias, clarkias, Linaria reticulata aurea purpurea, and Dimorphotheca aurantiaca. The amateurs' class for a display of sweet peas on a table 5ft. by 4ft. brought good flowers, tastefully arranged. Mr. H. Cummings, Blairhills, secured the first prize.

FRUIT.

Fruit was shown in considerable quantity, the competition, especially in the smaller classes, being very close. The leading class was for a collection of six varieties of dessert fruit, and in this the first prize was awarded to Mr. Finlay Macrae, Briglands, Fossaway. Black and white grapes were moderate-sized bunches, showing capital colour and finish. A fine dish of apples was also a strong feature of the exhibit. Mr. Hugh Cummings, Blairhill, Rumblingbridge, received second prize, showing nice peaches, grapes, plums, etc. Another class was for six dishes of outdoor fruits, and Mr. James Mitchell was the first prize-winner. He showed good plums, pears, apples, peaches, and nectarines. Mr. Hugh Cummings received second prize for a nice

lot of plums, gooseberries, cherries, etc. Mr. Peter Blair scored for two bunches of Black Hamburgh grapes, second prize going to Mr. David Howie, Dunimarle, and third to Mr. Charles Palmer, Alloa. Mr. John Waldie, Dollarbeg, received first prize for two bunches of any variety other than Black Hamburgh, showing two beautifully-finished bunches of Gros Maroc. Mr. James Mitchell won first prize for a bunch of grapes carrying the finest bloom, and for one bunch of any variety, showing Muscat of Alexandria.

VEGETABLES.

The quality in the vegetable section was very fine. The opening class was for a collection of eight varieties, and Mr. H. Cummings deserves congratulation on his success in winning the first prize with very fine products. Mr. James Mitchell, Broomhall, who was awarded the second prize, had good onions, White City potato, and excellent peas. Throughout the single dish classes the quality was high, and the competition keen.

NON-COMPETITIVE EXHIBITS.

Quite a feature of the show was a table of roses, exhibited by Mr. W. Ferguson, nurseryman, Dunfermline. He had some choice blooms in boxes, and tall bamboo stands filled with The Lyon, Lady Ashtown, and other effective and decorative varieties, the whole making a very attractive display. Mr. R. C. Ferguson, South Nurseries, Dunfermline, also showed roses of good quality arranged on tall columnar stands. The Lyon, Caroline Testout, Le Progrès, and La France were largely used, but other choice things were judiciously intermixed. Mr. J. Marshall, Brucefield Avenue, put up a table of miscellaneous plants, among which fuchsias and zonal pelargoniums played a leading part.

We cannot deal in detail with the many exhibits shown by cottagers and amateurs, but such things as begonias, foliage and flowering plants, fuchsias, petunias, etc., were splendidly exhibited, as also were bouquets and vases of cut flowers.

Dumfries and District Horticultural Society.

This society held its first annual show of flowers, fruit, and vegetables in the Drill Hall, Dumfries. The show was opened by the Duchess of Norfolk, and was highly successful, financially and from a horticultural point of view. The attendance was very large, and the classes were well filled with excellent produce. The leading honours fell to Mr. R. A. Grigor, Dalswinton Gardens, who secured the greatest number of points, and therefore won the silver challenge cup. Mr. Grigor also won the prize of a silver cup for the group of plants remarkable for taste in arrangement. Both gardeners and amateurs showed well, and sweet peas, herbaceous plants, and florist's flowers were excellent. Fruit was capital, and vegetables of high quality. In the section open to all the dinner table competition was very good, the first prize falling to W. J. Nicholson, Douievale. In the cut flower classes, Mr. J. M'Gill, Kirkconnell Gardens, won for flowers of herbaceous plants, and Mr. C. G. M. Murray, Cowhill Tower Gardens, for outdoor flowers.

In the vegetable classes Mr. R. A. Grigor led for the collection, but there was hardly anything between his exhibit and that of Mr. Murray. In the fruit classes grapes were very fine, and the collection was excellent. Mr. D. Campbell, Capenoch, led with the collection, and the winners for grapes comprised Mr. Campbell, Mr. Grigor, and Mr. J. Cluckie, Arbigland Gardens. The principal prizes in other classes were won by Mr. T. Carruthers, Cargenholm Gardens; Mr. W. Smith, Newtonairds Gardens; Mr. W. Scott, Drumpark Gardens; Mr. Grigor, Mr. Murray, Mr. D. Whitelaw, Locharbriggs; Mr. J. Henderson, Elmbank Gardens; Mr. J. Wilson, Summerville Gardens, etc., etc. Amateurs showed extensively and well, and trade exhibits were numerous and good.

Newcastle Flower Show.

The time-honoured society enjoying the title of the Durham, Northumberland, and Newcastle-on-Tyne Botanical and Horticultural Society, and the distinction of being the oldest society of its kind in the kingdom, opened its annual show in the Recreation Ground, Newcastle, on Tuesday, September 2, continuing for the two following days. It was a good show, although differing considerably from those of former years. For instance, stove and greenhouse plants were for many years a leading feature, but this year no big specimens were exhibited. On the other hand, vegetables produced a great display, and roses, sweet peas, and hardy flowers were very well shown. The new secretary, Mr. R. H. Newton, and Mr. Moffatt had the arrangements well in hand, and were both courteous and energetic in the discharge of their duties.

PLANTS.

The group class brought four entries, and very creditable they were. Mr. H. H. Hillier, Green Park Gardens, Darlington, was awarded first prize, he making good use of a number of brightly-coloured crotons, and a background of tall palms. Acalypha Sanderæ, Origanum hybridum, cattleyas, and cypripediums were among the chief flowering plants; and the groundwork of ferns and Caladium argyrites finished the group in an artistic manner. Messrs. Carnegie and Co., Lim., St. Mary's Place, Newcastle, were placed second, with an effective arrangement. Mr. J. Hetherington, gardener to C. T. Kendall, Esq., Preston House, North Shields, was awarded third prize.

Mr. J. Hetherington, Preston House, North Shields, had the best six ferns, showing three varieties of adiantums and three of crested nephrolepis. The other prizes went to Mr. T. Wilkinson, Croydon Road, Newcastle, and Mr. J. Forrester, Convalescent Home, Whitley Bay.

ROSES.

Messrs. Hugh Dickson, Lim., Royal Nurseries, Belfast, obtained premier honours for twenty-four roses, their stand containing nice blooms of Brilliant, King George V., and Hugh Dickson among crimsons; with Elsie Harkness, Reliance, Charle de Lapisse, and Lady Alice Stanley among the delicate shades. Messrs. Harkness and Sons, Bedale, came second, their blooms being of good quality, but just a trifle damaged by a violent thunderstorm. Messrs. Hugh Dickson, Lim., again led the way with twelve blooms, showing White Killarney, The Lyon, Mrs. John Laing, Coronation, Cardinal, etc. The second prize was awarded to the Rev. R. R. Hedley, Kirkwelpington Vicarage, Newcastle.

The first prize for six vases of decorative roses was awarded to Messrs. Hugh Dickson, Lim.; and the second to Messrs. G. Gibson and Co., Leeming Bar.

CUT FLOWERS.

The contributions to the class for twelve bunches of hardy herbaceous plants made a very striking display. Messrs. Harkness and Sons, Bedale, took the lead with beautiful bunches of Papaver orientalis Mrs. Perry, Gladiolus Thermidor, Lilium tigrinum splendens, Gaillardia Mrs. McKellar, Helianthus Soleil d'Or, and H. multiflorus maximus, Lupinus polyphyllus roseus, and—the best vases of all—Verbascum New Departure and V. North Riding. Messrs. G. Gibson and Co., were second, showing good gladioli, montbretias, and liliums. Mr. T. W. Daniel, Dunelm Nursery, Bedale, third. In a small amateurs' class for three vases of flowers of hardy perennials there were five entries, and Mr. Fred Finlay, Layton, Albrough, Darlington, was first with bunches of montbretia, Lilium longiflorum, and Gladiolus Brenchleyensis. Mr. J. W. Smith, Wensleydale Sanatorium, Aysgarth, Yorks, second, and Mr. Henry Cole, Guide Post, Choppington, third.

For twelve bunches of sweet peas, Mr. Joseph Shaw, gardener to O. W. Hedley, Esq., Dilston Hall, Corbridge, was first. His flowers were of good varieties, bright, and clean, and on long stems. Mr. Geo. Finlay, gardener to Mrs. Maynard Proud, East Layton Hall, Darlington, was a good second. For three bunches of this year's novelties the first prize was awarded to Mr. Shaw, who staged James Boose, Mrs. E. Cowdy, and Agricola. Mr. Edward Keith, Wallington Gardens, Cambo, was second, and Mr. Samuel Russell third.

The best six vases of sweet peas in the amateurs' section were those staged by Miss E. L. J. Humble, Ettringham House, Stocksfield-on-Tyne, Mr. J. Feuster, Greenside Ryton, being placed second. Mr. Wm. Watson, Coquet House, Blucher Colliery, put up the first prize set of three bunches.

Mr. Cecil L. Cawkell, gardener to F. Straker, Esq., Angerton Gardens, Morpeth, was the winner for a display of perpetual-flowering carnations. The flowers were shown in a bold style; Mr. Joseph Shaw was second. The prizes for six vases of border carnations brought quite good flowers for so late in the season. The Rev. W. McLean Brown, Hawthorn Road, Gosforth, Newcastle, received premier award, showing nice flowers of Daffodil, Bob Acres, Father O'Flynn, and other good varieties. Mr. Robert Elliott, gardener to J. R. Scott, Esq., Harden Benton, second.

TABLE DECORATIONS.

There were thirteen entries in the class for table decorations, which gave the judges some difficulty in assigning them their relative positions. Eventually the leading award was made in favour of the table arranged by Mr. W. H. Lambert, gardener to the Right Hon. Earl Grey, Howick Gardens, Lesbury. Mr. G. F. Hallett, gardener to Sir R. J. Graham, Bart., Netherley Gardens, Carlisle, was second. For a shower bouquet. Messrs. Reillys won first prize with a tasteful arrangement of lælias, odontoglossums, and lily of the valley. Miss E. Reilly, Clayton Park Square, received second prize.

FRUIT.

There was only one entry for six dishes of fruit, the exhibitor being Mr. J. C. McPherson, gardener to the Right Hon. Earl of Londesborough, Londesborough Park, Market Weighton, and he deservedly received the prize. He had two bunches each of Madresfield Court, and Muscat of Alexandria grapes, a dish of very highly-coloured Clapp's Favourite pear, Pineapple nectarines, Violette Hative peaches, and Jordan's Seedling melon. Mr. McPherson led for four bunches of grapes, showing excellent bunches of the same varieties as in his collection. The second prize was awarded to Mr. J. R. Gardiner, gardener to Lady Cowell, Clifton Castle, Bedale. Mr. Wm. Mark, gardener to Miss Muschamp, Farnley Hill, Corbridge, took third prize. Mr. McPherson repeated his success with two bunches of white grapes, showing Muscat of Alexandria in fine form. Second prize was awarded to Mr. Wm. Mark.

Mr. J. R. Gardiner scored for two bunches of black grapes, staging Gros Colmar with big berries, and well-finished. The second prize was won by Mr. Edward Keith, Wallington Gardens, Cambo, with Gros Maroc in fine form. Mr. T. H. Bolton, gardener to the Right Hon. the Earl of Devon, Powderham Castle, Exeter, showed six dishes of dessert apples, for which first prize was awarded. The fruits were shapely, of good size, and well coloured. Mr. Bolton also scored for six dishes of culinary apples. He had remarkably fine examples of some of the best cooking varieties. Mr. G. Shotton, gardener to Mrs. Lowe, Prudhoe Hall, Prudhoe-on-Tyne, was second, his dish of Emperor Alexander being very fine. Mr. Geo. Finlay, East Layton Hall, Darlington, was third.

VEGETABLES.

These were well shown, but mostly in single dish classes. Leeks were a notable feature, and were of a quality equalling that seen at the keenest North Country competitions. The class for three leeks had ten

entries, and Mr. John Wear, Felton Mills, Felton, took first prize, his leeks being splendid examples, measuring about fourteen inches of blanched stem, and approaching two inches in diameter. Mr. Thompson Smith, Fourstones Village, received second prize, these again being remarkably good. The third prize was taken by Mr. Jas. Fewster, Greenside, Ryton. Mr. T. H. Bolton, Powderham Castle Gardens, took first prize for parsnips, Mr. Edward Keith winning for peas, and Mr. W. Bean, Riverdale, Ebchester, for celery. Mr. T. H. Bolton showed six grand Ailsa Craig onions, with which he secured first prize, he also winning for runner beans.

The amateurs' collection of vegetables brought first prize to Mr. John Wear, Felton Mills, Felton, who showed good leeks, celery, parsnips, a pair of large cauliflowers, and excellent cabbages and onions. Mr. Robert Shield, Waterside Cottage, Swalwell, took second prize.

NON-COMPETITIVE.

The bulk of the non-competitive exhibits were staged in one large marquee, and a very bright and interesting display was the result. Across one end Messrs. Kent and Brydon, Darlington, arranged a terrace garden with retaining wall planted with rock plants. A grass plot, surrounded by a paved walk, was backed by a border of hardy flowers, and on either side were groups of bamboos, acers, and other foliage plants with beds of liliums and spiræas. Mr. C. H. Taudevin, Cheltenham, staged a capital group of perpetual carnations, embracing a number of the choicest varieties staged in a tasteful manner. Hardy flowers were put up by Messrs. Dickson's, Lim., Chester, various liliums and gladioli being bright and striking features of the exhibit.

A large stand of choice vegetables with epergnes of melons and dishes of tomatoes came from Messrs. E. Webb and Sons, Wordsley, Stourbridge. Sweet peas, godetias, asters, and other flowers were tastefully interspersed among the vegetables, and displayed on a series of arches, extending the whole length of the stand.

Ornamental shrubs, vines, and ivies were arranged in a group with Hydrangea paniculata and hardy fuchsias by Messrs. Michie and Co., Alnwick. Alpine plants of choice character were nicely arranged among stones and fibre by Mr. Wm. Lawrenson, Yarm-on-Tees, who also showed bunches of good border perennials. There were nicely-flowered plants of Stokesia cyanea, Papaver alpinum, several good campanulas, and brilliant alpine mimulus on the stand, together with androsaces, saxifrages, and a few ferns. Messrs. Stuart and Mein, Kelso, had a large mound of sweet peas, arranged on the ground with other groups of herbaceous flowers, some ferns and dwarf euonymus and golden privet.

A gorgeous bank of phloxes was staged by Messrs. Chas. Irvine and Sons, Jedburgh, Scotland, among the most telling varieties being Countess of Minto, W. S. Oliver, Snowdrift, and Mrs. Roughhead. Mr. W. Lawrenson, Yarm, had a good group of perpetual carnations, the white Snowstorm being shown in capital form.

Pentstemons were a great feature of the exhibit brought by Messrs. John Forbes, Lim., Hawick. The firm also showed a fine lot of border carnations, and a collection of phloxes and other perennials.

Messrs. Geo. Fairbairn and Sons, English Street, Carlisle, showed dahlias, embracing cactus, pompon, collarette, and pæony-flowered varieties.

Messrs. Furney and Co., Newcastle, contributed a group of gladioli, which embraced a good variety of colours, and were of pleasing form. Messrs. Harkness and Sons, Bedale, staged a collection of phloxes, verbascums (very fine), gladioli, pæony dahlias, and a variety of useful border perennials. Another good group of hardy flowers came from Messrs. G. Gibson and Co., late flowers of single pyrethrums.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of THE GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

DAFFODILS FOR GRASS CULTURE.—W. F. H., Surrey: I am desirous of planting daffodils in a portion of our pleasure grounds where there is no occasion for mowing the grass until the leaves of the daffodils have turned yellow or died down. Being desirous of producing a display that will possess interest as well as attractiveness, and extend over a considerable period, I should prefer to plant small breadths of a number of kinds.—Your proposal is an exceedingly good one, and in full accordance with our views on the subject. The practice of planting moderate breadths of several kinds in comparatively small gardens will give much more pleasure and interest than will huge breadths of three or four kinds. The following varieties succeed in the grass, and will afford the diversity in form and colour in the time of flowering that you desire: Albicans, Agnes Barr, Barri conspicuus, C. J. Backhouse, Emperor, Empress, Golden Spur, Grandis, Henry Irving, John Bain, Minnie Hume, Mrs. Langtry, Mrs. Walter Ware, Poeticus ornatus, P. R. Barr, Sir Watkin, Stella superba, and Victoria. The bulbs of the foregoing will range from 5s. to 7s. 6d. per 100. We suggest that you form a colony of Madame de Graaff with one or two dozen bulbs; it will afford an immense amount of pleasure, and the bulbs are decidedly cheap. The sooner the bulbs are planted the better, and, as the ground has been well moistened with the rains, we suggest that you proceed with the planting at once.

NITRIFICATION IN SOILS.—E. P., Lancashire: It has been found, as the result of careful investigation, that nitrification takes place with a greater degree of rapidity in a comparatively heavy soil than in a light one, in which sand greatly preponderates. This is attributed to the larger percentage of lime in the heavy soil, but the lack of humus in the sandy soil also greatly influences the result in favour of the more substantial medium.

THE LOGANBERRY.—T. A., Herts: For some years I have held an appointment abroad, which, from its exacting nature, gave me but little time for gardening. On retiring a short time since, I returned to England, and settled down with a comparatively large garden, in which I hope to be able to grow fruits and vegetables as well as flowers. Since my return we have bought both fresh and bottled fruit of the loganberry, which was quite unknown in English gardens previous to my going abroad. I am anxious to grow it, and shall be glad to learn something about the fruit and its cultural requirements.—The loganberry is a fruit that you should have no difficulty in cultivating successfully. It was raised in Canada by Judge Logan from a cross effected between the blackberry and the raspberry. You are acquainted with the colour and flavour of the fruits, and you will have noticed that they are rather firmer and more acid than are raspberries, and therefore preferable for culinary purposes. They are especially useful for bottling. The loganberry grows under much the same conditions as the raspberry, but, owing to the length of its wide-spreading growths, requires more room for development. Briefly stated, the soil should be prepared as for raspberries, and the plants should be put out in the autumn, one-year-old plants being the best. Where there is more than one row on the same plot the rows should be eight feet apart. For supporting the growths a trellis six feet high should be provided, and this should be formed with stout posts and strong wires stretched between them at distances of twelve inches apart, commencing from the strand of wire stretched along the top of the posts. The plants should be eight feet apart in the rows, and seven or eight shoots be allowed to each, the others being removed at a quite early stage. The canes remaining for fruiting in the following year should be loosely tied to the wires or other support as growth progresses, and immediately after the fruiting period the old canes should be cut away to ensure the full exposure of the new canes to the light and air.

SUNDIALS.—J. H., Lincolnshire: I am interested in sundials, and perhaps you can tell me when the first sundial was invented.—We have devoted considerable time to the study of the science of gnomonics, but, as in the case of others who have given attention to sundials, we have not been able to find evidence that will enable us to say when sundials were first made. In the Bible we find ample evidence of the existence of a horologe, and of its use for measuring time. The most ancient of the known sundials are of Grecian origin, and, writing in 343 B.C., Herodotus states that the Greeks obtained their knowledge of the sundials from the Babylonians. The Romans, in their turn, acquired their knowledge of sundials from the Greeks, and obtained considerable fame as makers of dials, while the wealthy citizens added them freely to their gardens for purposes of ornament and utility. The earliest of the dials known in this country were of Saxon origin.

AUBRIETIAS FOR BEDDING.—T. O., Dorset: Being very partial to aubrietias, I have endeavoured for some years past to use them rather freely for carpeting beds, in which tulips and daffodils are planted, but the results have not been satisfactory. My difficulty has been to maintain good stocks of plants owing to the losses that occur among the plants lifted from the beds in April or early in May. It will be a great help to me if you can give me such advice as will enable me to prevent the plants dying during the summer months.—We appreciate the difficulty with which you have had to contend, and we suggest that you change your practice. Instead of breaking up the plants when you remove them from the flower beds in May and then planting them in nursery beds, we advise you to commence the propagation of stock quite early in March. To enable you to do this you must devote some portion of the reserve ground or kitchen garden to them, and the best time for planting the stock plants is early in October. In March lift small portions of the aubrietias with a few roots attached and put them about eight inches apart in rows, with fifteen-inch spaces between them to allow room for the free use of the hoe. By the autumn you will have stocky

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

PUBLISHING MANAGER,
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who will give the matter immediate attention.

plants six or seven inches in diameter, that can be transferred to the beds with but little check. This method requires more space for the preparation of the stock, but it effects a considerable saving in time, and is altogether more satisfactory than the usual method of procedure.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

R. B.—1, Nepeta Mussini; 2, Kniphofia Burchelli; 3, Macowani; 4, Lythrum virgata.

S. S. (Oxford).—1, Tradescantia virginica; 2, Thalictrum minus adiantifolium; 3, Linaria repens alba.

SUBSCRIBER.—1, Pteris biaurita; 2, Trichomanes radicans Andrewsi; 3, Blechnum polypodioides; 4, Gymnogramma chrysophyllum.

H. SMITH.—1, Bignonia venusta; 2, Echites rubro-venosa; 3, Allamanda violacea; 4, Strobolanthes Dyerianus; 5, Vitis Voinieriana.

K. S.—1, Olearia Haasti; 2, Galtonia candicans; 3, specimen much shrivelled, and all that can be said with reference to it is that it is one of the herbaceous phloxes.

YOUNG GARDENER. — 1, Pentstemon Hartwegi, which is now so generally grown in gardens under the name of Newbury Gem; 2, Parnassia palustris, or the Grass of Parnassus; 3, Salvia virgata nemorosa; 4, Santolina chamæcyparissus.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

H. J. B.—1, Wyedale; 2, Coe's Golden Drop; 3, Comte d'Althan's; 4, Bradley's King; 5, Monarch.

S. R. H.—1, Doyenne d'Alencon; 2, Triomphe de Vienne; 3, Ne Plus Meuris; 4, Forelle; 5, Grosse Calebasse.

W. S.—1, Allington Pippin; 2, Bielo Borodawka; 3, send after Christmas when the fruits have attained their proper colour; 4, Summer Golden Pippin.

A. B.—1, Princess of Wales; 2, Thames Bank, and 3, Lady Palmerston peaches; 4, Spenser; 5, Milton; and 6, Victoria nectarines. The crab is John Downie.

J. H.—Your apple is Byford Wonder, and you may, as you suggest, plant it in the orchard. The tree has a spreading habit, bears freely, and the fruit keeps until March.

INQUIRER.—The fruit is too much decayed to admit of identification, but it may be Clapp's Favourite. Pears for naming should always be sent before they are fully ripe, as when they have reached that stage at the time of sending they invariably decay before they reach us.

The Carter Spinach.—Where this vegetable is in demand, I can recommend the popular variety "The Carter" worthy of a trial, if it has not already been given one. I have grown it for several seasons, both for summer and winter use. So far it has not once failed. It produces very large, deep green leaves, with plenty of substance, without any trace of coarseness, and does not run to seed nearly so quickly as most varieties of spinach are apt to do during dry weather. I have grown it for three seasons side by side with a prickly spinach for winter use; and I find it gives double the return, standing wet and frost equally as well—this, too, on cold, stiff ground.—T. B. F.

GARDENING ENGAGEMENT.

Mr. James Smith, a well-known Aberdeen gardener, has been appointed to the post of superintendent of Kirkton Cemetery, Fraserburgh, Aberdeenshire. A native of Lumphanan, Mr. Smith served his apprenticeship at Brodie Castle, Forres. He was seven years head gardener to Mr. James Murray, ex-M.P. for East Aberdeenshire, Glenburnie Park, Aberdeen, and for two years with Lieut.-Colonel W. E. Gordon, V.C., Caskieben, Aberdeenshire.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
		At 9 a.m.		Day	Night
1913. AUGUST 24 TO AUGUST 30.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 24—Sunday	9 0	62	5[illegible]	70	49
,, 25—Monday	12 24	63	57	73	44
,, 26—Tuesday.....	8 0	63	59	76	41
,, 27—Wednesday..	3 0	62	60	75	56
,, 28—Thursday....	9 18	67	63	81	57
,, 29—Friday.....	0 12	59	57	68	48
,, 30—Saturday.....	3 18	59	59	76	53
	(total)				
Means	45 12	62	58	74	49

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
1913. AUGUST 24 TO AUGUST 30.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Aug. 24—Sunday	—	60	61	59	35
,, 25—Monday	—	60	60	59	33
,, 26—Tuesday.....	0·04	60	60	59	32
,, 27—Wednesday..	—	62	61	59	54
,, 28—Thursday...	—	62	61	59	50
,, 29—Friday.....	0·12	62	61	59	39
,, 30—Saturday....	0 15	61	61	59	46
	(total)				
Means ...	0·31	61	61	59	41

A thunderstorm occurred at 10 a.m. on Friday, 29th.

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, September 8.—United Horticultural Benefit and Provident Society, Committee Meeting.
National Chrysanthemum Society's Floral Committee Meeting at 3 p.m., Essex Hall, Strand.
TUESDAY, September 9.—Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Stem Vegetables: Their Dietetic Values, and Various Ways of Cooking Them," by Mr. C. Hermann Senn; Scientific Committee at 4 o'clock.
National Dahlia Society, Crystal Palace; two days.
WEDNESDAY, September 10.—Royal Caledonian Horticultural Society; two days.
THURSDAY, September 11.—National Rose Society's Autumn Show at the Royal Horticultural Hall: two days.
Messrs. Dickson and Robinson's Vegetable Show at Manchester; two days.

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Floral Transformation.

If we could possibly resuscitate a few of our garden-loving great-grandfathers and convey them to some of our up-to-date flower shows, say at Chelsea or Holland Park, we are sure that one of their greatest surprises, and even puzzles, would be the changes effected in recent times in the flowers with which they were familiar in the old days. Many of these are now so utterly transformed that they would be unrecognisable, while a good number of the exhibits are practically, so to speak, subsequent creations, and hence entire novelties. Take as a type of the latter class the tuberous begonias. In their time, if species with tuberous roots existed in this country at all, they possessed so little decorative value as to be merely found in botanical collections, the noteworthy begonias then being those possessing foliar beauty of the Rex type, whose flowers were regarded as quite secondary adjuncts of little or no value. The progenitors of the present brilliant crowd of flowering begonias, which had blossoms of quite moderate size, were not known in British gardens. They were introduced later, and when the possibility of hybridising distinct species was recognised. As a result, in course of time, larger and larger blooms, and brighter and more varied colours appeared among the hybrid offspring, until eventually we came to possess the magnificent flowers rivalling even the rose in delicacy and variety of tints, make, and, what is even more, in freedom of blooming. Again, what would they think of our roses? True, unlike the begonias we have mentioned were unknown, there were fine roses—ramblers, standard, and bush—but there were none to be compared with the latest and most brilliant and floriferous types of each kind which now decorate our gardens with such profusion and such brilliancy of colour that an exhibition of the best is positively dazzling. With the dahlia also another puzzle would present itself. This formed, it is true, a recognised and important "cult" even in the old times referred to, and had then reached practically a state of perfection in the way of regularity of form and diversity of colour. But what of the types? There was then only one, the almost spherical ball of curved and closely-packed petals which fell into two classes, the full-sized show dahlia and the more or less diminutive pompon. These two had their representative societies and their competitive exhibitions on a very large scale, but eventually, like other flowers whose capacities of variation and further development seem to have reached their climax, the dahlia fell into the background. Then, by what was practically an accident, the Mexican Juarez form found its way into this country, and at once revolutionised the dahlia cult. In lieu of the compact short-petalled form of the time of our ancestors, the long attenuate-petalled or cactus type was encouraged and developed, and in time produced as many brilliant colours as the compact form had done, and the varieties formed a great and important section. Encouraged by this capacity of transformation, raisers, instead of rejecting as ineligibles or "rogues" all seedlings of variant types, as they did in the old times, thus throwing away the chances which Nature offered them, grew them on, with the result that nowadays we have the great loose, broad-petalled flowers of the pæony type, and the new so-called collarette forms, with a circle of vari-coloured slender florets in the centre, which, though still, as a rule, in the imperfect stage, promise great things in the future. At a recent meeting of the Royal Horticultural Society a charming exhibit, showing the possibilities of the old-fashioned scabious in the shape of a large number of charming novelties, would have formed another surprise, and recently the old-fashioned snapdragon (antirrhinum) has made a marked move in the direction of increased size, which promises much to entitle it to rank, as someone recently said, as "one of the flowers of the future." Many other flowers might be cited in this same connection. The sweet pea may be cited as a special case, having been elevated from a simple ornament of a cottager's garden to be the worthy objective of many societies, and a "cult" in itself. The marvellous chrysanthemum might also be referred to, but would need much space. On the other hand, our assumed visitors would miss many of their old friends. Where now is the balsam, which seems to have been incapable of vieing with its many competitors in the varietal way, and is now rarely seen? Our old friend the fuchsia still holds its ground to a certain extent, but seems to have proved its incapacity to go beyond certain lines, the very form of its flower appearing to preclude any such new breaks as we see in the begonias, dahlias, and others flowers which have come to the fore in recent years. In addition to the class of floral development of which we have referred, there would also be the many new introductions with which our forefathers would necessarily be unacquainted, but we have already said enough to demonstrate how much more fortunate than they is the garden lover of these days as regards the immensely greater floral wealth at his disposal, due to the long-continued work of the selective cultivator, plus that of the traveller in far-distant countries, who has, in many cases, furnished him with the raw material.

Proposed Registration of Orchid Hybrids.—Now that so many orchid lovers are raising hybrids it becomes increasingly difficult to keep a clear record of the work done, so that duplication of names may be avoided. The R.H.S. Orchid Committee finds this an ever-present difficulty, and not seldom a hybrid granted an Award is found, by the next meeting, to have been wrongly named, the publication of the parentage in the Press having brought to light the fact that a hybrid of similar parentage already existed. The society's records only concern themselves with plants certificated or granted Awards of Merit. To meet the difficulty referred to the following motion was unanimously adopted by the Orchid Committee at Vincent Square, on September 9, and passed as a recommendation to the Council of the Royal Horticultural Society: "In view of the necessity of securing the earliest possible records of new hybrids, and to supplement the list of plants which have received awards, the Orchid Committee recommend that a new record, to be called the Hybrid Orchid Register, be established, and that orchid raisers and growers be asked to bring their new plants which are flowering for the first time, even although they may not be sufficiently developed to enter for awards, and to enter the name, parentage, and name of raiser (or exhibitor) of the plant on a registration form, to go before the committee. After testing to prove that the name is in order, it shall be entered on the society's Hybrid Orchid Register, and, once recorded, the name must be recognised for all crosses of similar parentage when subsequently shown, unless valid reason can be produced to prevent it."

Purchase of a Seed Business.—We are informed that Messrs. Sutton, of Reading, have purchased from Messrs. J. Veitch and Sons, Lim., the seed business carried on at Chelsea for the past sixty years, and this department, with the stocks of seeds and horticultural sundries, will be transferred to Messrs. Sutton and Sons as from October 1, 1913. Messrs. Sutton have also purchased from Messrs. Veitch and Sons, Lim., the principal portion of the seed grounds at Langley, near Slough, adjoining the Great Western Railway, but Messrs. Veitch's nursery trade will still be carried on for some time to come at Chelsea, Langley, and Feltham, until Sir Harry Veitch retires altogether from business.

Dahlia Trials at Duffryn.—The extensive dahlia trials that are being carried out by Reginald Cory, Esq., in his gardens at Duffryn are proving highly successful, and fully merit the interest they have created. The trials were instituted by Mr. Cory for the purpose of determining the merits of the several sections for garden decoration, and include nearly one thousand varieties. Mr. Cory invited the Royal Horticultural Society and the National Dahlia Society to co-operate with him in selecting the varieties of special value for the garden, and a committee, consisting of equal numbers of the members of the two societies, was appointed to visit Duffryn. The members of the committee were Messrs. J. Green, H. J. Jones, J. B. Riding, A. Turner, J. T. West, and F. G. Treseder, and they devoted the whole of two days (September 4 and 5) to the performance of their somewhat arduous but exceedingly pleasant task, in examining the 7,000 or 8,000 plants, and recording their decisions on the merits of the varieties. The majority of the plants are growing in

threes, while the others are in sixes, and the beds contain from twenty to thirty plants each. Every member of the trade in this country sent plants for the trial, and a number were contributed by Continental growers. Needless to say, that under the care of Mr. Cobb, the head gardener at Duffryn, the plants are in the best possible condition, and the result surprised not a little the members of the committee.

Gardens of the City of London. — Notwithstanding the immense value of land, and the rapidity with which every square foot is covered with bricks and mortar when the builder is allowed scope for his activity, there are many sylvan spots within the boundaries of the City of London that are equally remarkable for their interest and beauty. Hence the series of illustrated descriptions of the "Gardens of the City" that are now being given in the "City Press" will be especially welcome to those who are in any way associated with the City, or concerned with the rural aspects of large towns. The gardens that have been dealt with are those of Fen Court, off Fenchurch Street (August 23), St. Paul's Cathedral (August 30), and St. Botolph, Aldgate (September 6).

Women and Gardeners' Associations.—The question whether women should be admitted to the membership of gardeners' associations still remains unanswered to the satisfaction of all concerned. At the annual meeting of the Gardeners' Mutual Improvement Associations in affiliation with the Royal Horticultural Society, the question was discussed without any conclusion being arrived at. On the 18th inst. the Watford branch of the British Gardeners' Association will devote its meeting on that date to a consideration of the question, "Should Women Gardeners be Admitted to Membership of the British Gardeners' Association?" We should imagine that a solution might be found in five minutes if those interested would present some good arguments for or against the admission of women, instead of indulging in innumerable repetitions of "I don't think." The time and place of the Watford meeting is not stated, but the branch secretary, Mr. S. Hartley, The Lodge, Glenthorne, Harrow Weald, will afford information upon these two points to any of our readers who may desire it.

R.H.S. Bulb Show, 1914.—A special exhibition of forced spring-flowering bulbs will be held by the Royal Horticultural Society on March 10 and 11, 1914, with the object of demonstrating the varieties best suited for gentle forcing. There are six classes for hyacinths grown under the usual conditions, with liberal prizes, which have been presented by the General Bulb Growers' Society at Haarlem. Several classes have, as usual, been provided for hyacinths, tulips, and narcissi grown in moss, fibre, or similar material.

North British Railway Station Gardens.—For the best-kept stations and gardens on the system of the North British Railway, the directors arranged for four classes of prizes, i.e., £4, £3, £2, and £1. In the first class 20 are placed; these, with the names of the station masters being: Abbeytown, Mr. Douglas; Armadale, Mr. Nairn; Auchendinny, Mr. Aitken; Broomieknowe, Mr. Wright; Cairneyhill, Mr. Davidson; Cauldcots, Mr. Dickson; Cupar, Mr. Stewart; Drumchapel, Mr. Hunter; Eskbridge, Mr. Barn; Hawthornden, Mr. Murray; Helensburgh, Mr. Stevenson; Jedfoot Bridge, Mr. Grieve; Kilbagie, Mr. Purves; Melrose, Mr. Beveridge; Newcastleton, Mr. Bell; St. Monans, Mr. Swinton; Singer, Mr. Ramsay; Slamannan, Mr. Ferguson; Strathblane, Mr. Cuthbertson; Summerston, Mr. Murdoch.

The Ghent Horticultural Congress.—The International Horticultural Congress, held at Ghent from August 7 to 11, is recalled to our minds by the receipt of a substantial volume, entitled "Preliminary Reports, Vol. I." It gives a list of the various subjects dealt with, and the names of the Organising Committee. The papers are mainly in French, although a few are in English or Flemish, and the scope of them is a wide one, for the subjects are many and diverse. Among the authors we notice Messrs. F. Chittenden, Cyril Harding, Arthur de Smet, Ad. Buyssens, H. Jadin, the Abbé Torfs, Camille Vouloir, Louis Dop Curé, and Louis Lorette.

Croydon Gardeners' Excursion.—This year the members of the Croydon Gardeners' Association visited, on the occasion of their annual excursion, the gardens of Frencham Hill, near Farnham, the residence of C. Hay Walker, Esq., one of the vice-presidents of the society. The members, to the number of about sixty, found much to interest them in the extensive flower and kitchen gardens and in the well-filled glass structures, and were much impressed by the excellence of the work that is being accomplished by the joint efforts of Mr. Walker and his able gardener, Mr. Rowson.

Sale at Coombe Wood Nursery.—The first portion of the stock of trees and shrubs at Messrs. J. Veitch and Sons' Coombe Wood Nursery, Kingston, will be sold by auction by Messrs. Protheroe and Morris on October 13 and four following days. The stock includes a portion of the collection of new Chinese plants, of which some are not yet in commerce. The negotiations for the sale of Messrs. Veitch's seed business and the freehold land at Langley were carried out by Messrs. Protheroe and Morris.

State Forestry in Argyllshire.—The Inkerleven Estate, in Argyllshire, is being rapidly developed in accordance with the most approved methods of afforestation as a State forest, and the success achieved fully justify the course of procedure that has been followed. Last year 29,900 trees, chiefly the common spruce and the Sitka spruce, were planted in Compartment I., 4,300 trees in Compartment II., 6,500 trees in Compartment III. Fifty-five acres were planted with 123,400 trees, and 20,000 trees were planted to replace failures in Compartment IV., and 123 acres were planted with 261,700 trees in Compartment V. It has been difficult to keep the rabbits under owing to cairns within the enclosures, and during the heavy snowfalls in January and February hares were able to enter the enclosures and do some amount of damage.

An International Registry of New Plants.—The International Professional Horticultural Union has made arrangements for establishing a register of new plants on an international basis, which will be under the direction of Mr. Van Lennep, the general secretary. The names of the new plants will be entered on the official list with their classification, description, and origin, and it will thus be possible to maintain the right of priority of the raisers and introducers of novelties. The raisers or introducers must send a list of their novelties to Mr. Van Lennep, 15, Molenstraat, La Haye, Holland, with a fee of two francs for each variety. The names of the plants will be entered on the list in the order of their being received, and it may therefore be of importance to make the entries on as early a date as practicable. Raisers are requested to make the descriptions as exact as possible, and to take note of the fact that they are not to exceed three lines. It is suggested that descriptions be given in English, French, and German, and when this is done the description in each language may be equal to three lines.

A Productive Cherry Tree.—In several of the cantons of Switzerland cherries have been extensively planted, and in some of the orchards the trees have attained to an immense size, and bear heavy crops of fruit. In some instances the trees are planted alongside the public roads, where they bear freely, and the fruit reaches maturity without suffering from the depredation of boys, large or small. This year one of the cherry trees at Faourg, near Avenche, in the canton of Vaud, has borne two tons of fruit, which, it is stated, took three men fifteen days to gather. This particular tree bears small red fruits, which are utilised in the production of kirsch, and it is anticipated that of this liqueur 200 litres will be obtained, representing at five francs a litre a sum of about £40.

Lucknow Government Horticultural Gardens.—In the recently-issued report of a year's work in the Lucknow Gardens, Mr. H. J. Davies, the superintendent, shows how varied are the duties that fall to his lot. No fewer than 24,926 plants and cuttings, and 7,964 packets of seeds were distributed during the year to Government institutions and by sale. It is interesting to learn that Mr. Davies grows numerous varieties of peaches, strawberries, pears, grapes, oranges, figs, and roses; and to learn that strawberries are extensively cultivated in and around Lucknow; and that until lately the young plants and new varieties were supplied from the Government gardens at nominal rates. We read of a successful flower and vegetable show in February, and a chrysanthemum show in December. The education of a gardener is a difficult problem at Lucknow as at home; and Mr. Davies, who is an old Kewite, writes that "the unwillingness of young men to join the Choudhray class is to be regretted, as the inducements held out are very much better than obtain in offices and many other professions. The chief objection would-be students have to joining the class is that they have to do the actual work of a 'mali' for a portion of each day, and carry out with their own hands operations which entail a certain amount of manual exertion. Students have an idea that only class work is needed or expected of them, and often resign when they find out that such is not the case. It is the practical side of their work that they most need to fit them to teach others when they finish their course, and the gardens insist that this shall be the first consideration in their training."

Turin International Exhibition, 1911.—The Italian authorities responsible for the organisation of this exhibition have just issued a diploma, most effectively and artistically designed in colours, for presentation to those who took part in the work. In size it is twenty-four by twenty inches, and has been sent to each member of the British Royal Commission. We are sure that the members of the horticultural section of the Commission will highly appreciate such a beautiful souvenir of their connection with the Turin Exhibition. A similar presentation was made on the occasion of the Brussels Universal Exhibition of 1910.

EDINBURGH AUTUMN EXHIBITION.

Edinburgh Show, which may be said to conclude the summer shows of Britain, has for many years been an exhibition on extensive lines of all that is best in British horticulture, providing what may almost be termed a grand finale to the summer's programme of horticultural events. The exhibition, which was held in Waverley Market on Wednesday and Thursday, September 10 and 11, was no less worthy of the society's reputation than have been the best of its predecessors. Indeed, it was from end to end a magnificent show. Fruit, as usual, was a great feature, and vegetables were also splendid; while, so far as flowers were concerned, there was an abundance of all sorts, hardy, exotic, natural species, or garden varieties of choicest quality. The trade exhibits were of great extent, and of varied character, adding immensely to the interest of the show.

FIRST PRIZE TABLE OF DESSERT FRUIT AT EDINBURGH SHOW,
Exhibited by Mr. Wm. Galloway, gardener to the Earl of Wemyss, Gosford.

PLANTS.

These are not a great feature, but nevertheless those shown were of considerable merit. Mr. Jas. McNeill, gardener to Major Thorburn. Craigerne, Peebles, exhibited four stove or greenhouse plants in flower, winning first prize. A blue hydrangea, ixora, statice, and fuchsia were the subjects shown. Second prize went to Mr. Geo. McKinna, gardener to Sir Robt. Usher, Bart., Norton, Ratho, who had a big, freely flowered swainsonia, a fine zonal pelargonium, and a statice and Lilium longiflorum. Mr. A. McMillan, gardener to the Right Hon. the Earl of Home, Douglas Castle, received third prize. Mr. A. Findlay, gardener to A. Drybrough, Esq., Gogar Park, scored for three cypripediums, showing a fine C. Lord Derby carrying several blooms. Mr. A. Jeffs, gardener to R. Hindle, Esq., 17, Blacket Place, Edinburgh, scored for one orchid, showing a good example of Odontoglossum grande. Two dracænas brought first prize to Mr. John Thorn, Carlowrie, the variety Duchess of Portland carrying rich Monifieth, Dundee, taking second prize with a good plant of Phœnix Roebelini.

Ferns were beautifully shown, Mr. J. McNeill, gardener to Major Thorburn, Craigerne, Peebles, scoring for four exotic kinds, which included Asplenium nidus, Goniophlebium subauriculatum, and two other good plants. Second prize was awarded Mr. A. McMillan, Castle Douglas, who made good use of a crested nephrolepis, and a very good golden gymnogramma. Third prize went to Mr. A. Findlay. Four large British ferns formed another interesting class, the winner being Mr. Jas. Turnbull, gardener to Alex. Cowan, Esq., Penicuick. Lastrea cristata augustida was very fine indeed, and a big osmunda was good. Mr. Alex. Johnstone, Hay Lodge, Trinity, had third prize, but we could find no second prize card. Mr. Thos. Hirmston, Gogar, led the way for four adiantums, Mr. A. Findlay and Mr. A. McMillan securing the other awards.

British ferns in six-inch pots were, as usual, extremely good. Mr. J. C. Brown, 25, Waterloo Place, Edinburgh, received first prize for a capital set of nine plants. Asplenium trichomanes incisum, Athyrium f. f. acrocladon, and Lomaria alpina were very nice. Lastræa pseudo-mas crispa cristata augustata, a fine fern, was also well shown. Second prize went to Mr. J. Turnbull, Penicuick, who had Adiantum imbricatum and a nice set of other small-growing ferns. Third prize was taken by Mr. A Black, School House, East Calder. Mr. J. C. Brown, Waterloo Place, also won first for six scolopendriums, showing a set of beautifully frilled and crested forms.

FRUIT.

This section is always a very important feature of the Edinburgh show, and, although there were in some classes slightly less than the average entry, the display was grand, and some splendid fruit was staged. The opening class was for a decorated table of dessert fruit, size ten feet by four and a-half feet. Mr. Wm. Galloway, gardener to the Earl of Wemyss, Gosford, received first prize. He had four bunches of grapes, the Muscat of Alexandria being particularly fine, as also was Madresfield Court. Durondeau and Souv. du Congrès pears were good, and a large Universal melon occupied one end of the table. Other dishes were Jefferson plum, Lord Napier nectarine, and Royal George peach, besides apples and apricots. White lilies, pink carnations, and sprays of Francoa ramosa were the floral decorations used. The collection of twelve dishes of dessert fruit had four entries, and some splendid fruit was shown. Mr. Wm. Hunter, gardener to the Marquis of Tweeddale, Yester House, received first prize, and he showed both black and white grapes of good quality and some good peaches, nectarines, Brown Turkey figs, Jefferson plums, and Emperor Alexander apples. He also had large pears and a Superlative melon. The floral decorations were montbretias and francoa. Second prize went to Mr. D. Kidd, gardener to Lord

Elphinstone, Carberry Towers, whose fruit was also very good, but he could have improved his floral decorations. Mr. Jas. Small, gardener to John Graeme Thomson, Esq., Norwood, Alloa, was third, his Muscat Hamburgh and Madresfield Court grapes being supported by a pineapple, melon, and some fine pears, apples, and peaches.

GRAPES.

The fame of Edinburgh Show for the remarkable quality of its grapes has once again been well maintained. Some grand exhibits were staged, and the competition was very keen. The opening class was for six bunches, not less than four varieties, and three competitors staged in this class. Mr. Samuel Gordon, gardener to Sir H. E. Maxwell, Bart., Monreith, Wigtownshire, was declared winner. He had a long, shapely bunch of Madresfield Court, a very heavy bunch of Mrs. Pince, and another of Alnwick Seedling. Black Hamburgh was good, and so was Muscat of Alexandria, the sixth bunch being a duplicate of Black Hamburgh. Trails of ampelopsis and vases of pinks and Scabiosa caucasica set off the fruit, and the whole exhibit was a triumph of skilful cultivation. Mr. D. Halliday, gardener to W. Mackay, Esq., Ascog, Bute, received second prize, the running being very close. Mrs. Pince, although good, was slightly below the winner's magnificent bunch, Alicante was well finished, and Appley Towers, although not an over large bunch, was very fine. Mrs. Pearson was the only white bunch shown, and it was a good one. The decorations were superior to the winner's, Caladium argyrites, and small orchids being tastefully arranged. Mr. Robert Glen, gardener to R. M. Donaldson, Esq., Blairvaddick Row, Dumbarton, was awarded third prize, his grapes being big, shapely bunches, but not well finished in comparison with the other exhibitors.

Mr. J. Buchanan, gardener to the Earl of Mar and Kellie, Alloa Park, secured first prize for two bunches of Muscat of Alexandria grapes, showing medium-sized bunches, which were beautifully finished; second prize was taken by Mr. Wm. Hunter, gardener to the Marquis of Tweeddale, Yester House. Mr. John Middleton, gardener to William Forbes, Esq., Callander House, Falkirk, led for two bunches of Black Hamburgh, his bunches being broad-shouldered, and richly-coloured. His follower was Mr. John M. Stewart, gardener to J. Neilson, Esq., of Mollance, Castle Douglas; and third prize went to Mr. Samuel Gordon, gardener to Sir H. E. Maxwell, Bart., Monreith, Wigtownshire. Mr. Buchanan had a beautiful single bunch of Muscat of Alexandria, which was awarded first prize; second place being taken by Mr. Wm. Hunter; and third by Mr. G. Anderson, gardener to Right Hon. A. J. Balfour, M.P., Whittinghame. Mr. Middleton led for a bunch of Black Hamburgh in a strong class of ten entries; second prize going to Mr. Robt. Glen, gardener to R. M. Donaldson, Esq., Blairvaddick Row, Dumbarton; Mr. Samuel Gordon being third prize winner.

A bunch of Alicante won first prize for Mr. Jas. McNeill, gardener to Major Thorburn, Peebles, Mr. Samuel Gordon coming second, third prize going to Mr. D. Halliday, gardener to W. Mackay, Esq., Ascog, Bute. Mr. Samuel Gordon scored for a bunch of Alnwick Seedling, his bunch being weighty and of good quality. Second prize was awarded Mr. Jas. Duff, gardener to C. L. Gordon, Esq., Threave House, Castle Douglas; Mr. Angus Robb, gardener to M. Nairn, Esq., Dysart House, Fife, being third. For a bunch of Gros Colmar the first prize went to Mr. Jas. Wood, gardener to Claud A. Hamilton, Esq., Larbert; Mr. J. Shields, gardener to Sir John W. King, Bart., Carstairs House, Carstairs, being second. Mr. D. Kidd, gardener to Lord Elphinstone, Carberry Towers, led for a bunch of Lady Downes, Mr. Wm. Kirk taking second prize. Appley Towers was well shown by Mr. John Middleton, who led in this class, and Mr. Robt. Glen scored with Madresfield Court. Other single-bunch classes were for any other black variety, won by Mr. D. Kidd with a big bunch of Gros Maroc; and any white variety, for which the first prize was awarded Mr. Samuel Gordon, whilst for the bunch of black grapes carrying the finest bloom, Mr. Jas. Small, gardener to John Graeme Thomson, Esq., Norwood, Alloa, led with Appley Towers in perfect form and condition.

APPLES

These were shown in quantity, although, owing to most of the classes being confined to Scottish-grown fruit, they did not make so extensive a display as we have sometimes seen here. Mr. E. W. Caddick, Caradoc Fruit Farm, Hereford, brought a fine lot of fruit for his collection of eighteen varieties. Lady Sudeley was nicely coloured, Lord Derby and Stirling Castle were large, and throughout the set there were good examples of well-known varieties. Mr. R. M. Whiting, Credenhill, Hereford, was second prize-winner, showing somewhat smaller but quite good fruit. Third prize was secured by Mr. Thos. Smith, gardener to the Marquis of Ripon, Coombe Court, Surrey. Mr. Robert Currie, gardener to the Rev. G. H. Davinport, Hereford, won for twelve dishes with Worcester Pearmain, The Queen, Peasgood's Nonsuch, and others. Mr. Thos. Smith, Coombe Court, Surrey, took second prize, The Queen and Worcester Pearmain being nicely coloured. Third prize was awarded Mr. E. W. Caddick. Mr. Robt. Currie led for six dishes with some capital fruit, Mr. R. M. Whiting, Hereford, being placed second, Mr. Thos. Smith bringing up the rear.

For twelve varieties of Scottish outdoor growth, the winner was Mr. Jas. Duff, gardener to C. L. Gordon, Esq., Threave House, Castle Douglas. Duchess of Oldenburg, Gascoigne's Scarlet, Worcester Pearmain, and Lady Sudeley carried as much colour as is found in English-grown fruit. Second prize was secured by Mr. R. G. Sinclair, Congalton Gardens, Drem; and third prize went to Mr. Wm. Laing, Gateside, Fife. Four dishes of apples from under glass brought three entries, the first prize being taken by Mr. D. Nicoll, gardener to Miss Bell, Rossie, Forgandenny. He had Emperor Alexander, Wealthy, Gascoigne's Scarlet, and James Grieve, all very large, richly coloured, well-finished fruit. Mr. J. E. Hathaway, gardener to John Bremand, Esq., Baldersby Park, Thirsk, was second; and third prize went to Mr. J. M. Stewart, gardener to J. Neilson, Esq., of Mollance, Castle Douglas. Single dish classes were so numerous that we were obliged to withhold details, but we must say quality was better than we had expected to find it.

PEARS.

The principal class for pears was for twelve dishes, four on each. First prize was secured by Mr. J. E. Hathaway, Thirsk. The fruits were not exceptionally large, but they were clean, even samples of some of our best varieties. Second prize went to Mr. R. M. Whiting, Credenhill, Hereford, who also showed some very good fruit. Mr. Wm. Galloway, gardener to the Earl of Wemyss, Gosford, led for six dishes of pears grown in Scotland, and among his collection were nice fruits of Williams' Bon Chretien, Durondeau, and Clapp's Favourite. Second prize went to Mr. Ronald Johnson, gardener to H. Hope, Esq., Luffness; Mr. R. G. Sinclair, Congalton Gardens, Drem, coming third. For four dishes of orchard-house pears, Mr. Andrew Harvey, gardener to Miss Hamilton, Rozelle, took the leading prize. His fruits of Marguerite Marillat were beautiful specimens, Durondeau, Doyenne du Comice, and Pitmaston Duchess being the other dishes. Mr. J. E. Hathaway had Beurre Fouqueray in place of Marguerite Marillat, the other dishes being of the same varieties as the winner's. This exhibit secured second prize; Mr. D. Kidd, Carberry Towers, being third prize-winner.

CUT FLOWERS.

The class for cut flowers from the open brought keen competition. Mr. A. Dickson, gardener to M. G. Thorburn, Esq., Glenarmiston, Innerleithen, received first prize for a grand lot of flowers. There were montbretias, statices, lobelias, and rudbeckias, all of rich colours, and clean, well-grown flowers; in fact, the whole collection was very fine. Mr. Adam Brydon, Tweedmouth, Innerleithen, took second prize, also showing excellent gladioli, charming montbretias, and good liliums, with a choice variety of other subjects. Mr. Wm. Young, gardener to Mrs. Fleming Hamilton, Kirkcowan, was placed third out of six excellent exhibits. Mr. Wm. Young took leading place for six bunches of herbaceous flowers. He had Lilium auratum, Lobelia Firefly, Anemone japonica alba, and some good montbretias and helianthus. Second prize went to Mr. J. Bertram, Peebles. His Dracocephalum speciosum, Veronica subsessilis, lobelia, and Echinops ritro were grand bunches. Mr. W. G. Pirie, Dalhousie Castle, received third prize, his set including an attractive bicoloured lupin.

Annuals were charming. Mr. J. Cochrane, Langlee Gardens, Galashiels, showed twelve beautiful vases of good things, including tall scabious, salmon-coloured Phlox Drummondi, Arctotis grandis, rich purple and gold salpiglossis, and other pretty flowers. Second prize was awarded Mr. R. McAndie, Musselburgh, whose Cosmos, Shirley poppies, and larkspurs were fine. Mr. J. Sword took third prize. Mr. Jas. Paul, Drumbeg, Killearn, received first prize for a good exhibit of cactus dahlias in six bunches. Mary Purrier was brilliant, with Comedy and Jupiter, striped, and Snowdon, pure white. Second prize was won by Mr. Hugh Rutherford, gardener to W. Duncan, Esq., Brechin. For twelve cactus dahlias on boards, the leading award went in favour of Mr. Hugh Rutherford, whose flowers were of good size and very finely twisted petals. Harold Peerman, a clear yellow, was a very useful flower on the stand. Mr. Jas. Paul, Drumbeg, Killearn, took second prize, the third going to Mr. David Barbour, Johnshill, Lochwinnoch.

Mr. John Bertram, Peebles, had the lead for six hollyhocks, being followed by Mr. W. Brow, Gogar Burn. Mr. J. Stewart, jun., showed splendid spikes of gladioli, winning first prize for twelve spikes. Carmelite, Dryade, Aristophane, and Corsaire were the names of some useful things on the stand. Second prize was awarded Mr. J. C. Fordy, Castleford Castle, Warkworth, Newcastle, whose spikes were not so well furnished as the winner's. Mr. Adam Brydon, Innerleithen, was placed third. Mr. W. T. Landreth, Coldstream, was first for six spikes, second prize going to Mr. J. Stewart, jun., Whins, Alloa, Mr. A. Brydon again receiving third prize.

In the open class for twenty-four spikes of gladioli, Messrs. G. Mair and Sons, Prestwick, led the way with some capital flowers, perfect in form, and of considerable length. Second prize was secured by Messrs. Alex. Campbell and Sons, Cove Gardens, Gourock, who also showed very fine flowers.

ROSES.

In a special open class for thirty-six roses, Messrs. Adam and Craigmile, Fernielea Nurseries, Aberdeen, took first prize. Marquise de Sinety, Gloire de Chedane, Guinoisseau, Lieutenant Chaure, and Jonkheer J. L. Mock were good. Mr. W. Ferguson, Dunfermline, took second prize in this class. He had a richly-coloured Lyon, a brilliant G. C. Waud, and a good Mrs. Theodore Roosevelt. Twelve vases of roses, open to nurserymen, also brought some fine flowers, the winning lot being staged by Mr. W. Ferguson. La Tosca was good, and Edu Meyer and General McArthur were very pretty. Second prize was awarded Messrs. J. Fairley and Co., Cairneyhill, Fife. Messrs. D. and W. Croll, Dundee, received first prize for eighteen tea roses, their stand containing shapely blooms of Mrs. Edward Mawley, Georges Nabonnand, Mamas Cochet, and other good varieties. Mr. R. C. Ferguson led the way for twelve red roses, showing Hugh Dickson, second prize going to Messrs. D. and W. Croll, who used John Stuart Mill, and third prize to Mr. W. Ferguson, Hugh Dickson again being the variety. Mr. R. C. Ferguson's dozen blooms

(Continued on page 700.)

SWEET CHERRIES IN SCOTTISH GARDENS.

Of the various kinds of hardy fruits so successfully cultivated in northern parts, it is probably correct to assume that the cherries, more particularly the sweet or dessert varieties thereof, give greater trouble, and cause more anxiety as the ripening stage approaches, than is the case with any other purely outside-grown fruit. It is very seldom that one meets with a fruitful standard tree, one that, except for its blossom in spring, would be useless owing to the almost impossible task of preserving the ripening fruit from the attention of birds, which generally make an attack thereon at the first slight sign of colouring. With trees trained against a wall the matter complained of is considerably simplified, but protection is necessary, and in heavily-wooded districts the greatest care is essential, by way of affixing the protecting nets, to prevent access of the depredators, which during the fruit season seem to visit most gardens in great numbers, though at other times they may not appear unduly numerous or aggressive.

Position or Aspect.

One important feature relative to the cherry is that it will thrive as a wall-trained tree on any aspect except that of due north, and even that may with advantage be utilised for the culture of such hardy and free-bearing varieties as Bigarreau Napoleon, Black Tartarian, and May Duke, which thus form a successional supply to others having warmer and more favoured positions. A wall facing the south-east is, however, the best for the great majority of the varieties included in the genus, where they succeed in growth, fruitfulness, and longevity better than when a due south aspect is made use of. In planting it is advisable to confine the cherries to one quarter of the garden, which, if walled around, presents at least three different aspects, and a longer succession of ripe fruit may accordingly be obtained than would be possible from one only. By concentration, as far as this is possible, more effective protection, both from frosts when the bloom is expanding, or later from birds, is more easily carried out.

Suitable Soils.

The cherry will grow in most fairly rich and well-worked garden soils, but prefers one that is inclined to be of brittle or sandy nature, resting upon a substratum of chalk or gravel. It is abundantly proved that a soil highly impregnated with lime in some form is necessary, a fact borne out by the successful results attending the culture of the trees in some parts of Kent, where but a thin layer of soil overlies the chalk beds, into which the roots very soon penetrate, and luxuriant growth, lasting health, and fruitfulness ensues. It is at once obvious that in many parts of the country the cost of chalk is so great as to render its use on a large scale prohibitive. Lime, either in a fresh state, or as obtained in the abolition process of old buildings, is often used as a substitute for mixing with the soil in which the trees are to be planted. With the former a considerable time should be allowed to elapse between the application of lime and the planting of the trees, or injury may possibly accrue to the tender rootlets. Lime rubbish as cast aside by builders' workmen requires careful inspection to rid it of all fragments of wood and stone, and should also be reduced to the requisite degree of fineness.

Providing the natural soil of the place is of fair quality, the excavation of a space from two to four feet in diameter, circular or half-circular in form, according to position and the style of tree favoured—standard or trained for wall—and nearly fill this with prepared soil, which may consist of the most suitable loam obtainable, to which is added sufficient coarse sand, road grit, and lime to render it porous. J. DAY.

(To be continued.)

BASKETS OF ROSES.

Two descriptions of baskets are now in vogue for presenting roses to public notice at exhibitions, and both are so admirably adapted to the special purposes for which they are required as to fully merit the most liberal encouragement being given them, whether the shows be wholly devoted to roses or to cut flowers of various kinds. The basket best known, and the most generally used, is that which is included in schedules for the purpose of giving exhibitors an opportunity of displaying their taste and skill in the arrangement of cut flowers. This basket is usually characterised by lightness, and is more or less fanciful in design, and when there is a keen competition, as so frequently happens, the basket class is one of the most attractive in the section devoted to the decorative use of roses and other cut flowers. All such baskets are not tastefully filled, but at the majority of exhibitions the average is high, and when one or two arrangements are distinctly poor they serve to bring into greater prominence the distinctive characteristics of those which represent taste of a high order.

A TASTEFUL ARRANGEMENT OF IRISH ELEGANCE ROSE
In a plain, round basket at the National Rose Society's Exhibition.

The other basket is quite different in design to that with which visitors to exhibitions have been so long accustomed. It has no handle or ornamentation, is made of brown wickerwork, and is inexpensive. It is simply a shallow skep, with, in the case of the baskets used at the exhibitions of the National Rose Society, a diameter of 14in. Those who have not seen such baskets at exhibitions filled with fragrant and attractively coloured flowers might be excused were they, on first seeing the empty baskets, declare them to be wholly unfit for staging roses. The baskets are not of themselves objects of great beauty, but they are neat and quiet in colouring, and in no way come into competition with the flowers arranged in them.

The advantages of these baskets, which were first introduced by the National Rose Society, include their suitability for both exhibition and decorative roses, their lightness, and small cost. They can be the most strongly recommended for blooms of the varieties grown for decorations, but at the smaller shows, where the exhibitors do not devote special attention to roses, they may be adapted for the display of the exhibition varieties also. We, however, suggest that baskets of roses should be included in schedules as supplementary to, rather than instead of, boxes of roses, and that they be fully utilised for blooms of one variety. The basket with a diameter of fourteen inches will accommodate eighteen blooms without overcrowding, and, according to our experience, the best results are obtained when the number of flowers to be arranged in a basket is stated in the schedule. When no limit is placed upon the number it often happens that there is much overcrowding, and a consequent denudation of the garden of flowers. For the arrangement of the blooms tubes filled with water are used, and made secure with a packing of light material, which is all the better with a surfacing of green moss. The tops of the tubes should not be more than two inches above the level of the basket.

The arrangement of Irish Elegance herewith illustrated was shown by Mr. J. Mattock at the metropolitan exhibition of the National Rose Society, and is a good example of exhibiting roses in plain round baskets. G.

THE GARDEN OF WESTERN CHINA.

It is probably possible to obtain more lasting enjoyment from a love of beautiful flowers than from anything else in this world. The coming of summer, which brings so much joy to us, really centres round the renewal of life, the unfolding of buds, and opening of flowers; without this summer would, indeed, be barren. Wander through any first-rate garden, however, particularly some of the older gardens of England, and you will notice that many, perhaps most, of the plants are not natives of the country; they have been introduced from abroad—lilies from South Africa, calceolarias from South America, magnolias from Japan, and a host of others—and have now found a permanent place amongst lovers of gardens. But a very great number have been only quite recently introduced, and are as yet altogether unknown to the public. It is the profession of a few men, a very few amongst whom I number myself, to collect new and striking plants which will prove hardy in England; the collection of hothouse orchids, for many years an extremely profitable undertaking, is being, to some extent, eclipsed by this new departure, the introduction of hardy novelties as a business undertaking.

The European Alps were the earliest hunting ground, and English rockeries have long been enriched by gentians, saxifrages, primulas, and so on from those regions.

Then followed plants from the Himalaya, Kashmir, Sikkim, and other parts, the last chiefly associated with the name of the late Sir Joseph Hooker; the name of Fortune will always be remembered in connection with Chinese plants, and the Rockies and Andes have also contributed their share.

However, it soon became evident that the vast mountainous region of Western China and Tibet, so long closed to travellers, and not by any means widely open to-day, was the real garden of the world for hardy plants, and the immense undertaking of systematically exploring these grim mountains has started. Already rich finds have been made, though only the fringe of the country has been touched, and years of work lie ahead. But a start has been made, Tibet has been put under tribute. The greatest finds are at present known only to a few, but we may look forward to the day when, thoroughly acclimatised and improved by cultivation, they will adorn many a famous garden. The hardy plant hunter in Tibet leads an active, adventurous life, full of incident, and sometimes of danger.

He is away from the company of his fellow white men for months at a time, climbing mountains in all weathers; wild tribes are his constant companions, wild animals cross his path, storms and floods and avalanches are his daily portion. But he would not exchange places with an Emperor when he returns to civilisation and sees the wonderful flowers he has risked so much to obtain flourishing in the beautiful surroundings of an old English garden.

I am going to tell of some of the plants I brought back from Tibet in 1911, and particularly of the blue poppies—meconopsis—prince of hardy plants.

We are now up on the great Mekong-Yangtze watershed, a terrific range of bare rocky peaks, rising, in some instances, over 20,000 feet above sea level, though the rivers are here barely thirty miles apart as the crow flies.

The forest has long since died away, and the last straggling dwarf trees lie 1,000 feet below us. Soon the shrub belt, too, is passed, the scrub rhododendron dwindles to dwarf species, rising only a few inches above the grund, and finally dies out; now there is only a short tuft, starred with purple Primula bella, a lovely dwarf species, and brilliant yellow tufts of Saxifraga negroglandulosa amongst the rocks.

Bleak and bare the precipices tower above us, and vast screes, with huge angular lumps of rock, litter the slopes; a biting wind comes screaming over the passes; wraiths of cloud form out of nothing, disappear, and reform around the limestone towers, and still we climb on.

Now we are over 17,000 feet above sea level, but, save in the deep sheltered corries, there is no snow here from June to September. Grim and forbidding, the grey masses of rock lie in confusion, silent memorials of the glaciers which long ago moulded these valleys.

And among these boulders, scattered here and there, we shall find the Cambridge-blue Poppy (Meconopsis speciosa), remote, unfriendly, alone. Well do I remember the first plant I saw—it was a poor specimen, for it had opened early; it was only the end of June, a bitter grey day, with scudding clouds which obscured the sun and toned down the overwhelming brilliance of the light.

But in July I returned, and found scores of these wonderful blue poppies peeping up from the dark cavities of the scree or sheltering beneath scattered rocks. Each flower was an inch or an inch and a-half across, of a bright Cambridge blue, with a mass of golden stamens in the centre. The plant rarely exceeded eighteen inches in height, but eight or ten flowers, borne singly on short pedicels, springing up parallel to the main axis, was no uncommon sight. Imagine these glowing gems in that cold, grey desert of rock up at the extreme limit of flowering plants towards the everlasting snows of Tibet.

In autumn, when the wind was ripping to ribbons the blasted vegetation, and the snow was creeping down, I returned to the haunt of the blue poppy, and harvested seed.

But there are many other plants on this range which are worthy of the collector's notice. At 16,000 feet we shall find the blue Primula brevifolia, and dwarf Monkshood, Aconitum Hookeri, and on limestone rocks there are sure to be masses of the brilliant crimson Primula dryadifolia, all three recently introduced into England.

On the alpine grassland, at about 15,000 feet, is the dwarf poppy, Meconopsis rudis, of a purplish colour, and still lower down in the alpine meadow region, the pink Androsace spinulifera, with dense heads of flowers.

Then there are the gentians, most wonderful of all Gentiana ornata, with its long trumpet-shaped corollas of deep blue, and saxifrages too numerous to recount; the yellow Lilium lophophorum, with its single nodding flowers, and the quaint Labiate, Phlomis rotata, an excellent ornamental plant for rock gardens.

On the limestone cliffs again we shall find masses of the delicate Isopyrum grandiflorum, covered with pale violet flowers, though this has proved singularly difficult to grow in England, and is not likely to be on the market for some time. It comes from 13,000 feet, so should be quite hardy, but the seeds do not readily germinate. In the forests, at 12,000 feet, we shall find numerous shade-loving primulas, such as the blue-flowered P. sonchifolia, and the pink P. septemloba, Pyrola atropurpurea, and other plants.

But we must not fail to explore the mountains further west, where the rainfall is much greater, and quite a different set of flowers occurs. In the dense forests of fir and rhododendron trees occurs the magnificent Lilium giganteum, each plant 8ft. or 10ft. high, bearing aloft a dozen or more large white trumpet flowers. Higher up, in the rain-drenched alpine meadows at 13,000ft., we shall find sheets of the sulphur-yellow poppy, Meconopsis pseudo-integrifolia, and the yellow Primula sikkimensis; and in marshy places the still more remarkable P. Franchetti, with its single large and irregular flowers of a rich purple. In other places the meadows are pink with a very striking lily, Fritillaria Soulei, or white with Anemone japonica.

Finally, out on the rain-swept grassland plateau itself, we may come across the Oxford-blue poppy, a new species of Meconopsis which has been named M. Wardi, after the writer. In this article I have mentioned but a few of the most recently introduced and most handsome hardy alpines from the garden of Asia. Hundreds of others, many of them new to science, and the vast majority new to horticulture, have been brought back during the last few years, though it will be some time before the great gardening public can get hold of them, so great is the demand and so small the supply. But those who are keen on hardy plants and rock gardens cannot do better than turn their attention to these new plants, which are being secured from the remote mountain ranges of Asia.

F. KINGDON WARD, B.A., F.R.G.S.

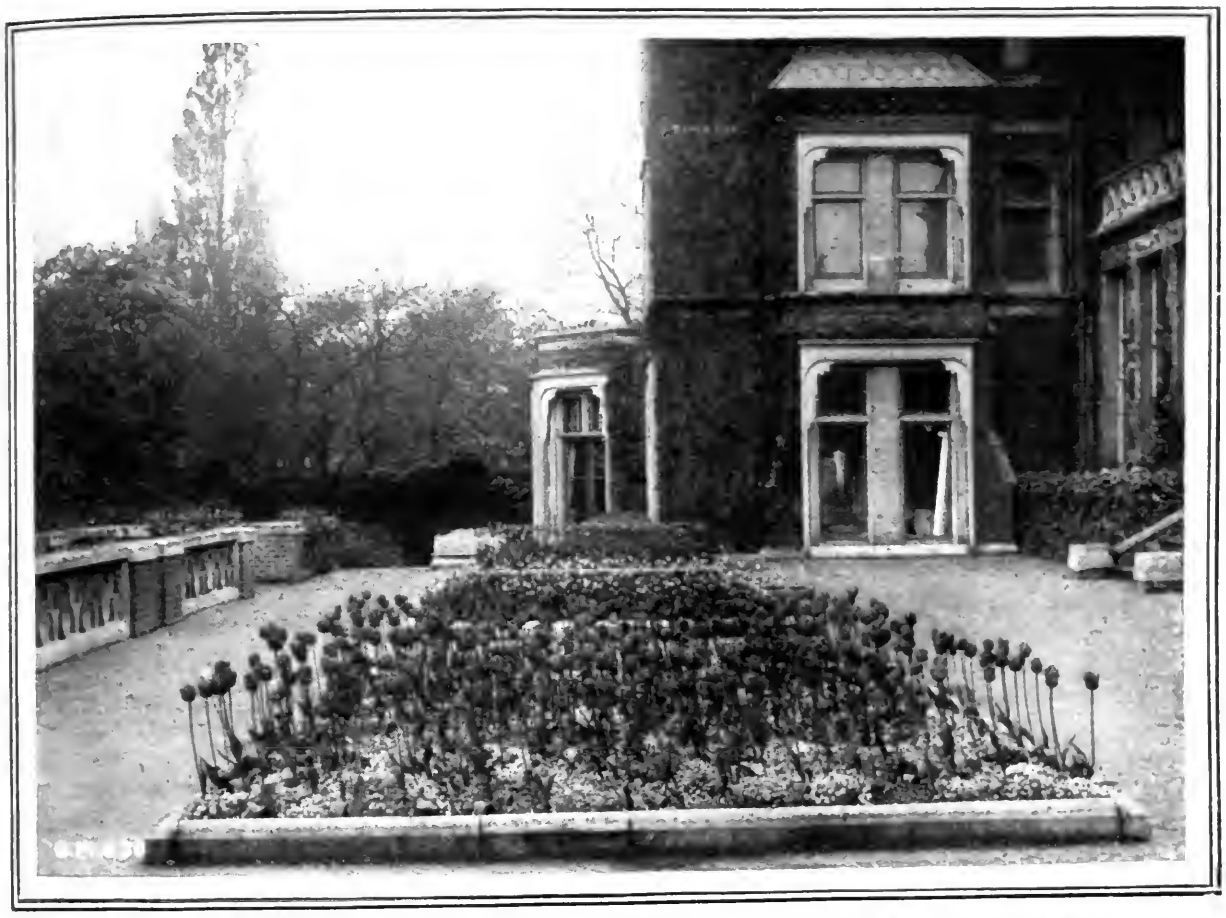
SCILLA BIFOLIA.

Scilla bifolia is not so frequently met with in gardens as Scilla sibirica, and although it does not rival the latter in the intense blue of its flowers, it is nevertheless a most welcome and pretty subject in the spring season. It is chiefly valuable on account of its early flowering, and from the general resemblance the blooms bear to some forms of Chionodóxa Lucilæ. The flowers are of a rich dark purple-blue, carried on short slender stalks, some eight or more individual flowers being loosely arranged on the slender spikes, which attain a height of six to eight inches, and are in flower at practically the same time as the snowdrops. Scilla bifolia is a pretty subject to naturalise in short grass, at the edge of woodlands or in the less formal-kept parts of the garden, while it also forms a welcome addition to the rock garden, especially when grouped so that when in flower it appears as a cataract of blue spreading itself over some gentle slope. Scilla bifolia præcox is a stronger, earlier-flowering form than the type, and the variety taurica is a larger edition. The individual flowers are about an inch across, while each spike carries double as many flowers as the type.

THOMAS SMITH.

DARWIN TULIPS.

Tulips are the most brilliant of spring-flowering bulbs; they are also moderate in price, and their popularity is probably as much attributed to the latter fact as to the intrinsic merit of the flowers. While the single and double Dutch tulips are pre-eminently adapted for pot culture, and to supply cut flowers and material for indoor decoration during early spring, the Darwin tulip is the kind par excellence for outdoor decoration; its flowering season marks, as it were, the dawn of summer. When the harsh winds and uncertain weather that usually characterise our winters and springs become abated, it is then that the Darwin tulip brings its wealth of colour, with the promise of the year full upon us.



DARWIN TULIPS ON THE TERRACE AT COOMBE COURT.
The beautiful Pride of Haarlem in the foreground.

There is scarcely another spring-flowering bulb to rival it in parterre planting, for it is there that the stately, noble, and dignified character of the plants gain fullest expression. It is also vigorous enough to combat with the greedy roots of shrubs, and no more pleasing picture can be conceived than by employing Darwin tulips—either mixed or to colour—as a groundwork among the shrubs. Again, in many gardens it is the custom to devote certain borders exclusively to the display of spring flowers, and for such an arrangement the Darwin tulip is indispensable, both on account of its height and colour; and when accompanied by a groundwork of some close-growing plant, the combinations into which it is capable of entering are practically inexhaustible.

The character of the Darwin tulips may be described as cosmopolitan, for it appeals to persons of widely different tastes and without distinction. In its season it can be fully enjoyed by the million, for every public garden and park of repute grows Darwin tulips in ever-increasing quantity. Their cultural requirements are simple and well defined. Fully-matured and ripened bulbs are the best to start with, and in order to produce the highest quality of flowers the ground should be deeply trenched before planting, adding a liberal dressing of old decayed farm manure. Planting is carried out from the end of August till November, early planting being advisable with these as with other bulbs, for after the latter date they begin to lose in vigour from undue exposure to the air.

When bulbs can be allowed to mature and ripen naturally, Darwin tulips will increase and give a display indefinitely. The best natural soil to produce this result is a calcareous loam, or limestone and chalky soils. Darwin tulips give excellent results, and they are practically immune from disease, this being always most noticeable where little or no manure was given at the time of planting. When these tulips are extensively employed in bedding arrangements, it is usually necessary to remove them when partly ripened, in order to make way for the summer-flowering subjects. In these circumstances the bulbs naturally suffer, for, even if the work is expedited, some considerable drying up of the roots follows, and the bulbs do not attain the degree of perfection they otherwise would. In this case the bulbs should be heeled in until the foliage is quite ripe, then lifted and sorted towards the end of July, replanting almost immediately in the reserve garden, when, if unmolested for a season, good average bulbs will be produced the following year. Even supposing these bulbs are not required for the parterre again, they are invaluable for supplying cut flowers.

Varieties of Darwin tulips are exceedingly numerous, and the gradation of colour fairly wide. There are, of course, no yellows such as occur among the Single Dutch and Cottage tulips. The lightest tints are found in La Candeur, Painted Lady, and Margaret, these being almost white or a faint blush only when fully expanded. The darkest shades, in some instances almost black, are represented by The Sultan, Faust, and La Tulipe Noire, the former being the dwarfest, and the last-named the tallest grower. Light chocolate or heliotrope shade is represented by Dream and Rev. Ewbank; while the glowing crimson-scarlet of the pelargonium is reflected in Mr. Farncombe Sanders, Minister Tak van Poortvliet, Glow, Europe, Ariadne, William Pitt, and Isis.

Clara Butt is a perfect flower of a matchless shade of salmon-pink. Rose colours are faultlessly represented in Psyche and Queen Wilhelmina; while an attractive combination of rose, with the edges of the segments feathered pale blush, is found in Mdme. Krelage and Baronne de la Tonnaye, both varieties being faultless in flower and habit. Salmon King is one of the brightest shades of all; the stems are stiff and erect, while the price places it within easy reach of all. Pride of Haarlem is always a satisfactory and reliable tulip; the flowers are of the largest size, rich carmine in colour, and the stems about thirty inches in height, while it flowers seven days in advance of Mr. Farncombe Sanders. Queen of Roses is the only variety I have found unsatisfactory, and this because the stems do not appear able to carry the flowers, which bend over, and form a blemish in a concerted bedding scheme.

AN EFFECTIVE BED OF TULIP MADAME KRELAGE.
One of the most beautiful of the Darwin varieties.

THOS. SMITH.

OLEARIA NITIDA.

This promises to be one of the best of the New Zealand daisy-bushes, and to rival the most attractive species when it attains a large size. Olearia nitida was introduced into this country from New Zealand in 1886. Though an extremely handsome shrub, it is, curiously enough, but rarely met with in gardens at the present time, although such species as O. Haasti, O. stellulata (often misnamed O. Gunni, which is quite a distinct species), and O. macrodonta, are fairly common. In its native country Olearia nitida is said to reach the size of a small tree, and to grow at an elevation of about 4,000 feet. It is, therefore, probably as hardy as O. Haasti, which is found at the same altitude, and hardier than O. stellulata, which is a tender shrub, but as the number of plants of this species grown in the open in this country is decidedly limited, this is, at the present, rather a matter of conjecture.

OLEARIA NITIDA.

One of the finest of this useful group of New Zealand shrubs.

The specimen portrayed in the accompanying illustration is seven feet in height, with a rather greater branch-spread, and it has been exposed to ten degrees of frost, but, although entirely unprotected, not a leaf or shoot has been injured. It is the largest example known to me in the south-west. As will be seen, it is a very attractive object when in full bloom. The small, white, hawthorn-like blossoms are about half an inch in diameter, and are borne so profusely on loose, branching racemes that, as shown in the illustration, they entirely hide the foliage. The leaves are leathery in texture, three inches in length and two inches in breadth, deep green on the upper surface and silvery-white on the underside. The flowers were borne in such abundance that when the withered bloom-clusters were cut off they filled three bushel baskets, showing the enormous number of blossoms that the shrub carried. It blooms in a small state, the plant illustrated when only a foot high carrying three flower racemes.

WYNDHAM FITZHERBERT.

Kingswear.

Hypericum calycinum. — This the St. John's Wort or Rose of Sharon, is one of the commonest yet at the same time one of the very finest of all the hypericums. It is of dense growth, and forms a mass of handsome leafage, while the comparatively large golden-yellow blossoms are borne in great profusion. Another point in its favour is that it will grow on dry banks under the shade of trees.—W. T.

A NOBLE TULIP TREE.

Of the several charming approaches to the ancient and highly picturesque market town of Horsham, pride of place may well be given to that portion of North Street leading from the railway station for about one-sixth part of a mile, in close proximity to the eastern side of Horsham Park, and ending in the spacious Carfax. This portion of the highway, excepting at its two ends, is immune from the proximity of dwelling houses, with the exception of the mansion of Horsham Park, the ancient seat of the Hurst family, the present owner being R. H. Hurst, Esq., whose property comprises some hundreds of acres in the parish of Horsham.

Leaving the railway station, and proceeding towards the town by way of North Street, the visitor is immediately, on the right, confronted by a group of ancient detached cottages, with spacious front gardens, backed by tall old English elms, principally the abode of rooks; and these cottages might well belong to some old-world village. Additional evidence of the antiquity of Horsham is furnished by the irregular lines and picturesque chimneys of an old and commodious house on the left, which is now arranged in three tenements, but still affords an interesting example of sixteenth-century architecture. The road skirts the ivy-capped wall of Horsham Park, and between the road and the six-feet flagged footway there is a broad stretch of turf, which in its widest part has a breadth of twenty yards.

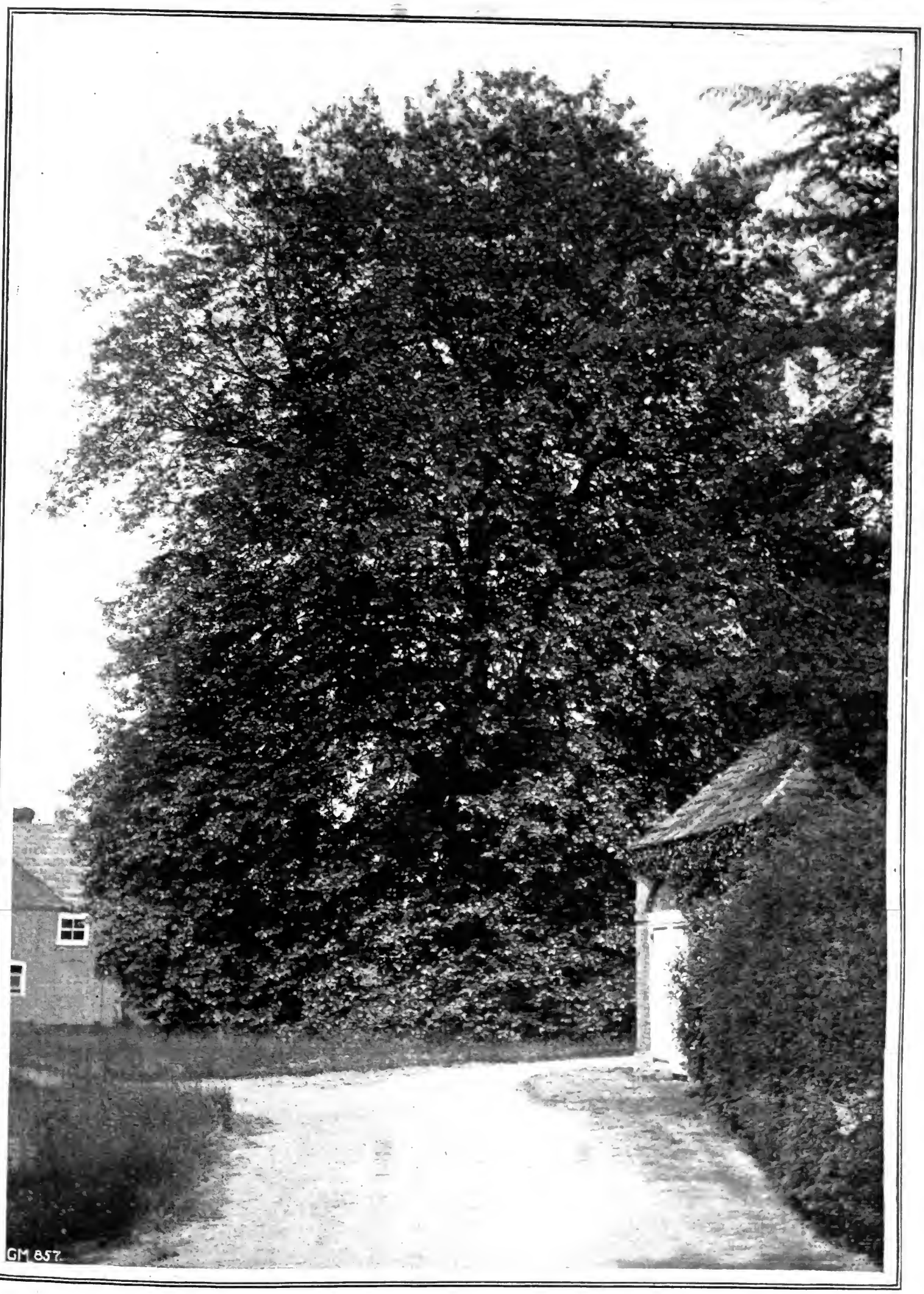
The mansion of Horsham Park is passed on the way, and the magnificent tulip tree (Liriodendron tulipifera), which forms one of the most noteworthy of the arboreal features of the park, is seen in close proximity to the long carriage drive, and immediately opposite to the east facade of the sixteenth-century stone-built mansion. Here its enormous proportions at once arrest the attention of even the most unobservant of the passers-by, and especially is it attractive when its myriads of flowers crowd its branches. There appears to be no record of this magnificent veteran, but it is assumed that it was planted when the mansion was built. If planted thus early, it is one of the oldest specimens in England. It is a matter of interest that in the famous gardens of Leonardslee, the residence of Sir Edmund Loder, there is a specimen which also ranks high among the more remarkable examples of the tulip tree in this country.

The Horsham Park specimen has attained a height exceeding 100ft., and the trunk at 4ft. from the ground has a circumference of 16ft. Not only has the trunk reached a great height and attained to a large diameter, but the branches are remarkable for their splendid development. It will be seen from the illustration which accompanies these notes that the wide-spreading branches extend from the top to within a short distance of the ground, the great masses of rich, glossy green foliage producing a glorious effect. The deeply corrugated bark is not the least attractive feature of this stately native of North America. Another feature of interest has been the annual seeding of the specimen for many years past, and the persistency with which the seed-vessels are retained during the winter months. Taking into consideration the noble proportions to which, under favourable conditions, as in this case, the tree attains, the amplitude of the curiously-cut leaves and the charm of the quietly-coloured flowers, it may be averred that no other deciduous timber tree that has found its home in England can compare with the tulip tree.

By the courtesy of the present life-occupier of Horsham, I have been able to send you the photograph of the tree taken by Mr. W. E. Mitchell, Horsham.

It may be added that growing in the courtyard of the mansion is an equally fine specimen of the London plane, one of the most noble of the many forms of arborescent vegetation. It is of great height, and the drooping, stalwart branches spread over the lawn, and occupy an area fully 300ft. in circumference. Thus, as will be readily conceded, this richly-timbered demesne has among its features two distinct exotic deciduous trees, hardly to be exceeded for age and size in England.

Horsham. William Gardiner.



A REMARKABLY FINE SPECIMEN OF THE TULIP TREE

In the grounds of Horsham Park, the residence of R. H. Hurst, Esq.

IXIAS.

There is a wide range of very beautiful, distinct colours and shades of various colours among the ixias. Many very dry borders are not occupied by flowering plants simply because they may be raised and considered too dry. If ixias are planted very little sand will be needed for the strong-growing varieties, but the smaller ones will be much benefited by having some sand added. After growth is active the soil should be watered in much the same as when ixias are grown in pots. There will not be any difficulty in cultivating them in such borders if the general watering be attended to and the growing plants lightly protected from severe frosts; indeed, a little protection from all frosts, light though they may be, will prove beneficial. As the stems of the flowers are long and wiry, they are splendid for cutting and placing in vases, and, of course, the bulbs may be grown in pots, flowered, and used in this form in the dwelling-house. The following are a few of the best varieties to plant for general effect: Prestios, white, with dark red eye; Azurea, azure-blue, maroon eye; Excelsior, bronzy-scarlet, black eye; Sarnia's Glory, yellow, black eye; Vulcan, crimson, shaded orange; White Swan, white, with blue eye; Lady Slade, pink, white eye; Duchess of Edinburgh, white and rose; and Sunbeam, orange, striped crimson.

M. L.

SUMMER FLOWERS IN BATTERSEA PARK.

Much interest is centred around the old English garden, the opening of which was recently referred to in THE GARDENERS' MAGAZINE. It forms a quiet retreat from the bustle that prevails, especially during the holiday period, in the other parts of the park, for Battersea is a populous neighbourhood, and the park is much favoured by the rising generation. In the old English garden, however, children are not admitted unless in charge of a responsible person, while dogs are also excluded. Owing to this, it is much appreciated by the more staid portions of the community as a spot where they can enjoy their book, and, in some cases, pipe, in peace. Their pleasure is further enhanced by the fact that comfortable seats are plentiful.

The garden itself is cut up into beds by paths radiating from a central pond or basin of water. These beds are planted with a great variety of subjects, mainly of the better class of hardy herbaceous plants, such as pentstemons, antirrhinums, hollyhocks, the dwarfer sunflowers, Chrysanthemum maximum, salvias—particularly striking being Salvia nemorosa virgata—and many others. Dahlias and sweet peas are also there, while some beds of roses have many admirers.

A notable feature is the fact that most of the beds are broadly edged with, for the most part, subjects of a cool restful character, such as Cerastium tomentosum, pinks, and especially Nepeta Mussini, whose greyish-green foliage and lavender-blue flowers impart just that feeling of quietude that one might associate with an old English garden. A pergola, of course, is there, to be in time furnished with the better sorts of climbers, such as roses, clematis, etc. To obtain an immediate effect this season some of the quicker-growing kinds, such as strong-growing tropæolums and Cobæa scandens, have been utilised, but they will in time give way to the others.

The bedding arrangements in various parts of the park are particularly good, though, in some cases, the effects of the drought are visible. In the sub-tropical portion, where watering can be freely carried out, the plants are in splendid condition.

Fuchsias have been well suited by the rather dull summer we have experienced, and are, at Battersea, as well as in the other public parks and gardens, in very fine condition. At Battersea they are freely used as a foreground to borders of shrubs, and, in this way, are seen to very great advantage. They are also employed for beds, but scarcely to the same extent as they have been in some previous years. One striking thing in connection with the summer bedding is the number of uncommon, yet pleasing, combinations that are to be seen, a few of which can for a brief description.

One bed occupying rather a commanding position contains a mixture of tall plants of Veronica Andersoni variegata, and the deep scarlet-coloured Lobelia cardinalis Queen Victoria, with a few plants of Salvia patens, the whole being edged with blue lobelia. On paper this does not seem much, but in itself it is really effective.

Another pretty bed has a groundwork of a viola with mauve flowers, edged with the yellow-leaved Fuchsia Golden Treasure, while dotted over the bed (which is a large one) are good examples of Veronica Andersoni variegata, heliotropiums, Gnaphalium microphyllum, and Fuchsia Henrich Henkel, this last being in exceptionally fine condition.

A bed of salmon-coloured clarkia, overtopped by the large pinnate-leaved Melianthus major, is also very pleasing. An arrangement that, as seen from a short distance, appears somewhat puzzling is a bed carpeted with blue lobelia, thickly dotted with young vigorous plants of Fuchsia gracilis variegata, these latter being about two feet high. Towards the outside are some good cockscombs, and the edging is formed with Gnaphalium lanatum.

Good examples of the uncommon Sutherlandia frutescens form the most prominent feature of another bed, the plants being plentifully furnished with their bright red clianthus-like blossoms. These sutherlandias spring from a groundwork of variegated holcus and Begonia semperflorens Ruby, the whole being bordered with a broad band of Koniga maritima.

A strange mixture, yet, at the same time, a very pleasing one, is a bed furnished with coloured-leaved fuchsias, among which the variety Sunray is very conspicuous. Alternated with the fuchsias are good examples of Celosia pyramidalis, while there is a thick undergrowth of Primula malacoides, Koniga maritima, and blue lobelia.

The strange, yet, at the same time, pretty pink-flowered Statice Suworowi, associated with Begonia Corbeille de Feu, and edged with koniga, is admired by many. Some particularly large examples of the bright red form of Celosia pyramidalis, springing from a dense mass of Chlorophytum elatum variegatum, and bordered with Koniga maritima, form a very noteworthy bed.

Though many other uncommon, yet, at the same time, effective, combinations may be seen, I will limit myself to but one more, namely, a bed of Fuchsia Golden Treasure and Browallia speciosa major, interspersed with well-furnished examples of Abutilon Thomsoni.

It must not be thought that the whole of the beds are furnished with such a varied collection of plants, as a large one consists solely of the double-flowered Ivy-leaved Pelargonium Galilee, both dwarf and standard plants being used. Although this pelargonium was sent out twenty-six years ago, it still remains the most popular of all varieties. Another bed, which is simply a large mass of tall, well-flowered Plumbago capensis, forms also a delightful feature.

Battersea Park possesses a fair collection of succulents, and this year the major portion of them are effectively grouped on a couple of mounds near the lake. Among the different subjects may be noted agaves, aloes, opuntias, echeverias, of which E. metallica is particularly fine, and yuccas in variety. The background is carpeted with Mesembryanthemum cordifolium variegatum, and the forefront with the golden-leaved form of Sagina procumbens. One succulent is very prettily in bloom, namely, Rochea falcata, and the closely-packed heads of bright red flowers, with conspicuous yellow anthers, are very telling.

While the summer bedding forms such an admirable feature, the naming of the different subjects with which the beds are planted might certainly be much improved, for even where there is a label it is often a difficult matter to find it. With regard to the tree and shrub life, it may be planted out that Battersea Park was planted many years ago, so that the majority of the trees have now had time to acquire their matured character. W. T.

THE SNAPDRAGON AND ITS RELATIVES.

No one who is at all observant, and has opportunities for visiting gardens in various parts of the country, can have failed to note that recently the antirrhinum, or snapdragon, has come to the front in a very remarkable fashion. Its peculiar flowers, shaped like a dragon's head, and capable under lateral pressure, of opening and closing its jaws in a very dragon-like way, have been so developed in colour and size as to render it a worthy competitor for preference even in gardens of the highest class, instead of, as in the old days, being mainly an ornament of the cottage garden. It has assumed the most brilliant and varied tints in most charming combinations, and the plant itself has, by selection, been greatly increased, or reduced, in size, so that now we have dwarf, medium, and giant varieties to suit very varied tastes.

The flower of the snapdragon, as indicated above, is very remarkable in form, and presents one of the most striking examples of modification of shape in response to the selective action of the fertilising insects who visit it. Without any such useful object to the flower, man has, however, independently of such subtle influence, materially increased this faculty of development, and, in a comparatively infinitely shorter period modified, as already said, shape, colour, and size to an enormous extent, so as to transform merely pretty flowers into really splendid ones. This being so, a little knowledge, not only of the antirrhinum itself, but of its probably unsuspected relatives, may not be out of place.

The antirrhinum then is one of a very large family, viz., the scrophulariaceæ, or figworts, comprising nearly two hundred genera, made up of about two thousand species. Among these are the familiar flowers, the schizanthus, salpiglossis, calceolaria, verbascum (mullein), pentstemon, mimulus (musk), digitalis (foxglove), veronica, and linaria, in which last Linaria cymballaria, which covers old walls in many places, shows clearly the relationship by its tiny blue snapdragon flowers on a smaller scale. To those who know the flowers of these several genera the great difference between themselves, and, as a rule, that between them and our particular theme, the antirrhinum, will raise the question as to what really constitutes a true plant family. But the botanist will tell us that one and all, despite the difference in the make, etc., of the flower, are linked together by a similarity in the organs of reproduction which persists recognisable to botanical eyes, throughout all the members of the family or order, which, as herbs or shrubs, are generally distributed over the globe, both in temperate and tropical regions. C. T. D.

Azaleas.—To assist these to form their flower buds perfectly stimulants must still be applied. They must also be vigorously syringed twice daily to keep them free from insect life. Liquid manure and soot water, with an occasional sprinkling with an approved fertiliser, will meet their requirements.—E. HARRISS.

FLORAL TABLE DECORATIONS.

The article in your issue of August 30 raises an oft-debated question regarding the present style of dinner table decoration as seen at our horticultural exhibitions. It does not seem fair, or advisable, to condemn entirely the "rustic" stand, as it has done good work in promoting that delicate lightness which is so essential to success in the art of table decoration.

The point your correspondent emphasises, on the difference in table decorations one sees at an exhibition, and that which a gardener would arrange for his employer, is fully admitted; and I think the only real solution is to divide the classes, eliminating the rustic stand and restricting the height to eighteen inches in the one, and in the other leaving the choice of stand to the exhibitor. The greatest percentage of what may be described as "simple" tables is usually seen at the National Rose Society's exhibition at the Royal Botanic Society's Gardens, where table decorations are a great feature.

This year saw about forty exhibitors in these classes, but even here the rustic stand was very popular, and secured several premier awards.

It would appear that the choice of stand should depend entirely upon the class of flower to be used, the rustic epergne being particularly suitable for small light blooms and dainty trailing foliage, whilst for roses the bowl is "par excellence."

It is most desirable that a young gardener should be able to see at an exhibition every variety and style of floral decoration; he could then select the best features of each, and adapt the same according to his individual taste; therefore, if for this reason only, every style should be permissible, even if classes are allotted for one particular type of stand only.

I do not agree with your correspondent's statement that he has not seen at the principal shows a half-dozen table decorations he would dare place on a gentleman's dinner table; this is a very sweeping assertion, but, of course, these things are seen according to one's individual taste and opinion.

As the holder of over 400 prizes won in the decorative section at various shows, and having the honour of judging at Shrewsbury, Wolverhampton, Taunton, and other places, the subject is of the greatest interest to me, and I welcome your correspondent's invitation to a discussion of the question.

(MRS.) L. COLSTON HALE.

Virginia Lodge, Warminster.

I sympathise with Mr. Wise in his endeavour to improve the floral table decorations at flower shows, and agree with him in his objection to the tall rustic stands, having had considerable experience of these and other forms in arranging flowers for table decoration for competitive purposes. The executive of the Bishop's Waltham Horticultural Society, of which I am secretary, offer £10 in three prizes for a decorated table, in addition to other classes in which the prizes are of a less value. Therefore, I have an excellent opportunity for seeing the various forms of flower arrangement. We have these rustic stands in quantity, but seldom does an exhibitor who uses one win a leading position, not because the form is objected to entirely, but because there are superior exhibits arranged in bowls and vases or some other receptacle in which the flowers form a low arrangement. As a rule, when sitting at a table decorated with flowers arranged in these rustic stands, you have a mass of silvered wire and often dingy tubes to look at because the latter especially are difficult to cover with flowers or greenery for fear of making the whole too heavy; moreover, the tubes, too, are not large enough to produce an effective floral display.

Many exhibitors nowadays seem to regard this method of arranging their flowers for exhibition as the best that could be devised, but it is doubtful whether any of them use the same stands at home. It is most difficult to convince users of these stands that they are not really desirable to produce a good effect. I will say, in justice to some of these rustic receptacles, that, when they are not more than nine inches high, they can be used most effectively. I am seriously thinking of asking my committee to limit the height of the floral decorations on the tables at our show in the future. In this way we can check the employment of the present-day stand, which all too often reaches quite a yard high, or nearly so, in the centre of the table.

If the conditions are clearly stated in the schedule, exhibitors will quickly conform to the rule rather than miss the £5 cash prize. If other societies will do likewise, there will quickly be an alteration in the style of table decoration at shows. If fifteen inches was the limit allowed for the decorations, the receptacles would be chosen accordingly. My daughter, who has been fairly successful, employs low silver bowls and trumpet-shaped vases, and it is difficult to see what can be more suitable than these; they are even more effective than glass or china. Another difficulty I find exhibitors and judges labour under when express conditions are not laid down—whether the table is intended for daylight or artificial light. In other words a luncheon or dinner table. As is well known, some flowers are excellent in daylight, but quite useless at night. This is a condition that will appear in our next season's schedule, and thus relieve the judges of that irksome duty of determining what the intentions of the committee were when the decorative classes were entered in the schedule.

Swanmore Park. E. MOLYNEUX.

The remarks made by Mr. E. B. Wise, of Swinfen Hall, on the above subject, are of much interest. In many instances ladies are specially told off to judge the floral decorations at flower shows, they being considered to possess a more refined taste and superior judgment than the usual judges. But in how many large establishments, may one ask, does the lady of the house arrange the flowers? As your correspondent points out, it is generally the foreman or decorator who has charge of the decorations, and, as these in course of time become head gardeners, one fails to see where the superiority of taste and knowledge of the lady judge comes in. Many of them, in all probability, never saw a dinner table in a large establishment after it had been decorated by a competent person. It has not fallen to my lot to see any of those rustic adornments one is accustomed to see at a flower show placed on a private dinner table, as they would, in most cases, be out of place.

In compiling schedules for shows, it would save both judges and exhibitors much trouble and annoyance if those responsible for their preparation would take more pains to define what is meant by certain terms used. As, for instance, "Dinner table decorations on a table 4ft. by 3ft." How is it possible to make a proper display on a table of this size? To place as many flowers on a table of such dimensions as would be required for one to seat eighteen or twenty persons would be absurd. A full-sized dining table is nearly double the width with length in proportion to the number of guests. It would be far nearer the point, when a table of this size is given, to express the decorations as for the centre of a dinner table. One usually sees at flower shows a large rustic ornament placed in the centre from two to three feet high, with four small ones placed at the corners; such would be lost on a table twenty feet long, while the centrepiece would be too tall, and would hide from view those sitting on the opposite side. There would be far more satisfaction in competing were tables provided of suitable sizes to seat ten or a dozen persons. Visitors would then have some idea what a dinner table is like when properly decorated, and those competing would have a far better chance of displaying their taste and skill. As a rule, the floral decorations are not brought nearer the table's edge than fifteen inches, therefore tables four feet wide would be ample to show them, though a full width table would be better.

No decorations should be so high as to prevent the guests seeing each other, unless it be an odd bit or two of light grasses. Guests usually like to be able to see their vis-a-vis, and anything that obstructs the view is objectionable. True, we sometimes see massive silver ornaments employed, but when these are used the seats are usually so arranged that they do not come directly opposite the persons seated at the table. Where vases over fifteen inches high are used, these ought to be of a slender character, and only flowers of a light, graceful nature used in them, those of a heavier type being kept for those that are shorter. Too many colours should be avoided, an arrangement where not more than two are employed usually produces the best effect. There is not now the same difficulty in using certain colours as there was before the introduction of electric light, many being now employed that were formally useless. Flowers always show to advantage in clear glass vases, therefore such should be used when possible.

H. C. P.

GERMAN AND FRENCH POTATO CROPS.

His Majesty's Consul at Stettin (August 19) states that, owing to the cold and wet weather experienced during the last few weeks, the prospects of the potato crop in Pomerania have become less favourable. The yield is, however, officially estimated at from average to good, and should the weather improve a good crop is generally expected.

Present wholesale prices per cwt. in Stettin are as follows: Early red potatoes, 2s. to 2s. 6d.; early white, 2s. 6d. to 3s.; oval blue, 3s. to 3s. 6d.; and kidney, 2s. 6d. to 3s. Exports from this port in 1912 amounted to 139,934 cwt., of which 3,857 cwt. were exported to the United Kingdom. The corresponding figures in 1911 were 390,639 and 104,218 cwt., and in 1910 625,542 and 2,274 cwt.

His Majesty's Consul at Danzig, under date August 20, states that definite estimates of the yield of potatoes in West Prussia this year are not yet available, but if fine weather continues and disease does not set in good crops are expected. Current wholesale prices range from about 2s. to 2s. 6d. per cwt.

The Board of Agriculture has received a report, dated August 23, from His Majesty's Consul-General at Berlin, stating that the almost incessant rain which has fallen during the month has caused deterioration of the potato crop, and it is questionable whether a fine spell of weather coming now would be sufficient to repair the damage. Complaints of disease are general, but principally among the early potatoes, the yield of which will be unsatisfactory. Late potatoes are also suffering to some extent from disease, but should weather conditions improve in the immediate future an average crop may be expected. It is probable that, even under the most favourable conditions that may now ensue, the crop in the whole of Germany will fall below that of 1912—namely, 49 million tons—and it may even not exceed that of 1911—namely, 34 million tons. Germany will probably have to import potatoes to a greater extent than formerly, and prices will probably rise.

His Majesty's Consul-General at Paris (August 25) states that forecasts point to an average crop of potatoes being obtained in France. Most varieties are not dug before September. The principal varieties on the market at present are the Early Rose and L'Institut de Beauvais, prices for which range from about £3 13s. to £3 17s. and £3 6s. to £3 14s. respectively per ton f.o.b., to French Channel ports, and in bags of about 200 lbs.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

MILTONIAS.—Some of the early-flowering varieties are now commencing to make new growths, and plants that may require repotting, should receive the necessary shift. With reference to M. vexillaria, I wrote at some length in the spring of the year, pointing out the different methods adopted by various growers, and advocated repotting just before the plants showed their flower spikes, in localities where the fogs cause so much loss of foliage during the late autumn and winter months. When the plants are grown where the atmosphere is free from impurities, it is advisable to attend to the repotting that is required at the present time. It is not necessary to annually repot large specimens if the potting compost is in a good state of preservation, but should they become hollow in the middle, through loss of leaves, they should be repotted at the present time. Turn them out of their pots, and cut away unnecessary leafless pseudo-bulbs. The old bulbs thus severed may be placed in small pots, and as they usually produce new growths readily, the stock of any desirable kind can be thus increased. Miltonia vexillaria is usually considered surface rooting, and therefore does not require a great depth of compost. The pots or pans should be filled to about half their depth with clean drainage materials. The compost should be graded according to the size of the specimen, using the finer compost for the smaller plants. Good fibrous peat and chopped sphagnum moss, with sufficient sand, broken crocks, and charcoal to render it porous, form an excellent compost. This should be pressed moderately firm about the roots, and finish potting by mounding slightly in the centre. Water as soon as potting is completed, wetting the compost through, soft water being preferable. The plants should be carefully shaded after repotting, and a humid condition maintained about them by syringing between the pots, and spraying overhead whenever the outside conditions permit. Thrips are a great hindrance to the successful cultivation of M. vexillaria. It is well to have the plants carefully dipped in some safe insecticide before repotting. They must be kept under close observation at all seasons of the year, spraying and vapourising at regular intervals being the best means of keeping these pests in check.

MILTONIA ROEZLI and its variety alba, also M. phalænopsis, are best grown under stove conditions, a humid position, where there is an abundance of condensation at all seasons of the year, suiting them admirably. Especially is this the case where the position is within close proximity to the glass. In such a position the pots may be plunged to their rims in growing sphagnum moss. The repotting necessary should be attended to at the present season. Provide ample drainage and a compost as advised above. — H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

STOVE CLIMBERS.—Whether planted out or grown as trained specimens in pots, these should for some time hence be kept rather drier at the roots, and, if necessary, be subjected to a final thinning of the growths to ensure thorough ripening of those remaining, and also to give as much light as possible to plants growing beneath them, this applying especially to such climbers as Clerodendron Thomsonæ, dipladenias, and Hexacentris mysorensis.

GLORIOSA SUPERBA.—When this beautiful flowering plant has passed its best, water should be gradually withheld. Allow the growths to remain until the tubers are well ripened, when the pots may be placed in a dry position until the tubers are required to be restarted in spring.

STEPHANOTIS FLORIBUNDA. — This lovely fragrant climber requires rather less water from now until the end of the winter, but, being quite evergreen, it must not be allowed to remain in so dry a condition as to cause the slightest shrivelling of the wood.

ALLAMANDAS will continue to bloom for a time, and, unless required for flowering early, should not be unduly hastened to a condition of comparative rest.

BEGONIA GLOIRE DE LORRAINE.—Discontinue the removal of the flower buds of those required to bloom from mid-October onward, and to maintain a succession allow batches to commence flowering at intervals of about three weeks. As the flowers open remove the plants if possible to a rather drier atmosphere that the flowering season may be prolonged.

GENERAL REMARKS.—Shading will be necessary only during the very warmest part of the day, and may shortly be entirely dispensed with. All permanent shading should be washed from roof and house sides. Syringings must be less frequent, generally speaking, once daily in bright weather in the middle of the morning being sufficient; morning and afternoon damping between the plants will yet be necessary. To have the heating arrangements in good condition it is advisable to flush out the boilers. Flues and chimneys should be cleaned and necessary repairs attended to as early as possible. In the stove the temperature should not exceed 70 degrees at night, or the night temperature of the intermediate house 65.—H. PRIME, Hatfield Gardens.

FRUITS UNDER GLASS.

EARLY VINES.—Root-lifting, top-dressing, and any other details should receive attention at the first opportunity. This should be practised when the vines have become weak owing to the compost being exhausted, and needs being replaced with soil of better quality. Sufficient compost must be prepared in quantity equal to the probable demand, using a fair addition of lime rubble, charcoal, bone-meal, and also a moderate sprinkling of some approved vine manure. Commence at the extreme front of the border, and gradually work out the old compost with forks, taking care of all the roots as the work proceeds. The best course is to tie them up in moist bundles until the drainage is rendered efficient, and the border made ready for the new compost. New turf grass, side downwards, forms an excellent base for the compost, which is wheeled in and made thoroughly firm by treading until high enough for the first layer of roots emanating from the lowest part of the undisturbed border. Spread the roots out evenly, removing all faulty or injured parts with a sharp knife, place a little soil over them, and make firm, following this with another layer until all is finished. Keep the vines close during the progress of the work, and in a moist condition; and in severe cases shade, especially if the roots are wholly inside or outside, as the case may be.

TOP-DRESSING VINE BORDERS.—This being an annual operation, the best time to perform the work is as soon as the leaves fall, and pruning can take place, or even before on outside borders. Prick over the borders carefully, remove all old mulchings, and remove the soil carefully, when the surface rootlets will be laid bare. After this has been done apply a dressing of fresh compost similar to the above to the depth of about two inches, making all firm as the work proceeds.

LATE GRAPES. — These must now be pushed forward to have them thoroughly ripe by the end of the month, or they will not keep well during the winter. Pinch all laterals, and allow all light possible to play amongst the fruit.

POT VINES intended for starting in November should now be ripe and resting with their pots covered with some non-conducting material to prevent injury from drought. They will not require much water after the foliage is ripe, but the ball of soil must not be allowed to shrink from the sides of the pots, as soon happens if neglected. As the canes cannot be too well ripened, this point should have proper attention before the leaves fall, after which all excitement must cease, and the vines given perfect rest. A wall facing west is a good place for them, provided the roots are well covered. Young vines, which are grown as cut-backs, will soon be ripe and fit for removal to a high, airy house, or they will do equally well against a sheltered wall. Like the preceding, they must not be allowed to suffer from dryness at the roots. The young canes should be securely fastened to the wall to prevent injury by winds, and also to give the buds the fullest benefit of sunheat. Where it is intended to make fresh borders for the coming winter, the sooner the materials for their composition are prepared the better. — F. JORDAN, Warter Priory, York.

THE FLOWER GARDEN.

ROSE CUTTINGS.—There are many advocates for growing roses on their own roots, and whenever the constitution of a variety is such as to enable it to flourish without having to derive support from a vigorous stock, it has much to commend it. The nuisance of suckers springing up from the stock is overcome, and also the development of the root and stem is more in agreement, thus reducing to a minimum the liability of plants growing as dwarfs being broken off by rough winds immediately under the surface of the soil. The present time is a suitable one for inserting cuttings, which should be selected from young, matured growths, and taken off with a sharp knife at the heel. Shorten back the tip of the growth, so as to leave the cutting about 12in. in length. In favourable districts most varieties will root if inserted in rows in the open ground, but in others they require the protection of hand-lights or cloches, and in such cases the cuttings must be inserted in groups, over which the covers will fit when it becomes necessary late in the autumn to use them.

LAVENDER, ROSEMARY, AND SANTOLINAS.—It is a sound practice of always having a stock of young plants of these old garden shrubs in hand, as they are very susceptible to dying off in an unaccountable manner, especially on cold, wet soils. Cuttings inserted at this season under hand lights in an open border will strike readily.

BULBS.—At this period, just previous to the time when the general run of autumn planting comes on, every opportunity should be taken advantage of to forward as far as possible all work that will relieve the pressure later on. The good results following on the early planting of bulbs is generally recognised, and where any naturalising is contemplated, there is no time better than the present for carrying it out. In many gardens the cultivation of Darwin and May-flowering tulips and special varieties of narcissi form an important feature, and quarters are allotted to them. In such cases planting the bulbs can be proceeded with after the ground has been well dug and enriched.

HARDY CLIMBERS.—These have nearly completed their season's growth, and all young shoots should be made secure against rough winds, either by tying in or nailing. While this work proceeds, thin out any superfluous and undeveloped growths. By judicious thinning those remaining are given the conditions most favourable for becoming well ripened. It need hardly be said that the maturity of the growths will greatly increase flower production.—T. B. FIELD, Wych Cross Place Gardens.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

There was a fair-sized exhibition at Vincent Square, Westminster, on Tuesday, September 9, but the attendance was small, and everyone seemed to be more interested in discussing holiday matters than in the plants and flowers on view. Enthusiasm arose, however, over one display, i.e., that of grapes and orchard-house fruits from Warter Priory; it is doubtful whether a finer lot of dessert fruit has ever been set up at one time from one private garden. Border flowers, dahlias, and orchids were shown freely, but novelties were few.

HARDY FLOWERS.

Phloxes provided the bulk of the large exhibit of hardy flowers shown by Mr. Jas. Box, Lindfield. Very effective were the violet-purple Gloire de Marc; Duguesclin, lavender; Toreador, pink, with very dark buds; the fine white Frau von Lassberg, and the deep pink Meteore. With the phloxes were associated groupings of Gladiolus America, the graceful Watsonia rosea, and W. Ardernei, Lilium sulphureum, and L. nepalense. Mr. A. L. Gwillim, Cambria Nursery, Sidcup, does not confine his attention to tuberous begonias, for on this occasion he set up a bank of hardy flowers wherein Campanula Burghalti, with its long-lobed bells, Aster Sidcup White, Helianthus sparsifolius, one of the best of perennial sunflowers, and Senecio tanguticus were notable kinds.

Messrs. Wells and Co., Merstham, grouped phloxes effectively in large stands, and set up about thirty varieties of these popular and fragrant flowers; King Edward, crimson lake; Iris, violet; Gloire de Marc, violet-purple; Selma, pink; Elizabeth Campbell, pale soft pink; and the brilliant carmine Gen. von Hentz, were all capital varieties well displayed.

Messrs. Rich and Co., Bath, contributed small bunches of a large number of varieties of phloxes, and the Guildford Hardy Plant Company sent hardy flowers. Messrs. Whitelegg and Page, Chislehurst, contributed pentstemons, liliums, delphiniums, phloxes, and big baskets of blooms of Colchicum autumnale. Mr. G. W. Miller, Wisbech, set up a very bright exhibit of hardy flowers, his Kniphofia Nelsoni major being particularly fine and showy.

Messrs. T. S. Ware, Feltham, were represented by a large exhibit of phloxes, pentstemons, Michaelmas daisies, and delphiniums. Phlox Countess de Jarnac, with creamy-white variegated leaves and small pink-centred flowers. Aster Feltham Blue shown by this firm gained an A.M., and is soft blue, with flowers of fair size carried lightly on wiry, blackish stems. Salvia uliginosa, a fragrant-leaved, blue-flowered, hardy perennial, gained an A.M., and was shown by Mr. C. Turner, Slough. Enchantress Supreme, a lovely fragrant pale pink perpetual carnation, was shown by Messrs. Allwood Brothers, Haywards Heath; it is of fine form and size, and promises to be a first-rate variety.

The quaint little Mazus pumilio was shown by the Wargrave Plant Farm, Lim., The Arcade, Liverpool Street; this firm had a selection of Michaelmas daisies, phloxes, and other autumn flowers.

A very interesting exhibit was the one of grasses set up by Mr. Jas. Macdonald, Harpenden, who had about half a dozen pots each of a large number of species suitable for lawns or pastures, or of purely decorative character, all margined around by the lovely velvety grass grown on prepared material, and used like green velvet. Very pretty were Lagurus ovatus, Poa amabilis, Briza minima, Anthoxanthum gracilis, Hordeum jubatum, Festuca stipoides, Eragrostis abyssinica, E. elegans, and Bromus macrostachys, all of decorative value, and conspicuous among the fifty or sixty species staged.

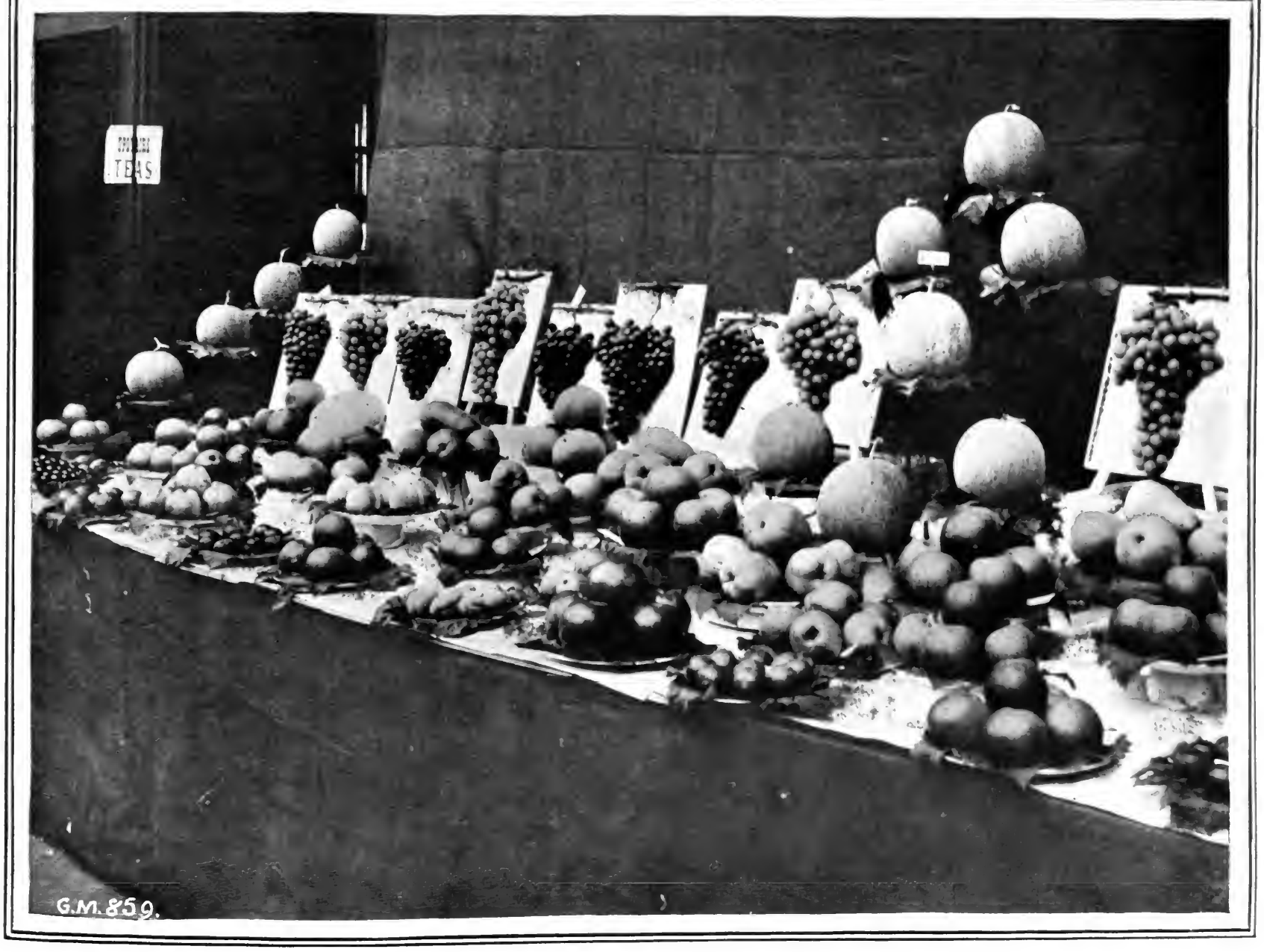
DAHLIAS, CARNATIONS, ETC.

An extensive display of dahlias right across the end of the hall, arranged boldly by Messrs. Carter Page and Co., London Wall, attracted a great deal of attention.

Messrs. Dobbie and Co. confined their attention to collarette dahlias, and made up a brilliant exhibit, their Queen Anne, Diadem, Queen Bess, and Princess Louise being quite dazzling, while Inchmarnock (A.M.), soft salmon scarlet, with yellow collar, was not less effective. Conspicuous in the exhibit of dahlias from Messrs. J. Cheal and Sons, Crawley, was the variety named Crawley Star; in outline this suggests a cosmea with two rows of deep pink petals, with a crimson zone around the yellow disk; a very pretty and free variety.

A deep cerise-pink perpetual carnation, named Pioneer, a variety of good size and substance, was well shown by Mr. C. Englemann, Saffron Walden, and is a novelty for 1914. Messrs. Stuart Low and Co., Enfield, exhibited the beautiful carnation Baroness de Brienen, and the useful Chironia ixifera. The rare and extraordinary Brunsvigea Josephinæ was shown by Mr. Sherlock, gardener to G. W. Tyser, Esq., J.P., Oakfield, Mortimer; this has reddish flowers in a big umbel, and on long footstalks.

A selection of autumn-flowering veronicas, in pots, a collection of maidenhair ferns, with nephrolepis and the tall Selaginella cæsia arborea, made up a large exhibit from Messrs. H. B. May and Son, Edmonton. Messrs. Wm. Cutbush and Son, Highgate, brought up good batches of the bright fuchsias Coralle, Gottengen, and Thalia. A



PART OF THE GOLD MEDAL EXHIBIT OF DESSERT FRUITS.
Exhibited before the Royal Horticultural Society at Westminster, on Tuesday, September 9, by Mr. F. Jordan, gardener to Lady Nunburnholme, Warter Priory, Pocklington, Yorks.

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beautiful salmon-coloured nerine named Rotherside was exhibited by Messrs. Herbert Chapman, Lim., Rotherside, Rye; it has a fine truss, good flowers, and pleasing colour.

ORCHIDS.

The boldest exhibit of orchids on this occasion was to the credit of Messrs. Armstrong and Brown, Tunbridge Wells. This firm chiefly set up well-grown lælio-cattleyas, such as L.-c. Bletchleyensis, L.-c. George Woodhams (A.M.), very handsome in mauve and purple; L.-c. Aphro-Nysa, L.-c. Armstrongæ Orchidhurst var., the pretty little L.-c. Rainbow, with Cattleya Iris in fine form, and the exquisite Brasso-cattleya Maronæ, and a few odontiodas, including O. Seymouræ (A.M.). Messrs. Sander and Sons, St. Albans, showed L.-c. Phœnix, and such interesting orchids as Catasetum macrocarpum, and unnamed species of Warrea and Angræcum. Cypripedium Swani, with a bold, rounded, claret-veined, dorsal sepal, was conspicuous in the little group of orchids from Messrs. Swan and Price, St. Albans.

The yellow and soft mauve Lælio-cattleya Anchela was shown by Pantia Ralli, Esq., Ashtead Park, Leatherhead. Mr. W. H. White, grower to Sir Trevor Lawrence, Bart., Dorking, staged fine specimens of Zygopetalum maxillare and Z. m. Sanderianum, and a smaller plant of Angræcum cundatum. Lælio-cattleya Mrs. D. Macmaster (L.-c. Luminosa crossed with C. aurea), shown by Mr. Hopkins, gardener to Francis Wellesley, Esq., Westfield, Woking, was very bright in old gold, yellow and pale crimson. L.-c. Lustre, Holford's var., from Sir George Holford's collection at Westonbirt, was remarkable for the deep purple stripe on the light mauve petals. Brasso-cattleya Pittiana, Cattleya Warscewiczi Countess of Derby, with white sepals and petals, and C. Thayeriana alba were all shown by Mr. Thurgood, gardener to H. T. Pitt, Esq., Stamford Hill.

Messrs. Charlesworth and Co., Haywards Heath, had a small but pretty exhibit of Dendrobium Phalænopsis Schroderianum, miltonias, the elegant Oncidium incurvum, Calanthe violacea, Sophro-lælia Heatonensis, Lælia monophylla, and the very quaint Bulbophyllum grandiflorum. Messrs. Hassall and Co., Southgate, had Cattleya Iris in good form, and Brasso-cattleya Queen Alexandra, white, and beautifully fringed, Cœlogyne pandurata, and Cattleya iridescens. Messrs. J. and A. McBean, Cooksbridge, showed some finely-coloured odontiodas, good forms of Odontoglossum crispum, and other good things. M. Maurice Mertens, Ghent, brought over a little set of handsome unnamed hybrid orchids.

A good specimen of Cirrhopetalum Medusæ, with sixteen heads of its slender, hair-petalled flowers, was shown by Mr. J. Lees, gardener to C. de Quincey, Esq., Oakwood, Chislehurst. A large basket of flowering plants of Spathoglottis zebrina, a variable hybrid between S. Fortunei and S. plicata, was brought by Mr. Collier, gardener to Sir J. Colman, Bart., Gatton Park, Reigate.

FRUITS.

A superb collection of fruit, set up by Mr. Jordan, gardener to Lady Nunburnholme, Warter Priory, was the finest exhibit in the show. It consisted of grandly-grown fruit, with never a flaw or weak point in any dish. There were about a dozen and a-half melons, and sixteen bunches of grapes, the latter consisting of Muscat of Alexandria, Madresfield Court, Gros Maroc, Black Hamburgh, Barbarosa, and Alicante. The apples, orchard house fruit, were magnificent, the leading varieties being Peasgood's Nonsuch, Gascoigne's Scarlet, The Queen, Washington, Cox's Orange Pippin, Rival, Allington Pippin, Chas. Ross, and Wealthy. The pears were also grand, notably Triomphe de Vienne, Conference, Souv. du Congrès, Marguerite Marillat, Doyenne du Comice, and Emile d'Heyst. Besides these there were Grosse Mignonne, and Nectarine peaches, Pineapple nectarines, and Old Gage, Jefferson, and Golden Drop plums, Brown Turkey figs, and cherries. It was a glorious display, and a triumph of cultivation.

A large and effectively arranged display of choice fruit from Mr. Grubb, gardener to Cecil F. Raphael, Esq., Porter's Park, Shenley, also gained a gold medal. There were good clusters of Madresfield Court, Lady Downes, Muscat of Alexandria, and Canon Hall grapes, excellent melons, peaches, plums, nectarines, and a large collection of apples and pears. The best dishes of the latter were Pitmaston Duchess, Williams' Bon Chretien, Doyenne du Comice, Durondeau, Souv. du Congrès, and Beurre Diel. The apples were not highly coloured, but clean and solid fruits, especially Blenheim Orange, Yorkshire Beauty, Lord Suffield, New Hawthornden, Emperor Alexander, Chas. Ross, Peasgood's Nonsuch, and The Queen. It must be remembered that all the apples and pears shown in this collection were from outdoor trees.

Messrs. Laxton Brothers, Bedford, exhibited some new apples, and the Laxtonberry; The Cropper (Lady Sudeley x Potts' Seedling), and Premier (Mr. Gladstone x Worcester Pearmain), were two of the most interesting of the new apples. Pot-grown figs, and a number of pot grown vines carrying fairly heavy crops of fruit, were shown in some quantity by Messrs. Stuart Low and Co., Enfield.

AWARDS.

No First-class Certificate was granted on this date.

Award of Merit.—To Aster Feltham Blue, from Messrs. T. S. Ware, Feltham; to Dahlia Inchmarnock, from Messrs. Dobbie and Co., Edinburgh; to Salvia uliginosa, from Mr. C. Turner, Slough; to Lælio-cattleya George Woodhams and to Odontioda Seymouræ, from Messrs. Armstrong and Brown, Tunbridge Wells.

MEDALS.

Gold.—To Mr. F. Jordan, gardener to Lady Nunburnholme, Warter Priory, Yorks, for choice fruits; and to Mr. Grubb, gardener to C. F. Raphael, Esq., Porter's Park, Shenley, for fruits.

Silver-gilt Flora.—To Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Mr. Jas. Box, Lindfield, for hardy flowers; to Messrs. Carter Page and Co., London Wall, for dahlias.

Silver-gilt Banksian.—To Messrs. Dobbie and Co., Edinburgh, for dahlias; to Messrs. Stuart Low and Co., Enfield, for fruits in pots.

Silver Flora.—To Mr. L. R. Russell, Richmond, for clematis, etc.; to Messrs. W. Wells and Co., Merstham, for phloxes; to Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver Banksian.—To Messrs. Hassall and Co., Southgate, for orchids; to Messrs. W. Cutbush and Son, Highgate, for greenhouse plants; to Mr. C. Engelmann, Saffron Walden, for ferns; to Mr. Gwillim, Sidcup, for hardy flowers and begonias; to Mr. Jas. Macdonald, Harpenden, for grasses; to Mr. G. W. Miller, Wisbech, for hardy flowers; to Messrs. H. B. May and Sons, Edmonton, for ferns; to Messrs. T. S. Ware, Lim., Feltham, for hardy flowers.

Bronze Flora.—To Messrs. Whitelegg and Page, Chislehurst, for hardy flowers.

Bronze Banksian.—To The Guildford Hardy Plant Co., Guildford, for hardy plants and flowers; to Wargrave Plant Farm, Lim., The Arcade, Liverpool Street, London, for hardy flowers.

National Dahlia Society.

SEPTEMBER 9 and 10.

The annual exhibition of this society was held at the Crystal Palace, and was arranged in the central transept, where the fine display of flowers produced a very bright effect. The entries were more numerous than last year, in spite of the wet weather experienced during the past fortnight.

NURSERYMEN'S CLASSES.

The premier class for show dahlias, forty-eight blooms, distinct, was only represented by one exhibitor, Mr. S. Mortimer, Rowledge, Farnham, who well maintained the dignity of the show flowers by staging in fine form, W. Powell, Crimson Globe, Standard, Buttercup, H. Walton, Lord Salisbury, Pandora, Jas. Vick, Mrs. Langtry, and Colonist; the flowers were level throughout and beautifully fresh. The competition for twenty-four blooms, distinct, brought out a keen contest, Messrs. Keynes, Williams, and Co., Salisbury, proving the victors with a very fine set in which the following varieties were the most striking: Souvenir, Autocrat, Daniel Cornish (very fine), Emin Pasha (self), Maud Fellowes, Colonist, Gracchus, Chieftain, Florence Franks, and Arthur Rawlings. Mr. Chas. Turner, Slough, followed with some wonderfully bright examples, his best varieties being Arthur Ocock, Gracchus, Colonist, Mrs. D. Saunders, Tom Jones, John Walker, and Seraph; the third prize falling to Mr. M. V. Seale, Sevenoaks. The class for twelve fancy varieties, distinct, found Mr. Chas. Turner leading the way with bright, fresh flowers of W. Pemberton, Mrs. Saunders, Roy Seale, Dandy, Dorothy, and the Rev. J. B. M. Camm. Mr. M. V. Seale was second, having good typical examples of Professor Fawcett, S. Mortimer, Duchess of Albany, Hercules, and Mrs. Saunders; while Mr. S. Mortimer was third.

The premier class for eighteen bunches of cactus varieties, of six blooms each, is always keenly contested. On this occasion the Gold Medal was awarded Messrs. J. Burrell and Co., Howe House Nurseries, Cambridge, who were in fine form, for the flowers were not only large, but of excellent quality as well. The varieties employed were Olympic, J. Woolman, New York, Miss Stredwick, Mrs. Stephens, Red Admiral, Lurid, Indomitable (fine), Tokio, Fred. Wenham, Albatross, Elfrida, Empire, H. H. Thomas, Prima Donna, Mamie, Cygnet, and Flamingo. It must have seemed somewhat strange for Messrs. Jas. Stredwick and Son, St. Leonards-on-Sea, to occupy second place, after holding an unbroken record in this class for about the last dozen years. However, the weather has much to explain to exhibitors; their best flowers were Miss Stredwick, Starlight, Magic, Gigantic (very fine), F. W. Fellowes, and Dorothy Hawes. Messrs. J. Cheal and Sons, Lim., Crawley, were a fine third—in fact, they must have been very close for second place. Here the best bunches were H. L. Brousson, Wild Rose, H. H. Thomas, New York, Rev. T. W. Jamieson, and Lustre.

Mr. M. V. Seale was the only exhibitor for twelve bunches of cactus, and was deservedly awarded first prize; the most striking varieties were Miss Hills, Sultan, H. L. Brousson, Fulgent, Crystal, Snowstorm, Pride of Essex, and Brigadier.

For forty-eight blooms, distinct, on boards, Messrs. Burrell and Co. led off with a grand exhibit, the best examples being Olympic, New York, Herod, Mary Purrier, Prima Donna, Golden Crown, F. W. Fellowes, Geo. Schofield, and the Rev. A. H. Lowe. For twenty-four blooms, distinct,

Messrs. C. Carrington and Sons, The Nurseries, Vicarage Avenue, Derby, won first prize with large examples of New York, Glory of Wilts, F. W. Fellowes, Kingfisher, Mrs. D. Fleming, H. H. Thomas, and Mary Purrier. Mr. H. Woolman, Sandy Hill Nursery, Shirley, Birmingham, was second with flowers of greater refinement. His best examples were America, Mary Purrier, F. Ridout, New York, and Miss Stredwick; Mr. M. V. Seale taking third prize.

The garden cactus class for twelve varieties only secured two entries, but both were excellent, Messrs. J. Cheal and Sons, Lim., winning first prize with good erect bunches of the Hon. Mrs. Greville, Mrs. Landale, Snowdon, Mrs. Freeman Thomas, Mrs. Chas. Foster, Rose Queen, and Sweet Briar. The vases were embellished with berberis, Prunus Pissardi, acers, and grasses most effectively arranged. Mr. M. V. Seale followed with a table sweetly arranged with foliage and berries; the best bunches were Fred Warham, Arthur Pickard, Coral, Light-Lady Bountiful, Brilliant, and Rosemary Bridge. Mr. M. V. Seale was second with good typical bunches of Maud Nicholson, General Kuroki, Owen Thomas, Dream, Mark Twain, and Nymph.

There was a strong entry for six varieties of pæony-flowered dahlias, though all did not stage. Mr. Chas. Turner was well to the fore with tastefully arranged vases of Salome, Aphrodite, Bertha von Suttner, Bayard, Liberty, and Turner. Messrs. J. Cheal and Sons, Lim., were second, having fine vases of Bayard, Fulgens, Melampas, and Liberty; while Mr. J. Emberson, Grove Road Nursery, Walthamstow, was third.

The collarette classes were in fine condition, and stood out conspicuously, for artificial supports are not allowed. Mr. Chas. Turner was first for twelve varieties with good typical bunches of Prince de Venosa, Diamant, Gallia, Albert Maumene, Henri Farman, Abbe Hugonard, and Maurice Rivoire. Mr. J. Emberson was a capital second, staging Lotus, Diadem, Mad. Poirier, Regularity, and Queen Bess in good form. Messrs. J. Cheal and Sons, Lim., were third.

FIRST PRIZE COLLECTION OF TWELVE VARIETIES OF COLLARETTE DAHLIAS,
Exhibited by Mr. C. Turner at the exhibition of the National Dahlia Society.

ship, Sweet Briar, and Mary Purrier. The pompon classes were excellent; Mr. Chas. Turner proved the victor for twenty-four varieties, and it is doubtful if the firm has ever staged these charming flowers in better form. Some of the most conspicuous were Adelaide, Douglas, Silvia, Ideal, Little Beeswings, Ganymede, Nellie Broomhead, Jessica, Cyril, Adela, and Mignon. Messrs. J. Cheal and Sons, Lim., followed with a capital collection, in which were noted Pauline, Madeline, Ganymede, Phyllis, Nerissa, and Norah; while Mr. M. V. Seale was third with a pretty set which were well staged. Messrs. J. Burrell and Co. were the only exhibitors for twelve distinct varieties, and they were awarded first prize. The best examples in this case were Marietta, Bacchus, Ganymede, Nellie Frazer, Girlie, and Eros.

The single dahlia classes do not appear to grow, although they are so much admired by the visitors. For twenty-four varieties, Messrs. J. Cheal and Sons, Lim., led off with some charming examples of Mrs. Joynson Hicks, Bridesmaid, Owen Thomas, Betty, Leander, Glencoe, Princess of Wales, Winona,

AMATEURS' CLASSES.

The amateur challenge cup for twenty-four show varieties was captured by Mr. S. Cooper, Chippenham, who was the only entrant; but he made sure of his position by staging excellent examples of Rev. J. Gooday, Shirley Hibberd, T. W. Girdlestone, Mabel, Prince of Denmark, Henry Clark, Chieftain, Mrs. Saunders, Florence Tranter, Shottesham Hero, and Lottie Eckford. In the class for twelve blooms, distinct, Mr. Cooper again led off with a good level board. His most conspicuous blooms were Chieftain, Frank Pearce, R. T. Rawlings, Tom Jones, and Buffalo Bill; Mr. G. Densley, Nag's Head Hill, Bristol, was placed second; and Mr. H. Tysoe, The Lodge Gardens, Bedford, was third. The silver challenge cup for six vases of garden cactus dahlias was secured by the Rev. A. Bridge, Worth Rectory, Sussex, who staged in excellent style the Hon. Mrs. Greville, Sweet Briar, Snowdon, Mrs. Landale, and Mary Purrier; Mr. M. Howard, Wood View, Moor Road, Chesham, was second; and Mr. W. Passey was placed third.

The silver challenge cup for nine cactus varieties, three blooms each, was won by Mr. F. W. Fellowes, King's Walden, Hitchin, for the second time; his flowers were beautifully bright and fresh, especially Golden Crown, Miss Stredwick, Uranus, Mrs. Stephens, John Riding, Mrs. D. Fleming, and Golden Wave. The Rev. A. Bridge won second prize with Miss Stredwick, Golden Wave, H. H. Thomas, W. Marshall, and Snowdon as his best bunches. Mr. A. H. Farmer, Kitchener Road, Walthamstow, was a capital third. For twenty-four cactus varieties, Mr. H. Peerman, Nantwich, was placed first with a beautiful exhibit, the finest blooms being F. W. Fellowes, Nantwich, Richard Box, Empress, Conquest, H. Peerman, New York, and Golden Wave; Mr. A. H. Farmer was close up for the second prize with fresh, well-coloured flowers; and Mr. G. Densley brought up the rear.

There was a keen contest for twelve cactus blooms, distinct, but Mr. H. Peerman led with splendid specimens of H. H. Thomas, Golden Wave, John Riding, F. W. Fellowes, R. Box, and Mrs. Stephens. Mr. R. C. Unwin, The Green, Histon, Cambs, proved the second prize-winner, having good blooms of Olympic, New York, and Miss Stredwick. Mr. H. Brown, Luton, Beds, was third. This exhibitor, however, secured the premier position for twelve bunches of pompons; some of his best varieties were Censor, Donald, Emily Hopper, Darkest of All, Violet, Bacchus, and Jessica. Mr. A. R. Ironside, The Hamlet, Chippenham, was second with an exhibit that must have run the first prize stand very closely.

The silver challenge bowl for twelve bunches of singles was well won by the Rev. A. Bridge, who staged in capital style Mrs. J. Hicks, Betty, Winona, The Mahdi, Rosemary Bridge, and Brilliant. Mr. A. Brown won second position with a good collection. There was a capital entry for twelve blooms, in four varieties. Here Mr. A. H. Farmer was placed first with a splendid board; the

varieties were Golden Wave, Mary Purrier, New York, and Glory of Wilts. The Rev. A. Bridge was second, and Mr. H. Brown third.

The class for six cactus varieties, three blooms each, found Mr. C. Luckin, Apsley, Thakeham, to the fore, with F. W. Fellowes, Golden Wave, Fred Wenham, and Miss Stredwick; Mr. A. Langridge, Brownlow Road, Dalston, was second; while the third prize fell to Mr. A. T. Tofield, Chandlers Ford, Hants. For the garden cactus class Mr. A. T. Tofield led off with good typical bunches of Mary Purrier and Sweet Briar; Mr. C. Luckin was second.

The remaining amateur classes were mostly well filled by the exhibitors already mentioned. In the open class for twelve bunches of pompon cactus, Messrs. J. Cheal and Sons, Lim., won first prize with good typical bunches of Little Dolly, Wm. Marshall, Firefly, Molly, Goldfinch, The Bride, and Rubin. Mr. M. V. Seale was second, and Messrs. Burrell and Co. third.

There was a splendid entry for six blooms, one variety, but Mr. H. Peerman secured first honours with fine flowers of Fred Wenham; Messrs. Keynes, Williams, and Co. were second with Celestial; and Mr. H. Woolman third with H. H. Thomas.

NON-COMPETITIVE.

The trade displays were quite a feature of the show. Messrs. Hobbies, Lim., occupied a large space with pæony and collarette varieties, arranged in tall stands, while in front the cactus section was well represented with blocks of each variety. Mr. J. T. West staged a fine collection, his cactus and pompon varieties forming his chief feature. The exhibit was relieved with vases of grasses, reeds, and other foliage. Messrs. A. H. Cole, Lim., Swanley, Kent, made a bright and attractive display of collarette, cactus, and decorative varieties in all the best-known kinds. Mr. J. Emberson, Grove Road Nursery, Walthamstow, had a large exhibit embracing all sections; these were well arranged in tall stands and vases, the whole producing a fine effect.

Mr. H. Woolman, Shirley, Birmingham, displayed a good collection, in most sections. His cactus varieties, however, were the chief feature; these were all up to show standard, and produced a pleasing effect.

Messrs. T. S. Ware, Lim., Feltham, had a long run of tabling which they filled with a good collection. The pæony and cactus varieties were nicely arranged with some good foliage. Groups of Germania and The Geisha were very striking, as were also the cactus vadieties, The Imp, Nellie Riding, H. L. Brousson, and Florrie Wells. Mr. J. B. Riding, Nurseries, Chingford, had a large exhibit arranged in stands and vases; the pæony and collarette varieties predominated, while several of the new decorative varieties were used effectively.

AWARDS.

Large Gold Medal.—To Messrs. Hobbies, Lim.

Gold Medals.—To Messrs. T. S. Ware, Mr. J. T. West, and Mr. J. B. Riding.

Silver-gilt Medal.—To Mr. J. Emberson.

Silver Medals.—To Messrs. A. H. Cole, Lim., and Mr. H. Woolman.

First-class Certificates.—To pompon Rosa, from Messrs. Keynes, Williams, and Co.; to Wee Gracie, from Mr. J. T. West; to cactus Dorothy Hawes, also the Gold Medal for the best seedling cactus in the show, to cactus Pierrot, to garden cactus E. F. Hawes, to pæony-flowered John Green, all from Messrs. J. Stredwick and Son.

Duns, Berwickshire.

Although but a small town of little over two thousand inhabitants, there are in the ancient and picturesque borough of Duns quite a host of ardent amateur horticulturists who support their annual flower show in a spirit of zealous enthusiasm that results in an exhibition of garden products, both decorative and utilitarian, deserving of high compliment. The show held on Saturday, September 6, was in all respects a good one, the spacious hall being well filled with exhibits, scarcely, indeed, leaving sufficient room for the accommodation of the interested throng of exhibitors and spectators who gathered together to inspect and discuss the merits of the flowers, fruits, and vegetables staged. Hardy flowers were particularly well shown, and the first prize exhibit of six bunches of herbaceous flowers was of a high standard. Mr. J. A. Taylor may be congratulated upon his skill as a cultivator, and his tasteful arrangement, as well as for his judgment in selecting as subjects Veronica subsessilis, Lobelia cardinalis Firefly, Anemone japonica alba, Helianthus maximus, a very good form of Gaillardia grandiflora, and the bright Monarda didyma Cambridge Scarlet. Mr. Jas. Cockburn showed a creditable set of six show and fancy dahlias, for which first prize was awarded; and other exhibitors competed keenly for the prizes offered for carnations, marigolds, annuals, and sweet peas, the latter, as behoves a town renowned as the home of the Scottish sweet pea champion, being quite a feature. Some useful window plants were exhibited, and a plant of Campanula isophylla alba shown by Mr. Peter Lugton was exceptionally fine. Indeed, it is a long time since we saw a more floriferous specimen of this charming basket plant at any show. Turning from the purely decorative to the utilitarian section, we found a fine array of well-grown tomatoes, potatoes, leeks (some capital examples being staged of this favourite exhibition vegetable), and, in fact, it may be said all seasonable vegetables were plentiful and good.

Fruit, too, was shown, some of the apples being of good size, clear, and bright in colour, and in the case of the earlier dessert varieties well ripened for Scottish-grown fruit. Altogether we were well pleased with Duns Horticultural Show, and gladly record the fact that the committee and exhibitors exerted themselves to good purpose, well deserving the success their venture apparently enjoyed.

Royal Caledonian Horticultural Society.

(Continued from page 688.)

of Mrs. John Laing won in the pink class, and Messrs. Croll's Frau Karl Druschkis were adjudged the best whites.

Twenty-four blooms of roses formed the leading class for the Queen of Flowers, in the gardeners and amateurs' section, and some good blooms were staged. Mr. J. Simpson, gardener to the Earl of Dalhousie, Panmure Gardens, Carnoustie, was first prize-winner, and his exhibit was very creditable. Mdme. Melanie Soupert, Ethel Malcolm, Mildred Grant, and Avoca were a few names of varieties shown. Mrs. Russell, Rosegarth, Newton Mearns, was awarded second prize. Suzanne, Marie Rodocanachie, and Caroline Testout being among the best blooms. Mr. Lawrence Black, Kingslassie, Fife, was third. Mr. Simpson scored another success for twelve blooms, Mr. W. Lockhart, Rubislaw, Aberdeen, taking second prize, whilst for twelve teas the chief winner was Mr. W. Young, Kirkcowan.

A great deal of interest was taken in the class for a decorative display of roses, occupying 15ft. by 5ft. of staging. Three entries were staged, Messrs. J. Fairley and Co., Cairney Hill, Fifeshire, taking premier award. They had Rayon d'Or, good in colour; Lady Alice Stanley, Earl of Warwick, Duchess of Wellington, Mrs. A. Munt, Pharisaer, and a host of other good autumnal roses. Mr. R. C. Ferguson, Dunfermline, was awarded second prize for a bold display, in which Frau Karl Druschki was prominent, with Mrs. J. Laing, and such things as La Tosca, Duchess of Wellington, and Chas. J. Graham. Mr. W. Ferguson, Dunfermline, received third prize, his also being a very pleasing exhibit for September. Mr. J. Wilson, gardener to Sir John Gilmour, Bart., Montrave, Leven, put up six good bunches of rambler roses, winning first prize; White Dorothy was well shown. Mrs. Russell came second. Single vases of roses in separate colours made a big show, but limits of space forbid details.

SWEET PEAS.

These made a wonderful show, and there was much enthusiasm in evidence on account of the competition for the National Sweet Pea Society's Scottish Challenge Cup for twelve vases. Some splendid exhibits were staged in this class, and the fortunate winner of first prize and cup was Mr. John Petrie, gardener to Sir Thos. Burnett, Bart., Crathes Castle, Aberdeen. He showed Agricola, Edrom Beauty, Nubian, Clara Curtis, Mrs. C. W. Breadmore, Thos. Stevenson, Lavender Geo. Herbert, Melba, Rosabelle, Lady Miller, Etta Dyke, and Sunproof Crimson. All the flowers were good, and stood on Ross, Comrie, took second prize with quite a good lot of flowers, the third prize going to Mr. Thos. M. Kirkwood, Crieff. There were five competitors. Another class for twelve vases found Mr. John Petrie again to the fore. Dobbie's Cream, Inspector, Elsie Herbert, and Rosabelle were good, R. F. Felton also being very attractive. Second prize went to Mr. John R. Paterson, Beild Farm, Gargunnock, Stirlingshire, who had lost a little in the matter of staging. Third prize went to Mr. John Loan, Boughtrig, Coldstream.

VEGETABLES.

The collections of eighteen dishes of vegetables were a grand lot. There were three entries, and there was really but little between them, although we quite agreed with the judges' award, which gave first prize to Mr. Robert Stuart, gardener to Viscount Maitland, Thirlestane Castle Gardens. Mr. Stuart had some very fine onions, beautifully blanched leeks, Cramond Blossom potatoes as fine and even as could be, Golden Ball turnips, excellent cucumbers, and long, clean parsnips. He also had peas, dwarf beans, tomatoes, beetroot, and celery. All the vegetables were of good types, and the staging was well done. Mr. Wm. Young, Kirkcowan, was awarded second prize, his onions and carrots being very good models. Snowball potato and The Provost were good dishes, and cauliflowers and celery were fine. Third prize was awarded Mr. Wm. G. Wadde, gardener to Lord O'Neill, Thanes Castle, Antrim, whom we may certainly congratulate upon an excellent exhibit, although placed last on the list.

In another class for twelve dishes, we found some extremely good produce, especially in the first-prize exhibit staged by Mr. Chas. Shaw, gardener to S. Mitchell, Esq., Kippen. Ailsa Craig onions were perfect specimens; Tender and True parsnips, New Intermediate carrots, and Perfection tomatoes were all grand, and the celery was splendidly grown. Mr. John Miller, The Reformatory, Stranraer, was second with another excellent exhibit, the weakest point, we thought, being some rather coarse cauliflowers. Mr. Samuel Gordon, Monreith, Wigtownshire, was third-prize winner, there being seven entries. Onions were extensively shown, some of the bulbs being of great size. Mr. Robert Watson, Thorncombe Park, Surrey, was first-prize winner for twelve bulbs. Mr. Robert Stuart, Thirlestane Castle Gardens, showed six remarkably fine leeks, for which he received first prize against severe competition, and in the potato classes also there were some splendid tubers. The twelve varieties shown by Mr. J. M. Stewart, Castle Douglas, were really splendid, and the second prize lot, shown by Mr. J. Kidd, almost equalled them.

[We regret that limits of space compel us to hold over our report of the non-competitive exhibits until the next issue.]

Eucalyptus cordata. — Small seedlings of this Australian Gum Tree form very pleasing dot plants in some of the arrangements of summer bedding. Secured to an upright stick, from 3ft. to 4ft. high, they branch out freely and regularly, and the heart-shaped leaves of a markedly glaucous tint are very attractive.—W.

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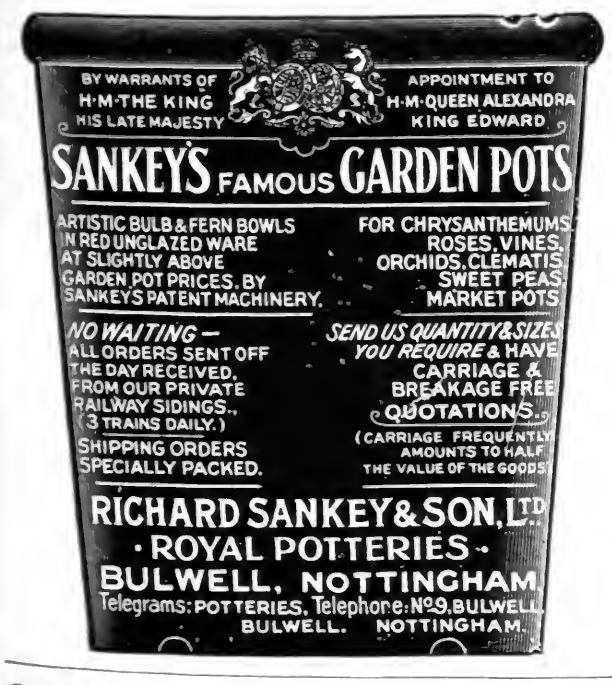
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ANSWERS TO CORRESPONDENTS.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of THE GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

SEEDLING CARNATION. — T. H., Surrey: I am sending herewith flowers of a seedling border carnation, and I should like to have your opinion as to whether it is worth propagating. It was given to me by a friend, who raised it from seed, and has propagated a good stock of it.—The carnation possesses merit, but basing our opinion on the flower before us, it is not sufficiently meritorious to receive a distinctive name and be introduced into commerce. It may, of course, possess the attributes of great freedom of flowering, fine habit, and calyces that do not split; but without some knowledge of these important characteristics it is not possible to formulate a definite opinion of the value of the variety. You would certainly not err greatly in raising a stock and growing it next year under conditions that will enable the variety to attain full development.

DIPLOMA OF GARDENING.—A Young Gardener: Being in agreement with those who consider that gardeners should have an opportunity of obtaining a diploma showing that they possess a knowledge of both the practical and scientific sides of gardening, I was much interested in the particulars you recently gave of the scheme that has been prepared by the Royal Horticultural Society for granting the National Diploma in Gardening. The scheme is doubtless a good one, but it appears to me that the fees for examination are unnecessarily high. Is that not your opinion?—There is no doubt that the payment of £1 for the preliminary examination and £3 for the final will be a tax upon the resources of some of those who may wish to take part in the two examinations, but the tax will not be so heavy as to prevent those who are in earnest doing so. It should be remembered that the examinations will be conducted in the interest of those who are anxious to obtain the diploma rather than in that of the Royal Horticultural Society, and that examinations, more particularly those of a high class, cost money. We would strongly advise you not to allow the fees to prevent your entering the examinations, but to set vigorously to work to so thoroughly prepare yourself as to be able to pass them.

THE TIGER FLOWER.—J. H., Caerphilly: Could you kindly identify the enclosed plant for me? It is difficult for me to send you a flower, as it only lasts a day. It opens in the morning, and towards evening fades away. But I am sending you a flower-stalk showing you its habit. The petals of the flower will have faded before it reaches you, unfortunately. There are three large petals and three smaller ones occupying the spaces between the larger ones. When open the flower is like a gorgeous orchid—of a beautiful orange suffused crimson tint with irregular rich crimson blotches. I enclose sketches of the petals nearly exact size. You will notice three or four flowers issue from the same sheath. They appear in rotation—one one day and the other the next, and so on. It is a bulbous plant, with bulbs a little smaller than Mrs. Langtry narcissus. They were given me by a friend last winter. I planted them in April. He tells me to lift them when thoroughly ripe, about Christmas time, and store them, as they are liable to rot away if left in the ground. The only name he knew for them was the Welsh name, Glaswellyn or grass flower—the plant referred to in the Psalms in the verse, "Like as grass are men's days." Is he correct, and if so, what is the botanical name? I have just spent a fortnight at Kew, but I failed to see the plant there. Trusting you will be able to find its name, or suggest what it might be.—After a careful examination of the rough sketches you have sent us, we have no doubt that your plant is Tigridia pavonia conchiflora, commonly known as the Peacock Tiger Flower. As you have been advised, it is necessary to lift the bulbs in the autumn, store them for the winter in some place where they will be safe from the frost, and replant in the spring. We do not know the tigridia under the name of Glaswellyn or Grass Flower, and, as the whole of the species are natives of South America, one of them could hardly have been used in the Psalms as illustrative of the duration of the life of man.

REPLANTING SEEDLING ROSES. — E. G., Crewe: I am writing to ask you to tell me, through THE GARDENERS' MAGAZINE, when would be the best time to remove seedling roses. I have some in the open ground, and some are in a box among other plants. When do you think would be the most desirable time to pot them? They are this year's seedlings.—The seedling plants in the box might with advantage be potted off singly at once. By putting them into pots now they will have time to become nicely rooted by the winter, and will be in a better condition to make a strong growth in the spring than would be the case were they to remain undisturbed until a later period. When repotted they should for a time be kept rather close and moist to assist them to make new roots quickly. The seedlings in the open are, we assume, growing more freely than are those in the box, and it might be well to leave them undisturbed until the end of October or early in November, and then lift and put into pots.

FRUITING OF DOUBLE-FLOWERED PEACHES.—"X.": Can anyone tell me why the double peaches in my garden—not of an edible variety—produce fruit each year, whereas the single-flowered varieties never show a fruit?—As a rule the ornamental peaches with double flowers produce fruit much less freely than do those with flowers that are single, and your experience is quite exceptional. In the case of these peaches the doubling is not carried so far as to practically suppress the organs of fructification, and it is not difficult to assume that the central florets protect both anthers and stigma from the injurious effects of frosts and cold winds. In the single flowers the petals, when the flowers have expanded, are arranged somewhat horizontally, and leave the central organs fully exposed to the effects of unfavourable weather. Possibly some of our readers may be in a position to throw further light upon what is really a question of considerable practical importance.

NAMES OF PLANTS.

W. R., Cheshire.—Ulmus campestris stricta.

A. WILSON, Norton.—1, Vitis hetrophylla; 2, Polygonum baldschuanicum; 3, Sedum kamschaticum.

J. F. C.—1, Chelone obliqua; 2, Sedum Ewersi; 3, not recognised from the specimen; 4, Sempervivum hirtum, hardy on dry, sunny nooks of the rockery:

D. B. W., Wellingborough.—The cattleya appears to differ but little, if at all, from C. guttata, but the flowers had necessarily lost some of their freshness in passing through the post. We should very much doubt Odontoglossum crispum being one of the parents, and we do not recognise it as one of the hybrids of O. Edwardsi with which we are acquainted.

F. K., Beds.—As we have frequently stated, we cannot undertake to name florists' flowers. The flowers invariably lose much of their colour in the course of transit through the post, and frequently they fall to pieces on the way. In the case of the phloxes you have sent, many of the flowers had fallen, and the other had so changed in colour as to render recognition impossible.

OBITUARY.

MR. WILLIAM BULL.

We much regret to learn of the death of Mr. William Bull, elder son of the late Mr. William Bull, of Chelsea. Mr. W. Bull was forty-six years of age, and was associated with the business now carried on by his brother, until four years ago, when ill-health compelled him to retire. Mr. W. Bull was well known to a wide circle of horticultural friends, who will mourn their loss.

MR. ROBERT MACK.

Mr. Robt. Mack, J.P., of Messrs. Mack and Miln, Darlington, died at Catterick Bridge on September 1, at the age of 57. He entered the nursery business at a fairly early age, and in 1897 was joined by Mr. T. E. Miln, and founded the present firm. He was a well-known rose grower and judge of florists' flowers. He was a musician of exceptional ability, and for many years acted as organist at Catterick Church.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. AUGUST 31 TO SEPTEMBER 6.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 31—Sunday	—	60	60	61	50
Sept. 1—Monday	—	55	55	57	55
,, 2—Tuesday.....	—	57	57	59	55
,, 3—Wednesday..	1 12	56	55	65	53
,, 4—Thursday....	0 13	60	59	65	56
,, 5—Friday.....	—	60	58	62	50
,, 6—Saturday.....	0 24	57	57	65	56
Means ..	(total) 1 54	58	57	62	56

DATE. 1913. AUGUST 31 TO SEPTEMBER 6.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON THE GRASS.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Aug. 31—Sunday	0·79	63	61	59	54
Sept. 1—Monday	1·62	61	61	59	53
,, 2—Tuesday.....	0·62	59	60	59	52
,, 3—Wednesday..	trace	59	60	59	51
,, 4—Thursday....	0·01	60	59	59	54
,, 5—Friday.....	0·21	60	60	59	54
,, 6—Saturday	—	60	60	59	
Means ...	(total) 2·05	60	60	59	53

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VOL. LVI.—No. 3,125. SATURDAY, SEPTEMBER 20, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Planting Season of Bulbs.

Although the cultivation of the various classes of bulbous plants suitable for beautifying the flower garden, more especially during the spring season, has undergone a remarkable development within recent years, it cannot be said that their utilisation has been carried to an excess in either private or public gardens. Rather might it be suggested that, considering the wondrously beautiful effects which can with their aid be produced at a comparatively small cost, they should in many gardens be planted more freely than has yet been the case. By means of a comprehensive selection from the many kinds that have a place in trade catalogues, the flower garden might have its interest and attractions greatly enhanced throughout the whole year with the flowers of bulbous plants. The winter has not proceeded far on its course before the surface of shrubbery borders, and other spaces might be carpeted with the bright green leaves of the winter aconite, and these, in their turn, bespangled with the glistening yellow flowers. This firstling of the year is followed by the snowdrop, of which there are several fine forms, springing, it may be, from the green turf, or nestling in sheltered borders, the chionodoxas and the scillas in their various shades of blue, and very charming is the effect produced by them, whatever may be the position occupied. Not until the Scotch crocus yields of its richly-coloured flowers, and converts lawn or border into a veritable field of the cloth of gold, are the colour effects derived from the flowers of bulbous plants otherwise than quiet and pleasing. Then as the last of the golden flowers of the crocus pass away, worsted, as it were, in a competition for ascendancy with the rapidly-increasing sunlight, there is a great outburst of rich colouring produced by the flowers of the many fine crocuses that we owe to the Dutch florists. These, in their turn, are succeeded by the early-flowering tulips that also had their origin in the Netherlands, and for fully two months the owners of gardens will enjoy a series of glorious effects produced by these bulbs, provided he is careful to include in his selection some of the best of the Darwins, and of the varieties that found shelter in English cottage gardens during the period when they were banished from great gardens to make way for tender summer bedders. During a similar period, also, the attractions of the garden may be maintained with the aid of narcissi alone, for there are more than sufficient among the inexpensive varieties to render this easy of accomplishment. But the production of spring displays with either class is not advisable, for not only is it possible to produce more tasteful effects by a combination of both daffodils and tulips in a colour scheme, but the interest of the flower garden which contributes so greatly to its enjoyment is materially enhanced thereby. Concurrently with the flowering of the narcissi and tulips, hyacinths in a great diversity of colouring yield of their floral wealth, and contribute freely to the charm of both bed and border. During the summer months the lilies are in the ascendent, and will, with judicious selection and careful cultivation, give a succession of flowers from quite early in the summer until the autumn, when they will be supplemented by the gladioli, montbretias, and other classes of bulbs that bloom from the closing days of summer onwards. To refer otherwise than in this brief manner to the aid the bulbous plants are able to render in maintaining the attractiveness of the flower garden during the greater part of the year would require much space, and for the present it will suffice to suggest that they should, as a class, be carefully studied by those concerned with flower garden management, with a view to their fuller and more effective use. The matter of the greatest interest at the present time is the selection and planting of the various kinds that bloom during the spring months, and the key-note to success is, perhaps, the purchase of bulbs and planting them at the earliest moment. None of the early-flowering bulbs are improved by being kept out of the ground after this date, but they may rapidly deteriorate, and fail to produce flowers of high quality. Some of the daffodils will bloom satisfactorily planted at Christmas, while others will fail to do so, or produce flowers of very poor quality, when the planting is deferred until after November. Such early-flowering subjects as the crocuses, chionodoxas, scillas, and snowdrops, fail to bloom satisfactorily when the planting is delayed until quite late in the autumn. Another point of importance is to recognise the fact that, while the embryo flowers were formed before the bulbs were lifted in the summer, a rather liberal amount of nutrient matter in the soil is essential to their full development. Heavy manuring is in no case essential, or even desirable, but the soil should be moderately rich, and a light dressing of superphosphate of lime or bone meal applied previous to digging will be of immense value if the ground is impoverished. The flowers of daffodils and tulips are invariably in much request for the embellishment of indoor apartments, and we would strongly advise that, instead of depending for supplies upon the plants forming part of colour schemes in the

MR. J. JEFFREY.

flower garden, a breadth consisting of the most useful varieties be planted in the kitchen garden for the purpose of furnishing cut flowers. A convenient border devoted to the choice May-flowering tulips would afford much interest. It would be of great educational value, and the institution of comparisons between the shape and colouring of the flowers of the varieties included in the selection would be found very pleasant entertainment to those owners of gardens who appreciate the charms of individuality in the flowers that have a place in their gardens. With the bulbs should invariably be associated dwarf-growing, fibrous-rooted plants that bloom in spring. The effect is greatly enhanced by the combination, and the latter serve the purpose of carpeting the surface with green or grey foliage during the winter months, and by maintaining a display of flowers after the bulbs have passed out of bloom they render it unnecessary to clear the beds until the growth of the latter has made sufficient progress to admit of their being lifted with safety. In small gardens it will be advisable not to trouble much about the preservation of the bulbs, but to plant inexpensive varieties, and clear the bulbs away immediately preparation has to be made for the summer flowers. When fibrous-rooted plants are used it is necessary to select them with due regard to harmony of colours, and to allow rather more space between the bulbs than when the latter are the sole occupants of the area.

Mr. J. Jeffrey is, perhaps, best known to our readers in connection with his association for many years in the conduct of the gardens at Harewood House, the residence of the Earl and Countess of Harewood. At Harewood Mr. Jeffrey had charge of about 150 acres of garden, pleasure grounds, and ornamental plantataions, and was very successful in flower gardening and fruit culture, his skill and judgment enabling him to maintain the position of the place among the great gardens of the country. Several years ago Mr. Jeffrey took charge of the gardens at St. Mary's Isle, Kirkcudbrightshire, where he still acts as head gardener to Captain J. Hope. Here, in an unusually favoured spot, many of the choicest trees and shrubs flourish in a manner that suggests the climate of Cornwall, South Wales, or some parts of Ireland, rather than Scotland. Close to the Solway, and in a position where the influence of the Gulf Stream is felt in a remarkable manner, St. Mary's Isle enjoys a mild climate. Here Mr. Jeffrey finds ample scope for his skill and wide knowledge, and has under his charge a splendid collection of rare and interesting plants, which make St. Mary's Isle one of the most attractive places in the South-west of Scotland.

Destruction of White Butterflies.—In an interesting note referring to the endeavour that is being made in Surrey to reduce the numbers of the white cabbage butterfly, whose caterpillars are so destructive to green vegetables, the "Pall Mall Gazette" observes: "Allotment holders at Farncombe, Surrey, are destroying white butterflies by the thousand on the ground that they injure vegetables and greenstuffs. Of course, their caterpillars do. And butterflies do something worse than devastate allotments—they are capable of conveying diseases. At Quetta it was found that they were as effective as any rat in spreading plague. On the other hand, it is always dangerous to go to extremes in slaughtering a particular animal, because of that wonderful law of balance in Nature, by which each animal does some work at any rate in keeping down the undue increase of another. Exterminate the owls and you bring upon your fields a plague of mice. Exterminate the birds and your fields and orchards are visited with pernicious insects. Sweep every locust off the Argentine plains and the alfalfa or lucerne rapidly deteriorates. It is rather dangerous, then, to make a too complete holocaust even of the white butterfly. They have their appointed work, which doesn't get done if their numbers are too cruelly thinned." We appreciate what our contemporary says with regard to the destruction of owls and other birds, and are in agreement with what is said with reference to their utility in assisting to maintain a balance in nature. We should have been glad had the writer gone a little farther, and stated what the "appointed work" of the white cabbage butterfly is under the existing conditions that obtain in this country.

Althorp Park, Northampton, the beautiful Midland seat of Earl Spencer, is of special interest for the moment because his Majesty King George is staying there for the Army manœuvres. For over three centuries the Spencer family have planted new trees and cared for the old ones in their fine estate, and many members of the family have been keen gardeners. A fine Wellingtonia, planted in 1863 by King Edward VII., when Prince of Wales, was 40ft. high ten years ago. We have on several occasions referred to the work done at Althorp Park, and in our issue of July 25, 1903, we published an illustrated descriptive account of the beautiful gardens there.

Attractions at Kew. —Although autumn weather is with us, the floral attractions at Kew are very considerable just now. Besides the summer bedding display along the Broad Walk and in front of the Palm House, there are the hardy hibiscus in the Berberis Dell, water lilies in several parts of the garden, Hydrangea paniculata massed in the pleasure grounds, tritomas near the Orchid Houses, heaths near the Succulent House and in the Arboretum, hardy cyclamen near the Cumberland Gate, helianthuses and Michaelmas daisies in many places, and a brave display of flowers in the herbaceous border of the T-range. Here and there among the trees there are early signs of autumn colouring, and under the glass there are many interesting and showy subjects in flower.

Scientific Investigation of the Soil.—Professor Wood, in his presidential address at the opening meeting of the Agricultural Section of the British Association, gave a general survey of the progress of agricultural research, and, with reference to the scientific investigation of the soil to which we have directed special attention, said that during the last twenty years there had been a wonderful advance in soil science. Our knowledge of nitrification and ammoniacal fermentation had been much extended. The part played by the nodule organisms of the leguminosæ had been well worked out, but the greatest advance had been the discovery of the part played by protozoa in the inhibition of fertility. Russell and Hutchinson, at Rothamsted, observed that the fertility of certain soils which had become sterile was at once restored by partial sterilisation, either by heating to a temperature below 100 degrees C., or by the use of volatile antiseptics, such as toluene. This observation suggested that the factor causing sterility in these cases was biological in nature, that it consisted, in fact, of some kind of organism inimical to the useful fermentation bacteria, and more easily killed than they are by heat or antiseptics. After a long series of admirable scientific investigations these workers and their colleagues had shown that soils contained many species of protozoa, which preyed upon the soil bacteria, whose numbers they kept within definite limits. Under certain circumstances, such, for instance, as those existing in the soil of sewage farms, and in the artificial soils used for the cultivation of cucumbers, tomatoes, etc., under glass, the protozoa increased so that the bacteria were reduced below the numbers requisite to decompose the organic matter in the soil into substances suitable for absorption by the roots of the crop. Practical trials of heating such soils, or subjecting them to the action of toluene, or other volatile antiseptics, had shown that their lost efficiency could thus be easily restored, and the method was now rapidly spreading among the market gardeners of the Lea Valley. The constant renewal of expensively-prepared soil which becomes "sick" in the course of a year or so was a serious item in the cost of growing cucumbers and tomatoes. It could now be restored to fertility by partial sterilisation at a fraction of the cost of renewal, and considerable sums were thus saved by the Lea Valley growers.

Sweet Pea Annual Meeting and Conference. — The National Sweet Pea Society will hold its annual general meeting at the Hotel Windsor, Victoria Street, Westminster, at 2.30 p.m., on Monday, October 20, 1913. At 7 p.m. a conference will be held at the Hotel Windsor, when Mr. J. S. Brunton will lecture on "The Sweet Pea Industry." For the convenience of members attending these meetings a dinner has been arranged for 6 p.m. Applications for dinner tickets (5s. each, exclusive of wines) must be made to the Hon. Secretary, Mr. Charles H. Curtis, Adelaide Road, Brentford, on or before October 18.

Prize Potato Crops.—In the spring 28lbs. of seed potatoes were distributed amongst members of the Horsmonden (Kent) Gardeners' Society, and prizes were offered for the gardeners who grew the greatest weight of potatoes from a pound of seed. The first prize winner produced 50lbs. 13ozs. from his pound, the second having 43lbs. 7ozs., the third 39lbs. The average was 22lbs. yield per lb. The results are interesting, but the crops are very small as compared with those previously obtained in competitions for prizes for the heaviest crops from 1lb. of seed tubers.

Presentations to Mr. J. Harrison Dick.—Mr. J. Harrison Dick, who has for several years past been Editor of the "Journal of Horticulture," and was formerly on the staff of the "Gardening World," is shortly leaving England to try his luck in the United States, where already a number of British horticultural journalists have made a home for themselves. In view of his departure, the members of the horticultural press invited Mr. J. Harrison Dick to meet them at the Horticultural Club on Thursday evening, September 11, when, on their behalf, Mr. George Gordon, V.M.H., presented Mr. Dick with a handsome gold watch and address, subscribed for by themselves, and wished him good health and prosperity in his new venture. On the previous Monday evening the officers and committee of the United Horticultural Benefit and Provident Society presented Mr. J. H. Dick, their vice-chairman, with a gold-mounted fountain-pen and a morocco-bound address as a token of their esteem, coupling these with all good wishes

Mr. Dick leaves for the United States at the end of the month, and is at present enjoying a short Continental trip. He is succeeded in the editorial chair of the "Journal of Horticulture," by Mr. Horace J. Wright, who, under a previous proprietor, occupied a similar position.

Suggested Scottish Garden of Hardy Plants.—Speaking the other day at Glasgow, Sir John Stirling Maxwell urged that in the West of Scotland they should have a garden of hardy trees, plants, and shrubs worthy of their unrivalled soil and climate. Such a garden would be better than anything which now existed in the world; far better than the botanical gardens in this country, which, unfortunately, did not always lie in good situations for the cultivation of many kinds of hardy plants. Glasgow possessed an unequalled site for such a garden in the Highland property which the generosity and foresight of Lord Rowallan had given to the city.

Window Plants at Preston.—Early in the summer we made reference to the strenuous endeavour that was then being made by the Preston Horticultural Society for the purpose of encouraging window gardening in the town. We have now much satisfaction in recording the fact that the efforts made have been highly successful. This was, in some measure, indicated by the number of entries in the window-box competition provided at the society's recent autumn show, but the best proof has, of course, been the increased floral attractions of the dwellings, more especially of those of the middle and working classes. There were 158 entries in the classes for window boxes, and 368 window plants were staged, as compared with eighty at the corresponding exhibition held last year. The children also exhibited more largely than in previous years, the plants contributed by them numbering 2,000. These, it should be mentioned, were distributed among the children in the spring by the Corporation of the town.

Winter Garden and Estate for Worthing.—We understand that after a long sitting a few days ago, the Worthing Town Council decided, by twenty-one votes to five, to purchase the Beach House Estate for the site of a winter garden and other purposes. The estate was the property of the late Dowager Lady Loder, and the purchase price is £20,000.

Sweet Pea Trials for 1914.—The committee of the National Sweet Pea Society will hold trials of sweet peas at the Burbage Experiment Station, Leicestershire, conducted by Major C. C. Hurst, F.L.S., in 1914. No certificates or awards will be granted to novelties unless they are sent for trial. For the novelty trials a charge of 2s. 6d. per variety will be made, and novelties will be accepted only from the raiser or introducer. As all the trials will be sown this autumn, thirty seeds of each novelty must reach the Hon. Secretary, Mr. C. H. Curtis, Adelaide Road, Brentford, Middlesex, not later than Saturday, October 4, 1913. The seeds must be placed in plain packets, but each packet must bear a number or letter for purposes of identification. With the seeds there must be a letter bearing the sender's name at the top, the number or letter of each novelty sent, and opposite such letter or number the name of the variety (if any), the colour section to which it belongs, and, if orange or salmon, whether it should be shaded. Sweet peas will also be tested for purity at a charge of 10s. per stock, or variety, sent. Not fewer than two dozen seeds should be sent. In every case the amount due for trials charges must accompany the seeds. Every sender will receive the report of the Floral Committee in the autumn of 1914.

Alpine Plants in Town Gardens.—In the course of an interesting lecture on plant hunting in the Swiss Alps, given before the Royal Photographic Society, Mr. R. A. Malby stated that half the alpine plants he collected grew admirably in his suburban garden, one quarter just existed, and the other quarter were unable to live under the conditions that obtained. Mr. Malby referred to the wealth of flowers that may be found just below the snow line, and suggested that the best time to visit Switzerland for the purpose of finding the plants growing at high altitudes is at the end of June and early in July.

Gardens of the City of London.—The City garden described and illustrated in the "City Press" of the 13th inst., is that of St. Botolph's Churchyard, Aldersgate, which skirts Little Britain, and forms so delightful a setting to the northern facade of the Post Office buildings in St. Martins-le-Grand. This garden is described as one of the most beautiful, as well as being the largest, garden within the City boundary, and the account of its characteristic features, and the steps that were taken to secure the fine old churchyard for public use as a restful resort is highly interesting. The illustration shows the eastern end, and includes the fountain and fishpond, not the least delightful of the features of this restful beauty spot.

Scholarships in Gardening.—Through the Worshipful Company of Gardeners Mr. Blades, the ex-Master, has placed a substantial sum at the disposal of the Board of Agriculture for the establishment of scholarships in gardening, or the promotion of technical training in horticulture.

Registration of Orchid Hybrids. — The recommendation of the Orchid Committee of the Royal Horticultural Society that a new record, to be called the Hybrid Orchid Register, be established, has been adopted by the Council. The recommendation of the committee was published in our issue of the 13th inst.

LÆLIO-CATTLEYA GEORGE WOODHAMS.

Flowers mauve and purple. A.M., R.H.S., September 9. Messrs. Armstrong and Brown, Tunbridge Wells.

EXPORTATION OF PLANTS.

Issue of Certificates.

With a view to assist nurserymen in England and Wales to develop their export trade, the Board of Agriculture and Fisheries are prepared to issue the Certificates required by the Governments of the countries and colonies to which plants are to be exported, under the following conditions:

1. In cases in which consignments of plants or bulbs are only admitted on production of a Certificate by the Board, or by one of their Inspectors, that the contents have been examined and declared to be healthy or free from certain specified pests, application should be made to the Board a few days before the consignment is to be dispatched. If it is desired that the plants should be sent by parcel post they should be sent ready packed in a box, with the lid not nailed down, to the Secretary, Board of Agriculture and Fisheries, Craven House, Northumberland Avenue, London, W.C., marked on the outside, "Plants (or bulbs) for export." A prepaid adhesive label addressed to the consignee should be enclosed, and the Customs declaration form required by the Postal Regulations (Post Office Guide, p. 772) should be filled up and affixed to the box. The box will be dispatched by the Board and a receipt of posting obtained.

The necessary sum must also be enclosed if it is desired that the parcel should be insured, but it must be understood that the Board cannot, in any case, accept any responsibility for any loss or damage which may arise during the examination or transit of the goods.

No charge will be made for the examination of a consignment which is contained in one box and weighs when packed not more than 11lbs. For the examination of any consignment exceeding that weight, whether packed in two or more boxes, the following charge will be made: Packages not exceeding 56lbs. in weight, 2s. 6d. Packages weighing between 56lbs. and 1cwt., 5s. Packages weighing over 1cwt. cannot be examined at the Board's office, and a special fee will be charged for examining them. If the Inspector is required for any reason to travel more than 20 miles to the place where the consignment is to be examined, a fee of £2 2s. will be charged. The fee must in every case be paid before the Certificate can be issued.

2. The Board have made special arrangements to meet the requirements of the Regulations issued by the Government of the United States of America under the Plant Quarantine Act of 1912. These Regulations require, among other things, that nursery stock shipped between October 1 and May 31 shall be inspected on or after October 1, and that such stock, if shipped during the growing season, shall be examined at the time of packing. The inspection is required to be carried out under the direction of a duly authorised official of the board, and the plants must be accompanied by a Certificate of that official as to their freedom from injurious plant diseases and insect pests.

An original Certificate must accompany the invoice of each consignment, and a signed copy must be attached to each "container." Exporters when applying for the Certificate should therefore state how many copies will be required by them.

Growers who propose to export plants to the United States should inform the Board of their intention as early in the year as possible. Preliminary inspections will be made from time to time during the summer months, and a final examination will be made as early as possible in October.

Applicants must furnish the Board with a written undertaking that no plants will be shipped under their Certificate except those actually grown on the premises referred to in the Certificate.

After the final examination has been made and if the nursery is found to be free from injurious plant disease and insect pests, the Board will be prepared to issue such Certificates and copies as may be required up to May 31 in the following year.

The fee charged by the Board for these Certificates will in most cases be £2 2s. a year for each nursery, for which sum an unlimited number of Certificates and copies can be obtained.

The Board reserve the right of refusing to consider applications for inspection unless they are received before November 1, 1913.

Any stock shipped between May 31 and October 1 will be examined under the conditions explained in section 1 of this Memorandum.

N.B.—Nursery stock cannot be admitted into the United States unless a permit for the entry has been obtained from the Department of Agriculture, Washington. Shippers on this side, therefore, would be well advised to see that the necessary permit has been obtained by their customer before the goods are shipped. Entry will not be allowed, moreover, unless the case, box, or other container or covering is plainly and correctly marked to show the number of the permit, the general nature and quantity of the contents, the district or locality and country where grown, the name and address of the exporter, and the name and address of the consignee.

3. The Board are prepared to issue Phylloxera Certificates, when such certificates are required by the Government of the importing country, in the case of stock exported from nurseries which have been examined by their Inspectors. The fee for such examination will be £2 2s. per annum, but a separate fee will not be charged in this connection if the nursery has been inspected in accordance with the arrangement outlined in section 2.

4. In cases in which a Certificate of the Board is required stating that no disease of a certain kind has been reported from the neighbourhood in which the plants were grown a declaration signed (and in some cases sworn) by the grower must be sent, stating that the plants (in most cases potatoes) were grown on a particular farm.

In cases in which the Certificates required do not fall within any of the foregoing categories, nurserymen who wish to export plants should apply to the Board for further particulars. SYDNEY OLIVIER, Secretary.

Board of Agriculture and Fisheries,
4, Whitehall Place, London, S.W.

NATIONAL SWEET PEA SOCIETY.

I venture to address you to ask your support for the new constitution of the National Sweet Pea Society, which will shortly be submitted to your vote by that Society as having been put forward by me.

The chief objects of the proposed changes are to place the government of the society in the hands of independent amateurs, to reduce the number of "varieties" to a trustworthy and comparatively short list, and to control the introduction of alleged new varieties.

I need not enter into the past unhappy history of the society, or support my scheme by recrimination, because I claim that the proposed new constitution will benefit immensely both the public and the trade. The former will benefit because they will be protected against being asked to buy as novelties things that are not novelties, while the trader will be secured against the appropriation and re-naming in the future of anything good that he may have produced.

On the other hand, control, unless it is carefully considered, is apt to hinder enterprise, and I should myself be strongly against it, were it not for the principles involved, and my firm belief that an enlightened and comprehensive handling of the whole question must not only honour British horticulture, but bring profit to British trade.

It is inconceivable to me that any amateur member of the society should fail to support the new scheme, and if amateurs support it, its adoption is assured. I earnestly hope, in that case, that trade members, forgetting the past, will heartily support the society and guard their legitimate interests in the position of dignity and influence which will be open to them in the proposed advisory committee.

The trade have hitherto borne the heat and burden of the day. It is now for amateurs to come forward and take up the work. Great past experience is not essential, because all the alleged varieties will be grown side by side for comparison. This can easily be done on one-third of an acre. Will those who are willing to join the General Committee kindly inform me accordingly, as soon as they see the proposed rules, in order that matters may take shape at the annual meeting without undue loss of time? Many will join the society as soon as it is placed upon a new basis; but it devolves upon those who are now in it to bring about the change.

It is most important that the proposed rules should be accepted as they stand, because if members suggest modifications there will be endless confusion at the meeting, as this could not in any case deal with any important modification unless it had received the acceptance of a majority of members who desired to vote upon it. There will be opportunities later of considering any amendments that may then come forward.

Finally, I would ask every amateur who can to attend the annual meeting. It is hard to expect traders to carry through enthusiastically proposals which are of a nature that many of them have hitherto opposed.

Upton-on-Severn. HILDA HEMUS.

AWARDS TO ANTIRRHINUMS AT WISLEY.

The following awards have been made to antirrhinums at Wisley by the R.H.S. Floral Committee:

Award of Merit.—To (No. 3) Amber Queen, Messrs. Barr and Sons, Covent Garden; (No. 4), Amber Queen, Messrs. Watkins and Simpson; (No. 12), Beacon, Messrs. J. Veitch and Sons, Chelsea; (No. 13), Beauty, Messrs. Barr and Sons, Covent Garden; (No. 17), Bonfire, Messrs. Simpson, Birmingham; (No. 18), Bonfire, Robert Sydenham Limited, Birmingham; (No. 37), Carmine Queen, Messrs. Watkins and Simpson; (No. 41), Coccinea, Messrs. Hurst and Son, Houndsditch; (No. 56), Crimson King, Messrs. Hurst and Son, Houndsditch; (No. 67), Daphne, Messrs. Hurst and Son, Houndsditch; (No. 69), Defiance, Messrs. R. H. Bath, Wisbech; (No. 80), Fire King, Messrs. R. H. Bath, Wisbech; (No. 89), Golden Morn, Messrs. Watkins and Simpson (No. 90), Golden Queen, Messrs. R. H. Bath; (No. 111), Moonlight, Messrs. Dobbie and Co., Edinburgh; (No. 104), Maize Queen, Messrs. Dobbie and Co.; (No. 122), Pink, Messrs. J. Veitch and Sons; (No. 135), Queen Victoria, Messrs. J. Veitch and Sons; (No. 149), Rosy Morn, Messrs. Watkins and Simpson; (No. 151), Salmon Pink, Messrs. J. Veitch and Son, Exeter; (No. 164), Sunset, Messrs. Dickson and Robinson, Manchester; (No. 178), White Beauty, Messrs. Dobbie and Co.; (No. 182), White Queen, Messrs. Dobbie and Co., (No. 185), Yellow, Messrs. J. Veitch and Sons; (No. 186), Yellow King, Messrs. Barr and Sons; (No. 193), Yellow Queen, Messrs. Hurst and Son.

Highly Commended.—(No. 1), Albino, Mr. F. C. Heinemann, Erfurt; (No. 21), Brilliant, Messrs. Barr and Sons; (No. 24), Brilliant Rose, Messrs. R. H. Bath; (No. 30), Red Queen, Messrs. Watkins and Simpson; (No. 45), Coral Red, Messrs. J. Veitch and Sons; (No. 58), Dainty, Messrs. Dickson and Robinson; (No. 63), Dainty Queen, Robert Sydenham Limited; (No. 82), Firelight, Messrs. R. H. Bath; (No. 83), Galatea, Messrs. Barr and Sons; (No. 112), Nobile, Messrs. Hurst and Son; (No. 126), Pink Beauty, Messrs. Watkins and Simpson; (No. 128), Pink Queen, Messrs. Watkins and Simpson; (No. 145), Roseum, Messrs. J. Carter and Co., Raynes Park; (No. 156), Scarlet Carmine, Messrs. Dickson and Robinson; (No. 183), White Queen, Messrs. Hurst and Son; (No. 189), Yellow Prince, Messrs. Hurst and Son.

SUMMER FLOWERS AT THE ZOOLOGICAL GARDENS.

To the uninitiated the name of the Zoo suggests exotic animals rather than exotic plants, yet for some time the Zoo has justly had a good reputation for the quality of its summer bedding. This year the reputation is well upheld, and many bright and pleasing features, in addition to well-thought-out combinations, may be found there.

The main points in which the greatest attention is devoted to bedding plants are the open space in front of the monkey-house, and the neighbourhood of the refreshment-rooms, though many other bright little spots, both of tender bedding plants and of hardy herbaceous subjects, are to be met with. In front of the monkey-house the bedding is of a decidedly formal character, but at the same time remarkably effective. The forms of Celosia pyramidalis, for which the Zoo has long been famous, are up to the best standards, and of other subjects with which the mixed beds are filled special mention may be made of bronze pelargoniums, now not much used; the variety Black Vesuvius, which is, from a foliage point of view, quite a nigger in its way; the scarlet Paul Crampel, fuchsias, bedding violas, and numerous other subjects. As dot plants, Eucalyptus cordata is in this section freely used, and very effective it is for this purpose. A background of taller subjects, in which hollyhocks predominate, complete this picture. In the neighbourhood of the refreshment rooms the bedding is of a less formal nature, but equally delightful. The beds are there scattered about over beautifully-kept turf, their attractiveness being enhanced by the handsome shrubs with which they are surrounded. Some of the combinations here are very striking, such as a bed of Miss Willmott verbena, overtopped by finely-flowered heliotropes, and edged with Fuchsia Golden Treasure. Another has salmon-coloured clarkias dotted over a groundwork of purple viola. One that arrests attention by reason of its uncommon features is planted with the pink-flowered Pelargonium Constance and Fuchsia Abd-el-Kader, above which are the feathery plumes of Humea elegans, the whole being edged with the silvery-white variegated Euonymus japonicus latifolius albus, with an extreme margin of thrift, which, though out of bloom, is decidedly effective for this purpose.

An uncommon but pretty bedding pelargonium is the dwarf single-flowered Violet Hill, over which are dotted plants of Leucophyta Brownei, the whole being edged with Koniga maritima.

Many more examples might be given did space allow, but enough has been mentioned

CACTUS DAHLIA DOROTHY HAWES.

Rich rose colour. F.C.C., and Gold Medal, N.D.S., September 9. Messrs. J. Stredwick and Son, St. Leonards-on-Sea.

(See page 712.)

to show the beauty and pleasing variety of the arrangements. In another part of the gardens was noted an unusual combination, namely, a bed of the scarlet lobelia and Leucophyta Brownei, edged with the golden-leaved Pelargonium Creed's Seedling, which in the older days of bedding used to be largely grown, but is now not often met with.

Fuchsias, of course, contribute their share to the floral display, among the varieties being the bold-growing, red-flowered Abd-el-Kader; Lye's Own, a light variety; Ballet Girl, double white; Crimson Glow, a bright-coloured kind, remarkably free flowering; Gertrude Pearson, a particularly good-shaped, dark-coloured flower; and the various tinted-leaved kinds, such as gracilis variegata, Sunray, and Golden Treasure.

A bed of a bright mauve-coloured viola, dotted over with standard plants of the silvery variegated Veronica Andersoni variegata, is very pleasing and unusual.

Briefly it may be said that, apart from any other consideration, many useful hints may be picked up by a visit to the Zoo.

W. T.

RASPBERRIES.

It is in seasons of scarcity that the grower of bush fruits generally reaps the benefits of enhanced prices. Especially is this the case during such periods when crops have suffered more or less severely from late frosts. Supplies are then at a comparatively low ebb, and it is not at all unusual for retailers to sell such fruit as black currants at as much as 6d. per lb. In other seasons, when bumper crops are produced, it is, unfortunately, true that the market prices of the produce dwindles as the supply increases, and when the inevitable glut occurs there is a large amount of fruit on the grower's hands which it scarcely pays him to pick. Seldom does the public demand for bush fruits, such as raspberries, gooseberries, black, red, and white currants show any great variation from season to season, so this is an influence that needs but small attention from the grower. New kinds of bush fruits have, of course, made their appearance from time to time, notably the loganberry, and various nurserymen have succeeded in producing some very good hybrid fruits which not unlikely will become well established in orchards and market gardens in the future.

The raspberry crop is usually considered of first importance in the list of bush fruits. On small holdings there is no more profitable crop, especially if the soil is naturally suited to this fruit, in which case it will be a retentive loam that is moist and cool in summer. In the case of market cultivation the grower needs to exercise some care in choosing the varieties of raspberries he shall grow. Not every kind is suitable for this special purpose, but only a few, and it is in this respect that the raspberry crop resembles the strawberry, since there are but a few kinds of the latter that find favour with market growers. Such kinds as Abundance, a strong grower and large cropping kind, largely grown in Lincolnshire; Baumforth's Seedling, Carter's Prolific, New Red Superlative, and Laxton's Bountiful are all good market sorts. The last-named, by the way, is a new variety that has all the vigour of a seedling, and the cane is strong and vigorous, and entirely self-supporting.

In large centres the average price of raspberries is 4d. per lb., packed in chips for market, or about £24 per ton packed in pods for jam making; but, of course, these prices are very much subject to fluctuation, and, in some seasons, as much as £40 per ton may be asked, and paid, for the fruit, as at Blairgowrie this season, while in certain districts good quality fruit need not be retailed at anything less than 6d. per lb. Those to whom raspberry culture appears to be a profitable venture, and one in which they are contemplating making a start, should bear in mind a few important facts.

In the first place, the ground should be prepared for this crop as early in the autumn as possible, for it is observed that unless the canes become thoroughly well established before the winter sets in, they will throw suckers very sparingly in the following year, and so very little dependence can be placed on the first season's fruiting. Always select vigorous-rooting canes from good ground, and never those which show little, if any, fibrous root development. The latter, by the way, are often worked up into bundles and sold at a very low rate, but it is best to avoid them altogether, for they are very frequently merely the refuse, as it were, of old plantations that are being cleared out. Good quality canes can usually be purchased at about 3s. per dozen, or 20s. per hundred, but make sure they come direct from the ground, and have not been allowed to lie about with their roots exposed during frosty weather. If canes have been injured by frost in this way they will not easily start into growth after planting; and even if they do so the canes will probably produce only a very few weak and miserable shoots, of scarcely any good at all. It is not an uncommon practice among some growers to grade the canes, the strongest-looking ones being known as of first quality, and the others as second quality. Not infrequently, however, it happens that the second quality canes are really the best.

New raspberry canes are usually planted at from twelve to twenty-four inches apart, in rows five feet asunder, although, of course, a great deal depends on the richness of the soil and the variety that is being planted. On the above system of planting, however, it is evident that the space between the rows gives room for a crop of potatoes, or other suitable subjects, to be grown during the first season. Not only does the intercrop yield a very fair return, but it also assists in keeping the ground clear of weeds between the rows, which is a great consideration, by the way.

In the first year of growth the canes are kept cut back hard to about ten or twelve inches above the surface of the ground, which will cause them to make fresh shoots from the base for the following year's crop, and will also have the extremely beneficial effect of stimulating a healthy, fibrous root action, which is a very important factor in the production of fruit. Provided that good strong canes were planted fairly early, say, not later than October, there will, in all probability be a fair amount of young growth in the first year, and it will be seen that the ground between the rows is being covered with a network of fine, fibrous roots, which, of course, do not afterwards admit of any planting being done between the rows. Subsequently, one has to provide sticks or wires as a support for the canes. In nurseries this item means a very considerable expense, and some growers have dispensed with the practice altogether on this account. As an alternative they adopt the system of pruning the canes rather hard to a distance of, say, three or three and a-half feet from the ground surface, which makes them self-supporting.

As against this practice, however, there are several growers of my acquaintance who are quite emphatic on the point that it pays them best to provide proper supports for their canes in the usual way. I am inclined to think they are right. Certainly when unsupported canes are pruned hard in the spring the winds and heavy rains that arrive just at the period when they are heavily laden very quickly spoil the quality of the fruit. Of course, one can bed down with straw between the rows, but experienced raspberry growers will know that this is not a very practicable suggestion, although it would certainly tend to keep the fruit free from grit and dirt.

After-cultivation of raspberries consists chiefly in keeping the space between the rows clear of weeds by surface cultivation, and also giving a generous mulching of farmyard manure early in spring, immediately after or before the setting of the fruit, that is to say, when the flowers are forming. Such dressings of manure are of no little assistance in stimulating and plumping up the fruit. Subsequently, as soon as the fruiting season is at an end, the old fruiting canes should be cut down close to the ground, the principal object in so doing being to admit as much light and air as possible to help in the ripening of the newly-formed shoots. Seeing that the fruit crop of the following year depends entirely upon the proper ripening or maturing of these shoots, it is easy to see how important this attention is at the end of the season.

J. C. N.

THE KENTUCKY COFFEE TREE.

This North American tree is known to scientists under the name of Gymnocladus canadensis, and it has been an occupant of our gardens since 1748, although it is still rare, and well-developed examples are seldom seen. Perhaps the finest specimen in this country is growing in the gardens of H.R.H. the Duchess of Albany at Claremont. This tree is referred to in the "Trees of Great Britain and Ireland," and when Mr. Elwes measured it in 1907 it was sixty feet high, with a trunk six feet seven inches in girth. Three years later it was seen by the writer, when it appeared to be in excellent health. Another large tree is recorded in the above-mentioned work as growing at Barton, in Suffolk. In 1904 that tree was fifty-seven feet high, with a girth of five feet two inches. An example fifty feet or so high might also have been seen a year or two ago in the grounds at Chiswick House.

The species is widely distributed, as it is found from Canada to the Southern United States, where it occurs as a tree varying from thirty to sixty feet in height, or larger when growing under the most satisfactory conditions. The pinnate leaves are very large and ornamental, especially on vigorous young trees, but on old specimens they are rarely more than from one to one and a-half feet long. On young trees they sometimes exceed three feet in length, and are nearly two feet wide. A peculiar bark feature is noticeable in winter, for the younger bark is whitish. The flowers are white, and borne after the manner of those of the common robinia, but they are only produced by trees which have arrived at a moderate age.

The species thrives in ordinary garden soil, and may be increased by root cuttings. In North America the seeds have sometimes been roasted and used as a substitute for coffee, hence the common name. A second species, G. chinensis, occurs in China, but it appears to be too tender for general cultivation in the British Isles. Its seeds are said to be rich in soapy matter, and to be used as a substitute for soap in some parts of its native country.

D.

GOLDEN GARDENS.

Daffodils supply gold first, aided by the more orange crocuses, and the narcissi and jonquils that are their brethren; then gilded carpets are spread of the lemon, and the deeper Alyssum saxatile, one of the most useful furnishing perennials we possess, and deliciously honey-scented. Nodding, long-spurred columbines, amid dwarf tulips, or the primrose or saffron hyacinths, give grace to beds or borders, or may be used to similarly soften the stubby effect of the matchless wallflowers.

Glades of gold are so specially beautiful, charming the vision as do shafts of sunshine among forest trees, that it is strange how seldom cuttings are made through shrubberies, and planted with the daffodil, and golden violas for succession. Another display, on a higher level, can consist of a waving undergrowth of Spanish irises, followed by golden rods. In a sunny, hot space the noble Alströmeria aurea can be used, in a shady one the yellow day lily; poor ground will suffice fairly for yellow snapdragons, and may be dotted all over by pendulous, trembling Iceland poppies that always show at their best where breezes can freely toss them. Both these perennials, once planted, will increase and multiply till the ground becomes a field of self-sown representatives.

Why is not gold more relied on to make cheerful front gardens? Possessed of a certain warmth and richness of hue, without being garish as scarlet, or crude as carmine, it tones equally well with red, white, or grey walls, can be had in perfection from March's beginning to November's end, and with its glory the eye is never satiated. While exceedingly gorgeous beneath southern sunshine, it will suffice to gladden the shadiest tract of ground. One may almost imagine that Providence designed the daffodil, calceolaria, yellow pansy, and golden rod, mimulus and day lily, as consolations for land in shadow. Primroses provide a distinct sunbeam effect when sufficiently congregated in woodlands or gardens, and there are few lovelier sights in earliest summer than a north border full of the canary-yellow Welsh poppy that propagates itself as weeds do, in paths, or turf, or beds, chinks of the rockery, or slopes of bank-sides.

"Gold is ye coloure of God's smile," says an ancient poet. Certainly a garden in which it lacked representation at all would have a singularly lifeless appearance. To appreciate it at its full value it should be allowed to reign to the exclusion of all other hues for at least one season. By mingling mauve and white, blues, maroon, scarlet and salmon, or pale pink with it in after years new effects are secured. These introductions can take the sites vacated by biennials that have died out, and the bedding plants that were gold the former summer.

The herbaceous border will prove remarkably showy, without those long gaps that are noticed when mixed colours are used, for gold flowers have a noteworthy longevity. Before the sunflowers, heleniums, rudbeckias, heliopsises, and chrysanthemums in variety come in there should be a wealth of Aconitums pyrenaicum and aureum, Allium Moly, the classic asphodels. Barbarea vulgaris fl. pl., Centaureas montana sulphurea and macrocephala, Chelidonium major fl. pl., coreopsises, doronicums, gaillardias, lemon hollyhocks. Hieracium villosum, hypericums, lupins of several heights, various montbretias, evening primroses, carnations, Ranunculuses aeris fl. pl. and speciosus plenus, trolliuses, Scabiosas cephalaria and ochroleuca, pansies, and mulleins. Of the merits of golden dahlias, of all sections, there is no need to speak. In addition to the yellow roses of the walls, arches, and pergolas, there may be jasmines, honeysuckles, and golden ivies, aided by annual nasturtiums, including the canary creeper.

Beds of golden roses will be aided in beauty by being carpet-sown with some quite dwarf yellow annual, or the permanent yellow violetta, while lemon Iceland poppies are so light-rooting that they can safely be allowed among the bushes. The rosery may have hedges of golden privet. Bedding plants in profusion will give to the garden the luxurious, semi-tropical appearance that is so highly valued in a country such as ours, against which is often levelled the reproach of lack of colour. Yellow marguerites, cannas, gladioli, and begonias are especially beautiful.

The question whether crimson and bronze foliage of trees, shrubs, perennials, or bedding plants shall be utilised to afford striking contrast with the yellow shades, is a matter for individual taste. The deep glossy green of evergreens is an efficient relief to the flowers, or to the silver or grey-green foliage that so many of them possess. Masses of snow-white are, probably, the best to arrange when it is desired to break the golden level. It has been said that the more yellow blossoms the more the garden is visited by birds, bees, and butterflies. However that may be, sunshine will seem to have come to dwell more lovingly in this pleasaunce than in any other. M. H.

BRONZE AND TRICOLOR-LEAVED PELARGONIUMS.

To such of us as can remember these pelargoniums when in the height of their popularity, their almost total disappearance is difficult to account for. They were for a time very popular, and some of our nurserymen must have found them exceedingly remunerative; for it must be borne in mind that prices in the later sixties and early seventies were different to what they are to-day. Then it was no uncommon thing for a new variety to be sent out at a guinea each, and at that price there was a considerable demand for them. In the height of their popularity they were extensively used for bedding, and many of them were grown as specimen plants. Now all this has changed, but still I should not be surprised to see these pelargoniums obtaining favour once again. Perhaps the fact that the tricolors need very careful handling has much to do with their decline, for many old favourites are now dropped because they require extra care to be taken in their culture. The neglect of formal bedding has, of course, had much to do with the matter, but perhaps in time this may again become fashionable, and, if it happens, these pelargoniums will come once more into their own. It may be said that the present taste lies towards more natural features, but what about clipping shrubs into various shapes? W. T.

POMPON DAHLIA REGULUS.

Ruby-purple. A.M., R.H.S., and F.C.C., N.D.S., August 26. Messrs. J. Cheal and Sons, Crawley. (See page 712.)

PREPARATION OF ROSE STOCKS.

The second half of September is the ideal time for commencing this work, and by the middle of October it should be completed. This applies to all dwarf stocks, provided the wood is in a suitable condition. It is of the greatest importance to have hedge briers, for standard stocks, collected as early as possible; because in this case the larger portion have to be planted under far less favourable conditions for rooting than the smaller cuttings intended for dwarf stocks. To a great extent the collection of standard briers is checked by the game season; for undoubtedly the grubbing out of these stems must frighten and disturb a great deal of game. It is often difficult to obtain permission to collect soon enough to give the stocks a fair chance.

With these few opening remarks I will pass on to closer details in preparation of rose stocks, for however much one may wish to have all varieties upon their own roots, it cannot be done, and secure the best from but a small percentage. Besides this, the help of foster roots of a stronger nature, or that are more suited to that particular soil, must be obvious to all. If so deleterious as some few growers try to impress upon us, does not the same theory apply equally to other subjects, apples, plums, peaches, cherries, etc., all of which derive great assistance from foster roots? I am a staunch upholder of the benefits we obtain through own-root roses in the case of varieties strong enough to make a satisfactory growth, but with such a multiplicity of varieties as now exist it is unwise to dogmatise and ban any help foster roots can render in the rose garden.

The Brier, Manetti, De la Grifferaie, Polyantha, and similar stocks, can be raised from cuttings of semi-ripened wood. Let these be about nine inches long. Cut off close to the bottom eye or bud with a sharp knife. I have not yet found any secateurs that can equal the knife here, however useful they may be in many other cases. Carefully cut out all eyes up to the two, or three if closely placed, at the top of the cutting. Do not gouge these eyes out deeper than is necessary to be effective.

These cuttings may be planted in rows fifteen to eighteen inches apart, and be arranged in the rows at the rate of six to the foot. The finest soil for rooting these is a clean, sandy loam, and the addition of manure is quite unnecessary, if not sometimes harmful. Have the ground thoroughly prepared, and plant to a sufficient depth that only the tip of the cutting is visible. You will find the soil sinks quite enough naturally. Always make certain the bottom of the cutting rests firmly upon the soil. Any "hanging" or suspension of the cutting is detrimental to the formation of good roots at the bottom of the cutting, where we alone want them, and sometimes even prevents any rooting whatever. A firm settlement upon the bottom, and the soil pressed closely around them elsewhere, are two of the most essential points in rooting these useful rose stocks.

The Dog Rose as a dwarf stock is very largely raised from seedlings. A few may be purchased from nurserymen, but the bulk of these are obtained from the Continent. I would like to mention here, that so far as our own experience goes, the harder and smaller-pithed wood taken from dwarf stocks of seedling brier are infinitely better in the long run than those more promising-looking cuttings from the ripest shoulders of a standard. After the commencement, one can always secure plenty of excellent cuttings from the stocks roses were budded upon the previous summer.

A little more attention must be afforded standards or hedge briers. These are far less easy to obtain now. There are fewer thick and untrimmed hedges than formerly, and those from dense woods and copses are not so desirable as those from plants growing in the more open and exposed hedgerows. When received they are possessed of very coarse, knobby roots, with scarcely a trace of fibre. Do not purchase any with old, sear, and moss or lichen-covered stems. Nor did I ever yet succeed with a few straight stems of a white variety bearing flowers much resembling Rosa arvensis. There are so many difficulties to overcome before one can produce a really good standard (one that is sound throughout), that it is absolutely essential to start with a good stem of a suitable age. Therefore a little extra expense at the outset will be a good investment.

In the majority of cases the knobby roots already noticed are by no means removed as closely as they should be. If left on the bulk will decay. Even those which do linger on and produce a few new rootlets will not be of any real benefit, because it is so difficult to lift without breaking these off. Should these knobs continue healthy they will invariably throw up a number of most undesirable suckers, which it will be found impossible to completely eradicate. So trim the briers harder. I may say, too, that there is a greater percentage of live briers from closer-trimmed roots. Always trim over the edges of the roots with a strong and sharp knife. The collector cannot possibly avoid much bruising, and oftentimes promising roots are badly split.

A different method of planting is needed here. We plant with the bulk of the prepared stem above ground instead of below it. So uncertain and, to some extent, so unsightly are standard roses in their young stage, that they should be in beds, and transplanted to their proper places after the rose is secured.

Plant upon well-dug but fairly solid ground, and if the soil leans to the stiff side, so much the better. Allow three to four feet between the rows, and about twelve inches from brier to brier. We find it a little better when the stock is put three or four inches deeper in the soil than it was when removed from the hedgerow. Plant very firmly, and secure from any wind-waving at once. Loose soil that allows of rapid drying is inimical to the health and rooting of briers from the hedge.

One more little, but very essential, detail is the prompt planting of all prepared cuttings; any drying up of the sap must be carefully guarded against. Do not be afraid to make the soil firm, and if the frost loosens the ground during winter, press down and tread firmly.

ROSARIAN.

POLYGONUMS.

There are many polygonums, and among them there are several that are well suited for garden decoration. They vary much in growth, but most of them succeed in ordinary garden soil, and when once established are able to take care of themselves. Polygonums are not suitable for a small garden, as most of them are vigorous in growth, and require ample space, whether planted in the herbaceous border or the wild garden. The latter is probably the best place for them, as they can grow more or less at will, and at the present time they are particularly gay with innumerable blossoms.

P. sachalinense (the giant Siberian Knotweed) is the most vigorous. It frequently attains a height of ten feet, and sometimes, when growing in moist, rich soil, is even taller. Its leaves are a bright green, and fully twelve inches in length, while the greenish-white flowers are freely produced in slender drooping racemes, and give a large colony a very attractive appearance. This species is seen to advantage when planted on the banks of a lake or stream, the moist rooting medium suiting it well.

P. cuspidatum (the Japan Knotweed) is another handsome species, that often attains a height of eight feet. It is graceful in habit, bears creamy-white flowers, and may be planted as an isolated specimen on the grass, or grouped near the water's edge. In either case it should be allowed plenty of room, as it is vigorous, and, like the first-named, is not easily kept within bounds when once established. It may be worth mentioning that the best way to reduce groups of the strong-growing polygonums is to bruise off the young growths as fast as they appear in the spring. It is waste of time to dig them up, as all roots left in the ground will grow.

P. polystachyum is a native of the Himalayas, and does not grow more than five feet high, and its olive-green leaves are veined with red, and present a quite pleasing appearance throughout the summer. Its plume-like sprays of white flowers are produced in September, and continue bright and showy for several weeks. This is suitable for the herbaceous border.

P. amplexicaule has bright crimson flowers, and is quite moderate in growth, and does not attain a greater height than three feet.

P. chinense is a compact-growing species from China, with numerous white blossoms, which are produced late in the autumn. It succeeds in a moist position, and is one of the most hardy.

P. compactum does not grow more than two feet high, but produces a profusion of white flowers in late autumn.

Among the dwarf varieties P. affine, a native of the Himalayas, is one of the most desirable. Its rosy-red flowers are borne freely in dense erect spikes in September and October, and they are only about eight inches high. P. Brunonis grows about double that height, and has pale rose blossoms, produced in erect spikes during the summer. P. vaccinifolium produces its rosy flowers in profusion, and is free in growth. It thrives in moist soil, and looks its best when allowed to ramble over boulders of rock or tree stumps.

Mention must be made of P. spærostachyum, it being one of the prettiest, but not always easy to grow. An open position in the rock garden suits it, but the soil should be well drained, as it resents excessive moisture at the roots in winter, although it likes moisture in summer.

J. GARDNER.

APPLE CULTURE FOR GARDENS OF MODERATE SIZE.

It is within the memory of some of us when the standard was the only form of apple tree grown for all purposes, and this was the case even where this fruit was found growing in small gardens attached to the farmhouse, villa, or cottage. This brings to mind my boyhood days, spent in Sussex and Kent, and it is a reminder of the large standards of "August," "Ducksbill," and "Forge," that, in some instances, at that time found positions there in gardens having a limited area. Trees of this description are, of course, well known to be the best, and really the only form suitable for cultivation in ordinary orchards, they yield when the orchards are placed in favourable positions, and the trees are well managed, very heavy and profitable crops of highly coloured and otherwise excellent fruit. They are, however, altogether out of place in gardens, and especially so in those of moderate size, for, when found in them, they are invariably detrimental to their appearance, and also seriously injurious to the legitimate crops.

We have to thank enterprising nurserymen for providing, during comparatively recent years, the forms of trees known as the dwarf pyramid and the bush, which have become very popular, and are extensively cultivated for producing fruit for both market and private use. They are most suitable for small gardens, and might with advantage be much more commonly grown in them than is the case. The owners of country cottages, and of small house properties, who have not already done so, could, in many instances, profitably provide their tenants with trees to plant.

Trees of this kind will succeed well even when confined to very little space, and if a comparatively large number of varieties are desired for a given space, they may be planted at nine feet asunder, and even as closely as six feet. For reasons other than this, such as its effect on their powers of cropping, their good health, and longevity, it would be considerably better if they were allowed more space—at least twelve feet from each other. The facilities the bush and dwarf pyramid afford for attention being given to their cultural requirements, and to the attacks of insect pests and fungoid diseases, add much to their value. Then, again, the wind has comparatively little effect upon them or their fruit, and they commence to bear at an early stage, which are matters of considerable importance. These and kindred things are all benefits to be gained by growing this description of tree over that of the standard.

A mistake in training pyramid and bush trees may be easily made by allowing their branches to become crowded. This prevents their leaves, buds, and fruit receiving the full benefit from the sun, which exercises an immense influence upon the fertility of the trees, and the quality of their fruit. It should receive due consideration during the period of the formation of the trees, when it should be kept in mind that a branch possessed of developed spurs requires much more space than does a shoot. The sun's rays are not seriously obstructed on their way to the centre of a properly-managed tree, and the entire length of the branches are possessed of fruitful spurs. On the other hand, an unduly crowded tree bears but little fruit other than upon the points of its branches that are exposed to the sun.

SALVIA ULIGINOSA.

Flowers blue. A.M., R.H.S., September 9. Mr. Charles Turner, Slough. (See page 713.)

The espalier is another suitable tree for small gardens, for it takes but little space, and, in a small degree, only overshadows other crops. It is often found conveniently planted parallel to, and at a distance of a few feet from, garden walks, trained upon a trellis. When treated in this way cultural requirements of the trees can be simply supplied, and the fruit can be easily protected from birds.

The cordon, again, is a tree that can be grown in gardens that have not enough space for larger kinds of trees, and walks can be utilised by training cordons over them upon arched trellises. A greater number of varieties can be grown in a given space by employing this kind of tree than can be done by any other. The gridiron is another form of tree suitable for training upon trellises in small gardens.

Very robust-growing varieties, such as Bramley's Seedling, Warner's King, or Tyler's Kernel, are not so respondent to these modes of culture as are varieties of moderate and symmetrical habits, and that readily, and without much assistance, furnish themselves with fruit spurs. Cox's, Allington, and Sturmer Pippins, Lord Hindley, Brownlee's Russet, Braddick's and Scarlet Nonpariels, of dessert kinds, are types of this description, and Grenadier, Seaton House, Schoolmaster, Lane's Prince Albert, Annie Elizabeth, and Sandringham, of culinary varieties.

The Hendre Gardens. T. COOMBER.

DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers is "Dahlias and their Cultivation," by J. B. Wroe, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d. by post, 1s. 8d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

NEW PLANTS AND FLOWERS.

ROSES.

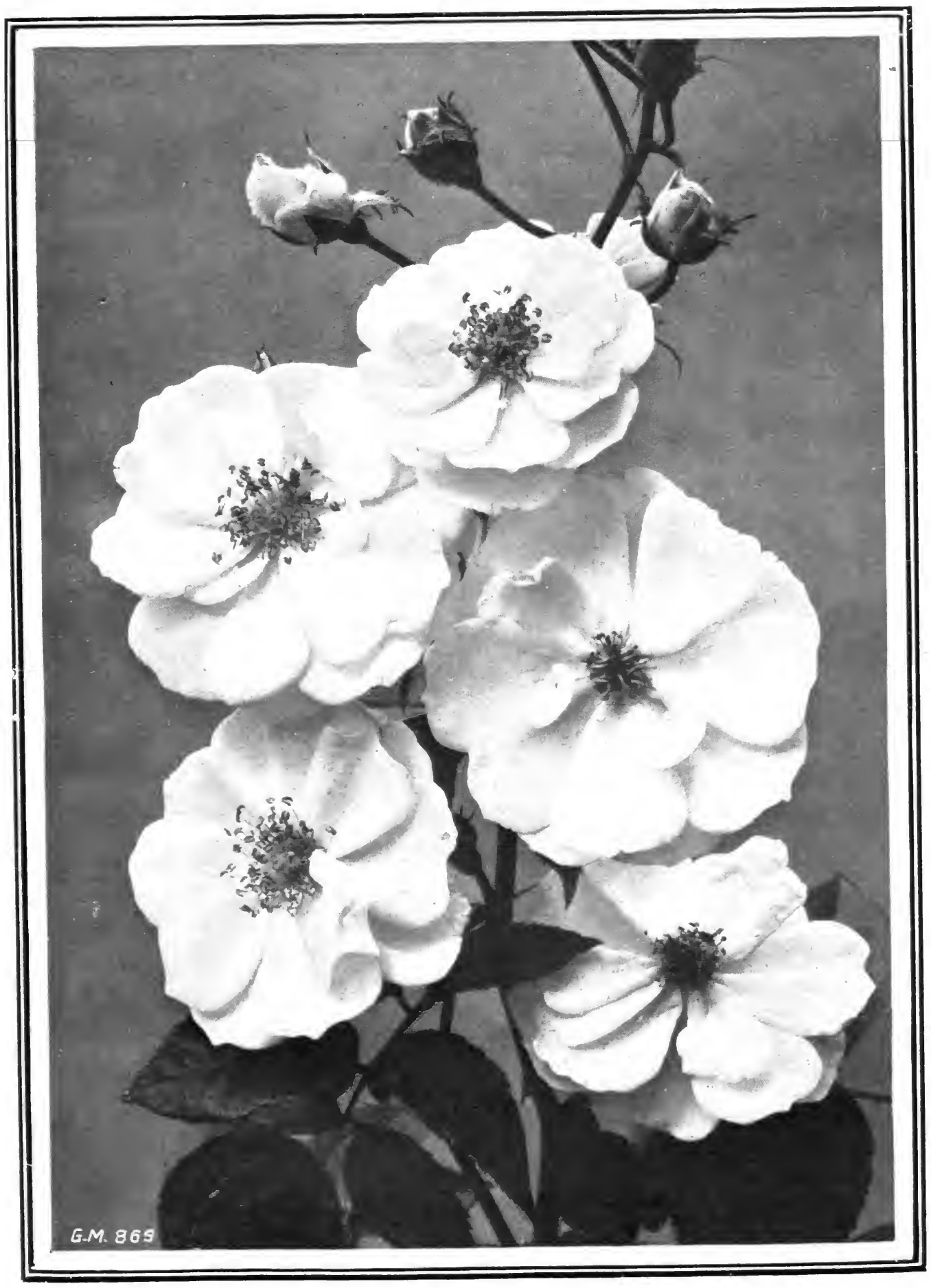
Moonlight.—A beautiful perpetual-flowering cluster rose that we have previously referred to, as it has already received the N.R.S. Silver-gilt Medal. It has dark foliage and stems, and carries its exquisitely formed semi-double flowers in large but light clusters. The colour is softest cream, with a central cluster of golden stamens. Gold Medal, N.R.S., September 11. Rev. J. H. Pemberton, Havering, Romford.

Edgar M. Burnett.—A large, broad-petalled, fragrant rose, which has deep pink colouring on the outside of the petals, and soft blush-pink on the inner surface. Gold medal, N.R.S., September 11. Messrs. Samuel McGredy and Son, Portadown.

Red Letter Day.—A showy hybrid tea rose with flowers that are not quite single, usually having several petals in a second row. The colour is rich crimson-red. Gold Medal, N.R.S., September 11. Messrs. Alex. Dickson and Sons, Newtownards.

Edward Bohane.—A large hybrid tea rose, full and broad petalled. The colour is rich rose-red with a cherry-red or almost scarlet suffusion. Apparently a strong grower. Gold Medal, N.R.S., September 11. Messrs. Alex. Dickson and Sons, Newtownards.

Muriel Dickson.—A large and brilliant hybrid Austrian briar rose with rich reddish-rose colouring, that is almost scarlet in the bud state, and has a golden glow at the base of many of its wide petals. The flowers are of good size, and not very double. Gold Medal, N.R.S., September 11. Messrs. Hugh Dickson, Lim., Royal Nurseries, Belfast.



ROSE MOONLIGHT.

Cluster rose, colour soft cream. Gold Medal, N.R.S., September 11. Rev. J. H. Pemberton, Havering, Romford.

DAHLIAS.

Dorothy Hawes.—A remarkably fine cactus variety; the blooms large, of superb form, with finely curved florets, the colour bright rose. F.C.C., and Gold Medal for the best seedling cactus variety belonging to the exhibition section, N.D.S., September 9. Messrs. J. Stredwick and Son, St. Leonards-on-Sea.

Pierrot.—A pleasing cactus variety of good form, the florets yellow, tipped with white. F.C.C., N.D.S., September 9. Messrs. J. Stredwick and Son.

E. F. Hawes.—A garden cactus variety of great promise; the blooms are of large size, bold, and borne on stiff, erect stalks eighteen inches in length, the colour light pink. F.C.C., N.D.S., September 9. Messrs. J. Stredwick and Son.

John Green.—A distinct and attractively-coloured pæony-flowered variety; the blooms are of the largest size and open out flat, the florets of great breadth, and richly coloured scarlet and bright yellow. F.C.C., N.D.S., September 9. Messrs. J. Stredwick and Son.

Rosa.—A distinct pompon of superb form and a rich purplish-rose hue, equally valuable for the garden and exhibition. F.C.C., N.D.S., September 9. Messrs. Keynes, Williams, and Co., Salisbury.

Regulus.—A beautiful variety with finely-formed blooms of a bright ruby-purple hue. A.M., R.H.S., and F.C.C., N.D.S., August 26. Messrs. J. Cheal and Son, Crawley.

Inchmarnock.—A very bright salmon-scarlet collarette dahlia, with a collar of highly developed yellow florets. A most effective variety, and of good form. A.M., R.H.S., September 9. Messrs. Dobbie and Co., Edinburgh.

ODONTIODA SEYMOURÆ ORCHIDHURST VAR.

This is a very bright and shapely orchid, derived from O. Charlesworthi and O. Bradshawiæ. The colouring is richest orange-scarlet with yellow crest. A.M., R.H.S., September 9. Messrs. Armstrong and Brown, Tunbridge Wells.

LÆLIO-CATTLEYA GEORGE WOODHAMS.

A very fine, free-flowering hybrid, obtained by crossing Cattleya Hardyana with Lælia purpurata. It has been exhibited before, but on this occasion was brought up for judgment. The flowers are of large size, and generally borne in threes, though a spike of four blooms is by no means uncommon. The sepals and petals are rich mauve, while the broad lip is deep crimson-purple, with a little yellow at the base. A.M., R.H.S., September 9. Messrs. Armstrong and Brown, Tunbridge Wells.

ASTER FELTHAM BLUE.

A sturdy variety of the Novi-Belgi group of Michaelmas daisies. The flowers are freely produced in light and elegant clusters, so that each head is seen distinctly. The colour is lavender-blue, and this is enhanced by the dark wiry stems. A.M., R.H.S., September 9. Messrs. Thos. S. Ware, Lim., Feltham.

SALVIA ULIGINOSA.

A hardy herbaceous perennial with fragrant, mint-like leafage, and spicate heads of bright blue flowers. The spikes are dense and terminal, and the calyces persist after the corolla has fallen. The chief attraction is the half-inch wide blue lip. The species grows strongly, often reaching a height of 5ft.; its fragrance and bright colouring will render it attractive for wild gardening, and for positions near water. It is a native of Brazil. A.M., R.H.S., September 9. Mr. Chas. Turner, Slough.

STANHOPEA CONVOLUTA.

A handsome species, first discovered in the province of Antioquia, Colombia, whence it was introduced by Mr. F. Claes, in whose establishment at Etterbeck, Brussels, it first flowered. The plant which supplied the material from which the illustration in the "Botanical Magazine" was prepared was presented by Messrs. Charlesworth and Co. to Kew in 1911, with whom it bloomed in October of that

year, and in the corresponding month of 1912. The flowers are rather large, the sepals and petals soft yellow, the reverse greenish-yellow freely spotted with red, the lip yellow, white, and orange. Bot. Mag., t. 8507.

CENTAUREA CRASSIFOLIA.

A distinct and attractive species, endemic in Malta, where it is met with mainly in the central portion of the island. The introduction of this composite to British collections is due to Professor Rev. G. Henslow, V.M.H., who sent a plant to the Cambridge Botanic Garden as far back as 1894. At Cambridge it is grown in the succulent house, and thrives under much the came conditions as the sempervivums. The flower heads are about an inch in diameter, and the colour is purple-rose. Bot. Mag., t. 8508.

CYTISUS SUPRANUBIUS.

This species of broom is a native of the Canaries, and is described by Dr. Schenck as the most characteristic plant of the Alpine region of Teneriffe, where it is abundant between 6,000 and 9,000 feet above the sea-level. In Teneriffe it forms a compact, globular shrub five feet in diameter, and in height, and under favourable conditions produces its cream-white flowers in great profusion. The species is not hardy in the open in most parts of the United Kingdom, but in the Royal Botanic Garden, Glasnevin it thrives against a sunny wall and blooms freely. Bot. Mag., t. 8509.

GREVILLEA PINNATIFIDA.

This handsome species is a native of rocky localities in the neighbourhood of the Swan River, and, with reference to its merits, it is said that "among the many species of the genus in cultivation in Europe it is one of the most ornamental, not only on account of the beauty of its flowers, but also because of the charm of its foliage." The flowers are produced in elegant terminal racemes, are light red, and the leaves are elegant, and, as indicated by its specific name, distinctly pinnatifid. Bot. Mag., t. 8510.

SOLENOSTEMON GODEFROYÆ.

A pleasing species, first discovered by Mr. and Mrs. Monteiro in 1873 about fifteen miles from Ambriz in Angola, but was not distinguished from S. ocymoides. Thirty years later it was found in the Congo State by Mr. Godefroy Lebeuf, who introduced it to cultivation and placed it in the genus Coleus. The leaves are dark green with prominent veins, and the pale blue flowers are produced in erect spikes, the plants blooming freely throughout the winter months. Bot. Mag., t. 8511.

THINNING GOOSEBERRY BUSHES.

When all the fruits have been gathered and the nets removed, it is a good plan to give gooseberries a thorough clean up, at the same time removing all suckers. If the bushes are too dense to admit air and light thin them out rather freely; the young fruiting shoots will then have a much better chance to grow firm and sturdy. I know only too well that in most gardens there is very important and pressing work to be done just now, consequently the bushes are very apt to be overlooked, but if time and labour will admit of its being done give the bushes every attention. All ours will receive at least two good soakings of liquid manure to assist the formation of strong healthy buds by the end of the season. It is surprising how beneficial is such assistance after the fruit has been gathered. H. Markham.

ROSE EDWARD BOHANE.

H.T.; colour rose-red. Gold Medal, N.R.S., September 11. Messrs. Alex. Dickson and Sons, Newtownards. (See page 712.)

PASSIFLORA CÆRULEA.

The common blue-flowered Passion Flower (Passiflora cærulea) is hardier than is by many supposed to be the case, and in many parts of the suburbs of London, as well as over a wide district in the southern counties, it forms, by reason of its pretty blossoms, a showy summer feature. What is more, when favourably situated, the egg-shaped fruits are freely produced, and when ripe their bright yellow colour always arrests attention. Beside the ordinary form there is a white-flowered variety—Constance Elliott—which first appeared in a Devonshire garden about thirty years ago. It is equally hardy with the type, and in the colour of its blossoms affords a pleasing variety thereto. Even where they cannot be depended upon out of doors these passion flowers are of considerable value for the cool greenhouse, as they are not harmed by even a few degrees of frost. It is of rapid growth, and will soon cover a considerable space. Seeds germinate readily, and from these young plants can be easily raised, while cuttings can be rooted without difficulty. This last mode of increase is preferable, as plants obtained in this way flower more freely when young than seedlings do. The white variety cannot be depended to come true from seed.

S. W.

SALVIA VIRGATA NEMOROSA.

Although including some of the most distinct and useful of the herbaceous plants that can be successfully cultivated in the open in British gardens, the hardy salvias have for a long series of years received but little attention even from those who have an objection to the use of tender plants in the embellishment of the flower garden. Why this should be so it is difficult to understand, but the statement is indisputable that one might visit a considerable number of gardens wherein hardy border flowers are extensively and well grown without seeing a single representative of the genus.

It might, indeed, be said that although included in some of the trade catalogues of hardy perennials, Salvia virgata is practically unknown beyond the boundaries of botanic gardens. The illustration given herewith of its variety nemorosa will afford a good idea of the manner of plant it is. From this it will be readily seen that the plant forms a compact bush, and produces innumerable flowers, borne on slender, erect spikes. Something more than black and white is necessary to portray its beauty and effectiveness, but when it is stated that the flower stems are furnished throughout the greater part of their length with large calyces of a rich claret colour and innumerable small bright blue flowers, there will be no great difficulty in understanding its distinguishing characteristics. The variety S. virgata nemorosa has a more woody growth than the specific form, and the flowers are perhaps of a more brilliant shade of blue, reminding one, by their colour, of the spring gentian. It attains a height of about two feet, is superior to the type, and worthy of a position in the most select collection of hardy flowers. Both S. virgata and its variety can be successfully cultivated in any ordinary garden soil, and can be readily increased by division in the spring.

Both in the shape and the arrangement of the flowers S. virgata nemorosa bears a rather close resemblance to the remarkably handsome hardy Salvia uliginosa, for which Mr. C. Turner obtained an Award of Merit at the Royal Horticultural Society's meeting on the 8th inst. The latter is, however, much taller, attaining a height of about five feet, is larger in all its parts, and very distinct. The portion of the flower spike illustrated in this issue will, nevertheless, be useful for the purpose of showing the distinctive inflorescens of the hardy salvias with highly-developed and richly-coloured calyces, and bright blue flowers of moderate size. S. virgata nemorosa produces its flowers during August, and the Mexican S. uliginosa a little a month later.

SALVIA VIRGATA NEMOROSA.

Finely-grown specimens of this handsome blue-flowered salvia at Kew.

Begonia Bertini.—This is a very useful begonia for bedding out during the summer months. It does not belong to that dwarf race now so popular, but partakes more of the character of the original B. boliviensis—that is to say, the flowers are long and drooping. The flowers of B. Bertini, which are freely borne on stout, erect stems, are bright-red in colour. It belongs to the same section as B. Worthiana.—W.

Bedding Begonias.—Of late years a double-flowered race of dwarf-growing begonias has become very popular for bedding purposes, some of the best-known being Count Zeppelin, Lafayette, Major Hope, and Washington. Some other varieties were well shown by Messrs. Blackmore and Langdon, Twerton Hill Nursery, Bath, at the meeting of the Royal Horticultural Society on August 26. Among them were Argus, whose ranunculus-like flowers, produced well above the foliage, are of an intense rich scarlet colour; Marquis of Stafford, of a rich deep crimson; and President Sargent, pale yellow. Other desirable qualities of this section are: Calliope, pink; Gladiateur, crimson; Holyhock, pink; Lord Langton, scarlet; and Mrs. Langtry, white. The begonias of this class maintain a succession of flowers over a lengthened period.—J.

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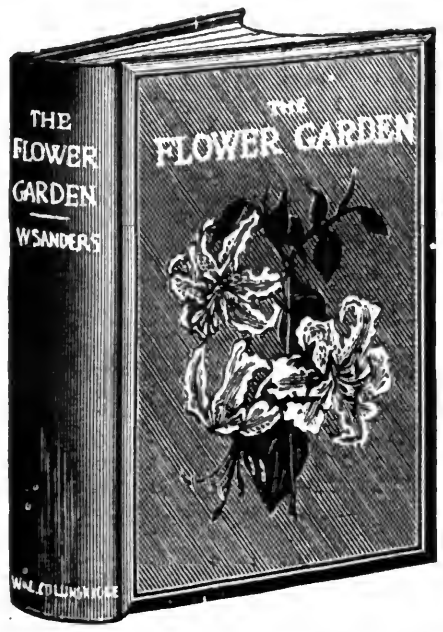

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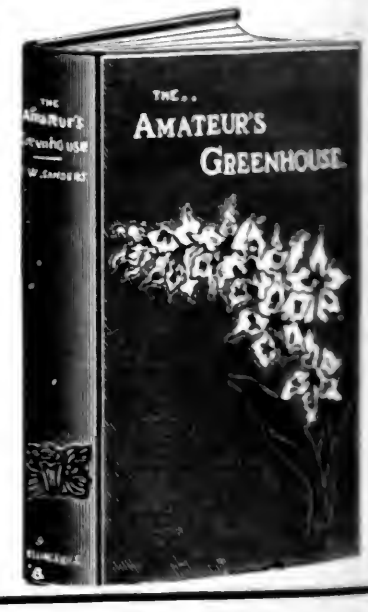

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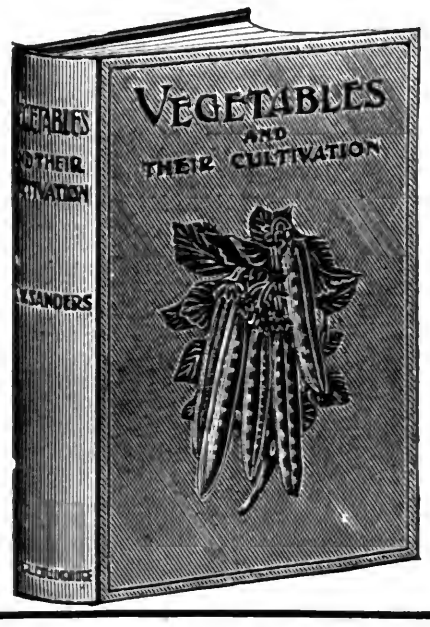

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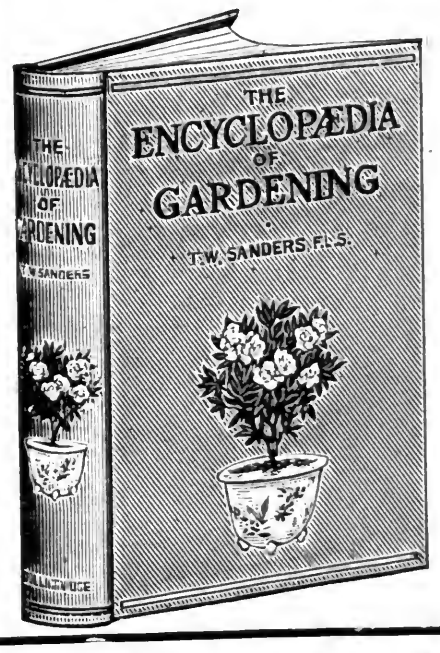

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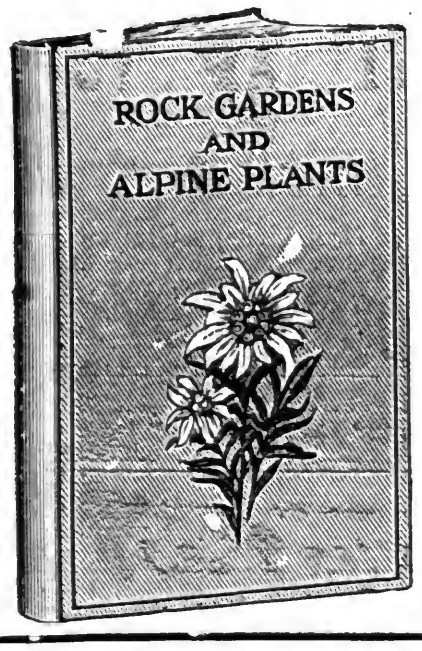

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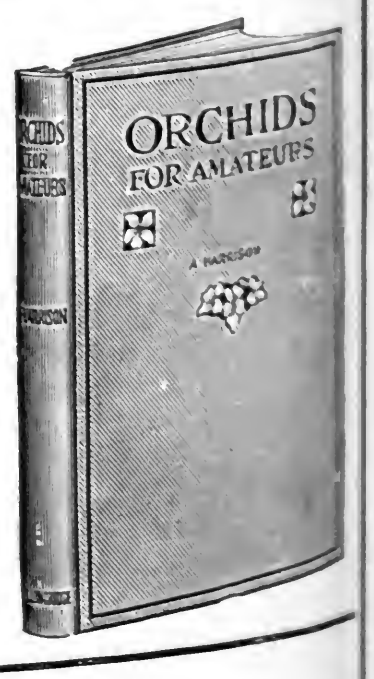

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THE DEVELOPMENT OF PLANT EMBRYOLOGY.

Miss Ethel Sargant, who presided over the botanical section of the British Association, devoted her presidential address to the developments of the study of the embryology of plants during the past forty-three years. After referring to the great loss that had been sustained by all who were interested in the study of natural history by the death of Lord Avebury, Miss Sargant said there was one more event of the past year that should be mentioned. A great innovation had been made by the Council of the British Association in choosing a woman as president of the botanical section, and she would not refrain from thanking them in the name of her sex because she happened to be the woman chosen. And, though she felt very keenly the honour they had done her as a botanist, yet that feeling was less prominent than gratitude for the generosity shown to all women in that choice. Speaking in their name, she might venture to say that the highest form of generosity was that which dared to do an act of justice in the face of custom and prejudice, as had been done by the Council in this case.

In proceeding to deal with the subject matter of her address, Miss Sargant urged that embryology should include every stage in the development of the plant from the first division of the fertilised egg-cell to maturity. They were forced to study the embryo because its characters were often of systematic importance. The structure of the embryo could not be completely grasped by reference to its past only. The observer must expect adaptive characters of three kinds: first, those imposed upon the embryo in the past by its development within the embryo-sac while it was still parasitic on the parent plant; secondly, certain adaptations to the process of germination itself; and, finally, characters which would be useful after germination. Before the utility of the characters included in this third class could be fully understood, the development of the seedling must be followed for some time. In short, the structure of the embryo was dependent on its future, as well as on its past; and a division of the subject which excluded that future was purely artificial.

In reviewing recent research in plant embryology, Miss Sargant dealt at some length with the evidence afforded by the embryos of plants of the remote ancestors from which they may be derived, and compared the results of this research with the evidence found in fossil remains.

To compare, she said, the structure of organisms with each other is, of course, the recognised method of comparative anatomy, of systematic botany, and, in fact, of all branches of morphology. The great difficulty in all such work is to distinguish between adaptive characters of comparatively recent origin and the characters inherited from remote ancestors. The history of systematic botany is very instructive in this respect. Systematists discovered by degrees, and by means of repeated failures, that characters could not be picked out as important for purposes of classification on à priori grounds. No character is of uniform importance throughout vascular plants, for example. On the contrary, it may be of great value in the classification of one group and worthless in another, though closely allied. Generations of botanists have laboured to build up the natural system in its present form, and it is constructed from the ruins of abandoned systems. We all agree now that the guiding principle in all morphology is that our classification should represent relationships founded on descent only. But the natural system was complete in its main features before that principle was understood. It represented the feeling for real affinity developed in botanists by the study of plant form, independently of any theory as to the cause of such affinity.

This, of course, is the commonplace of botanical history, but we do not always realise that all morphological work is done under similar conditions. The only valid appeal from criticism is to the future: a new method is approved by its results. Therefore, to embark on a new branch of morphology is a real adventure. The morphologist risks much time and much labour. He knows that the evidence which he proposes to gather painfully, to test critically, to present logically, may, after all, prove of little consequence, and he has to depend on his own instinct to lead him in the right course. In his degree he resembles Columbus, to whom a few sea-borne seeds and nuts meant a new continent. Hence the difficulty of criticising recent work. When once a conclusion of some importance has been formulated it may be tested by evidence drawn from other branches of research. Until that time criticism from outside is of little value. Those who are working at the subject must, of course, form their own opinion on its possibilities, for each has to decide for himself whether he shall continue on those lines, or endeavour to find others that he can follow with the probability of success.

The subject of seedling anatomy is no longer very new. It is too late now to debate on the à priori probability of ancestral characters surviving in the young seedling. No one doubts that a vascular stump sometimes persists after the organ it originally supplied has disappeared. Therefore there is no glaring improbability in the suggestion that the vascular skeleton of the young seedling may afford a clue to the structure of a remote ancestor. But this is only saying in other words that botanists are justified in giving the subject a fair trial. That trial is now proceeding. Some general conclusions have been formulated already, but they have not yet stood the test of time. In all probability the final judgment on this subject will be given by a future generation of botanists on evidence not as yet before us. In the meantime we shall all form our own opinion as to the prospects of the method. Speaking for herself, Miss Sargant thought that it has already thrown much light on embryological problems, and it is likely to throw more

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INFLUENCE OF GARDENING ON CHILDREN.

On page 613, issue August 16, you have a very interesting note on the above subject. For more than twenty years I have taken a great interest in school gardening, and, indeed, was one of the first to take an active part in the teaching of children on gardening subjects. It was my privilege to give a few brief lectures to children in a country school, and also to teach them how to grow crops in the garden of the schoolmaster who had a large one, and gave up a portion to the children. He also taught them during a given time once or twice each week, and, at the annual inspection, H.M. Inspector examined the children, and passed the school a "first" in gardening for the Government grant. I do not remember other schools at that time having received such a grant. Since then it has been a great pleasure to me to teach school children, in various centres, a little about gardening, and I can testify to the keen interest they take in the subject, and the refining influence it has on them in after years. I may add that the parents of these children were among the most successful exhibitors at the different local shows. The school referred to is that at Fawley, near Southampton, the schoolmaster being Mr. F. Cove.

GEO. GARNER.

Hydrangeas.—These may now be propagated by means of strong, well-matured cuttings. Place them singly in small pots in a sandy compost, and plunge the pots in a mild hotbed. When rooted gradually harden them off, eventually exposing them to full sunshine and plenty of air, so that they may become thoroughly ripened. By the end of autumn they must be induced to rest by gradually withholding water.—E. HARRISS.

SCHOOL GARDENING IN SCOTLAND.

There has just been brought to a close at Aberdeen very successful school gardening vacation classes for school teachers, under the auspices of the Aberdeen Centre for the Training of Teachers. They were taught at the experimental garden of Aberdeen University by Mr. Robert M. Clark, B.Sc., botanical department of the University, and Mr. Lewis Gavin, Drumwhindle Public School, Aberdeenshire. The splendid work accomplished by the last-named gentleman in connection with school gardening has made his name known throughout the length and breadth of Scotland. The classes were very largely attended by teachers from all parts of the northern half of Scotland, and were very fittingly brought to a close by a visit paid to Mr. Gavin's school garden at Drumwhindle, some twenty miles from Aberdeen, where a practical demonstration was given of how the work of laying out and conducting a school garden should be gone about. Accompanying the party were Mr. Frank Young, LL.D., Glasgow; H.M. Chief Inspector of Schools for Scotland, Mr. J. T. Ewen; H.M. Inspector of Schools for the Northern Division of Scotland, and Dr. Smith, director of studies at the Aberdeen Provincial Centre for the Training of Teachers. A description of a visit paid to Drumwhindle School Garden was given in THE GARDENERS' MAGAZINE of July 8, 1911.

After extending a hearty welcome to his visitors, Mr. Gavin at once proceeded to show the principal features of his now famous school garden. Commencing with the potato area, Mr. Gavin explained that of the fourteen varieties grown, it had been found that the order of merit so far had been as follows: First, Devanha. Three of equal merit which followed were Grampian, Fortyfold, and Reading Russet. Then came British Queen, Harbinger, Faithlie, and Balgownie. This season Snowdrop and Ashleaf made a poor show.

The experiments with regard to vegetables also evoked considerable interest, while the company derived much pleasure from an inspection of the flower beds and borders, Mr. Gavin emphasising that the æsthetic as well as the utilitarian aspect of school gardening ought to be considered, while in rural districts the farmers must be induced to co-operate with the school authorities on the subject. That could best be done by going in for a course of experiments in regard to farm plants.

The inspection proved a delightful experience, and the company then adjourned to the main schoolroom, where tea was served. After tea, Dr. Smith, Aberdeen, proposed a vote of thanks to Mr. Gavin for his kindness in arranging the inspection of his school garden. Dr. Smith then called upon Dr. Young, Chief Inspector, to address the gathering.

Dr. Young, after expressing his pleasure at being present, congratulated the members of the classes on school gardening upon the able direction given them by Mr. Clark and Mr. Gavin. They could not have had better guides. He had the utmost confidence when they were appointed that the work before them would be effectively performed, and especially had he been greatly impressed with the ability and skill Mr. Gavin had shown in carrying through the operations. It was good for them to be there, but instead of building tabernacles he hoped they would start to make gardens. Dr. Young also congratulated Mr. Clark and Mr. Gavin on having had such an industrious and interested class, as had been evident from the notebooks of the students he had examined, and these afforded good ground for them carrying their operations into the districts from which they came. The Education Department, continued Dr. Young, desired to encourage that practical work in their supplementary classes, and he thought they would aim at giving as liberal a grant as for experimental science work. They must, however, realise that the Department had the Treasury to consider.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

MASDEVALLIAS. — The large-flowering masdevallias, such as M. coccinea, M. ignea, M. Veitchi, and the thick-leaved section, to which M. gargantea and M. leontoglossa belong, may now be repotted if necessary. When plants have grown into large specimens it is undesirable to disturb them more frequently than is absolutely necessary, but all should be thoroughly examined at this season of the year. Decaying material and dead leaf bracts should be carefully removed, and where the potting compost has become sour on the surface, fresh material should be given. Plants that have become hollow in the centre from loss of leaves should be carefully turned out of their pots and divided, and after the potting compost has been removed the divided portions be placed in the centre of suitable-sized, well-drained pots or pans, arranging them to the best advantage. Good fibrous peat and chopped sphagnum, with plenty of finely broken crocks and sand intermixed, form the best compost for masdevallias. This should be pressed moderately firm about the base of the plants, and slightly mounded to the centre. By keeping the leaf base above the surface of the compost there is less danger from damping and decay during the winter months. If a house has a north aspect, little or no shading will be required after this note appears, but with brighter positions all freshly-potted plants must be shaded with discretion until the roots have established themselves in the new compost.

SEEDLING CYPRIPEDIUMS.—There are no plants that make greater progress than seedling cypripediums during the late summer and autumn months, and after a prolonged period of excessively dry atmosphere outside, the small seedlings seem to be making unusual progress since the moister and cooler conditions have set in. As the small plants produce roots when the first and second leaf is being made, it is desirable to transfer as many as possible into single or store pots as soon as the work in the cooler houses permits. The stronger plants should be removed to larger pots as their needs demand. It is not advisable to delay potting, as there is nothing retards young plants of cypripediums more than the want of rooting space. As larger pots are needed a coarser potting compost should be used. For all but the tessellated-leaved section some fibrous, turfy loam should be added, with ample sand to keep the compost porous. Close observation must be kept for thrips, and it is a good plan to spray with some safe insecticide about once a week at this season of the year.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

FUCHSIAS.—Few plants are more useful for the greenhouse or conservatory than the fuchsia. Whether grown as specimens, or trained under the roof of the greenhouse, or other low structure, they invariably attract much attention. Nowhere is the fuchsia seen to greater advantage than in the latter position, and when once established in a restricted border the plants will last for years with little trouble beyond pruning and cleaning annually. To obtain really fine examples for flowering next year, cuttings should be inserted in the autumn and grown on in a steady temperature through the winter, eventually planting them out in the spring. The cuttings which are most suitable are those which are free from flower buds, and have been fully exposed to light and air; and if they can be taken off with a heel of harder wood attached to them they will root more readily. Insert the cuttings near the sides of 5-inch pots, and plunge the pots in a hotbed of moderate warmth. Put them into small 60-size pots when sufficiently well rooted, and grow them near the glass in a temperature of 55 or 60 degrees. This treatment is also suitable for specimens.

MALMAISON CARNATIONS.—The layers which were rooted early in August, and were potted and placed closely together in cold frames, will now be freely established in their pots. They must be placed near to the glass in a light, airy structure, as the damp conditions of cold frames are favourable to the development of the rust. They must not, however, by any means be coddled, therefore keep the ventilators wide open at all times till there is danger of very severe frost. Supply water to all Malmaisons with great care, and keep the atmosphere as dry as possible. Do not shade them after this date, and do everything possible to encourage strong, sturdy growth.

PERPETUAL - FLOWERING CARNATIONS.—The most forward of these which are coming into flower may be given plenty of stimulants. Give them abundance of fresh air as long as the outside conditions will allow, and do not unduly crowd them, as this encourages attacks of rust, besides causing a general weakening of the entire stock. If strong, healthy grass is available a batch of cuttings may now be inserted.

BULBS.—As soon as the main batch of bulbs has arrived from the nurseryman lose no time in potting them up. The latest batches may be plunged in ashes in the open. Lilium Harrisi and Lilium longiflorum may be potted singly in 32-pots and placed closely together in cold frames. Cover the bulbs with fibre until growth has commenced; they may then be brought indoors and placed on a shelf near the glass.—E. HARRISS, Lockinge Park Gardens.

HARDY FRUITS.

BUSH APPLES.—The crops of fruit on most bush trees is heavy, and this, coupled with the long spell of drought, will make it necessary to give the trees every attention at the roots to assist the formation of strong, plump buds for the production of next season's crop. Our trees growing on a rather shallow soil have, during the past two months, received thorough soakings of liquid manure, and will be given at least two more. These remarks apply also to other kinds of fruit trees in need of help, especially cordon pears with roots near the surface. The practice of feeding early in autumn cannot, I think, be too strongly recommended where the soil is light and the crops heavy.

MORELLO CHERRIES.—Most of the fruits will by this date have been gathered; the crops at Wrotham have been very satisfactory, and the trees will now have all useless wood cut out. The roots will then be examined, and, if needed, a good top-dressing of suitable compost will be applied early. Morello cherries should be very thinly trained, so that light and air may reach all parts of the shoots and assist the wood to harden by the end of the season. Should the trees be infested with scale or other insect pests give them a thorough washing with a nicotine solution.

FRUIT GATHERING.—This highly important matter will need daily attention, and should have precedence of other work. Apples are best stored in a cool, sweet, well-ventilated room, and should be gathered when dry and not bruised. Cox's Orange Pippin and other very choice dessert varieties should be gathered as they come to maturity. All very late-keeping kinds should be allowed to remain on the trees until the seeds have changed to a dark brown colour; otherwise the fruits will not keep well. With us Bramley's Seedling, Lane's Prince Albert, Old Winter Nonsuch, and Gooseberry apple are the best for late supplies. The latter is an excellent old variety, but not so extensively called for as it was many years ago. Carefully look over the pear trees, and gather all the fruits as soon as they are fit; remove them with care, and place them carefully on the shelves where they are to remain until ripe. A few may be hastened along if required by placing the fruits in boxes and standing the boxes in a warm place.

GRAFTS.—If not already done, some of the largest shoots may be shortened a little, and others made secure to light canes fastened to the stems of the trees or branches on which they have been worked, to prevent injury by winds.—H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

CARDOONS.—During dry weather these plants will require a plentiful supply of moisture at the roots, clear water and liquid manure being alternately afforded, and the soil is thoroughly moistened to a good depth. Tying up the plants to blanch should be done on a dry day, and the operation should not be long delayed. Bind each plant with hay-bands, after drawing the leaves straight, and follow this by earthing up the stalks with fine soil.

FRENCH BEANS.—A good sowing may now be made in 9in. pots of Ne Plus Ultra, Masterpiece, or Osborne's Forcing, using a loamy soil and spent mushroom bed manure thoroughly well mixed. Sow half a dozen seeds in a pot. A cool pit or frame will suit the sowing for the present; if forced too hard in the early stage, growth will be thin and weak. Plants in bearing should have the usable pods removed as soon as they are fit to gather.

CELERY.—Where the rainfall has been slight, and not sufficient to reach the roots, good applications of water will be necessary, taking care not to wash the soil into the hearts of the plants. Celery intended for use late in October should be moulded up for the last time if the crop is sufficiently advanced, otherwise the operation should be deferred, as the close contact of the soil somewhat arrests growth. Continue to mould up the crops when the stalks are thoroughly dry and the heart-leaves are a few inches out of the soil.

TOMATOES.—Gather the fruits as soon as they are slightly coloured, and lay them thinly in a vinery to ripen. All surplus growth should be removed from the plants, and the fruits fully exposed to the sun. Tomatoes prepared for fruiting in the autumn should be placed under glass. For the next few weeks the air of the structure should be kept in a genial, buoyant state day and night. The amount of water afforded should be enough and no more; if the plants are carrying a good crop of fruits a moderate amount of feeding will be beneficial.

BEET.—Some roots of the early varieties may be taken up and stored, but the main lot need not be disturbed for a fortnight or three weeks. Where early frosts are to be expected the crops should be lifted in good time and pitted. By pitting the crop it is possible to have perfectly sound roots up to the end of next May. Preferably about a barrowload should go to each pit. When larger pits are formed, in taking out roots for immediate use, the air is admitted, and growth is induced. The roots should be laid in a circle, tops outwards, and built up conewise; cover with a good layer of bracken or clean straw litter, and on this add three or four inches of soil, made smooth and firm.

GENERAL WORK.—Take advantage of wet days to rope onions, sort over the early potatoes, tie mats, etc. Clear the ground of all kinds of rubbish, burning this on the smother fire. Early frosts may soon be expected, and precautions should be taken to afford protection as much as possible to such subjects as may require it.—W. MESSENGER, Woolverstone Park Gardens.

THE NATIONAL CHRYSANTHEMUM SOCIETY'S
EXHIBITION OF EARLY-FLOWERING

CHRYSANTHEMUMS

Will be held at the

CRYSTAL PALACE,

On OCTOBER 1st and 2nd, 1913.

Write for Schedule (post free) to the Secretary,
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NORTH OF ENGLAND HORTICULTURAL SOCIETY.

The AUTUMN SHOW will be held in the CORN EXCHANGE, LEEDS, on the 9th and 10th October, 1913.

Applications for space, etc., to be made to Mr. A. J. ALLSOP, Parks Superintendent, Roundhay, Leeds.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

National Rose Society.

The autumn exhibition of this society, held in the Royal Horticultural Hall, Westminster, on Thursday and Friday, September 11 and 12, was not such a good one as that held in 1912. There were plenty of flowers on view, but the quality was not so high as previously, owing largely to the dry weather experienced in so many districts. The flowers did not last well on this occasion, and those who visited the exhibition on the second day only were very disappointed with the flowers. The depredations of mildew were evident on all sides, and very few were the stands or vases where the foliage showed no signs of this troublesome fungoid pest.

The attendance was large on the first day, but, of course, the N.R.S. and R.H.S. ticket-holders formed the bulk of the crowd. On September 11, 84 persons paid 2s. 6d. at the doors; 79 paid 1s., and 162 paid 3d., the total receipts being £16 9s. 6d., as against £23 5s. on the first day in 1912. The experiment of charging 3d. for admission in the evening cannot be considered a success; indeed, not a few members expressed the view that a threepenny admission lowered the dignity of the society.

NEW ROSES.

Gold medals were awarded to the following roses: Edgar M. Burnett, from Messrs. S. McGredy and Son, Portadown; Red Letter Day and Edward Bohane, from Messrs. Alex. Dickson and Sons, Newtownards; Moonlight, from the Rev. J. H. Pemberton, Havering; and Muriel Dickson, from Messrs. Hugh Dickson, Lim., Belfast. For descriptions see "New Plants."

SILVER MEDAL ROSES.

The best blooms or silver medal roses in the trade section were all shown by Messrs. Alex. Dickson and Sons, Newtownards, which seems to us to be a record. The flowers were: H.P., Ben Cant; H.T., George Dickson; T., Alexander Hill Gray.

In the amateur section the best H.P. was Horace Vernet, shown by Rev. R. F. Cobbold, Stony Stratford; best H.T., Joseph Hill, shown by Mr. J. Turner, Gourock; best T., Henri Berger, from Mr. Burgess, Tonbridge.

NURSERYMEN.

No fewer than seven competitors came forward in the class for three dozen blooms, distinct, and the premier award fell to Messrs. Hugh Dickson, Lim., Belfast, for capital blooms of Dr. O'Donel Brown, Brilliant, Maman Cochet, Mdme. Eugene Verdier, Frau Karl Druschki, Marquis de Gany, Mdme. Joseph Combet, Ulrich Brunner, etc. Messrs. Alex. Dickson and Sons, Newtownards, secured second prize, and Messrs. J. Cocker and Sons, Aberdeen, were third.

Messrs. Alex. Dickson and Sons, Newtownards, led for seven baskets of roses, distinct varieties, with Dean Hole, George Dickson, Duchess of Wellington, Mrs. George Shawyer, Gladys Harkness, Mdme. Melanie Soupert, and Mrs. J. Laing. Mr. John Mattock, Headington, Oxford, second; and Messrs. S. McGredy and Sons, Portadown, led for a basket of twelve blooms of an exhibition rose with British Queen, followed by Messrs. Alex. Dickson and Sons with George Dickson.

The best collection of eighteen vases of perpetual-flowering, decorative roses was won by Mr. John Mattock, Headington, with a bright collection that included Peggy, Mrs. H. Stevens, Irish Glory, Irish Elegance, Lady Hillingdon, La Tosca, Dorothy Page Roberts, etc.; Mr. George Longley, Chapel Lane Nurseries, Rainham, second; and Mr. J. Pigg, Royston, Herts, third. For a set of nine varieties under similar conditions, Mr. Frank Woollard, Lewes Road, Brighton, came first, and his best vases were of Lyon, Ecarlate, La Tosca, Irish Elegance, and Jacques Vincent; Mr. Elisha Hicks, Hurst, Berks, second; and Mr. Chaplin, Joynings Nursery, Waltham Cross, third.

Another good class was the one for nine baskets of perpetual-flowering, decorative roses, and here Messrs. Hugh Dickson, Lim., Belfast, secured the first prize with fine baskets of blooms of Mrs. Thos. Paul, Miss Mona Hunting, C. K. Douglas, Gustave Regis, Irish Elegance, Golden Gem, Simplicity, H. E. Richardson, and Mrs. Jas. Williamson; Mr. J. Mattock a good second, with flowers that lasted well into the second day; and Mr. W. Chaplin, Waltham Cross, third. Five baskets of roses, distinct, baskets not to exceed fourteen inches in diameter, made a good class, as there were four entries. Messrs. Chaplin Brothers, Waltham Cross, led the way with Mdme. Abel Chatenay, Irish Elegance, General McArthur, Gustave Grunerwald, and Lady Ashtown. Messrs. Bide and Son, Farnham, came second, with flowers that lasted well during the second day; their Rayon d'Or, Irish Elegance, and Mrs. A. R. Goodwin were especially good; Mr. George Prince, Longworth, third.

Mr. J. Mattock was a good first for two dozen varieties of decorative roses, in vases of seven blooms each, and he showed Irish Elegance, Mrs. H. Stevens, Gottfried Keller, Lady Waterlow, A. R. Goodwin, and Rayon d'Or in fine form; Mr. J. Pigg, Royston, second; and Messrs. Paul and Son, Cheshunt, third. The best dozen varieties, similarly shown, were from Mr. E. Hicks, who staged his flowers admirably; Messrs. W. and J. Brown, Peterborough, second.

The gold medal for a group of roses, not exceeding 150 square feet, was won by Messrs. Paul and Son, Cheshunt, with a pleasing exhibit of pot plants of Sunburst, Mdme. J. Dupuy, etc., and round baskets of Frau Karl Druschki, Lady Hillingdon, Mdme. A. Chatenay, Mrs. S. G. Crawford, Hugh Dickson, etc. Palms and bamboos formed a pleasing background, and ferns were used as edging. Messrs. Hobbies, Lim., won second prize, and the chief attraction of their exhibit consisted of arches of the yellow Lady Hillingdon rose, set over vases and stands of numerous useful varieties.

The premier award and gold medal for a display of cut roses arranged on a table space of 18ft. by 6ft., rose foliage only allowed, was won by Messrs. W. and J. Brown, Peterborough, with an effective and bold exhibit of arches of bloom, backed by vases and stands of varying height set over small vases and baskets. Mdme. Constant Soupert, Mdme. Pol Varin-Bernier, General McArthur, Juliet, Duchess of Wellington, and Mrs. G. Sharman Crawford were a few outstanding varieties. The silver-gilt medal fell to Messrs. Dobbie and Co., Edinburgh, with bold stands of good blooms of Frau Karl Druschki, Mrs. Theodore Roosevelt, Mrs. J. Laing, Duchess of Wellington, Lyon, and Caroline Testout. For a similar display, but with only 60 sq. ft. of space allowed, Messrs. B. R. Cant and Sons, Colchester, won first prize with a very bright exhibit, in which Irish Elegance, Rayon d'Or, Lady Hillingdon, and Lyon were boldly staged. Messrs. G. Jackman and Son, Woking, second.

Mr. J. Mattock was the only competitor in the class for three dozen distinct varieties of roses, in vases, not fewer than three stems of each, and he put up a glorious exhibit of fine bunches of Mrs. J. Laing, A. R. Goodwin, Medea, Anna Olivier, Niphetos, Lady Waterlow, Marie Van Houtte, J. B. Clarke, Mdme. Abel Chatenay, Mdme. Hoste, etc. For eighteen varieties, similarly staged, Mr. H. Drew, Longworth, was given first prize, and was the only exhibitor.

AMATEURS.

Mr. E. C. Eversfield, Denne Park, Horsham, led for eighteen exhibition blooms with a fair set of popular varieties; Rev. J. H. Pemberton, Havering, second. Mr. J. B. Turner, Ardmay, Gourock, N.B., brought down a dozen fine blooms, and was the first of four competitors in the amateurs' section; Mr. G. Speight, Market Harborough, second, and Mr. G. Slaughter, Steyning, third.

Mr. E. B. Lehmann, Ifield Lodge, Crawley, scored for nine blooms distinct, followed by Mr. R. de V. Pryor, Preston, Hitchin, and Mr. H. Balfour, Headington Hill, Oxford. For nine tea and noisette roses, Mr. F. Slaughter was a good first, and he had a good Mrs. Foley Hobbs and Mrs. Edward Mawley; Mr. Speight second.

Mr. J. Walter Smith, Sparrow Herne Hall, Bushey, scored for seven vases of roses with a good set, in which Irish Beauty was prominent; Mr. E. C. Eversfield, Denne Park, Horsham, second. The Rev. J. H. Pemberton, Havering, scored for three baskets of roses with Danaë, Frau Karl Druschki, and Caroline Testout, and was also first for a dozen vases of as many varieties, not fewer than three stems of each; here he had his new varieties Danaë and Moonlight in fine condition, as well as The Lyon, Rayon d'Or, etc.; Mr. H. R. Darlington, Park House, Potter's Bar, second, and Mr. E. S. Gordon Clark, Fetcham Lodge, Leatherhead, third.

Mr. H. A. Gerhold, Penarth, led for six vases of decorative roses, and the Rev. J. H. Pemberton scored for a dozen bunches, again showing Moonlight, Danaë, Trier, Adrian Reverchon, etc. The chief prize-winners in other amateur classes were Captain R. Kilbie Stuart, East Woodhay, Newbury; Mr. M. S. David, Tonbridge; Rev. R. J. Cobbold, Beachampton Rectory, Stony Stratford; Mr. W. H. Dove, Newport, Isle of Wight; Mr. Burgess, Tonbridge; and Mr. P. T. Davis, Burgess Hill.

LADIES' SECTION.

In the class for a dinner-table decoration of roses there were thirteen competitors, and the first prize was awarded to Mrs. L. Courtney Page for a beautiful table of the pale yellow Melody; Irish Elegance, arranged in silver vases and bowls by Mrs. J. Walter Smith, Bushey Heath, secured second prize, and third prize fell to Mrs. George W. Cook, Radstock, Whetstone, for a handsome design in the variety Old Gold. Mrs. Colston Hall used the latter variety, and gained a fourth prize.

In the dinner table class, open only to lady trade members, Mrs. Arthur Bide, Highlands, Farnham, took first prize with a free use of the pretty variety Sunburst.

Mrs. Colston Hall, Virginia Lodge, Warminster, had the best bowl of roses, and

showed Irish Elegance and Killarney in pleasing combination; Miss Jessie Langton, Hendon, second, and Miss E. M. Davis, Burgess Hill, third; six entries. Mrs. Colston Hall was also first for a basket of roses, and here confined her attention to Irish Elegance; Mrs. H. A. Gerhold, Penarth, second, and Mrs. Chas. Williamson third; six entries.

For a low bowl of roses Mrs. Edgar Burnett, Holly Lodge, Southgate, scored with Lady Mary Ward; Mrs. L. Courtney Page, Enfield, second, and Mrs. Colston Hall, third.

Edinburgh Autumn Show.

The following portion of our report of the autumn exhibition held by the Royal Caledonian Horticultural Society at Edinburgh on the 10th and 11th inst., was unavoidably held over from our last issue:

BOUQUETS.

Baskets and vases of flowers were beautifully shown, much artistic skill being exercised in the arrangement, and tasteful blending of the colours of the flowers. A white hand bouquet, shown by Mr. John Hood, gardener to F. G. Bishop, Esq., Dalmore, Helensburgh, received first prize. White lapagerias, roses, Francoa, and double gypsophila were skilfully used to good effect. Mr. Wm. Holmes, Rockend, Helensburgh, was given second prize. Mr. A. Holmes, Bellevue Bank, Helensburgh, being third. Mr. John Hood again scored for a coloured bouquet, using statice with white flowers and broad lavender-tinted ribbon. Mr. W. Holmes and Mr. A. Holmes secured second and third positions. Mr. D. Kidd, gardener to Lord Elphinstone, Carberry Tower, received first prize for a beautiful basket of berries and foliage, and a similar award for a vase of foliage of hardy shrubs. Mr. J. McFadyen was placed second in the latter class, third prize going to Mr. Jas. Bethel. In another basket class Mr. Kidd was once more the winner, Mr. McFadyen following. Mr. Kidd was also successful with a decorated epergne, using one of the popular silvered rustic receptacles, which he filled with flesh-pink carnations, francoa, and trails of bronze selaginella. Mr. J. Bethel used gloriosas and anthuriums with croton leaves, making a bright and rich-looking arrangement, for which he received second prize. In the open classes for bouquets, Messrs. John Hood, A. Holmes, and Wm. Holmes pretty equally divided honours, and they showed some very good bouquets, using appropriate flowers and foliage with great taste.

NON-COMPETITIVE (SCOTTISH EXHIBITORS).

Messrs. Dobbie and Co., Edinburgh, made an immense display of sweet peas and collarette dahlias. The staging covered 400 superficial feet, and not a bad bunch of flowers was used, either among the sweet peas or the dahlias. It is impossible to name the best varieties staged, but we may mention, as quite new sweet peas, Ruby Palmer, a very brilliant red; Mrs. McIlwrick, a variety possessing two distinct shades of mauve, and King White. Messrs. Dobbie also put up a group of early-flowering chrysanthemums, occupying about 250 square feet. A big ground space was occupied by Messrs. Thyne and Son, Dundee, who made a feature of sweet peas in triangular groups on all sides of a central mound of larkspurs, lupins, clarkias, and other good annuals. Antirrhinums were also used to advantage in this exhibit.

Pot fruit trees were the main feature of Messrs. Storrie and Storrie's exhibit from Glencarse, Perthshire. Highly-coloured fruits of well-known apples hung thickly on shapely young trees, and the pears were equally good in size and quantity.

Messrs. John Forbes, Lim., Hawick, made a bold and striking display of pentstemons in the centre of a forty-foot stage, the side portions being well furnished with phloxes and a miscellaneous selection of hardy border flowers. We have so frequently quoted names of varieties shown by these well-known herbaceous phlox specialists, that we feel it is necessary to do no more than say the cream of the Hawick collections was represented in this capital exhibit.

Messrs. Cunningham, Fraser, and Co., Comely Bank Nurseries, Edinburgh, showed a collection of herbaceous and sub-shrubby plants, among which were some most interesting rarities. Mutisia decurrens showed its elegant, clear, orange gerbera-like flowers in a manner but rarely seen, and Sutherlandia frutescens, with its bladder-like seed vessels, was also well shown. Berberidopsis corallina and quite a number of very useful and uncommon subjects made up a grand exhibit. Messrs. J. Cocker and Sons, Aberdeen, showed herbaceous flowers of merit. Tritomas, crinums, phloxes, and montbretias played their part, and Artemisia lactiflora, Potentilla Gibson's Scarlet, and Sidalcea Rosy Gem were good things noted. Messrs. Cocker occupied another stand with an exhibit of roses, embracing many of our choicest hybrid teas and decorative garden roses. Messrs. Chas. Irvine and Sons, Jedburgh, put up phloxes and pentstemons, both of which they showed well. Messrs. Jas. Grieve and Sons, Redbraes Nursery, Edinburgh, staged early-flowering chrysanthemums, dahlias, and a few pentstemons. Phloxes were the outstaanding feature on the stand put up by Mr. D. McOmish, Crieff. The big, bold bunches of Sheriff Ivory, Iris, and other distinct coloured sorts were very effectively staged.

Mr. John Downie, Shandwick Place, Edinburgh, displayed tuberous begonias in good variety, together with collections of phloxes, pentstemons, and early chrysanthemums. At the back of the stand were tall bunches of eryngiums, aconitums, etc., and small ferns and grasses were judiciously used among the begonias. Messrs. R. B. Laird and Sons, Lim., Frederick Street, Edinburgh, exhibited a group of conifers, which included splendidly grown specimens of Retinospora obtusa aurea, Abies nigra, Pinus cembra, and Cupressus Lawsoniana argentea picta, besides good cedars and thujas, etc. The group was brightened by the introduction of herbaceous flowers and roses. Mr. D. W. Thomson, George Street, Edinburgh, showed a batch of the brilliant Pentstemon Mrs. F. Fulford, which we have before mentioned as one of the most striking of pentstemons. The firm's East Lothian stocks were also well shown in shades of purple, crimson, pink, and white. Messrs. Gemmell Bros., Oxenford Nurseries, Kilwinning, Ayrshire, exhibited pentstemons. Although shown as unnamed seedlings, the quality of the flowers, length of spike, and clearness of colour was of a high standard. Mr. John Johnstone, Law, by Carluke, staged pansies and violas, the flowers being extremely fine. Messrs. Matthew Campbell and Son, High Blantyre, made a brave show of dahlias and border carnations, the latter being quite good for so late a date, whilst the cactus dahlias were a grand lot of flowers.

NON-COMPETITIVE (ENGLISH EXHIBITORS).

More than ordinary complimentary adjectives would be necessary to do justice to the very creditable exhibit of choice stove and greenhouse plants brought from Chelsea by Messrs. Jas. Veitch and Sons, Lim. Of the arrangement we need make no further remark than that every plant seemed to show itself to best advantage, and at the same time assist its neighbours by throwing their distinctive characteristics into relief; but mention may well be made of a few outstanding plants that played an important part in the group. Nepenthes in several choice varieties were mounted on tall columns overreaching the general level, and in the background were tall crotons, Alocasia Watsoniana, and other species of this handsome genus, together with big plants of davallias, dracænas, etc.; while in the groundwork were marantas, dieffenbachias, ferns, and crotons, with groups of orchids, cannas, and nerines.

Quite characteristic of the firm's best efforts was the splendid display of vegetables and flowers arranged by Messrs. Sutton and Sons, Reading. It goes without saying that everything was put up in a manner that could not be improved upon, and although everything shown was extremely good, there were examples of peas, onions, and melons that stood conspicuously in the foreground, and immediately claimed special notice. The Superlative, Universal, and Triumph melons were good, well-ripened fruits, and the floral decorations were charming. An extensive array of dahlias and fine sweet peas shown by Messrs. Geo. Fairbairn and Sons, English Street, Carlisle, were very attractive; tall vases were filled with clean flowers of good varieties, and the colours of the flowers were well set off by the use of trails of smilax. Messrs. G. Gibson and Co., Leeming Bar, Bedale, staged great masses of border perennials, among which hybrid verbascums, Lilium tigrinum, gladioli, and helianthuses were prominent. Phloxes, pyrethrums, montbretias, and tritomas were other subjects used in the exhibit.

A great pyramid of charming border flowers put up by Messrs. Harkness and Sons, Bedale, contained many things worthy of note. Hybrid verbascums were conspicuous and very fine, gladioli were rich in colour, and a great sheaf of rosy lupins, which crowned the group, showed up to advantage above mauve daisies and golden helianthuses. Orchids from Messrs. F. Sander and Son, St. Albans, included such things as Catasetum macrocarpum, Brassia Lewisi, Bulbophyllum grandiflorum, and a number of Lælio-cattleyas and choice cypripediums. Messrs. Pipers, Bayswater, London, were extensive exhibitors of choice herbaceous flowers, and of pæony-flowered dahlias. The double tiger lily was well shown, and Rudbeckia fulgida, Romneya Coulteri, and a salmon-coloured seedling phlox were other good bunches.

A group of begonias brought up from Feltham, Middlesex, by Messrs. T. S. Ware, Lim., contained some splendidly-flowered plants of excellent varieties. Considering the lateness of the season, the vigour of the plants and size of the flowers was splendid, and the sturdy, erect habit of the plants was commendable. Mr. A. F. Dutton, Iver, Bucks, showed a good group of perpetual carnations, Mrs. A. F. Dutton, a large quantity of the useful rosy-salmon flower being tastefully arranged in artistic baskets. Messrs. Young and Co., Hatherley, Cheltenham, were also exhibitors of carnations, their varieties including some of the best in commerce, arranged, as ever, in a very pleasing manner. They also had on view a remarkably vigorous plant of a perpetual carnation, which has been growing and flowering out of doors in a Scottish garden.

Messrs. Jones, of Kilkenny, exhibited gladioli, which ranged in colour from white to almost black, with all gradations of rose and salmon, scarlet, crimson, and mauve. Mr. H. N. Ellison, West Bromwich, showed greenhouse ferns in great variety. Nephrolepis Duffi was distinct and charming, and another good fern shown was Nephrolepis amabilis, with strap-shaped leaves, beautifully crested from end to end. Big chrysanthemums were staged by Messrs. W. Artindale and Son, Sheffield, who also had dahlias, phloxes, and other hardy flowers. Phlox Comtesse de Jarnac had almost entirely cream-coloured foliage with pale mauve-tinted flowers. Messrs. Wm. Cutbush and Sons, Highgate Nurseries, London, showed a bold group of herbaceous and bulbous flowers, and also some good perpetual-flowering carnations. Liliums and gladioli were prominently displayed among heleniums, montbretias, early asters, and gaillardias.

Messrs. W. Wells and Sons, Lim., Merstham, Surrey, had good perpetual carnations as well as chrysanthemums and phloxes, all being good, well-grown flowers of up-to-date varieties.

Mr. Amos Perry, Enfield, Middlesex, showed a great mass of his improved achillea named Perry's White, and also Helenium autumnale rubrum, and another excellent variety named Bronze Queen, with Spiræa filipendula grandiflora, a much-improved form of a useful plant.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, September 9.

Present: E. A. Bowles, Esq., M.A., in the chair; Messrs. R. H. Curtis, J. Fraser, W. Hales, Arthur W. Hill, Jas. O'Brien, J. W. Odell, Gurney Wilson, and W. C. Worsdell.

ADAGLOSSUM x JUNO. — Mr. O'Brien showed a new bigeneric hybrid, and a Certificate of Appreciation to the exhibitor of Adaglossum x Juno (Ada aurantiaca x Odontoglossum Edwardi) was unanimously recommended.

ABNORMAL GLOXINIA.—Mr. O'Brien showed, for Mrs. Myles Kennedy, an abnormal form of gloxinia (referred to Mr. Odell for report).

ALBINO WILD FLOWERS.—Mr. Dipnall, of Hadleigh, Suffolk, sent an albino form of Carduus nutans, with some notes on colour variations, and added that he had recently discovered white forms of Vicia lathyroides, Prunella vulgaris, Geranium lucidum, and G. dissectum. These had occurred within a quite restricted area, and this suggested the possibility that soil had something to do with the variation. He had also found a bronzy-purple Papaver Rhœas, pale pink Centaurea nigra, and clear pink Myosotis palustris.

ASTERS FAILING.—Lady Howick sent asters with decayed shoots. The committee recommended the splitting up of the old plants as the base of stems sent were hard and had lost vitality.

JAPANESE GRASSHOPPERS.—Mr. Odell showed for Mr. Goodacre, of Moulton Paddocks, a number of the Japanese grasshoppers (Diestrammena marmorata), and observed that the insects had established themselves in the large conservatory at Moulton, and had also invaded the mansion. The problem now was to exterminate them. They are large handsome insects in the larvæ stage. When fully matured they will be very formidable-looking creatures.

NARCISSUS BULBS DISEASED.—The Rev. J. Jacob sent two parcels of narcissi. These were referred to Kew for investigation.

LIME TREE MITE.—A parcel containing the lime tree mite was sent to Mr. Michael for identification.

KEFERSTEINIA LAMINATA. — Kefersteinia is a section of zygopetalum, in the form of the flowers nearest to promenæa, and in habit of growth (which is leafy, the pseudo-bulbs being rudimentary) to Warscewiczella. The species are chiefly Colombian, and there are some ten known species of which K. graminea is the best known. K. laminata has white flowers with rose markings on the fringed lip. From Messrs. Armstrong and Brown, Tunbridge Wells.

Scottish Horticultural Association.

The monthly meeting of this association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on the 2nd inst. Mr. J. Phillips, the senior vice-president, was in the chair, and there was an attendance of ninety members.

Mr. George Stuart, Lecturer in Horticulture at the Edinburgh and East of Scotland College of Agriculture, gave a lecture and demonstration on "Fruit and Vegetable Bottling." The preserving of fresh fruit and vegetables by means of sterilisation was, Mr. Stuart said, comparatively little known in Scotland, and our supply of these came chiefly from the Continent and America. If the small grower would realise how simple the process was, he could add to his income by adopting it, and could obtain at a very small cost the necessary appliances, consisting of bottles, steriliser (which might be a pot or other suitable vessel large enough to hold sufficient water to cover the bottles up to the necks), and an ordinary floating dairy thermometer. The most serviceable bottle was the quart size, which held about 2lbs. of fruit. The essential thing in bottling was that when the bottles were filled they were perfectly air-tight. By raising the temperature of the water in the steriliser gradually, and keeping it at 150 degrees (Fahr.) for a sufficient time, all the organisms capable of producing fermentation were destroyed, the air was drawn out, and when the bottles cooled the lids, which rested on rubber rings, were quite air-tight, and the contents would keep in perfect condition for any length of time. On the motion of Mr. Fife, Mr. Stuart received a very cordial vote of thanks.

The exhibits were: New collarette dahlias, exhibited by Messrs. Dobbie and Co., Edinburgh (varieties, Eddystone, Tuscar, and Dungeness, awarded First-class Certificates); new seedling geranium, Little Nan, exhibited by Mr. Wm. Cunningham, Bella Vista, Duddingston; spikes of Gilia coronopifolia, exhibited by Mr. Alex. Porter, Davidsons Mains (awarded a Cultural Certificate); decorative rose, Leone Lamesche, exhibited by Mr. J. Alexander, Niddrie, Midlothian; spikes of Brugmansia Wrighti and Eucomis punctata, exhibited by Mr. Alex. Johnstone, Hay Lodge, Edinburgh; autumn-sown Trebons onions, exhibited by Mr. C. Comfort, Broomfeld, Davidsons Mains (awarded a Cultural Certificate).

At the meeting on October 7, Mr. D. Armstrong, Kirknewton House Gardens, Midlothian, will read a paper on Salvia splendens.

United Horticultural Benefit and Provident Society.

The monthly meeting of this society was held at the Royal Horticultural Hall on Monvice-chairman, Mr. J. Harrison Dick, who the chair. Four new members were elected. The sick pay for the month on the ordinary side was £63 13s. 4d., and on the State side £39 0s. 8d., and the maternity claims £12. Two members were allowed to withdraw double the amount of interest—£4 and £3 17s. 4d. respectively—while one member over 70 years of age withdrew from his deposit account £8 11s. 6d. The sum of £14 19s. 11d. standing to the credit of a deceased member was passed for payment. One member was granted 5s. per week for life from the Distress Fund. The committee are taking action to bring the Amendments of the National Insurance Act into force, so that members over the age of 50 and 60 years will receive 10s. per week benefit instead of 7s. and 6s. respectively, and members over 65 years will receive medical benefits after January 12, 1914.

The committee regret the loss of their vice-chairman, Mr. J. Harrison Dick, who is held in high esteem by all the members of the committee, as he is shortly leaving this country. On behalf of the committee the Secretary (Mr. A. C. Hill) presented him with an illuminated address, accompanied by a gold fountain pen. The committee one and all wishing Mr. Dick God speed and good luck. Mr. Harrison Dick, replying, said he was surprised to receive such a valuable gift, and should cherish the same as long as he lived, and hand it down to the future generations.

French Chrysanthemum Shows, 1913.

The following are the dates and places where chrysanthemum shows will be held in France during the coming season: L'Association Française des Amateurs et Jardiniers Chrysanthémistes, Paris, October 14 to 19; National Horticultural Society of France, Paris, October 24 to November 2; Horticultural Society of the Vosges, Epinal, November 8 to 15; Horticultural Society of the Ain, Bourg, November 8 and 9; Horticultural Society of the Gironde, Bordeaux, November 5 to 10; French N.C.S. Comité régional, Fontainebleau, October 25 to 27; Horticultural Society of the Basses-Pyrénées, Pau, November 6 to 10; Horticultural Society of Havre, November 8 to 10. At Caen a show will be held early in November, date not yet fixed.

General Bulb Growers' Society of Haarlem.

The several Floral Committees of this society have made the following awards at their recent meetings: First-class Certificate.—To Gladioli Liebesfeurer, dark scarlet; Pink Perfection, dark rosa with white stripe, feathered dark rose, shaded lilac; Electra, salmon-red, with white spot; Prince of Wales, apricot, the lower petal yellow, feathered red, raised from seeds; Badenia, clear lilac-blue, and dark blue spot; and Montbretia Star of the East, flowers very large, stellate, colour orange-yellow, in the centre sulphur-yellow, the flower buds dark orange-red, raised in England.

Award of Merit.—To Gladioli Lemoinei Incontestable, pure white, in the centre spotted orange and carmine, originated from Guerasey; Queen of the Pinks, rose-tinted, shaded lilac, with small carmine spot, raised from seeds; Fermillon Brillant, scarlet red, with small yellow stripe; Mrs. Frank Pendleton, jun., clear salmon rose, with purple spot; Adeline, clear lilac-violet, the lower petal dark violet, feathered white; Mahony, auburn, feathered dark brown; Rosa Lindt, lilac-rose, with large white spot in the centre, striped dark purple; Goliath, wine-red and lilac; Clear Eye, carmine red, centre white, striped purple, originated in England; Sulphur Perfection, fine clear yellow, with coppery-yellow shade on the lower petal; Alice Roosevelt, rose-white; Yellow Hammer, sulphur-yellow, raised from seeds; Fritjof, clear red, shaded scarlet, and a small yellow spot; Lucifer, carmine-red, lower petals spotted dark carmine and white; Cattleya, soft lilac-rose, the lower petal spotted white; and White Giant, pure white, with a little carmine in the centre; Montbretia Frans Hals, yellow spotted brown, raised from seeds; and Lord Nelson, orange-red, shaded brown, in the centre golden-yellow, obtained in England.

Wellcome Horticultural Society.

The second show this year of the Wellcome Horticultural Society was opened on September 6, at the Wellcome Club and Institute at Dartford. The silver cup presented to the society by Mr. Henry S. Wellcome as a trophy to be awarded annually, and held for a year by the member scoring the highest aggregate of points in a season, was won by Mr. John T. Blackman, and was duly handed to him by Mr. G. E. Pearson, the general manager of Messrs. Burroughs, Wellcome and Co. Prizes were also awarded to the winners of the various classes. There were over 180 entries.

East Anglian Horticultural Club.

There was a good gathering of members at the September meeting, to hear a paper by Mr. A. J. Oakley, of Hobbies, Lim., Dereham, upon "Hardy and Half-hardy Annuals." After an explanation of the definition of the terms, Mr. Oakley gave a lengthy list of kinds, and their suitability for various positions. He also dwelt upon their usefulness in the production of colour scheme effects, and the way these plants have come to the fore in recent years for the embellishment of glasshouses during the spring months. The subject brought out a very animated discussion.

There was a good general exhibition of fruits and vegetables, and a special display of dahlias from Daniels Bros., Lim., Norwich.

Chironia ixifera. — Some good examples of this shrubby gentianwort, which was recently referred to in THE GARDENERS' MAGAZINE, were shown at the Horticultural Hall on August 26. It is a native of South Africa, and, under cultivation, forms a rather upright bushy specimen, clothed with narrow glaucous green leaves. The lilac-pink flowers are very freely borne. —W. T.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of THE GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

INTERNATIONAL EXHIBITION AT NEW YORK.—J. W., Liverpool: Will you please give me the name and address of the secretary of the International Flower Show to be held in New York next year?—The secretary is Mr. John Young, 54, West 28th Street, New York.

HOUSING PERPETUAL CARNATIONS.—M. E., Halstead: I have some good plants of perpetual carnations, in pots, plunged in ashes out of doors, but sheltered from rain by means of glass lights supported on a wooden frame. They have made splendid growth lately, and a friend suggests I should house them at once. My contention is that unless severe weather sets in the plants will be better out of doors than in the greenhouse. Kindly give me your opinion on this matter.—The plants should be housed without delay; indeed, we consider perpetual carnations grown out of doors during the summer should be housed directly September commences. The cool conditions of autumn induce free growth in the outdoor plants, but such growth is very susceptible to attacks from rust, and the longer the plants remain unhoused the greater is the danger in this direction. Under glass drier atmospheric conditions can be provided, and a firmer growth secured such as will withstand disease and flower well. Nor is anything gained, provided the plants have been properly stopped, by attempting to retard the period of flowering by means of open air treatment.

GRASS OF PARNASSUS.—S. R., Torrington: I am anxious to plant some Grass of Parnassus in my little bog garden, but am not certain as to the best time to plant. I have already marked some good specimens not far from my home, where they grow well in a wild marshy spot, but I do not wish to move them until the proper time arrives. Your help will be greatly appreciated.—You may move and transplant the specimens of Parnassia palustris at almost any time from now until the end of October, but if circumstances prevent planting being done by the latter date, it will be well to wait until the early spring, when signs of new growth appear.

PLANTING HARDY CYCLAMENS.—C. C. H., Keswick: The autumn-flowering hardy cyclamens have greatly interested me during the last week or so, and I am wishful to plant some corms. It seems to me that I have an ideal position on a warm, sheltered bank, thinly shaded by trees, where the soil is chiefly vegetable matter overlying chalk. Kindly advise me as to the probable suitability of such a site, and also the best time to plant.—In such a warm, well-drained position as that indicated the hardy cyclamen should prove successful. Planting must be done when the corms are at rest, that is, during June or July for the autumn-flowering kinds, and October or November for the spring-flowering kinds. There seems no good reason why you should not try both sections, unless you are absent from home during the springtime. Shallow planting is desirable, and the corms should be so placed that the top of each is level with the surface of the soil. If it is easily procurable add some rich sandy loam to the staple soil. Cyclamen africanum, C. cilicicum, C. græcum, C. neapolitanum, and C. europæum, flower variously from late summer to late autumn. C. Coum often flowers quite in the winter, and continues into spring. C. repandum or C. bederæfolium, C. libanoticum, C. ibericum, and C. Atkinsi flower in the spring. These will provide sufficient for a start, and then a few others may be added if these succeed.

FORMALDEHYDE FOR BLACK SPOT ON ROSES.—W. G. F., Wimborne: My employer has purchased a bottle of formic aldehyde solution for spraying roses suffering from Black Spot, but no directions were sent with the bottle of solution, indicating at what strength it should be used, so I should be grateful if you can inform me how this fungicide should be used.—We expect the fungicide you refer to is Formaldehyde, which has been found efficacious in the treatment of black spot on roses, at the rate of one tablespoonful to a gallon of soft water for summer spraying, and two tablespoonsful to a gallon of water for winter spraying. Formaldehyde is about a 40 per cent. solution of formic aldehyde, so, if it is the latter you have, you must gauge accordingly. A tablespoonful of commercial formaldehyde (40 per cent.) in a gallon of water is a one-eighth per cent. solution, and two table spoonsful is a one-fourth per cent. solution. It will be better to obtain commercial formaldehyde and spray the roses and surrounding ground with a solution as suggested, every week or ten days, using the stronger (two tablespoonsful) solution, after leaf fall, at mid-winter and in February.

FALLING APPLES.—H. P., Yeovil: I am in some trouble because such a large number of our apples are falling from the trees. This is not due to wind or to insect pests, as the apples are perfectly sound and the weather has been capital. Can you suggest a reason for Wellington, Lane's Prince Albert, and other late apples falling in such numbers at this early date.—We think that dry weather is the cause of premature falling of apples; we have noticed that where watering and mulching have been carried out in gardens, the crops are good and few fruits have fallen; but in the case of orchard trees, or those in gardens which have not been watered, the fruits have fallen in large numbers. Watering now will assist the trees, but is not likely to be of much service in saving the present crop of fruit.

NAMES OF PLANTS.

W. S., Croydon.—Bignonia radicans.

L. L., Brighton. — 1, Trachelium cæruleum; 2, Hibiscus syriacus.

S. R., Corbridge.—1, Eupatorium purpureum; 2, Berberis stenophylla; 3, Rudbeckia amplexicaule; 4, Othonnopsis cheirifolia.

T. P. O., Whitehaven.—1, Aster acris; 2, Achillea filipendula; 3, Sedum spectabile; 4, Hypericum Moserianum; 5, Dabœcia polifolia.

M. M. G., Stafford.—1, Artemesia annua; 2, Rudbeckia speciosa: 3, Anemone vitifolia; 4, Quercus Cerris; 5, Prunus Pissardi; 6, Senecio Clivorum.

O., Guildford.—Oncidium microchilum, a variable species, and somewhat rare in cultivation. It was discovered in 1838 by Mr. G. Ure Skinner, in Guatemala, and flowered for the first time in this country, at Manchester, in 1841. It is not a particularly attractive species, and the form you have is especially dull.

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, September 22.—National Chrysanthemum Society; Floral Committee at Essex Hall, Strand, at 3 o'clock; Executive Committee at 7 o'clock.

TUESDAY, September 23.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Autumn Border Plants" by Mr. Bernard Crisp. The Dahlia Competition and Vegetable Show will be held on this date.

WEDNESDAY, September 24.—Kendal Flower Show. Kendal Fruit and Potato Congress; two days.

THURSDAY, September 25.—Royal Horticultural Society's Exhibition of British-grown Fruits; two days.

FRIDAY, September 26.—Annual Conference of Affiliated Societies at the Royal Horticultural Hall at 3 p.m.

SATURDAY, September 27.—Longformains Horticultural Society.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. SEPTEMBER 7 TO SEPTEMBER 13.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Sept. 7—Sunday	5 36	59	55	66	51
,, 8—Monday	9 6	60	55	67	50
,, 9—Tuesday.....	1 12	61	57	63	44
,, 10—Wednesday..	8 18	53	51	63	40
,, 11—Thursday....	6 0	57	55	70	48
,, 12—Friday.....	2 54	60	59	67	56
,, 13—Saturday.....	9 12	63	60	68	49
	(total)				
Means ..	42 18	59	56	66	48

DATE. 1913. SEPTEMBER 7 TO SEPTEMBER 13.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Sept. 7—Sunday	—	59	60	59	60
,, 8—Monday	—	59	59	58	59
,, 9—Tuesday.....	0·15	58	59	58	59
,, 10—Wednesday..	—	57	59	59	59
,, 11—Thursday....	—	58	59	58	61
,, 12—Friday.....	—	60	59	58	58
,, 13—Saturday	0·17	59	59	58	63
	(total)				
Means ...	0·32	58	59	58	60

CATALOGUES RECEIVED.

DICKSONS, CHESTER.—A comprehensive list of bulbs, retarded plants, sundries, and seeds for autumn sowing.

ROBERT VEITCH AND SON, EXETER.—Special attention is given to the best daffodils and to selections of bulbs in this list. The new hybrid cineolarias are also described.

THOS. S. WARE, LIM., FELTHAM.—Two handy and well-arranged catalogues; one devoted to bulbs and various spring-flowering plants, and the other to roses, fruit trees, and flowering shrubs and hardy plants.

BEES, LIM., LIVERPOOL.—A gorgeous catalogue the covers, inside and out, carrying coloured illustrations of scillas, tulips, hyacinths, iris, and gladioli, the intervening pages are packed with information concerning bulbs.

H. CANNELL AND SONS, EYNSFORD.—The first catalogue from this old firm, since taking up its headquarters at Eynsford, is devoted to fruit trees, ornamental trees and shrubs, roses, hardy herbaceous plants, seeds for autumn sowing, and zonal pelargoniums.

JAMES CARTER AND CO., RAYNES PARK S.W.—One of the most interesting bulb catalogues we have ever seen. On the covers Clara Butt rose is depicted in colour, and inside are coloured portraits of Arum Mrs. Roosevelt, and Daffodils Emperor, Empress, Alfred, Vanilla, Victoria, and the brilliant new Dazzler. The catalogue is packed with excellent illustrations.

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Exhibiting Vegetables.

Nearly two months will elapse before those who take an active part in the competitions for the many valuable prizes that are annually offered for vegetables at horticultural exhibitions will be in a position to store for a time their boxes and other appliances, and prepare a full statement of their gains and losses for the year. The autumn exhibitions have yet to be held, and, happily, at the majority of them vegetables receive liberal encouragement, and usually the contests are of widespread interest. The exhibition season, so far as the cultivators of vegetables are concerned, has advanced far enough to enable exhibitors to estimate with some degree of accuracy the results of their efforts, and for horticulturists who do not exhibit to formulate an opinion on the progress or otherwise that has been made in the presentation of vegetables to public notice. We need not refer at any length to the historical aspects of exhibiting vegetables, for the main facts are familiar to those who have paid some considerable share of their attention to the subjects. It will indeed be sufficient to remind our readers that thirty years or so ago vegetables were shown in such manner that they were invariably kept quite apart from the plants, flowers, and fruit, and that the tent devoted to them was a place to be avoided. Times wellnigh out of number have we been at exhibitions so well attended that every tent except that given over to the products of the kitchen garden was crowded to excess, while in the latter could be seen only the policeman or steward in charge, and a few exhibitors engaged, it may be, in counting up their gains, or enquiring why their products were placed so low down on the lists of awards. All this has happily changed, and instead of the vegetables being shunned by visitors, they prove so attractive that in many cases there is considerable difficulty in closely approaching the winning collections in the chief classes. In the olden days, if those of thirty years ago can be so described, cabbages, cauliflowers, and similar kinds were shown with the whole of their outer leaves, and of so large a size as to suggest a greater degree of suitability as food for cattle than for the table. Equally unsatisfactory was the manner in which potatoes, carrots, and other roots were presented to the notice of the judges, for they were usually staged with the whole of their leaves and a considerable amount of soil. By the time exhibitors had received lessons of considerable practical importance on the value of cleanliness and neatness, they had, by the manner in which the awards were frequently made, been encouraged to regard size as of primary importance. Hence it was that for a time products of a size wholly unsuitable for the table were generally to be seen at the exhibitions. This state of things has happily passed away, and those who have had some experience in exhibiting, or are conversant with the practice of exhibitors, are careful to select specimens of medium size, and to present them in a neat and cleanly state. Not only is this done by those who have charge of great gardens, but by cottagers, who for the most part are now well acquainted with the points that contribute to success in a close contest. No longer can it be said that exhibitions encourage the production of vegetables unfitted for the table, except in those instances, and they are few, in which the judges are not fully acquainted with the more advanced views that obtain with regard to the points of merit of the several kinds. The exhibiting of vegetables has not only contributed to the improvement in the methods of culture and the manner of showing, but it has brought into prominence the utility of some that are not generally known. While such kinds as beans, cabbages, cauliflowers, carrots, peas, and potatoes, and the various winter greens are essential in every household, the supplies should not, as is so generally the case, be wholly confined to them. Some education of the palate may be necessary to the full appreciation of aubergines, celeriac, salsafy, and scorzonera, but when this has been obtained, occasional supplies of these kinds will be highly appreciated for the agreeable change they afford. For this reason we were pleased to find that the Royal Horticultural Society has recognised the importance of increased attention being given to certain kinds not now in general cultivation, by providing a special class at their exhibition held during the past week. It was satisfactory also to see that the contributions to the class were numerous, and the products of much merit. The lesser-known kinds were also well represented in the remarkably fine gold medal exhibit arranged by Messrs. Sutton and Sons, which contributed not a little to the attractions of the exhibition. With reference to this gathering it was unfortunate that the two exhibitors in one of the classes were disqualified. As will be seen by our report on another page, a class was provided for nine distinct kinds, the object thereof being to illustrate vegetables that are in daily use, and possess the qualities most valued by cooks for table use. The kinds shown were such as are in constant request in the kitchen, and the specimens were of a quite moderate size. They were, indeed, similar to those in the winning collections in the class on previous occasions, and it was generally felt that if it was intended to adopt a different method of judging, the conditions governing the competition should have been so worded as to make this quite clear.

MR. REGINALD CORY.

Mr. Reginald Cory, whose portrait we have the pleasure of giving, is a striking example of the immense influence for good that an amateur horticulturist,

untrammelled by fashions, and possessing taste and judgment of a high order, is able to exercise on the gardening art. While taking an active interest in all the chief aspects of the garden, Mr. Cory's name is at the present time specially prominent for the splendid work he has accomplished in demonstrating the great value of the dahlia, in its multiplicity of forms and diversity of colouring, for beautifying the garden from the month of July onwards. The importance of this demonstration cannot well be overestimated, for times wellnigh out of number we have within recent years been told that dahlias are of but little utility in contributing to the charms of the garden, and, while they may be grown by cottagers and small amateurs, they are quite unfitted for gardens of the highest class. The expression of such views have clearly indicated the prevalence of a want of knowledge of the characteristics of the several sections of dahlias, or to a prejudice largely due to the cultivation of varieties for garden decoration that are suitable only for the exhibition stage. Possibly recognising this fact, Mr. Cory set himself the somewhat formidable task of proving to demonstration that not only may a goodly number of varieties be successfully employed in the production of colour effects, but are well suited to gardens of the highest class, such as those which form so glorious a setting to the stately mansion of Duffryn. For a considerable period dahlias have been grown in these gardens largely and with much success, and this year Mr. Cory decided to conduct a trial of garden dahlias on a sufficiently extensive scale to bring into prominence the varieties most suitable for the embellishment of beds and borders. The plan of the trial was so skilfully prepared and the details so admirably carried out, as to justify the trial being described as a brilliant success. It included between 7,000 and 8,000 plants, in nearly 1,000 varieties, and the effect produced by this enormous number of splendidly-grown plants has not been equalled, or indeed approached, at any period in the history of this valuable autumnal flower. It was part of the plan that the relative merits of the varieties should be determined by a joint committee of the Royal Horticultural Society and the National Dahlia Society, and this was readily agreed to by the two bodies. In recognition of the valuable services thus rendered by Mr. Cory, the President and Council of the Royal Horticultural Society, at a meeting held on the 9th inst., unanimously awarded him a Gold Flora Medal, this honour being all the more noteworthy from the fact that on one occasion only had the award of this medal been made, the previous recipient being the late Baron Schröder. To still further assist in the extension of the cultivation of garden dahlias, Mr. Cory presented to the Royal Horticultural Society early in the year a silver challenge cup, of the value of 75 guineas, for a display of the flowers of varieties specially useful for decorative effect, and the competition for this trophy resulted in a display of flowers of wondrous beauty. Within recent years the Duffryn gardens have been greatly extended and immensely improved, and the many features reflect in no uncertain manner Mr. Cory's great breadth of taste and his appreciation of the charms of all classes of ornamental plants suited to a great garden.

Sweet Peas.—In our issue of October 4 we shall devote special attention to the ever-interesting subject of sweet peas and sweet pea culture. Illustrations of new varieties will be given, and the more important articles will be "Autumn Sowing under Glass," by Mr. A. E. Usher, Ranston Gardens, Blandford; "Autumn Sowing Out of Doors," by Mr. R. B. Leach, Woodhall Gardens, Dulwich; and "Some of the Newer Sweet Peas," by Mr. Thos. Stevenson.

Twenty-first Reunion of Employees at Park Place.—At Park Place, Henley-on-Thames, Mrs. Noble recently held a very interesting reunion of her past and present employees. In response to her invitation some sixty of the former came down to spend the day, and formed a very unique gathering of men, to mingle with the present employees, some of whom have spent nearly 40 years in service at Park Place. At the luncheon the Rector of the parish presided, and some 150 persons were entertained. Proposing the health of Mrs. Noble and family, Mr Geo. Stanton spoke of the interest taken by Mrs. Noble in the gathering, and said this was the twenty-first occasion on which it had been held. Mr. Stanton spoke of the success of the young men who had passed through the gardens, and especially those who were away in various parts of the world. Mr. Odell briefly spoke on behalf of the past members, and said it showed the good feeling and kindness extended to all those who had the good fortune to come to Park Place that such a gathering should be held, and should reach its twenty-first anniversary. Mr. Powell, the head gardener, had arranged a floral welcome on the cricket field, where a hard-fought match took place between past and present members. Altogether it was a delightful and unique occasion.

Begonias at the Panama-Pacific Exposition.—We learn that Messrs. Sander and Sons, Lim., of St. Albans, and Bruges, are presenting five thousand tuberous-rooted begonias to the authorities in charge of the International Panama-Pacific Exposition of 1915. These begonias will be used by Mr. G. A. Dennison, who is chief of the horticultural section, around the Palace of Horticulture.

Protection of Wild Plants.—The Selborne Society continues to take an active interest in the protection of wild plants from the several agencies by which their numbers have been greatly reduced within the past quarter of a century or so. A meeting of the Plant Protection Section was held at Burlington House on the 19th inst. for considering the best means of effecting this laudable object, but a considerable diversity of opinion was expressed by those who took part in the proceedings. Dr. A. B. Rendle, the Keeper of Botany at the British Museum, who presided, said that much injury was done by school children collecting plants indiscriminately for nature study, and by hawkers grubbing up primroses and ferns for sale. As a check to the injurious results of the operations of children and hawkers, children should be fully advised as to the best methods of procedure, and hawkers should not be dealt with. It was certain, he said, that if there was no sale for uprooted plants there would be no inducement for taking them. In the neighbourhood of large towns many of the choice native plants suffered from the effects of smoke, and he urged the importance of enforcing the Acts relating to the smoke nuisance and the establishment of reservations in various parts of the country. Professor Boulger, in referring to modern nature study, said that evidently there was need to "teach the teachers." The foxglove, which was once abundant in Epping Forest, was now practically exterminated. Mr. G. C. Durce suggested the scheduling of wild plants for protection, as was done with birds, but said he was opposed to giving greater power to landowners under the law of trespass; Dr. A. B. Christian said that some effort should be made to draft a Wild Plants Protection Bill, distinction being made between gathering flowers and rooting up plants. We are not in favour of much additional legislation for the protection of wild plants, because the powers already possessed by owners and occupiers of land and the County Councils are sufficient to restrain the vandals that root up plants for purposes of gain. With regard to the destruction wrought by children engaged in nature study there should be no great difficulty in making them understand what they should avoid in obtaining specimens.

New Montbretias from Holland House Gardens, Clacton.—Mr. P. S. Hayward, one of our regular contributors, sends us a gathering of montbretias, all the spikes representing seedling varieties of his own raising. The flowers are of excellent colour, and the branching spikes indicate such robustness that we feel there is a good future in store for many of these new-comers. Mr. Hayward has been working steadily for several years for the improvement of montbretias, and several other races of hardy flowers.

Mr. John Heal, V.M.H.—Everyone was glad to find the veteran hybridist, Mr. John Heal, back at the Royal Horticultural Hall, Vincent Square, on Tuesday, September 23, after a long absence. Though he has not quite regained his full strength, Mr. Heal has made a remarkable recovery from the accident he sustained some time ago, when he was knocked down and very severely injured by an omnibus while returning home from Messrs. J. Veitch and Sons' nurseries at Feltham. Mr. Heal asks us to thank all those who have so kindly enquired after him during his illness.

American Gooseberry Mildew.—In common with other counties in which bush fruits are grown somewhat extensively, Huntingdonshire has experienced a severe attack of the American gooseberry mildew, and some of the growers have had their returns from gooseberries considerably lessened thereby. It is therefore gratifying to find from the report of the County Council's inspector that there has this year been a material decrease in the intensity of the attack. This decrease is attributed in part to the warm and comparatively dry weather during the spring, and in part to the greater care evinced in the pruning of the year previous.

Visit of the British Association to Burbage.—About a hundred members of the British Association recently visited the Burbage Experiment Station, near Hinckley, Leicestershire, where Major C. C. Hurst conducts many experiments on Mendelian lines. The visitors were much interested in Major Hurst's work among antirrhinums and berberis, as well as his experiments with pigeons, poultry, rabbits and horses. Some years ago Major Hurst took a keen interest in orchid hybridisation, and our readers will remember that in 1912 and 1913 he has conducted the National Sweet Pea Society's Trials of Sweet Peas at Burbage.

Epiphyllous Plants.—At one of the meetings of the Botany Section of the British Association, Professor W. H. Lang said that an epiphyllous plant was one which grew on the surface of foliage leaves of trees in tropical forests. The advantage which attached to this rather peculiar method of life was obvious. The difficulty of the small plant, especially in crowded forest vegetation, was to obtain sufficient

light, and the leaf of a plant was constructed so as to be as suitably as possible exposed to the light. But these little plants had to maintain their hold on a smooth surface, repeatedly washed by heavy rains, and they also encountered some difficulty in obtaining their water supply and food salts. The plants belonged to the algæ, lichens, liverworts, and mosses, and exhibited many features that fitted them to the situation in which they grew. Professor Lang illustrated his subject by actual specimens and by magnified photographs of the plants on the leaves.

Salisbury Gardeners' Outing. —The members of the Salisbury Gardeners' Society recently held their annual outing, starting at 8 a.m., and returning at 2.30 a.m. the following morning. This long day was spent in travel, and in visiting the Royal Botanical Society's Gardens, and the Zoological Gardens at Regent's Park. The flowers at the Zoo proved as interesting and far more attractive than the animals.

Tobacco Culture in England. —So successful have been the experiments made in the culture of tobacco in England that, although the Government rebate of 1s. 2d. per lb. duty on home-grown tobacco ceases with this year, the Development Commission have obtained a grant of £7,500 for the purpose of fostering this new industry. This grant will be distributed under regulations formulated by the British Tobacco Growers' Society. Mr. A. J. Brandon, of Church Crookham, Hants, who is the moving spirit in this new undertaking, estimates that either coarse or bright tobacco is a paying crop in certain districts, though a fairly costly one to work. He has 30 acres under tobacco this season, and last year, with 15 acres, he produced and sold 22,000lb. of tobacco, and paid nearly £3,000 in duty, one-third of which was returned in rebate.

New Demonstration Garden at Aberdeen. — Owing to the great success of, and the large numbers which attended, the classes in school gardening, given to school teachers by the Aberdeen and North of Scotland College of Agriculture, at Morningfield, Aberdeen, the facilities have become quite insufficient to meet the demand. To remedy this it has become necessary to seek for accommodation elsewhere, and to this end there has been acquired the field known as the Bishop's Park, Rubislaw, in the western suburbs of Aberdeen. At present used as nursery ground, the field extends to two acres, and has been obtained on lease. It is proposed to provide a small lecture-room to accommodate about 40 students, and other small buildings. The estimate of initial outlays for buildings and garden is over £600, and the annual expenditure will amount to a little over £170.

The Wild Flower Garden.— Speaking on the cultivation of wild flowers in the garden before the members of the Aberdeen Working Men's Natural History Society, Mr. George Reay referred to the wild flowers he had successfully cultivated in his own plot of ground, and the pleasure and instruction that he had obtained from them. The wild flower garden did not appeal to the florist in the same way as it did to the botanist. The two types of men were essentially different. Naturally, they might have much in common, but their outlook and object of study were widely apart. The florist loved to mould the plant to his preconceived fancies and ideas, bringing about some wonderful results. The botanist, however, probed deeper, studying plants as they were, and for what they were, and saw beauty and order in everything. Mr. Reay said that he had not specially set apart any portion of his garden for the cultivation of wild flowers. He found it advantageous to grow both garden and wild plants together. The arrangement appeared to harmonise perfectly, and the results obtained had been extremely satisfactory.

Chrysanthemum Society of America.—The twelfth annual show of this society will be held in the Art Institute, Chicago, on November 5, 6, and 7 next. The report of the eleventh annual meeting, containing as frontispiece a portrait of the society's President, Mr. Chas. H. Totty, has just been issued. In it we notice the President's address, the secretary's report, and balance-sheet, the scale of points for plants and for cut flowers, awards of the Floral Committee, special prizes, varieties distributed, and list of members. The membership roll strikes us as being rather a meagre one, for there are less than a hundred names upon it.

Ghent Chrysanthemum Congress.—The year 1913 has been a busy one for our friends the horticulturists in Ghent. In April there was the Quinquennial, largely attended by Britishers; in August there was the Floralies d'Eté; on September 8 and 9, the Pomological Congress was held, and finally there will be on October 25 to 28 a large Chrysanthemum Show and Congress, the programme and schedule of which can be obtained from M. Charles Pynaert.

A FINE DISPLAY OF DECORATIVE GARDEN DAHLIAS.

This attractive collection was exhibited at the R.H.S. Meeting on the 22nd inst. by Messrs. Carter Page and Co., who were awarded the 75-guinea challenge cup offered by Reginald Cory, Esq.

GARDEN DECORATION.

Modern taste is returning to an appreciation of the artificial style in gardening, after a period in which fashion decreed that the natural style should be held highest in favour. The wild garden possesses its own charm, but needs its own locality. To create it within sight of nineteenth-century buildings, iron railings, brick walls, trim fences, pagodas and pergolas, painted pavilions and boat-houses, or roads flanked by telegraph poles, if not lamp-posts, is to betray a serious lack of artistic sympathy. Its place is near fields and woods, of which it can be seen to be an improved portion; close by ancient ruins; shut-away tracts of moorland or common; slopes adjoining copses or pasturage; environs of bracken-clad glades or pine forests; any locality, in short, where the handiwork of man and the impress of civilisation is not too evident.

Near our mansions, villas, and cottages we may well make use of all those qualities that plants possess in addition to their naturalness, either original or through the florist's skill. The rose, with its myriad petals, may or may not be an improvement on the wild rose, as taste may decide, but the exhibition beauties of to-day are memorials to great horticulturists, just as the perfect marble statues of our galleries are an advance upon the flint carvings of our distant ancestors, memorials to famous sculptors, and proof of the progress made in Art. Wild flowers of our own land have been freed from undesirable forms and habits of growth; coarse "weeds" have become parents of extraordinary floriferous and bright varieties. Other countries have been ransacked, at peril to life, for foreign flowers willing to manifest their splendour where cultivated taste can pay their due meed of praise.

The neighbourhood of the English home should be adorned lavishly by employment of all the gardener's resources; the setting of plants in formal beds, in designs along borders, the pairing of trees and shrubs, the symmetrical training out of branches, is legitimate art, and reflects more credit on the owner than he will ever gain from imitating a hayfield, a common, or a wood.

When beds and borders are filled the pleasure-grounds can be further ornamented by making groups of pot plants, similar to those handsome displays that are seen in show tents. The semi-hardy greenhouse plants all benefit by open-air life during summer months, many of the more tender subjects can be safely used, and this placing beneath British skies of the tropical denizens that are noted for being the glory of far lands, is an honourable achievement. The pots should not be visible, not only because they have generally a discordant colour note, but because the mind cannot help shrinking from the evidence of restricted growth in the open air.

Greenhouses and conservatories in which most of the plants are grown in beds and borders are the truly artstic ones, and the pots admitted should be so hedged round by dwarf shrubs, ferns, flowering trailers, grasses, etc., that they do not offend the vision; but pots in the garden are always an offence to some eyes. It is easy to make up a sloped bed of cinders against a wall, sink the pots in this slug-resisting material, and thus build up a low bank of splendid flower and foliage. Plumbago capensis, blue and white; oleanders, tree fuchsias, immense trained specimens of ivy-leaved pelargoniums, abutilons, cannas, wigandias, schizanthuses, the purplish-leaved ricinuses, the blue-silver eucalyptuses, and the gigantic Nicotiana tomentosa that reaches a height of eight feet, are especially useful.

One charming effect that can be arranged is a raised border, surrounding a lawn, the adjoining paths to which are sufficiently wide to be encroached upon. Cinders are used on the gravel to form a narrow border coming nearly up to the grass level, either sloped up, if space permits, or levelled simply as an extension, and held in place by a miniature fence of green painted wood next to the walk. In these cinders pot plants can be sunk, as in the groups just advised; the finest specimens can thus be brought into the most visited portions of the garden.

Hardy plants in pots can be cordially recommended for similar employment, so gardeners may well prepare for another season. Canterbury bells, Campanula pyramidalis, carnations, Sweet Williams, anchusas, gaillardias, pentstemons, Brompton stocks, aquilegias, asphodels, erect clematises, coreopsis, delphiniums, gentians, impatiens, and lavateras occur to memory as attractive subjects for such groups or borders.

M. H.

WINTER SWEET.

Though in most parts of the country Chimonanthus fragrans is best grown on a south or west wall, it seldom looks so well as it does when grown as a free bush with branches sticking out in all directions. It may often be seen growing in this way in the warmer parts of the country and in sheltered positions. When too formally trained to a wall it has but little beauty as a shrub, even when in flower. It is grown more for its fragrance than for its showiness of blossom, beautiful though the latter is when closely inspected. The scent is pleasantly diffused when the flowering sprays are brought into a warm room. It lasts a long time in water, and may be cut before the flower buds have begun to open. If the flowering growths are cut to within two or three buds of the base, the cutting for decoration will to that extent serve the purpose of pruning the bush at the same time. As it is the young wood which produces the best blossom, we want to induce as much growth of this as possible, and, subject to the desired extension of the shrub, all remaining young growth should be cut back after flowering to within two or three buds of the base, at the same time doing a little thinning where necessary.

The mistake is sometimes made of growing this shrub in a soil which is either too moist or too rich, when it grows very luxuriantly but produces little bloom. To obtain the maximum amount of flower plenty of sun is necessary, with a soil rather poor than otherwise, and not too damp.

There is a variety called grandiflora which is somewhat better than the type owing to its flowers being larger and more open. It varies, however, both in robustness and in the character of the blossom, owing to the fact that it is often raised from seed in nurseries.

ALGER PETTS.

Origanum Tourneforti.—Some particularly attractive examples of this were shown at the meeting of the Royal Horticultural Society on August 26. In common with two allied kinds, O. Dictamnus and O. hybridum, it forms a very pretty plant when in flower, and is then very useful for greenhouse decoration. It forms a freely-branched little bushy specimen, whose slender shoots are clothed with hoary leaves, and thickly studded with clusters of flowers, in appearance suggesting miniature hops, but of a pretty pink colour, hence its popular name of Pink Hops.—T.

ARUM LILIES.

Few plants are so well adapted for indoor decoration as the Richardia, better known as the Arum Lily, to which flower the misleading English and Latin epithets of Lily of the Nile and Richardia æthiopica are also applied. This error in all probability owes its rise to a supposition that the plant was identical with the lotus of the Egyptians, a widely different subject and a true water lily, whereas the Richardia, although growing well when planted below the level of the water, is a marsh plant, and a native of South Africa, where it rejoices in the uneuphonious title of Pig Lily.

The value of the ivory-white spathes for noble floral arrangements is unsurpassed. The wide spathes, with their soft purity of tint and graceful curves, present a picture perfect in colour and form, as, poised on their tall green shafts, they overtop the drooping, glossy leaves. For church decoration arum lilies are in great request, since they are available in enormous quantities for the festivals of Christmas and Easter, when their large size and simplicity of outline render their individual form apparent, where smaller flowers present from a distance only a mass of white. In many sheltered localities in the south-west of England and in the south of Ireland arums are permanently planted out in the proximity of water with most effective results. In some cases they are placed in the damp soil around the margin of ponds and lakelets, and in others are planted at the edges of the pools, where the shallow water covers their roots to a depth of some inches. When in bloom in such positions they create a delightful picture. At Trelissick, in Cornwall, a lake is entirely surrounded with them, and early in June a couple of thousand blooms might be cut without their being missed.

When grown for the production of blooms under glass different methods of culture are practised by various growers, some planting them out in trenches of rich soil during the summer months, and others allowing them to remain in their pots and become thoroughly dry before repotting. Both plans have their advocates, who testify to the superiority of the course followed by them to the opposite method of treatment. Good results have doubtless been obtained by the followers of each system, but the thorough ripening of the roots is certainly more in accordance with the conditions experienced by the plants in their native habitat, where in the hot summer the soil surrounding the roots often becomes parched to a brick-like consistency, than the method of keeping the plants growing throughout the entire year.

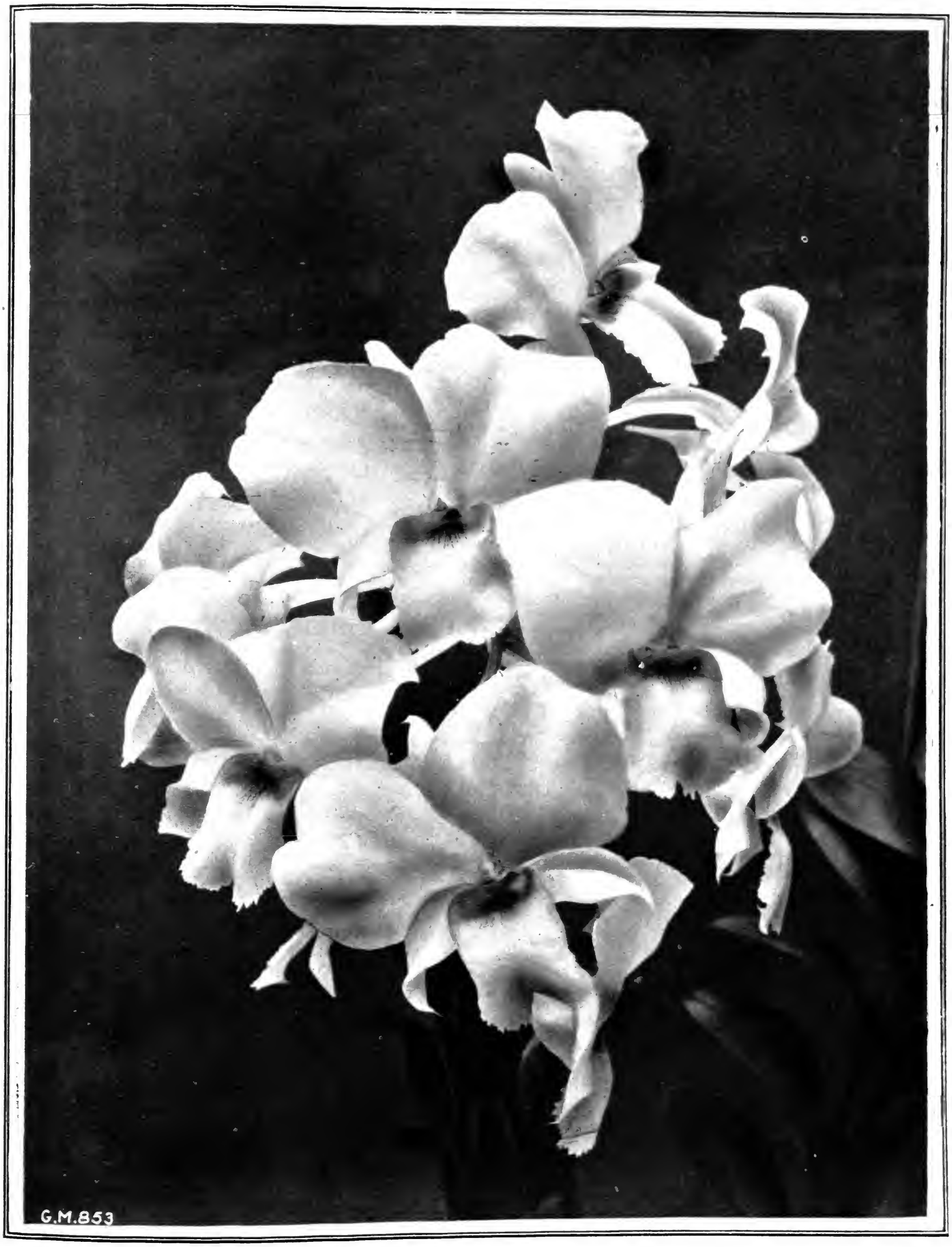
Where the system of permanent pot culture is adhered to, the plants are, in the south-west, placed in the open early in May with impunity, but in less favoured localities a position in which they may receive protection from late frosts is advisable. Water is given in lessening quantities until the leaves begin to turn yellow, when it is entirely withheld, and the pots are turned on their sides. In this position they are left until the end of July, when the plants are turned out, repotted into fresh, rich soil, and given a good watering. From this time they are not allowed to become dry, and in about two months' time are housed, a genial temperature being maintained around them, and a plentiful supply of water, with periodical applications of liquid stimulants afforded. Treated in this manner the plants will make healthy and vigorous foliage, and commence to throw up their blooms in November, producing their white spathes in quantity at Christmastide.

WYNDHAM FITZHERBERT.

DENDROBIUM DEAREI.

So many of the cultivated dendrobiums, either species or hybrids, flower early in the year, that the merits of those which bloom at other seasons are apt to be overlooked, with the exception, perhaps, of D. Phalænopsis and D. formosum giganteum. D. kinds, which are only a success when subjected to a long and well-marked resting period, during which they need a position in which they will be freely exposed to the light and very little moisture at the roots.

D. Dearei was discovered at Dinaget, one of the Philippine Islands, in 1882, by herewith illustrated before the Orchid Committee at the Royal Horticultural Hall, Westminster, on Tuesday, July 15 of the present year, a very great deal of interest was taken in it, and an Award of Merit granted. D. Dearei McBean's variety, has flowers of larger size than the



DENDROBIUM DEAREI McBEAN'S VARIETY.

Flowers pure white, with yellow marking on the lip. A.M., R.H.S., July 16. Messrs. J. and A. McBean, Cooksbridge.

Dearei usually flowers during July or August, and is a particularly beautiful species that requires fairly warm treatment. As the leaves last about a couple of years it is practically an evergreen species, and therefore it requires different treatment to the early-flowering deciduous Colonel Deare, but it is fairly plentiful also on the larger island of Mindanao. Although considerable numbers of plants have been imported on various occasions, D. Dearei has not exhibited much variation, hence when Messrs. J. and A. McBean, of Cooksbridge, placed the very beautiful variety type, of fine form and substance, pure white, save for the yellowish marking towards the base of the lip. On the spike illustrated there were a dozen of these blooms, which were so exquisitely beautiful that it was not surprising the variety should have attracted much attention.

A DAY IN THE FRASER VALLEY, BRITISH COLUMBIA.

I have been asked to give a description of a day's sight-seeing in the Fraser Valley, and I hope it may interest some of your botanical readers, as the flora of that district is very rich.

The Fraser Valley is situated along the wonderful river of that name, from Vancouver to Chilliwack, which is the terminus of the British Columbia Electric Railway, a distance of about 65 miles. Having inspected New Westmnster, where we had to change cars, we crossed the river on a well-constructed bridge, the river there being very broad and with a strong current. All along the railway clearing, which has been cut through the bush, the vegetation is luxuriant and fresh, with no dust, the soil chiefly a peaty bog. There are quantities of ferns—bracken, the lady fern, and a polystichum—all several feet in height; skunk cabbages, a plant with plain, very broad leaves, and large, bright yellow, arum-lily flowers, with a horrible odour, hence the name; Mitchellia repens, the Squaw Berry, and some pretty rhododendron-like shrubs which I did not know.

Spiræas of three kinds were seen flowering luxuriantly against great bushes of scarlet-berried elder, and there were acres of foxgloves, purple and white. Masses of the Salmon berry, with its delicious raspberry-like fruit, the cut-leaved bramble, and the blue berry, were all growing in the wildest profusion.

Great clearings had been effected by fire, and there the willow herb was growing and flowering as in a great garden, making the waste places a thing of beauty; they call it here the "Fire Flower," as it always appears after a fire. Clumps of a small orange lily looked beautiful, and made me remember that it was the 12th of July.

On the stumps of trees, amongst decayed bark and dry banks, the Gaultheria, with its pretty rosy lily of the valley-like flowers and glossy green leaves, grew in such masses that I at first failed to recognise an old favourite in so congenial a home. Great tufts of the Crown Imperial seemed to have flowered well; I was told they were quite common here. The young shoots from the cut-down maples were very beautiful in their colouring against the dogwood bushes and other shrubs which grow in profusion there.

For miles and miles we saw nothing but wood or bush; the trees grow so closely together and are very tall, with scarcely a branch till near the top, and with little difference of girth; the undergrowth is so thick and dense that you cannot see daylight overhead, and one can well imagine the havoc of a forest fire. We saw thousands of blackened, distorted trees, thousands of stumps, and still thousands of tall, straight, and grey trees, with only the branches gone, looking like sorrowful monuments; and here and there enormous giants of the forest several yards in circumference. The trees are principally the red, white, and yellow cedars the hemlock spruce, the scrub pine, birch, maple, and white poplar.

The stations are primitive in the extreme, while such names as Abbotsford, Huntingdon, and Brentwood suggest a remembrance of the old country; while Jackman, Jardine, Gifford, Dension, and Sullivan may have been the pioneers of the valley. There are several lumber camps and saw mills, many farms and poultry runs, and horse-breeding establishments, but the most fertile spots for farming and market gardening are Sumas and Chilliwack. Here, in a dip of the valley, the soil is good and rich, with very few trees, and, sheltered by the surrounding mountains, there is an even temperature, and everything grows in profusion.

We had a pleasant motor drive round Chilliwack, and were shown the hop-fields grown by a Kentish man, and with such success that the future of hop-growing may be assured; there was also a market garden of about three acres for salads, tomatoes, cucumbers, and such wonderful roses and sweet peas, all of which find a ready market.

Every bungalow has its flowers, and each person has his own ideas of building and decorating, and as the homes are all of wood, some are very picturesque. A pretty sight was a long row of blue delphiniums against a white verandah. Along the banks of a river and the fringe of the woods the mock orange (Philadelphus) and the Deutzia, both indigenous to Sumas, scent the air for a long way, while the maidenhair fern, from 1 to 2ft. high, grows like a weed. Here we saw several meadow larks, birds about the size of a thrush, and with a peculiar note. Good shooting is to be had in the valley, permission, of course, being asked of the landowners. You can shoot anything in season, deer, pheasant, partridge, rabbits, and grouse. A gun licence costs $2\frac{1}{2}$ dollars. Very good fishing is also had in the river, but the best and principal fishing station is at the mouth of the Fraser River, the home of the Sockeye Salmon, the most delicious of the food fishes of the world.

This is the quadrennial big year, and this is the first month of the three, for the salmon fishing, and hundreds of boats are employed, chiefly motor boats, and many engaged by Japanese. Steveston is the town of the canneries, located at the mouth of the river, and here is a great industry for a few months, the price realised from the salmon fishing on the Fraser alone being placed at a million and a half dollars. There are many kinds of salmon, viz., sockeye, red springs, white springs, chums, pinks, and cohoes.

On returning in the evening we had the unpleasant experience of running through a dense cloud of mosquitoes. The conductor opened all the windows and front door of the car, and calling out, "Mind your hats," thus rushed a strong current of air through to get rid of them, but many passengers were severely stung.

The sunset on the valley was grand; the mountains all along capped with snow, the river like a great sea, with the melting of the snows flooding the adjoining lands to within a few feet of the railway track. On the car rushed, past great trees like tall sentinels, and a glorious sunset flooded the valley. It was a day's excursion not to be forgotten.

M. WEBSTER.

CHRYSANTHEMUMS.—For full instructions on the Culture of Chrysanthemums in beds or borders for garden or greenhouse decoration, read the Second Edition of CHRYSANTHEMUMS FOR GARDEN AND GREENHOUSE. by D. B. Crane, price 2s. 6d. net; or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

BULBS FOR NATURALISING.

The merits of early-flowering bulbs for naturalising in masses in the pleasure grounds and wild gardens are so generally recognised as to render this method of planting increasingly popular. There are few gardens of any repute where this form of planting is not largely represented, and in a great many instances the effect created is quite equal to that obtained at any other season of the year, while not infrequently the display of bulbs makes the springtime the most attractive of the four seasons.

It is hardly necessary to emphasise the importance of planting bold masses of one variety in each group, for the effect obtained under such conditions is certainly the most telling and imposing. Let the groups be of irregular outline in the wild garden, as though the flowers had sprung up naturally, and plant rather thickly.

Where the soil is light in texture planting can very well be performed with one of the patent bulb planters made for the purpose, or holes can be made with an iron bar in which to insert the bulbs; but in heavy, retentive soils this practice is not a good one, as the holes are liable to hold water during the winter, which may cause the bulbs to decay; moreover, the soil around the holes is usually exceedingly firm, which prevents the bulbs from rooting freely. After making holes with a bar, a little prepared soil should be placed in the bottom, and the bulbs planted about four inches deep.

When the soil is heavy and retentive, it is preferable to break it up with a spade, and then replace the turf after planting. In our heavy soil I find this plan answers very well, and the little extra time taken to do the work is fully repaid by better results. It is preferable to plant bulbs as early as possible, so as to allow them to commence growth at an early date, as under such conditions the results the first season are much improved.

For naturalising in large breadths of grass, or beside woodland walks, no bulbs equal the narcissi, provided the more vigorous kinds are chosen. Emperor is one of the grandest varieties for the purpose, as it grows with vigour, and a large colony makes a striking feature. Empress is also good, and may be planted in close proximity to the above. Sir Watkin is recognised as being invaluable for massing, and Horsfieldi and Princeps are both useful.

The old double daffodil (Telamonius plenus), with its rich double blooms, creates a particularly striking effect in the distance. Golden Spur is an attractive variety, and blooms in advance of most daffodils. Maximus, Henry Irving, Autocrat, Madame Plemp, Grandis, Barri conspicuus, and poeticus ornatus can all be recommended for planting in the grass. Many others might be chosen to create variety where space permits, and for planting on sloping ground Waterwitch and Mrs. Langtry are especially desirable. These varieties look very well naturalised in broad breadths of Erica carnea, and the contrast in colour is very pleasing.

Some of the smaller bulbs, such as snowdrops, aconites, crocuses, and scillas, are very beautiful seen in large masses, especially in the woodland; while the merits of the colchicums or meadow saffrons must not be overlooked. Of these C. speciosum, C. autumnale, and C. Parkinsoni might be grown.

Hyacinthus candicans, Lilium martagon, Fritillaria imperialis, and F. meleagris are all suitable for naturalising in the wild garden, and bold groups are very beautiful when in bloom.

J. GARDNER.

Batsford Park Gardens.

TULIPS IN FIBRE.

Although the cultivation of bulbs in fibre has now obtained a firm hold upon the flower-loving public, the free use of tulips in this connection is a matter of quite recent date. Last spring numerous exhibits at various exhibitions demonstrated the suitability of tulips for culture in fibre in ornamental bowls, and many readers will remember how successfully Messrs. R. H. Bath, Lim., of Wisbech, showed Darwin tulips, so grown, at the Royal Horticultural Hall. Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham, has also shown in first-rate fashion how suitable tulips are when grown in fibre, and the accompanying illustrations represent wide green pots of flowers staged by him in a prize-winning stand at Westminster.

These references are given because tulips are generally considered to be more difficult to manage in pots than either hyacinths or daffodils, but there is ample evidence to show that they present no special difficulties when placed in fibre, even in undrained pots or bowls. There are a few points to bear in mind, however, and one is that a bowl less than six inches deep is not suitable for tulips, though suitable for other bulbs, because a deeper root run seems essential, and under general treatment many tulips go "blind" if grown in shallow bowls. The fibre must be moist, but not wet, and should be placed over a small layer of broken charcoal and crushed shell. Tulip bowls must be well covered, and when rather shallow, wide bowls are used, instead of the deeper pot-shaped ones, it is a good plan to mound up the fibre over the bulbs, so that at the centre it may be an inch higher than at the rim.

The first fortnight in October is a good time to put tulips into fibre. If placed in a cold frame, covered with fibre, and left until the end of the year, a good root system will be produced, provided the material does not become dry. Failing a frame, place the pots or bowls of bulbs into a cool, dark cellar. To place tulips in a warm, dry cupboard is to court disaster. After a good watering, when the fibre has been thoroughly soaked, lay the bowls on their sides to allow surplus moisture to drain away; this advice is chiefly for amateurs who do not fully comprehend the niceties of "too wet" or "too dry" as understood by the professional gardener.

When growth begins ample light and a warmer position are necessary, and unless early flowers are needed a cool greenhouse or one slightly heated will prove a suitable place in which to bring the tulips into bloom.

Good early tulips for this clean method of culture are Colour Cardinal, Duchesse de Parma, Fabiola, Keizerkroon, King of the Yellows, La Grandesse, La Reine, Prince of Austria, Rose Gris de Lin, Rose Luisante, Thomas Moore, Van den Neer, Vermilion Brilliant, and White Pottebakker. Among the Darwin and May-flowering section good varieties are Bartigon, Clara Butt, Dream, Europe, Erguste, Isis, Inglescombe Pink, King Harold, Le Rêve, Maiden's Blush (or Picotee), Mr. Farncombe Saunders, Pride of Haarlem, Suzon, White Queen (La Candeur), and William Copeland.

Rivina humilis.—Among the berry-bearing plants that need a warm greenhouse for their successful culture must be included this Rivina, whose racemes of bright red, currant-like fruits, form a very cheerful feature at this season. The plant itself is easily propagated by seeds or cuttings, and will grow in ordinary potting compost.—T.

PEACH AND NECTARINE TREES AFTER FRUITING.

In sunless, cool summers the ripening of the wood of the current year's growth of peach and nectarine trees is a very important matter. Frequently trees have come under my notice that have been well managed until the fruits have been gathered, and then neglected. All lateral growths were removed while very small, so as not to exclude air and light from the fruits. This was good treatment, beneficial to both trees and fruits. When the latter were gathered all interest seemed to have ceased, and the laterals were allowed to grow and form a thicket; and no thought was given to the watering of inside borders. No, water could be applied later on, when the leaves had fallen, and the pruning could be done.

An experienced and thoughtful cultivator does not so treat his trees: they have an interest for him at every season and during every week of the year, and he knows how to manage both the vigorous young specimen, and the old one also, which need judicious feeding and careful cropping. I saw a grand peach tree the other day which was bearing a medium-heavy crop, but one could not see through the branches; they were so thickly-grown together and so numerous. As regards the ripening of the shoots required to bear the crop next year it could be seen that valuable time was being wasted.

Not only should the sub-laterals be constantly pinched out while very small, but every branch not required for service next year should also be cut out very soon after the crop has been gathered. The foliage should also be kept quite clean by occasional thorough syringings, and, in the case day must be ample, and the borders liberally watered when the soil needs it. Even outside borders should be well watered before the soil becomes really dry, as, in many instances, was the case a short time since. G. B.

WINTER CUCUMBERS.

To keep up a steady supply of these fruits throughout the winter months, September must be devoted not only to the preparation of the plants, but to thoroughly cleansing the pits where they are to be grown. It is useless to attempt cucumber culture if filth or insects are allowed to remain. I prefer 12-inch pots for winter cultivation, rather than planting out, placing fermenting material round the pots if necessary; but whether culture in pots or planted out is followed is a matter which each grower must decide for himself, his guide being the adaptability of the house and the amount of fire-heat at his command.

Keep a healthy stock of young plants in readiness, and a quantity of well-turned fermenting material in reserve. Avoid too much moisture as the days shorten and the sun declines in power, and, where possible, do not put out all the winter plants at once.

Warter Priory, York. F. JORDAN.

COTTAGE TULIP LE RÊVE.

Grown in fibre by Mr. W. Howe, Park Hill Gardens, Streatham. Colour satin-rose, with orange shading. A very handsome variety.

VARIATION IN THE COMMON POLYPODY.

Although naturally, as an ardent student of our British fern varieties for more than thirty years, I have seen many collections in which the above species in its numerous varietal forms has been well grown, and the particular character of each has been well developed, a recent visit to two collections—viz., those of Mr. T. E. Henwood and of Dr. F. W. Stansfield, both of Reading—have literally astounded me as to the capacity of development which may be induced by perfect culture of this species.

EARLY SINGLE TULIP VERMILION BRILLIANT.
Grown in fibre by Mr. W. Howe, Park Hill Gardens, Streatham.
Colour vermilion-scarlet.

As a rule, we find the varieties or "sports" accommodated in pots or shallow pans but in both these collections they are growing in beds protected, in the case of Dr. Stansfield, by a large ordinary frame, and in that of Mr. Henwood by a greenhouse. In both practically all the varieties of value were present, and growing with such luxuriance that the fronds not only formed bushes, but where, under pot or pan culture, they are rarely more than a foot high, here, in many cases, they were double that length, or even more, while the division and subdivision of the divided and plumose varietes were carried to an extent which I have never witnessed elsewhere.

To deal with Mr. Henwood's collection as permitting of a more comprehensive and effective view than that obtainable under frame culture, I found it installed in a wide bed extending along the whole side of the greenhouse. The soil was deep, and composed of an admixture of friable loam and leaf-mould, the latter largely predominating, so that the compost was very free and open, thus permitting the travelling rhizomes of the species to penetrate deeply and travel freely. Each specimen or variety had obviously been planted sufficiently far apart to prevent, at any rate for some time, any crowding or competition between them. The salutary effect of this, and of the loose compost itself, was evidenced by the immense size of the fronds to which I have alluded (P.v. omnilacerum, Oxford, being by actual measurement 30 inches, surely a record for the species), while the ample light afforded by the clear glass, only shaded when necessary from burning sunshine, prevented them from being drawn up and consequently assuming a decumbent habit foreign to the species in most of its varietal forms.

Seeing such results, the question to the would-be cultivator is, What is the secret of such success? The answer lies not merely within the greenhouse itself in which it is exemplified, but also in the garden in which it exists. Here are not only ferns but also many flowers, and these the expert horticulturist recognises at once as all of the best and choicest species and forms. Not a trace of weeds appears, the soil everywhere is obviously rich, and the plants in it are expertly and evidently liberally treated, and kept in such order as enables them to display their flowers to the best advantage. I also noticed, inside the greenhouse, that a peculiarly congenial moisture pervades not merely the soil but the atmosphere by frequent flooding of the paths, the benefit of which is shown also by a tufa bed on the right-hand side filled with magnificent specimens of the Hartstongue varieties, which do their best to rival their opposite neighbours, which form our special theme. Above all, there struck me, as a contrast to many collections I have seen, the absence of any traces of insect depredation or defilement, due undoubtedly to constant watchfulness and the immediate use of insecticides should traces of such pests present themselves.

I am indebted to Mr. Henwood (of carnation and auricula renown) for the appended list of varieties, which show how greatly the common species of the hedgerows, old walls, and trees, has contributed by "sports" to the élite of our handsome British fern varieties, all but a very few being the original form as found wild, the species thus owing little to selective culture. In conclusion I would point out that the species in question is perfectly evergreen, the fronds remaining fresh and verdant until the next growing season. Curiously enough, though the normal species and many of its varieties rise fairly early in the season, all the plumose or "cambricum" section defer rising, as a rule, until July, when they resume growth rapidly at a time when most of our native species are fully developed, thereby extending the interesting season materially.

List of Varieties.

Polypodium vulgare cambricum (all form), P.v.c. Barrowi, P.v.c. Hadwa... P.v.c. Prestoni, P.v.c. Oakleyæ, P.v. p... cherrimum, P.v. omnilacerum Oxford v... riety, very fine (30 inches), P.v. grandice... Parker, P.v.g. Fox, P.v.g. Forster, P.v. cristatum, P.v. multifido-grandiceps, P.v. cornubiense (elegantissimum), P.v.c. Cla... ham, P.v.c. trichomanoides, P.v.c. Hutch... soni, P.v.c. Lyelli, P.v.c. grandice... Cowan, P.v. semilacerum falcatum O'Kel... P.v.s. O'Kelly, P.v.s. undulatum, P.v.s. r... bustum, P.v.s. T. Bolton, P.v. marg... stachyon O'Kelly, P.v. serrata-caudat... O'Kelly, P.v. acuto-serratum O'Kelly, and several other distinct varieties.

CHAS. T. DRUERY, V.M.H., F.L.S.

Eranthis hyemalis.—Close-planted beech-woods are admittedly difficult positions to plant, and scarcely invite success with bulbous plants; yet it is under such conditions that the little winter aconite luxuriates. Under the dense leafage of the beech, little ground vegetation can exist, as the beech roots ramify over the surface in all directions, and on a shallow chalk soil the ground is usually bare. Planted, however, with the winter aconite (Eranthis hyemalis), the naked surface becomes a carpet of green and gold in January and February, and so freely does it naturalise that each year in spring can be counted tens of thousands of seedlings around the parent plants, the majority of which come to maturity. Dry tubers offer a ready means of introducing this hardy subject, which, if planted at nine inches in the first instance, will soon close in together and form an impenetrable mass of leafage and flower. —T. S.

HARDY CALCEOLARIAS FOR THE ROCK GARDEN.

It is not generally known that there are a few calceolarias which are hardy enough for standing our winters in the rock gardens of the greater part of the United Kingdom, even if we eliminate a certain number which are sufficiently enduring to survive in the warmer districts of the south, which are mild indeed compared to those in other parts. These flowers are generally highly appreciated by their owners, and by visitors to their gardens, and are well deserving of the notice of the lover of alpine flowers.

Calceolaria Golden Glory.

In the first rank of all these we would place the lovely hybrid slipperwort called Calceolaria Golden Glory, one of the finest introductions of recent years for the rock garden, or even for the choice border where hardy alpines are grown. This is a delightful plant, with nice foliage, reminding one somewhat of that of one of its parents, C. plantaginea, but prettier in every way. It has lovely yellow flowers in clusters, and grows some six or ten inches high. It is very easy to cultivate in any open soil, and is hardy in most parts of the three kingdoms. C. Golden Glory is propagated by division, and can also be raised from seeds, packets of which are procurable for sixpence or so, and should be thinly sown in pots of very sandy soil, and very slightly covered with fine compost of the same kind. A square of glass and a piece of brown paper ought to be put over the pot, and watering very carefully performed. As soon as the seedlings begin to germinate, remove the glass and paper, and give air carefully. Prick out in good time, and, after growing on in a frame or cool greenhouse, plant the seedlings out. Spring is the best time to sow the seeds, so that the young plants may attain some size before the winter. If they are very small they ought to be wintered in a frame.

Calceolaria plantaginea.

The plantain-leaved slipperwort is always rather a scarce plant, this being due to the difficulty some experience in establishing it. When once it takes to a special place it will thrive, however, and, as it is fairly hardy, it should be more frequently met with. It is a handsome plant, with large, deeply veined and wrinkled glossy leaves, and pleasing flowers of a nice yellow. It is from six to nine inches high. I find that it thrives best in a dry and rather sandy part of the rock garden, and in full sun. I have never seen it seeding with me, but have found that it increases readily by division in spring, or after flowering is over. The plant is also increased by means of root cuttings about an inch long, taken in March or in late autumn, and put in sandy soil under glass. This calceolaria is apt to suffer from excessive wet in winter, and ought to have a well-drained soil and a sunny position. It flowers in June and July.

Calceolaria polyrhiza.

This is a curious little creeping slipperwort, well called polyrhiza, or "many-rooted." It runs beneath the surface, sending up its growths freely, and, when left alone, forming a close mass of its small leaves, whence arise singularly formed yellow, spotted flowers. It is amazingly easy to grow, and a little bit planted in spring or summer will soon make a good clump. It is said to be a lover of a bog or moist place, but this is not essential, and the writer has a good mass which is in a dry and sunny spot. It is readily increased by division, and will probably be easy to multiply by root cuttings, but it is hardly needful to resort to these, as it increases so rapidly at the roots itself.

Calceolaria Kellyana.

I am referring to this now, as a handsome and scarce plant which is in existence, but of whose whereabouts at present the writer is unaware, although he cultivated it for some time many years ago. It was raised in Edinburgh more than seventy years ago. It has pretty yellow flowers with crimson spots. From its general appearance it seems to have C. plantaginea as one of its parents, but I have not found it so hardy. It blooms in summer.

Calceolaria violacea.

One can only recommend the violet slipperwort for those who live in favoured places, or are prepared to winter it under glass. It grows from eighteen inches to two feet high, and has lovely pale blue flowers spotted with violet. It blooms for a considerable time in summer and autumn, and is increased by division or cuttings. It loves a sandy loam.

Such are a few slipperworts deserving of consideration from the lover of rock garden plants. S. ARNOTT.

SWEET CHERRIES IN SCOTTISH GARDENS.

(Continued from page 689.)

Planting and Training.

It goes without saying that in districts subject to abnormal rainfall, or that have a heavy retentive soil, much greater care is necessary in respect to the preparation of the respective sites, than obtains where conditions considerably the reverse prevail. If burnt earth, wood ashes, or lime rubble are at hand in quantity, liberal supplies of any one, or even a mixture of all, applied to the whole plot or border, but particularly over a radius which the roots will eventually occupy, would prove very beneficial for a long period. The cherry, too, in comparison with other kinds of fruit trees, is somewhat surfact-rooting; hence, while in northern parts it may be advisable to keep the roots on or but very slightly below the natural level of the surroundings, ample coverings of soil should be given, thus forming a mound sloping from the tree stem.

After-culture by way of surface movement is best accomplished with the hoe, or if a fork is employed, very light turning of the compressed surfaces, due to its being trodden upon, or to natural agencies, will suffice. As early crops of vegetables or strawberries usually, in their season, occupy such favoured situations, a clear space of at least three feet from the wall should be reserved for the tree roots, which in course of a few years as the roots spread outwards may be still further increased. The fan method of training is most fitting, as should any untoward event occur, by way of breakages of branches or injury by disease, in after years the consequent gaps thus formed are more easily made good by training therein young shoots than is possible under any other method. Though but little addicted to diseases or attack by insects, gumming of the spurs and branches, and visitations of black fly sometimes take place. It behoves everyone when purchasing the young trees to see that the branches are free from injury by way of bruises, and that the point of union is completely healed, forming a smooth and evenly-barked stem, or trouble may arise at the outset, and the tree, after a few years of care and labour, leaving out loss of time, may have to be discarded.

Damage accruing through injudicious pruning, often the neglect of perfoming this in time, or any unintentional blow from a hammer when nailing; and, perhaps, more than any other, the strangulation of the fast-swelling branch by the pressure of stout cord used to secure it to the wall or other support, is always possible. The remedy for the latter is obvious, while as to pruning, if summer pinching were as much as possible substituted for this there would be less need for using the knife freely, and even then carried out early in autumn, while a good portion of the foliage still adhered to the shoots. Young trees are best allowed a year of unrestricted growth after planting to encourage root action.

When received the trees will, if fan-shaped, have from six to eight main branches, springing from about a common base. The former number is ample from which to form the structure of the future tree, hence if more numerous the weaker may first of all be closely cut away. The six remaining, three on each side of the stem, may then be roughly placed in position, and be shortened to within twelve or eighteen inches of their base, making the severance close above an outward-pointing eye or bud. Thinly-disposed branches are more conducive to fruitfulness, and if a tree is well furnished with fruiting spurs, it is best left alone as regards pruning in winter, shortening the leading branches when the buds show indication of sap movement in spring to ensure further laterals for training in to form the tree and to cover the available wall space, which may be little or much, and the number of leading shoots of corresponding necessity and importance.

Varieties.

Choice varieties that have proved good in quality, productiveness, and generally adaptable to the Scottish climate comprise: Early Rivers, which, compared with many others, is a modern introduction, but so well has it been received by growers, owing to its free-bearing and cluster-fruiting propensities, that it is established in most gardens. May Duke is not considered a high-flavoured fruit, and is less fleshy than some, but being hardy, early to ripen, and seldom missing a crop, it holds an undisputable position. All the bigarreaus are worthy of cultivation, more particularly Bigarreau Napoleon, a large yellow fruit flushed with red, of rich aromatic flavour. It is hardy, and will thrive in any form of training or aspect. Black Tartarian has very large fruit, which, as the name implies, is of very taking appearance, fruiting freely against an east or north wall. Elton, a mottled fruit of fine appearance and high quality, and one most likely to succeed in bush or standard, form, where this style of growth can alone be complied with. Archduke, large dark-red fruits with shining skin. Knight's Early Black. One of the best early-fruiting varieties known; the tree is vigorous in growth, attaining a larger size where space is afforded it. The very old sorts, White Heart and Black Heart, are still among the foremost for bearing and quality. J. DAY.

Watsonia Meriana O'Brieni.—This is a pretty bulb from South Africa, whose spikes of flowers of the purest white are borne during the summer months. From three to five bulbs in pots, five to six inches in diameter, are very useful for many decorative purposes. Of late years considerable numbers have been imported during the period in which they are dormant.—W.

ROSES IN SEPTEMBER.

Here, in Mid-Sussex, we started the month well with a most welcome and steady rain of about twenty-four hours' duration. With roots and other growing crops sadly in want of water, and the corn almost all carried, there has seldom been a more promising outlook than the present, providing we do not get a return of the mid-August experiences, when we had more than one frost, followed by excessive heat in the day.

Favourable as the general prospect now is, I do not think any crop can be more so than our roses for late autumn flowering. Those who have kept the hoe going freely, and either mulched or fed their growing roses with artificial manures, should now reap extra benefit from showers that fall.

It is too late to feed to any advantage now, unless it be by applying some liquid manures that would be assimilated at once. Keep a sharp look-out for mildew, now we are having such sudden changes of temperature, and so much young growth is in evidence. It is quite useless to delay and then take strong measures which cannot be in time to stop the ravages of the disease, nor used without injury to the foliage. The splendidly spreading trusses of some late bloomers will produce a grand and continuous show of flower, and it often happens they remain in blossom all through the present month, and even later, as the succession of young buds develops.

Make a note of the varieties that do well in your district, and procure some of these for any space that can be spared. There is much force in selecting roses suitable for certain districts, but the following are almost certain to do well wherever roses can be grown at all, and be particularly useful in the autumn months: Frau Karl Druschki, Mrs. R. G. Sharman Crawford, and Victor Hugo from the hybrid perpetuals; Augustine Guinoisseau, Betty, Caroline Testout, Countess of Derby, Duchess of Wellington, Edu Meyer, General MacArthur, Gustave Regis, Jacques Vincent, La Tosca, Lady Ashtown, Lady Battersea, Madame Ravary, Mrs. A. R. Waddell, Pharisaer, and White Killarney from the hybrid teas; and Corallina, Mrs. B. R. Cant, G. Nabonnand, Peace, Lady Roberts, Madame Antoine Mari, Madame Charles, Madame Jean Dupuy, Marie Van Houtte, Molly Sharman Crawford, Souvenir de Pierre Notting, and Rubens from the tea-scented section.

Then we have Arthur R. Goodwin and Rayon d'Or from the newer class of pernettianas, also the dwarf and thoroughly perpetual-blooming polyanthas, more especially the three varieties Jessie, Phyllis, and Mrs. W. H. Cutbush.

Have readers noticed the lengthened display of blossom upon many of our hybrid Wichuraianas? In my own case we have quite a show of such as Dorothy Perkins, Christian Curle, Hiawatha, and especially Delight and Minnehaha are simply charming, and promise to remain so for some time. A climbing or pillar rose that keeps much longer than most is American Pillar. I am much pleased with the all-round behaviour of this grand single, with its deep green and massive foliage, that has never given me any anxiety as regards mildew, red rust, or other diseases. From first to last it is invariably clean and healthy-looking, while the immense trusses keep up a succession of bloom for a long time, which will soon be followed by small, bright scarlet heps.

The rugosas generally are already very showy with their medlar-like heps, those of Rosa rugosa atropurpurea being particularly prominent and bright. The heps and autumn-tinted foliage of this section make them well worth growing independently of their extreme hardiness and early blooming.

I would advise the careful examination of buds inserted last summer. The present rains will encourage prolonged and vigorous growth that is apt to result in a more than usual swelling of the stock, consequently some slight loosening of the tie will be necessary. This is very quickly and effectively done by passing the point of a sharp knife down the tying material on the opposite side of the rosebud. Only just cut through the tie, and when there appears danger of constriction.

Those who contemplate grafting any roses during the coming winter months should lift and pot up some stocks ready for the purpose. Use small pots, good compost, and plunge in ashes or suitable material three or four inches above the stem. This will not only keep all free from frost and drought, but will secure a healthy and softer bark upon which to put the scion or graft, with the effect of quicker callus and junction.

Send in your orders for roses. It is better for both vendor and purchaser to make early arrangements. One has also the advantage of trying elsewhere for any specially-desired variety should the first seller not have it, or be already booked forward.

ROSARIAN.

A BEAUTIFUL BOWL OF ROSES,

For which Mrs. Courteney Page, Enfield, was awarded the first prize at the N.R.S. Metropolitan Show. The variety is Kaiserin A. Victoria.

A BOWL OF ROSES.

At the National Rose Society's Metropolitan Exhibition, held at Regent's Park on July 4, the numerous classes for the artistic display of roses formed a very large and interesting feature. The section was open only to ladies, and it was all the more interesting, because the idea kept in view was the arrangement of roses for the decoration of the home. One especially successful class was for a bowl of exhibition roses, and the competitors admirably demonstrated the fact, so often set out in these pages, that exhibition flowers of exhibition varieties may be disposed artistically. Some capital exhibits were set up, but the first prize bowl was especially fine, and very few visitors cavilled because the decision of the judges was in favour of Mrs. L. Courteney Page, Earldoms, Ridgeway, Enfield, whose grouping of Kaiserin Augusta Victoria we illustrate herewith. Other delightful exhibits in the same class consisted of Mme. Melanie Soupert and Mrs. G. Shawyer, representing these varieties in fine form, and deftly disposed by Mrs. E. Burnett and Mrs. J. Bide respectively.

POETAZ NARCISSI.

Just about a year ago (G.M., September 28, 1912, p. 743), I drew special attention to the merits of the Poetaz Narcissi, and it is with not a little pleasure I return to the subject again, particularly because the varieties of this race are such excellent plants for pot culture and for planting in fibre in ornamental pots and bowls.

As the Poetaz Narcissi are steadily growing in favour, questions are being asked concerning their origin, and the answers vary with the knowledge of the person questioned, and often there is a touch of inventive genius found in such answers. It may be as well therefore to again make it clear that for all practical purposes the poetaz group is of Dutch origin, and that the beautiful varieties we now enjoy were almost all raised by Messrs. Van der Schoot and Sons, Mr. R. Van der Schoot being, I believe, "the chief conspirator," and the gentleman who mated Tazetta varieties with Narcissus poeticus ornatus many years ago at Hillegom. The hybrid name of the race at once suggests its origin.

Some of our British raisers have turned their attention to poetaz varieties, and Mr. Engleheart has already given us Orient, and Mr. P. W. Williams is responsible for Scarlet Gem, a red-crowned, apricot-yellow variety that does not appear in any list that has reached me this year.

It must not be supposed that Poetaz Narcissi are solely of use for pots or bowls; they are good garden plants, and the bulbs

NARCISSUS KLONDYKE.

A showy Poetaz variety, with yellow perianth and deep golden crown or cup.

cost from 1s. 3d. to 21s. per dozen, the most expensive being Jaune à Merveille and Sunset, while Elvira is about the cheapest. Anyone proposing to plant these narcissi in some quantity should obtain the catalogues of the various bulb specialists (addresses will be found in the advertisement columns), and compare prices, because a certain variety or varieties may be found listed at a lower rate in one catalogue than in the others. As an example, one may find Klondyke priced variously at 2s. 3d., 3s., and 7s. 6d. per dozen, and as no one firm of repute seems to enjoy the monopoly of low prices throughout the section, readers should obtain catalogues as suggested, and spread their orders if they feel it is worth while to do so.

Three varieties I have found especially good for general purposes are Aspasia, Elvira, and Klondyke. The two former are white, the first with a golden cup, and the second with an orange-rimmed yellow cup; while Klondyke is soft yellow, with golden cup. This latter variety is figured in the present issue, and the illustration represents flowers finely exhibited in the spring by Mr. Christopher Bourne, of Simpson, Bletchley, and no head carried fewer than six blooms. Jaune à Merveille, illustrated in September last, is generally considered to be the finest yellow variety, and for pots and for exhibition it is most desirable, as the flowers are large and flat, and the golden crown is much deeper in hue than the soft primrose-yellow perianth. Sunset is another fine yellow, the crown being quite orange-tinted; this gives a well-formed, flattish flower of bold appearance, and is therefore a variety to grow by all who propose to exhibit flowers or bowls. Irene is soft yellow, with deep orange-gold centre, and grows quite tall; some will prefer it to Klondyke.

Alsace, with its pure white flowers and yellow cup, is not listed in all catalogues, but is a deserving variety, because under similar conditions it is a trifle earlier than the rest. Ideal is a tall-growing white variety, with a showy orange centre, and grows almost as strong as Elvira. Triumph is another with white broad perianth segments and a yellow centre, and is of comparatively dwarf habit. Orient is a grand white variety, tall growing, and with a very effective red-edged cup. There remains Lucia, a tall grower, with yellow perianth and golden centre; and where all are so good it is no easy task to make a small selection, especially as the section is yet a small one; but Aspasia, Elvira, Jaune à Merveille, and Klondyke will do very well to start with if it be necessary to severely limit the varieties grown.

To all who have not tried Poetaz Narcissi, let me say that the stronger growth and bolder flowers of this section place the varieties far ahead of the polyanthus or Tazetta forms, and one can make no mistake in cultivating them.

C. H. CURTIS.

Mildew on Vines. — Owing to a desire to practise economy as regards fuel, many cultivators of grapes stop all fires during the summer months. While the weather remains warm no harm will result, provided the ventilation of the houses be well attended to, but I think it is false economy to refrain from firing when bad spells of weather come, especially in the case of late varieties of grapes, notably Muscats. Frequently, owing to a low night temperature, and then a sudden rise from sun heat early in the morning, mildew attacks both berries and leaves, besides causing the berries of Madresfield Court to crack.—G. B.

SOME AUTUMN FLOWERS.

The autumn garden seems to have been enriched by the increase in the number of hardy plants at least as much as that of any other season, so much, indeed, that it is not an uncommon thing to find gardens brighter in September than at Midsummer. Sometimes the garden gradually acquires this character before its owner is aware of it, and sometimes it is the result of deliberate arrangement in order that there may be some weeks of display after the return from the summer holiday, instead of a considerable number of the garden occupants displaying themselves at their best when there is no one there to see them. Many late summer flowers last right through September in a favourable season, especially with a little attention in the matter of picking off the dead blossoms, though they do not, as a rule, have the freshness of the true autumn flowers, which do not begin to bloom much before the end of August, and often later. Many plants are never more beautiful than when they are just beginning to flower, for then we have no blossoms past their best, but the maximum number of unfolding flowers in all stages of development.

Early-flowering Chrysanthemums.

The first to be mentioned must be the queen of the autumn garden, the early-flowering chrysanthemum. Everyone grows these after a fashion, but few make them as effective as they should be. Strong healthy plants are a prime necessity, but they are not always to be had. When old plants survive the winter they should be broken up, and the most vigorous and best-rooted pieces of young growth replanted, taking any cuttings that may be wanted from the remainder. Of the multiplication of varieties there is no end, but for outdoor purposes the more recent introductions are by no means all improvements. The weakness of the flowering stems is a drawback of the Marie Masse type, though this has its compensations, for in wet weather the flowers hang their heads, and the water runs off them without doing much harm, while in the newer varieties, with strong upright stems, the open flowers have to stand the whole brunt of the wet, and a few days of wet weather often spoil them. This is the case with such varieties as Champ d'Or and Roi des Jaunes, which have displaced Horace Martin in some catalogues, though the latter variety will give points to several of the others during bad weather, and we generally have at least some bad weather, with heavy rains, at this season. For plantations in the garden it is doubtful if there are any to beat the deep yellow varieties. They show up better, and, possibly, suffer less from wet than any other colour. Slight disbudding is advisable for some of the early-flowering varieties even in the open ground. Two or three good blossoms on a spray are better than eight or ten more or less jammed together.

Michaelmas Daisies.

The Michaelmas daisies, in all their infinite variety, must receive full consideration. Remarkable improvements have been made with some kinds during the last ten or twenty years, but even to-day, with hundreds of varieties to choose from, a dozen that have been carefully selected will give one the best specimens of each type, while the old species, Aster acris, still remains as good as any for some purposes. They are well adapted for naturalising on banks or by woodland walks, and in the semi-wild parts of the garden fine effects may be produced with them. Some require to be arranged in masses, while others should be grown as specimen plants, though there are not very many of the latter class. Last autumn I had a large group of A. novi-belgi William Marshall, and the effect of the perfectly shaped deep mauve flowers against the background of their own dark green foliage was one of the finest of the year. As a contrast to this I had one small clump of about four stems of Hon. Edith Gibbs, which exceeded five feet in height, and was more in diameter, clothed from the ground upwards with its myriad blossoms. They may all be moved at any time late in the autumn or spring, but while the novi-belgi section should be moved every year, for the plants naturally break up into such conveniently rooted pieces that it can be done at any time from October to May with impunity, others of the non-spreading type, such as cordifolius, are best left for a couple of years undisturbed. Of the dwarf varieties everyone should grow Aster acris, and at least one variety of A. amellus, and of the taller sorts William Marshall, Hon. Edith Gibbs, Hon. Vicary Gibbs, and, to flower when all these are over, cordifolius Ideal, one of the best for cutting. These tall sorts are handsome in the bud stage, and after flowering also.

Miscellaneous.

The dahlia is so constantly changing—is it not well called Dahlia variabilis?—that the non-specialist scarcely knows where he is, and choosing varieties at shows often leads to disappointment, as so many make no display in the garden by reason of their shortness of flower stems, though things are improving in this respect. The annual aster is the flower of the autumn par excellence. We have, however, to wait a long time for it, and the plant does not last in full beauty very long when we have it. A place should be found for them where they will be sheltered from the early autumn gales, or the bed may be wrecked just as it is becoming beautiful. Fuchsias are essentially autumn flowers, rejoicing in the dewy mornings, and having a fresher appearance in early October than in July and August. The hardy bush fuchsias, which make such beautiful hedges and specimen plants in the west and south-west, and in some favourable positions elsewhere, can scarcely be recommended for cold inland districts.

A flower which always suggests autumn, though it often comes a little before it, is the torch lily. Unfortunately, it is not very hardy in cold situations and soils, but a little protection will carry it through most winters. It is not a subject for small gardens or borders, but should be grown where it is not out of proportion to the scale of its surroundings, for small plants with one or two spikes are not effective.

Of the autumn sunflowers the best are Miss Mellish and rigidus semi-plenus, which, when well grown, are very effective in lighting up the garden in succession from late August till mid-October. Another large-growing perennial is Solidago Golden Wings, which lasts in flower two or three weeks, and, as a well-grown specimen, with a spread of six or eight feet, is a beautiful object for two or three weeks before flowering. The Japanese anemone, perhaps of more refined beauty than any of our autumn flowers, has one great advantage possessed by few flowers of summer and autumn, and that is it does better in a damp and shady place than in full sun, and, therefore, can be put where few other things can.

A. C.

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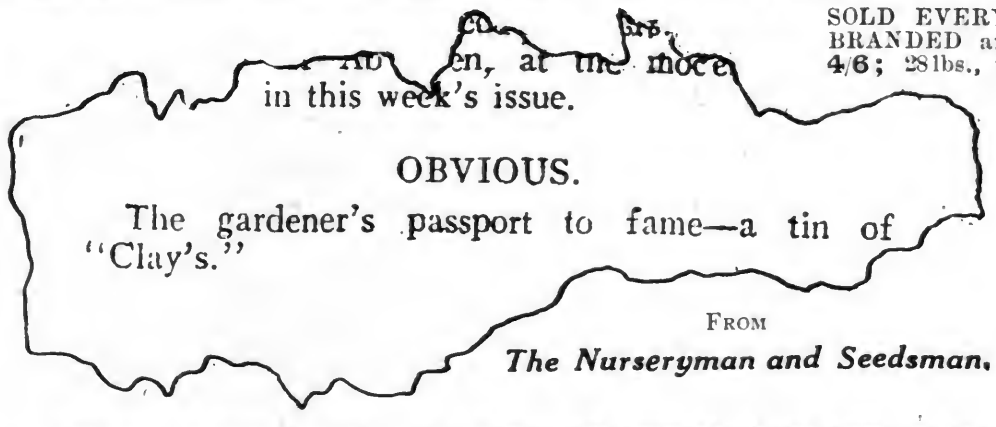

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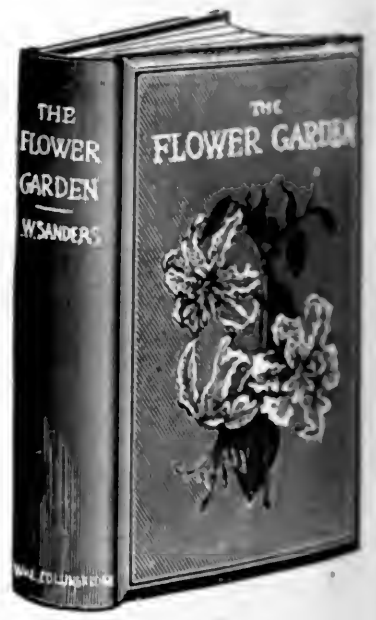

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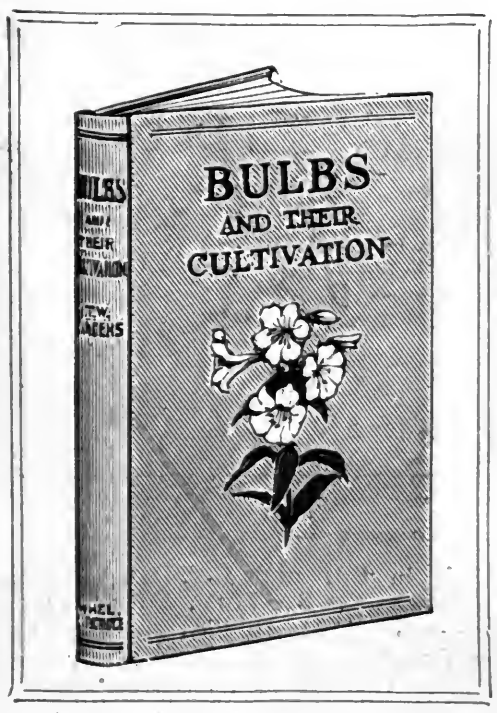

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NOTES FROM KEW.

The middle of September is by no means the season at which the greenhouse is seen at its best, for many of the summer-flowering occupants of that structure are then on the wane, while the chrysanthemums, which make such a show later on, are not yet available. In spite of all this there is a goodly show of flowers at Kew, towards which begonias of various kinds contribute liberally. Tall specimens of Begonia coccinea and B. Luzerna are carrying their massive drooping clusters of bright-coloured blossoms, while of the true species may be mentioned B. Evansiana, B. Dregei, with its profusion of white flowers; B. Haageana, handsome both from a foliage and flowering point of view; with the pretty, slender-growing B. fuchsioides. Garden varieties that stand out prominently include among their number Bavaria, Saxony, Semperflorens Bonfire, Ingrami, and semperflorens gigantea.

Other flowers include zonal pelargoniums, streptocarpuses; Clerodendron fallax, cannas, and many of the usual occupants of the structure at this season. Bulbs consist of Lilium speciosum, represented by different varieties, Lilium Henryi, and some fine examples of Crinum Powelli, and its pure white variety alba. Tibouchina heteromalla is very striking just now, as also is a well-flowered batch of bright-coloured lantanas, whose value at this season for greenhouse decoration might be considered more than it is at present. Primula Kewensis and P. obconica are both flowering freely, while the orange-coloured berries of Nertera depressa form a very pleasing feature.

A striking effect is produced by a number of garden varieties of clematis in full flower. They are comparatively dwarf plants, trained to a single stem, and flowering freely on the upper part. Many of the finest garden forms are represented, and altogether they make a goodly show. The greenhouse also contains a great variety of climbing plants, among which some are just now in a particularly attractive condition.

Begonia Sanderæ.

Several examples of this showy begonia of garden origin are in flower in the greenhouse. It has an erect habit of growth, and bears a certain amount of affinity to B. Lynchiana, formerly known as B. Roezli. The flowers of B. Sanderæ, which are borne in good-sized clusters, are of a brilliant shade of orange-scarlet.

Nægelias.

Numerous varieties of these showy gesneraceous plants have for a long time been in flower in the cool portion of the T range, and, though some of them are past their best, sufficient yet remain to make a goodly show, which illustrates well the great variety that exists among these charming flowers. Though grown under the name of Nægelia at Kew, they are in many gardens referred to as the genus Gesnera.

Jasminum Maingayi.

Although seldom met with outside of Kew, this comparatively new jasmine from Penang is so attractive trained to the roof in the intermediate portion of the T range that it should ere long be more generally grown. It is of free growth, the foliage is of a rich green tint, and the pure white, starry flowers are borne in great profusion. Only in one nursery list have I met with this desirable species of jasmine.

Warm House Balsams.

These loom largely among the floral embellishments of the intermediate portion of the T range. Impatiens Hawkeri with magenta-violet flowers, whose susceptibility to mite has led to its being discarded in many gardens, is represented by a well-grown group of plants, all flowering freely. The typical Impatiens Holsti, too, with rich vermilion-coloured flowers, also makes a goodly show, though the individual blooms are smaller than those of the others. The large, flat flowers of a distinct orange-salmon shade form a very striking feature of I. Herzogi, one of the latest additions to this useful class of plants. The hybrid, Impatiens Kewensis, is also finely in flower, and a good deal of variability may be noted among the plants.

Ipomæa Leari.

In the same structure as the balsams a specimen of this Ceylon ipomæa is trained to the roof, and flowering with great freedom. It is of quick growth the slender, twining shoots being clothed with heart-shaped leaves, rather thin in texture, and somewhat liable to be attacked by red spider if the atmosphere is too dry. The large, fragile-looking flowers are of a charming shade of rather light blue with a lighter centre. This ipomæa is one of the shrubby species, and not of annual duration, as many of them are.

Hippeastrum reticulatum.

This, the oldest of all the hippeastrums, is in flower in the T range. Its strap-shaped leaves have an ivory-white midrib and it is in this respect alone readily distinguished from the other hippeastrums. The flower scape, which is not much over a foot in height, bears about half a dozen blossoms three inches or so in diameter, and of a soft lilac-pink tinge, with deeper-coloured veinings. This hippeastrum was introduced from Brazil as long ago as 1677. A second species, H. aulicum, with red flowers, is also in bloom.

Odontadenia speciosa.

This is a near relative of the Dipladenias; indeed, it used to be known as Dipladenia Harrisi. It is, however, far more vigorous than most of the dipladenias, and needs a large structure to enable it to flower well. In the Victoria Regia house it is just at home, for, with ample room to grow, and full exposure to the sun, it flowers freely. In colour the flowers are orange with, in some cases, a reddish suffusion. Though very fine when at its best, it is useless to attempt to flower this odontadenia in a small and shaded structure. Close by, a specimen of the delicate blue Thunbergia grandiflora is also blooming freely, thus showing that similar conditions suit it well.

Zephyranthes candida.

The band of this wind flower which has for some years edged the border outside of the orchid house is now in full bloom. It is so attractive when in this stage that its suitability for such a purpose is well shown. When thickly laden with blossoms the resemblance to an edging of white crocuses at a little distance is very marked. Close inspection, however, reveals a difference both in flowers and leaves, these last being quite rush-like. In some parts of the border a background of Gerbera Jamesoni in bloom serves to show off the white blossoms of the Zephyranthes to considerable advantage.

Kniphofias.

Close by the zephyranthes are some beds of kniphofia, and the flowers are very striking even at a considerable distance. Among the best at the present time (middle of September) are K. corallina, K. aloides Saundersi, K. aloides glaucescens, and the distinct K. Tysoni. In contrast to these large-growing kinds may be noted K. breviflora with quite small heads of the yellow flowers. K.

WIRED, ETC., FLOWERS.

Although the exigencies of transport of flowers for exhibition frequently demand artificial treatment in the way of support while in transit, or even during exhibition, there is no doubt that when new flowers are intended to be put forward for awards they should be entirely divested of any artificial aid whatever, either in the way of such support by wire or sticks, or by "dressing," i.e., special treatment and arrangement of their petals. It is, however, too frequently the case that, despite rules to the contrary, new, or presumed new, varieties are put before the judges for consideration, with the result that, being so treated, they are tacitly or openly considered as disqualified thereby. Such disqualification obviously is perfectly justifiable. Blooms with long, slender stems stiffened by wires may make a very brave show, while, under purely natural conditions, to which, as most of the purchasers, on the strength of given awards, would certainly subject them, they would be quite unfitted for garden culture owing to their lax habit. "Dressed" flowers, too, such as roses, may possibly give a quite false idea of beauty and good form, which they could never exhibit as garden plants, and so with many others. Some carnations, too, particularly of the Malmaison section, are prone to burst their calyces owing to the redundance of their petals, and it is clearly wrong to obtain, or attempt to obtain, an award when this serious fault is precluded by the artful aid of a slender rubber ring, removed, maybe, at the last moment, but the trace of which is quite perceptible, to the eye of the suspicious expert. Various other "dodges" might be cited in support of the moral—that exhibitors would be well advised to put forward their novelties on purely natural lines, and thus avoid the disappointment inevitable when the judges are properly qualified. C. T. D.

Cauliflowers.—At the present day the majority of growers chiefly depend on spring sowing for the earliest supplies. For my own part I consider it good practice to make two small sowings during the month of September, the first about the 10th and the other a fortnight later. Should mild weather prevail, the later sowing will provide the best plants to prick out on beds of soil in cold frames: the soil should be poor and light in character, an excess of moisture during the winter months is generally fatal. Two suitable varieties for this sowing are Walcheren and Magnum Bonum, the latter variety is usually very good with us about the end of June or early part of July.—W. MESSENGER.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEASONABLE NOTES.—Permanent shadings that have not been removed by the recent rains, should now be washed from the roof glass of all the warm divisions. Discretion must be used in working the roof blinds so as to afford the plants as much light as possible without scorching or disfiguring the foliage. It is always desirable to be on the safe side, and especially is this the case where permanent shading has been used beneath the blinds. In the cool divisions, where the plants have been repotted, great care is necessary, and even with plants that have not been repotted it is not desirable to have the foliage turning a russety-red colour. The effects of over-strong light on the foliage produces this effect, and such leaves quickly ripen and die, leaving more leafless pseudo-bulbs than are desirable for the appearance of the plant. It is some time before the plants complete their growth and produce their flower scapes, so there is ample time to mature the pseudo-bulbs.

DAMPING DOWN.—With the shortening days, and cool mornings and evenings, evaporation will not be so rapid, and consequently less damping will be necessary. When the outside conditions are cold in the mornings the damping should be delayed until the normal degree of temperature of the division has been reached. Damping in the afternoon should be done sufficiently early to permit excess of moisture to evaporate before the evening temperature is reached.

FIRING.—In the northern districts it will be found desirable, even on fine days, to start the fires early in the afternoon. This not only prevents accumulation of moisture in the atmosphere, but also permits the freer use of the ventilators. It is desirable to admit as much fresh air as possible at this season, and it is a good plan to open the roof ventilators the last thing at night, whenever the outside conditions permit.

DECIDUOUS DENDROBIUMS. — The different species and hybrids now completing their growth should have less root moisture. After growth is completed only sufficient water is necessary to keep the stems plump. Afford ample light, and ventilate freely whenever weather permits. It is desirable to keep the plants under close observation, as with a drier atmosphere insect pests, such as red spider and thrips, quickly make their appearance. It is advisable to syringe or spray the plants early on fine days. All plants of this section that have not completed their growths should be placed in the warmest and brightest place available, and given every encouragement to mature their pseudo-bulbs during the next few weeks while the weather is favourable.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

ANTHURIUMS.—These plants will now require rather less water at the roots, and a rather drier atmosphere than when in full growth. A. Veitchi and A. Woroqueanum, having fully developed their fine leaves, care should be taken that in moving them or rearranging plants around them their foliage is not torn or damaged, for a slightly torn leaf or two will disfigure the best-grown specimen. They will require to be examined occasionally and sponged with care. If the compost has become at all loose, carefully make it firm, and at the same time some leaves may be staked out to give them more prominence and the plants a more shapely appearance. A. Andreanum, with careful attention will continue to produce its brightly-coloured spathes throughout the autumn and winter.

ACHIMENES.—When these have quite died down, and the tubers are ripened, the tops may be removed, and the tubers stored under the greenhouse stage or in any dry place where frost is excluded.

CALADIUMS.—The later batches are now becoming rather shabby in appearance, and should occupy a shelf in full light, with fair ventilation in nice weather. They will require only occasional waterings until when fully ripened they may be stored away for the winter in a dry position where a temperature of about 60 degrees is maintained.

MYRSIPHYLLUM ASPARAGOIDES (SMILAX).—As outdoor foliage becomes scarce there will be a greater demand for this and elegant leafage for the table and other decorative purposes. Every care should be taken that it is growing to its strings and not becoming entangled. Plants raised early in the year from seeds will be growing freely in their final quarters, and may now be assisted by occasional applications of soot water and weak liquid manure. To keep in the year from aphides the house in which it is growing may be fumigated occasionally.

ADIANTUMS.—These will now require a rather drier atmosphere, ventilating the house slightly upon all favourable occasions and utilising a little fire-heat in dull, cold weather. Carefully remove decaying fronds, and in rearranging give all possible room between the plants, so as to keep the fronds in good condition over as long a period as possible. Similar treatment will also benefit nephrolepis, the crested forms of which have become almost indispensable for decorative purposes.—H. PRIME, Hatfield House Gardens.

FRUITS UNDER GLASS.

ORCHARD HOUSES. — Trees of early varieties of peaches and nectarines from which the fruits were gathered in May and June should be examined, and, in the event of any of them requiring potting, no time should be lost, as the ripening leaves help to make new roots, and pots well filled with roots must be ensured to obtain the best results. The potting of fruit trees is now well understood, and I need not enter into details; but I must repeat how important it is to have good drainage, and to see that the soil is made thoroughly moist by watering before they are turned out of the pots. I prefer repotting the trees annually; young trees may be given pots a size larger than previously, but old trees which require reducing should be turned out and have a quantity of the inert soil picked out carefully with a pointed stick until the mass of roots resembles a mop of fibre. Shorten back the strong roots and repot, using clean pots of the same size as before. Use compost in a rather dry state, and spread the roots as much as possible by working the tree up and down a little before ramming the compost well down, finally finishing off with a broad-headed rammer, and leaving two or three inches room for water. September-potted trees require one good watering, after which light syringing should be given to keep the foliage fresh until the flower buds are matured.

PEARS, APPLES, PLUMS, AND CHERRIES.—Where these are grown as well as peaches and nectarines, the fruits will have been found most valuable this season, as outdoor supplies are limited, and all the above give excellent returns with careful attention. Such of these trees that require a shift into larger pots should be given one, but of two evils it is better to have medium-sized pots full of roots rather than large ones containing soil that is not fully occupied. Cherries especially swell up magnificent fruits when root-bound if properly top-dressed and fed throughout their season of activity. All stone fruits enjoy a calcareous loam, lime-rubble, wood-ashes, and sprinkling of bone-meal, which cannot easily be made too firm by ramming. Keep the roots moderately moist during the winter, as dryness at the roots after the leaves fall is one of the most common causes of bud-dropping when the trees are placed in gentle heat.—F. JORDAN, Warter Priory Gardens.

THE FLOWER GARDEN.

CALCEOLARIAS.—The beginning of the next month is a most suitable time to propagate calceolarias. Sturdy basal growths are to be preferred when selecting the cuttings, and these should be cut off immediately below a joint, have the bottom leaves taken off, and inserted in sandy soil in a cold frame from which it is possible to exclude frost. The frame should be kept close until the cuttings have become callused. Calceolaria amplexicaulis is a most desirable kind, and is annually gaining in popularity; it is particularly suitable for large beds, and for filling bare places in the herbaceous borders. It needs no further attention in its cultivation than that usually allotted to the dwarf, shrubby bedding varieties, beyond requiring more space in the frames at the time of transplanting in the spring, and to be allowed to grow naturally.

ANNUALS.—The practice of sowing annuals in the autumn is a speculative undertaking, as during the winter months the small seedlings are exposed to damage through inclement weather, or from the ravages of snails, etc.; but when they can be brought successfully through this ordeal many of them give better results than when sown in the spring, their habit being much more sturdy, and they flower over a longer season, all of which is an inducement to continue the system. Now is a good time for sowing, as it gives the seedlings a chance to make some headway before the winter. There are numerous annuals with a constitution equal to this treatment, and among them I may mention a few as being particularly effective, i.e., godetias, clarkias, nemophila, limnanthes, silenes, cornflowers, scabious, viscarias, larkspurs, etc.

THE ROCK GARDEN.—The present time is usually a busy one in this department. In any work of construction the fact that rock plants in general require a soil in which they can root deeply must not be lost sight of when placing the pieces of rock in position. A rockery may have the appearance of being naturally constructed, and yet prove very unsatisfactory as a home for a variety of rock plants, because where deep pockets should exist between the boulders, into which the occupants can thrust their roots deeply enough to withstand a drought, they consist of a shallow covering of soil over hidden stones; and this condition is not an uncommon one, especially on rockeries of small dimensions where a number of large and somewhat flat-topped stones are used. Autumn planting of all but the most delicate varieties of rock plants is to be recommended, as it has a decided advantage over such work carried out in the spring; the plants become well established, and are in a better position to withstand the effects of cold, drying winds usually so prevalent in March and April, therefore every effort should be made to complete as much of this work as possible during the month of October.

AUBRIETIAS.—These figure largely in all rock gardens, and, as the named varieties do not come true from seed, the stocks are kept going by means of cuttings, which, if inserted at this time of the year, root very freely, and soon grow into nice plants. Attempts to root aubrietias through the summer months prove very tedious and uncertain, as they appear to lose all vitality during hot weather.—T. B. FIELD, Wych Cross Place Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

There was a "full house" at Vincent Square on Tuesday, September 23, both as regards exhibits and visitors, although the latter thinned out very early in the afternoon, and by five o'clock few but exhibitors remained. Besides exhibits coming before the several committees, there was a fine dahlia competition for the Cory Cup, and the Society's Vegetable Show. Novelties were fairly numerous and interesting. Orchids were very bright, and with dahlias, Michaelmas daisies, vegetables, and fruits, made up a capital display.

Practically all the regular habitués were back from holiday, and everyone was glad to see Mr. John Heal, V.M.H., again, now fairly well recovered from the severe accident he sustained some months ago.

HARDY FLOWERS.

Messrs. W. Cutbush and Son, Highgate, displayed pentstemons in vases, and showed such varieties as Mrs. Leonard Cutbush, scarlet; Mauve Queen, Mrs. Baird, Miss Baird, pink; and Pink Pearl. Mr. James Box, Lindfield, put up handsome spikes of Lilium nepalense and L. sulphureum, both lovely lilies, and in this case the spikes were cut from the open; Cimicifuga simplex was also very beautiful, and Crinum Powelli was capitally shown. Mr. Ernest Ballard, The Court, Colwall, whose work among Michaelmas daisies is well known to our readers, put up a large exhibit of his favourites, including the double sorts Cloudy Blue, Nancy Ballard, and Beauty of Colwall, and the singles Jupiter, new, large, pale lilac-blue; Neptune, blush. Michaelmas daisies from the Wargrave Plant Farm, Lim., The Arcade, Liverpool Street, made a pretty display; the smaller-flowered sorts, such as ericoides, Bianca, Golden Spray, Symphony, Virgin Queen, Ophir, and Perfection, were very graceful.

Messrs. W. Wells and Co., Merstham, again displayed phloxes, and set up Le Mahdi, Eclaireur, Salome, Mons. Kind, the soft lilac Mdme. Paul Dubrie, the large white, violet-budded Distinctive, and the new Emile Michel, old rose, with violet-shaded eye. Rev. J. H. Pemberton, Haverıng, again submitted his roses Danaë and Moonlight, and gained an A.M. for the latter. Messrs. Herbert Chapman, Lim., Rye, also again showed their fine salmon-scarlet Nerine Rotherside, very bright.

DAHLIAS.

A number of new pæony-flowered dahlias, all remarkable for their stout, erect stems, carrying the big, glorious flowers in position and holding them up finely. These were exhibited by Messrs. Warnaar and Co., Sassenheim, Holland, for whom Messrs. Whitelegg and Page, Chislehurst, are the English agents. A few of the finest were Duchess of Brunswick (A.M.), orange-red or orange-salmon; Mrs. Vaughan (A.M.), soft yellow, and suggestive of cactus dahlia form; Chatenay, lovely salmon-pink; Leo XIII., golden-yellow; H. J. Lorinck, pink and lilac-purple; and Zeppelin, violet, tinted lilac.

A gorgeous exhibit of dahlias, composed entirely of collarette varieties, set up in vases and pyramids, was from Messrs. Dobbie and Co., Edinburgh. The most brilliant varieties were Madam Gygax, Holyrood, Henri Farman, Prince of Orange, Queen Anne, Goldstein, Queen Bess, Princess Louise, Diadem, and Frogmore; in these varieties we have the most brilliant shades of yellow, orange, scarlet, and ruby-crimson. Mr. J. B. Riding submitted a very bright collection of pæony-flowered, decorative, and collarette dahlias, associated with suitable foliage.

Among new dahlias we noted Rupert (A.M.), a flame-coloured golden based flower of garden cactus type, on stiff stems; Edith Carter, a distinct, erect cactus variety, with golden florets, the upper halves deep pink. These were shown by Mr. H. Shoesmith, Woking. Messrs. Stredwick and Son, Silverhall Park, St. Leonards, presented a number of new dahlias, and gained an A.M. for Dorothy Hawes, a cactus variety previously described in these columns. Messrs. Burrell and Co., Cambridge, submitted new cactus dahlias, and secured an A.M. for Homere, a deep crimson-maroon cactus variety of fine form.

OTHER FLOWERS.

Messrs. Robert Veitch and Sons, Exeter, brought up Nerine Bowdeni, some of the spikes from outdoor-grown plants; N. Bowdeni pallida, Calceolaria Veitchi, and the very curious red and yellow, long-tubed Lobelia Cavanillesi, quite hardy at Exeter. Gloriosa Carsoni has yellow petals, the upper half of each petal being dark chocolate-purple, except for yellow margin; this was shown by Messrs. Ridley and Co., Wellington, Somerset. Market Favourite pink, a late-flowering sort, white, laced with pale crimson, was sent by Messrs. Ladhams, Lim., Shirley, Southampton.

Messrs. Allwood Bros., Hayward's Heath, presented a collection of perpetual carnations, and set up the new Yellow Stone, a promising soft yellow variety, shown for the first time in this country; and Fairmount (A.M.), a large, full flower of soft heliotrope shade, with very faint fragrance. The perpetual carnations from Messrs. Stuart Low and Co., Enfield, included Satin Robe, the new and well-named Salmon King (A.M.), and the lovely Empire Day.

ORCHIDS.

At the meeting of the Orchid Committee the Chairman paid a tribute to the memory of the late Mr. J. S. Moss, who for many years was a member of the committee, and whose recent decease was so deeply deplored by orchid-lovers.

A charming group of orchids from H. S. Goodson, Esq. (gardener, Mr. J. Day), Fairlawn, Putney, was notable for its large series of autumn-flowering lælio-cattleyas, L.-c. callistoglossa and L.-c. Bletchleyensis standing out conspicuously; a few odontoglossums added elegance to brilliant colouring. Mr. Black, gardener to R. G. Thwaites, Esq., Streatham, made a good show with Cattleya Iris and C. adula. Mr. C. Bristow, gardener to Mrs. Temple, Leyswood, Groomsbridge, showed a Cypripedium Ashburtonæ, a very old hybrid, with two dozen spikes, most of them carrying a pair of flowers.

A very pretty group from Messrs. Charlesworth and Co., Haywards Heath, was rendered very graceful by the long sprays of Oncidium incurvum, Odontoglossum crispum xanthotes, Vanda cærulea, and the brilliant Epidendrum vitellinum majus. In the foreground were capital examples of Lælio-cattleya callistoglossa (one with seven lovely blooms). Dendrobium Dearei, the white Cattleya Alamanda, and the curious large-lipped, white and green Angræcum infundibulum. In the group from Messrs. Hassall and Co., Southgate, Cattleya aurea, C. Hardyana, C. adula, C. minvica, and other autumn bloomers were well shown.

Vanda cærulea was the centre of attraction in the orchid group arranged by Messrs. Sander and Sons, St. Albans, but with this blue-flowered species were miltonias, a series of autumn-flowering lælio-cattleyas, Cypripedium Pyrrha, the purple Odontonia Machabiana, and the quaint Saccolabium acutifolium. Messrs. J. Cypher and Sons, Cheltenham, presented the wonderfully fringed Habenaria Suzannæ, the rare Bulbophyllum grandiflorum, Cypripedium triumphans, C. Gaston Bulteel, and the handsome Odontoglossum grande.

Messrs. Armstrong and Brown, Tunbridge Wells, had Cattleya Iris in good form, C. Armstrongæ, C. Atalanta, and the fine Lælio-cattleya George Woodhams, recently figured in our columns, but, perhaps, the loveliest orchid in their group was Oncidium corynophorum with its long spike, nearly four feet long, carrying beautiful mauve, purple, and white flowers. The new bright red Odontioda Joan var. Rawdonensis, was sent by Messrs. Mansell and Hatcher, Leeds, and Mr. E. H. Davidson, Orchid Dene, Twyford, put up Cattleya Cybele Davidson's var. (A.M.), blush and purple; Odontoglossum Woodroffæ, and O. Twyford Gem, each O. Rossi hybrids.

FRUITS AND VEGETABLES.

An especially interesting feature of the show was a collection of Aubergines or Egg Plants, exhibited by Mr. G. Cradduck, gardener to Colonel the Right Hon. Mark Lockwood, M.P., Bishop's Hall, Romford. Colonel Lockwood has been particularly anxious to show the capabilities and varieties of aubergines, as grown under glass in this country, and for several years Mr. Cradduck has grown a considerable collection. There were four dozen plants, all remarkably well fruited, and representing fourteen varieties, some round, some oval, and some quite elongated, almost like small German sausages. In colour there was some variation from white to darkest purple, while a few very ripe fruits were yellow. Mr. Cradduck tells us that Early Long Purple, Perfection, and Tokio are the best varieties for cooking. Others very attractive were Long White Giant, Black, Round White, Purple Pekin, very large and roundish Round Purple, Long White China, Striped, and Scarlet. The plants were raised from seeds sown in March last. The group was a centre of interest, and Colonel Lockwood was heartily congratulated upon his success.

Messrs. Sutton and Sons, Reading, put up a superb display of vegetables, and showed that fine selections and varieties, finely grown, may be arranged to produce a most attractive exhibit. In the matter of colour such an exhibit lacks nothing, while as a demonstration of high culture, and the variety to be found in cultivated vegetables, it ranked high in educational value. We have so often referred to the Sutton specialities that there is no need to go over the ground again, but we would point out that among uncommon vegetables the Reading firm on this occasion exhibited custard marrows, Seakale beet, New Zealand spinach, aubergines in various shapes and colours, maize, capsicums, kohl rabi, yellow waxpod beans, and yellow turnips. Onions, celery, potatoes, leeks, and all the rest of the hundred and seventy dishes were all up to Sutton standard, and one cannot say more than that.

Mr. Thos. Smith, gardener to the Marquis of Ripon, Coombe Court, Kingston Hill, submitted about sixty dishes and nearly as many varieties of apples of fair quality, but good, when it is remembered that they were grown on thin, light soil.

Mr. D. Vigo, Thaxted, showed vegetables, apples, and melons, but made no attempt at good arrangement. Mr. Wilkins, gardener to J. H. Porter, Esq., Malden, Surrey, showed very fine dishes of The Queen, Ribston Pippin, Warner's King, Peasgood's Nonsuch, Emperor Alexandra, Cellini, New Hawthornden, and Cox's Pomona apples—a

bronze medal seemed scarcely an adequate award for fruits of such fine colour and quality.

Premier onion, of fine form and size, was finely shown by Messrs. Dickson and Robinson, Manchester, who staged about sixty weighty and clean bulbs.

AWARDS OF MERIT.

No First-class Certificate was awarded on this date.

Award of Merit.—To Carnation Fairmount, from Messrs. Allwood Brothers, Wivelsfield, Haywards Heath; to Aster Mrs. Frank Lean, from Mr. H. J. Jones, Lewisham; to Aster Beauty of Ronsdorf, from Messrs. Thos. S. Ware, Feltham; to Rose Moonlight, from Rev. J. H. Pemberton, Havering, Romford; to Berberis aggregata, from Hon. Vicary Gibbs (gardener, Mr. E. Beckett), Aldenham House, Elstree; to Primula vincæflora, from Prof. I. Bayley Balfour, Edinburgh Botanic Gardens, to Chrysanthemum Olive, from Messrs. W. Wells and Co., Merstham; to Carnation Salmon King, from Messrs. Stuart Low and Co., Enfield; to Lælio-cattleya Armada, from Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester; to Cattleya Cybele, Davidson's var., from Mr. E. H. Davidson, Twyford, Berks; to pæony dahlias Baroness von Brunswick and Mrs. J. C. Vaughan, from Messrs. Warnaar and Co., Sassenheim, Holland; to dahlia Homere, from Messrs. Burrell and Co., Cambridge; to dahlia Dorothy Hawes, from Messrs. J. Stredwick and Son, St. Leonards; to dahlia Rupert, from Mr. H. Shoesmith, Woking; to dahlia Reginald Cory, from Messrs. J. Cheal and Sons, Crawley; and to dahlia Ruby, from Messrs. J. Cheal and Sons. The awards to dahlias were made by a joint committee of the R.H.S. Floral Committee and the National Dahlia Society.

MEDALS.

Gold.—Messrs. Sutton and Sons, Reading, for vegetables.

Silver Flora.—To Messrs. Dobbie and Co., Edinburgh, for collarette dahlias; Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to H. S. Goodson, Esq., Putney, for orchids.

Silver Knightian.—To Messrs. Dickson and Robinson, Manchester, for onions; to Mr. Cradduck, gardener to Col. Lockwood, M.P., Bishop's Hall, Romford (with Cultural Commendation), for collection of aubergines.

Silver Banksian.—To the Church Army, Westminster, for vegetables; to Mr. T. Smith, gardener to the Marquis of Ripon, Coombe Court, Kingston, for apples; to Messrs. Hassall and Co., Southgate, for orchids; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to R. G. Thwaites, Esq., Streatham, for orchids; to Mr. E. Ballard, Colwall, for perennial asters; to Messrs. W. Wells and Co., Merstham, for phloxes and chrysanthemums.

Bronze Flora.—To Messrs. Stuart Low and Co., Enfield, for carnations; to Mr. J. B. Riding, Chingford, for dahlias; to Mr. W. Treseder, Cardiff, for dahlia bouquets; to Wargrave Plant Farm, Lim., The Arcade, Liverpool Street, E.C., for Michaelmas daisies; to Mr. Jas. Box, Lindfield, for liliums, etc.

Bronze Knightian.—To J. H. Porter, Esq., Malden, Surrey, for apples.

DAHLIA COMPETITION.

The competition for the Cory Silver Cup, presented by Reginald Cory, Esq., Duffryn, Cardiff, was held on this occasion, and the judges were a committee composed of members of the R.H.S. Floral Committee and the National Dahlia Society.

The cup, valued at 75 guineas, was worth showing for, and brought no fewer than eleven entries. The specification read: "A group of decorative garden dahlias of all or any sections; 25ft. run of 3ft. tabling, not to be built up more than 8ft. in height from the ground level."

The judges had no light task, and eventually they awarded the cup for the ensuing year to Messrs. Carter Page and Co., London Wall, whose bold and brilliant exhibit of single, collarette, pompon, cactus, pæony-flowered, and decorative was very attractive. The firm made no special effort to secure an imposing or startling effect, but massed their flowers in stands and vases, and had just sufficient light colouring to emphasise the gorgeous hues. Such cactus varieties as Ames Perry, Mrs. D. Fleming, Arthur Pickard, Sweet Briar, and Johannesburg were capital, while Bayard as a single pæony-flowered sort, and Delice as a decorative, were very striking, and Souv. de Chebanne, Diadem, Frogmore, and Princess Louise were the most notable collarette varieties.

Messrs. J. Cheal and Sons, Crawley, were placed second, and were awarded a Silver-gilt Flora Medal for effective groupings of Loveliness, Mrs. F. Paton, Mrs. C. Foster, Princess Juliana, Lustre, Mrs. Greville, and other good garden varieties, as well as representatives of all sections of dahlias; this was a very bright display that followed closely upon the first-prize group.

Other competitors were Messrs. Keynes, Williams, and Co., Salisbury, who put up some very handsome stands of cactus and decorative varieties in association with coloured foliage and grasses. Mr. Charles Turner, Slough, used the large, white pæony-flowered variety Aphrodite, as a fine centre group to collarette, giant decorative, and pompon sorts in great variety. Messrs. Thos. S. Ware, Lim., Feltham, depended upon well-arranged stands of collarette and Parisian dahlias for their principal effect. Mr. J. T. West, Brentwood, showed Brentwood Yellow, Futurity, Geisha, and Mabel, all splendid varieties in fine form (Silver Banksian Medal).

Messrs. Hobbies, Lim., Dereham, gained a Silver-gilt Banksian Medal for a very effective group that was a trifle crowded, if any fault could be found; pæony-flowered varieties were placed at the back, then came cactus sorts, with collarette varieties rising from singles, pompons, etc., in the foreground. Messrs. M. V. Seale, Sevenoaks, put up very large stands of good cactus dahlias as a background to rather low vases of pompon, pompon cactus, and collarette varieties, shown just as cut.

Messrs. Wm. Treseder, Lim., Cardiff, had a very lightly-arranged display, and their central display of show dahlias was a capital idea. Mr. J. Emberson, Walthamstow, had a corner exhibit, and presented cactus, pæony-flowered, and collarette dahlias in fine form, and staged them most effectively.

AMATEURS.

In the amateurs' class the Rev. Arthur Bridge (gardener, Mr. C. Daisley), Worth Rectory, Sussex, won the silver cup offered for a collection of decorative garden dahlias, displayed on a space 12ft. by 3ft.; this competitor had a fine background of cactus dahlias arranged with foliage and grasses, and did well with such cactus varieties as Snowden, Mary Pornier, Mrs. Lonsdale, Sweet Briar, and Arthur Pickard, and used pompons, single, and collarette varieties in the foreground. Sir Randolf Baker, Bart. (gardener, Mr. A. E. Usher), Ranston, Blandford, was awarded a Silver Banksian Medal for handsome groupings of cactus and collarettes, with a few pæony-flowered varieties in rather low vases; a similar award fell to Mr. J. S. Kelly, gardener to the Duchess of Albany, Claremont, Esher, for an exhibit in which the green foliage of dahlias seemed a little too obtrusive, but the stems and flowers were all staged as cut, without any dressing or trimming.

VEGETABLE SHOW.

There was a fair amount of competition for the prizes offered for vegetables at the Royal Horticultural Society's Exhibition on September 23. The quality throughout was of a very high order, and great taste was shown in the display of collections. Notwithstanding the note placed on the exhibits in Class 2 by the council, no one seemed able to fully understand why the collections were disqualified, seeing that similar exhibits in a similar class have in previous years been admitted and granted prizes according to merit. If a different standard of judging was to be employed on this occasion, as it evidently was, it seems only just that due notice should have been given.

There were five entries for the premier collection of twelve kinds, distinct, all of which were splendidly grown. The first prize was awarded Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, who staged splendid examples of celery Superb Pink, cauliflower Early Giant, leek Prizetaker, superb examples of Ailsa Craig onions, Tender and True parsnips, with Superlative potatoes. The entire exhibit was well displayed in a bed of parsley. The second prize was awarded to the redoubtable amateur exhibitor Mr. Thos. Jones, Ruabon, who had fine, well-ripened bulbs of onion Ailsa Craig, parsnip Marrowfat, runner bean Exhibition, leek Colossal, and British Queen potatoes; while the third prize was awarded to Mr. F. J. Barrett, Overton, Ellesmere, for a very creditable exhibit; Mr. H. Keep, Aldermaston, Reading, was third.

There were two entrants for nine distinct kinds, the object of the class being to illustrate vegetables in daily use, and possess the qualities most valued by cooks for table use. But, strange to relate, the judges did not regard splendid examples of vegetables suitable for the cooks, so both Mr. E. R. Janes, gardener to Lord North, Wroxton Abbey, and Mr. G. Ellwood, gardener to W. H. Myers, Esq., Bishop's Waltham, had to be content with a typewritten explanation of their failure to comply with the judges' ideas. The type-written notice on each of the exhibits read as follows. "The judges consider that the vegetables shown in class 2 do not strictly comply with the conditions set forth in the schedule for this particular class. The magnificence of the products from the point of view of the art of cultivation is unquestioned, but the items do not illustrate or possess the essential qualities looked for by the cook, with the exception of the cauliflower and tomato." These have taken prizes in previous years under similar circumstances.

The competition for six kinds, distinct, was most keen, there being five entrants. The first prize was awarded Mr. H. Smith, gardener to Mr. Brodie Henderson, Little Berkhampstead, who staged Giant Pink celery, Mont Blanc cauliflowers, Duke of York tomatoes, and the Gladstone pea in fine condition. Mr. J. Taylor, gardener to Mr. F. Bibby, Hardwicke Grange, Shrewsbury, was second; and Mr. T. Avery, gardener to the Right Hon. T. F. Halsey, Goddenden Place, Hemel Hempstead, a good third.

For a collection of twelve varieties of potatoes there were but two entries. Mr. A. Basile, gardener to Rev. T. McMurdie, Woburn Park, Weybridge, was the winner with a fine level collection, which, however, only contained one coloured variety. The best dishes were Conquest, Yeoman, Duchess of Cornwall, Mr. Bresee, New Chieftain, and Goldfinder. Mr. A. G. Gentle, gardener to Mrs. Denison, Berkhampstead, was a capital second, but lacking a little in finish: the best dishes were The Factor, Windsor Castle, King Edward, and Long Keeper. For six varieties, distinct, Mr. G. Thorn, Sprotlands, Ashford, Kent, was well ahead with six fine dishes of Empress, Purple Eyes, King George V., Chapman, and The Factor. Mr. F. L. Pike, gardener to Mr. H. W. Henderson, Serge Hill, King's Langley, was second, and Mr. J. Taylor brought up the rear with larger tubers, though they were somewhat green through exposure.

For six varieties of onions, distinct, there were four contestants, the first prize being awarded to Mr. H. Wheeler, gardener to Mrs. Jenner, Wenvoe Castle, Cardiff, who had

splendid examples of Ailsa Craig, Magnum Bonum, Excelsior, Golden Ball, Sutton's A1, and Premier. Mr. E. Beckett secured second prize with fine examples of Ailsa Craig, Excelsior, and Anglo-Spanish; while Mr. Ellwood was third.

There were only two entrants for nine kinds of salads, Mr. E. Beckett leading off with a most tempting exhibit which included lettuces, endive, tomatoes, radishes, cucumbers, beet, and cress; while the second prize fell to Mr. Thos. Jones for a worthy exhibit; while for six kinds Mr. G. Ellwood won first prize, having some fine tomatoes, lettuces, and endive, Messrs. H. Smith and E. R. Janes winning the other prizes in the order named.

For six kinds of vegetables of the minor order, Mr. E. Beckett secured the premier award, having good dishes of aubergines, celeriac, kohl rabi, salsafy, yellow capsicums, and scorzonera; Mr. E. R. Janes was second with some good red capsicums, kohl rabi, fine aubergines, and Chinese artichokes; while Mr. G. Ellwood was placed third.

The scarlet runner beans were excellent in such a season, the first prize going to Mr. H. Keep, who staged New Exhibition; Mr. H. Smith followed with typical examples of Scarlet Emperor; while Mr. G. Ellwood brought up the rear with Prizewinner. The prizes for climbing kidney beans were hotly contested, Mr. J. J. Staward, St. Fort, Newport, Fife, leading, followed by Messrs. G. Ellwood and E. Beckett in the order named. For dwarf kidney beans there were eleven entries, Mr. H. Smith being first with a splendid sample of Magpie; Messrs. T. Jones and W. West, gardener to Mr. Knox, Holt Hatch, Alton, taking the other prizes respectively. There was a capital entry for beet, most of the examples being well selected. Mr. F. L. Pike was first with Carter's Black; Mr. E. R. Janes being second with Sutton's Black; Mr. E. Beckett was third.

Messrs. G. Ellwood, F. J. Barrett, and F. L. Pike staged the best Brussels sprouts, and the prizes were allotted in the same order. The competition for three heads of sprouts only brought out two exhibitors, Mr. E. Beckett winning first, followed by Mr. F. J. Barrett. Cabbages did not produce a very keen display, Mr. E. Beckett having the best of six competitors. Mr. A. Wilkinson was first for three heads of savoys, staging Perfection. Cauliflowers were not great by any means, and Mr. E. Beckett was the fortunate winner; while Mr. A. Basile secured the first prize for celeriac.

Out of six entries for white celery, Mr. E. Beckett won with fine examples of Solid White, winning the first for red celery also. Cucumbers were not a very strong class, Mr. T. Avery winning with a nice brace of Telegraph. The exhibit of leeks attracted much attention, Mr. G. Ellwood taking the first prize with Sutton's Prizetaker, really fine examples; Mr. E. Beckett was second. Mr. E. Beckett won first prize with vegetable marrows.

Mr. H. Wheeler led off for six onions, having splendidly developed bulbs of Premier; Mr. H. E. Wallis was second. Mr. H. Wheeler again led off for six flat bulbs, staging some fine bulbs of A1. Mr. E. R. Janes won first prize for parsnips from nine entrants, staging Tender and True in perfect condition. Mr. E. Beckett secured the first prize for long carrots, staging new Red Intermediate; while Mr. J. J. Barrett was first for a dish of short varieties, staging Standard. In the class for peas, Mr. E. Beckett won well with the Gladstone; while Mr. T. Avery was first with White Stone Model turnips; in the other classes Messrs. Beckett and H. Wheeler were the first prize winners. In the single dish classes for potatoes the chief prize winners were Messrs. W. West, G. Thorn, and J. E. Shirley.

The tomatoes were excellent in quality, the first prize being awarded to Mr. H. C. Gardner, who staged Duke of York; while the same exhibitor was successful in the class for yellow varieties. The ornamental tomatoes did not produce anything remarkable, Mr. J. Taylor being awarded first prize with very large bunches of Wonder of Italy; while for any other vegetable not named in the schedule Mr. E. Beckett won first prize with Globe artichokes; Mr. A. Basile followed with fine red cabbages; while Mr. P. B. Awcock was third with a dish of salsafy.

Mr. G. Ellwood won the silver challenge cup for the highest points in the vegetable show.

National Chrysanthemum Society.

The Floral Committee had a small amount of work to do on September 22, but Messrs. W. Wells and Co., Merstham, saved the situation by staging about a dozen good bunches of showy flowers of early varieties, notably Olive, chestnut red; Susie, salmon-buff; Golden Firebrand, a sport from Firebrand; Wopsie, an orange and yellow single; Popsie, single white; and Annie, a light orange-yellow single. Messrs. W. Wells and Co. were accorded a vote of thanks for their interesting exhibit.

There was a goodly attendance at the meeting of the General Committee at Carr's Restaurant during the evening, and it was particularly pleasing to find twenty-five nominations for membership, including a number of Japanese gentlemen.

On Monday evening last the Executive Committee of this society held a meeting at Carr's Restaurant, when Mr. T. Bevan took the chair. The Bradford and District Chrysanthemum Society was admitted into affiliation. The Secretary reported on the annual outing, which took place on July 21 last, to Friar Park, the residence of Sir Frank Crisp, Bart. The day was fine, and 140 members and friends attended. Tea was provided by Sir Frank, and the whole undertaking was successful and greatly enjoyed. On November 27 Sir Albert Rollit has promised to take the chair at the annual dinner, which will be held at the Holborn Restaurant.

The Conference is fixed for December 10, the papers being as follows: "The Evolution and Development of the Outdoor Chrysanthemum," by Mr. Norman Davis; "Chrysanthemums for Outdoor Decoration," by Mr. Bevan. On the table were some fine examples of Mr. Bevan's cultural skill in the outdoor culture of these flowers, which were much admired.

In connection with the appointment of judges for the October and November shows it was resolved that the money prizes awarded should be paid immediately after each show.

Mr. Harman Payne gave some details concerning the Ghent Chrysanthemum Show and Congress to be held from the 25th to the 28th prox., and Mr. Bevan reported on his visit to the International Horticultural Congress held there last month.

Twenty-five new Fellows and members were added to the roll.

North of Scotland Horticultural and Arboricultural Association.

The annual meeting of the members of this association was held in the Botanical Classroom, Aberdeen University, and was largely attended. Mr. W. Lockhart, president, was in the chair. The Secretary, Mr. William Reid, submitted his annual report, which was considered very satisfactory. Mr. W. Wyllie, treasurer, submitted the annual balance-sheet, which was also regarded as very favourable. Both reports were unanimously adopted. The election of officials for the coming year was then proceeded with, and the following appointments made: President, Mr. Lockhart; vice-president, Mr. A. Robson; secretary, Mr. William Reid; and treasurer, Mr. W. Wyllie. The new members added to the committee were: Messrs. Henderson, J. M'Donald, W. Cumming, Tocher, and Ironside. It was agreed after a vote to affiliate with the Royal Horticultural Society, London.

Dumfries and Galloway Gardeners' Association.

This association, established in the beginning of 1913, held its annual business meeting in St. George's Hall, Dumfries, the other day. In the absence of the retiring president, Mr. S. Arnott, Sunnymead, the chair was occupied by Mr. William Hutchinson, Terregles Gardens, Dumfries, vice-president. The report of the past session's work was of a satisfactory character, and the prospects of the association are highly promising. On the motion of the chairman, Mr. S. Arnott was unanimously reappointed president. Mr. W. Hutchinson was re-elected vice-president, with Mr. David Hunter, of Messrs. Barr and Hunter, nurserymen, Dumfries, as honorary secretary and treasurer. Arrangements were made for the coming session, these including meetings on the first Saturday of each month, with special meetings at intervals. It was agreed to begin a collecting box for the Royal Gardeners' Orphan Fund.

Broughty Ferry Horticultural Association.

The ordinary monthly meetings of this association were resumed on the 16th inst. The President, Mr. James Bethel, presided over a good attendance. The lecturer was Mr. Wm. Grant, Fernhall Gardens, who had for his subject "Impressions of the International Horticultural Exhibition, Chelsea, 1912."

As the lecture was beautifully illustrated by upward of seventy lantern slides, it served to refresh the memories of those who had visited the exhibition, and proved a source of considerable interest and pleasure to those less fortunate.

On the motion of the President, the lecturer received quite an ovation for his interesting and instructive address. The monthly prize was awarded to Mr. David Keillor, Seabourne Gardens, for a stand of twenty-four cactus dahlia blooms, while the president exhibited James Grieve apples.

OBITUARY.

MR. J. S. MOSS.

Mr. John Snow Moss, of Wintershill, Bishop's Waltham, died at his residence on September 11. Mr. Moss, who was 54 years of age, was a well-known amateur horticulturist, and devoted considerable attention to orchid culture, and especially to raising hybrid odontoglossums and odontiodas. For many years he occupied a seat on the R.H.S. Orchid Committee, and he was a judge at the recent Ghent Horticultural Exhibition. Mr. Moss had recently paid a visit to the Continent, and was taken ill on his return home, death being caused by an apoplectic seizure.

MR. A. H. KENT, B.A.

At the advanced age of 85 years there passed away on September 12, after a long illness, one of the quietest of workers in horticulture—Mr. Adolphus H. Kent. Mr. Kent will be well known to many who have served at the Veitchian Nurseries at Chelsea, or at Kew, for he was an excellent botanist, and one of the gentlest and kindliest of men, always willing to give any information he possessed to an enquirer. He was severely handicapped by deafness, and this led him to relinquish his duties as a schoolmaster, and become private secretary to Mr. (now Sir) Harry J. Veitch. Mr. Kent was mainly responsible for "A Manual of Coniferæ," and rendered considerable assistance in the production of "A Manual of Orchidaceous Plants." Mr. Kent was born at Bletchingley, and obtained his B.A., London, in 1870. He was an associate of the Linnean Society, and in his earlier years was a musician of no mean order.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of THE GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

DISEASED STRAWBERRY LEAVES.—F. D., Taunton: For some time past my strawberries have been infested with a disease which makes itself evident in the form of blackish spots upon the foliage. There does not appear to be any marked reduction in the vigour of the plants as a result of this infestation, but I feel sure it must have a weakening influence. I enclose a few spotted leaves, and seek your advice concerning the trouble.—The disease is the strawberry leaf spot (Sphærella fragariæ), and one that is becoming more common in this country. In some parts of the United States it is a very troublesome pest. The disease so weakens the constitution of the plant that after a very bad attack the fruit crop may be a failure in the succeeding year. We wish you had written us before, as one of the best means of curing the trouble is to mow the leaves from the bed as soon as the fruits have been gathered, add some dry litter when the leaves are somewhat dry, and set fire to the whole. This may seem very drastic treatment, but it is a method that has been adopted with considerable success, and it is followed by a vigorous crop of healthy foliage. It is rather late to adopt such a method, but it is worth the risk; failing this, the best that can be done is to remove old infested foliage, runners, and weeds, and spray with Bordeaux mixture. In the spring, as new leaves appear, spray with weak Bordeaux mixture at intervals up to the time the flowers expand. If you are planting new beds make quite sure the young plants are perfectly free from signs of the disease.

CAPABILITY BROWNE.—C. P., Berks: I have recently been reading a gardening book published some years ago, in which a landscape gardener is frequently mentioned under the designation of "Capability Browne." Perhaps you can tell me something about him.—Launcelot Browne, who became to be very generally known as "Capability" Browne, was a landscape gardener who attained a high position as an exponent of his art about the middle of the 18th century, and this position he maintained until his death, which occurred somewhat suddenly on February 6, 1783. Browne commenced life as a gardener at Stowe, and, possessing a cultivated mind and considerable taste, he soon made headway when he left Stowe and devoted his whole attention to landscape gardening. He was consulted by the majority of those who, in his day, had gardens of importance, and succeeded in amassing a large fortune. He received the designation of "Capability" owing to his usual practice of stating to his patrons after making a survey that the gardens possessed great capabilities; and he appears to have supported his views upon this point by effecting great changes in those gardens which he was engaged to improve. His work was regarded by some of his critics as monotonous and tame, while others bestowed the most lavish praise upon it. His most severe critic was perhaps Sir Uvedale Price, who, in the course of one of his criticisms, writes of "the tameness of the poor pinioned trees of a gentleman's plantation drawn up straight," and describes one of his river banks as the "bare shaven border of a canal." Daines Barrington wrote that Browne "undoubtedly hath great merit in laying out pleasure grounds, but I conceive that in some of his plans I see rather traces of the kitchen gardener of old Stowe than of Poussin or Claude Lorraine." Loudon expressed the opinion that, while Browne possessed considerable talents, he was not imbued with the taste for picturesque beauty which distinguished the work of Kent, Hamilton, and Shenston. Browne was admired by George Mason, who not unreasonably asks "why Browne should be charged with all the defects of those that have called themselves his followers. I have seen no good reason alleged, nor can I suppose it possible to produce one." It would appear from contemporary literature that Loudon's estimate of Browne's abilities may be accepted without any great difficulty.

GROUPS OF SHRUBS WITH COLOURED FOLIAGE.—D. S. S., Sawston: Will you please give me a brief list of shrubs and small trees suitable for bold grouping for effect? Some should be deciduous and some fairly evergreen, as the proposed group is to be within sight of the house.—We suggest the following for your consideration: Prunus Pissardi, P. cerasifera atropurpurea, Berberis vulgaris, B. Thunbergi, Cornus sibirica elegantissima, C. alba späthi, C. Mas argentea variegata, C. controversa variegata, Acer Negundo variegata, and A. N. aureo-variegata, golden privet, forms of Euonymus japonicus, lavender, Santolina chamæcyparisus, golden elder, golden-leaved catalpa, purple hazel, Photinia serrulata, various gold and silver hollies, Eleagnus pungens variegata, and the various gold and silver conifers, provided coniferous plants do well in your district. Arrange the planting so that there is a good background for the group if possible, and see that the dark-leaved subjects are placed so as to throw into sharp relief the golden and silvery-foliaged shrubs.

HARDY AARON'S BEARD.—E. G., Sherborne: In the course of a recent discussion I was given to understand that there is a moisture-loving grass which is practically a hardy counterpart of the very popular Isolepis gracilis, so commonly used as an edging plant in greenhouses and conservatories. My informant could not tell me the name of the plant, but he was very emphatic in his statement that there was such a species.—It may be that your friend has seen Isolepis gracilis (known also as Scirpus riparius and S. nodosus) growing out of doors during the summer in some favoured spot, as it is nearly hardy in the South of England. Possibly, also, the plant referred to is Scirpus setaceus, a British tufted species, that has a distinct resemblance to the popular isolepis; but, after all, we can only make a shrewd guess at the name needed, failing specimens or a more definite description.

IMPROVED WINTER WASH FOR FRUIT TREES.—A. S., Skipton: I believe there is now an improved method of making a caustic wash for spraying fruit trees during winter, and I think it was first tried at the Duke of Bedford's Experimental Fruit Farm. If you can give me the formula I shall be greatly obliged.—The improved wash is used for the same purpose as the caustic soda wash, but is more effective, and in every way superior to it. The wash is the invention of Mr. Spencer Pickering, and has been used with much success at the Woburn Experimental Fruit Farm. To make 10 gallons of wash Mr. Pickering recommends: Iron sulphate ½lb., lime ¼lb., caustic soda 2lbs., paraffin 5 pints, and water to make 10 gallons. Dissolve the iron sulphate in about 9 gallons of water, slake the lime with a little water, and then add sufficient to make it into a milk; strain this through a piece of sacking, and add to the iron sulphate solution. Churn the paraffin into the mixture, and add the caustic soda, and when this has dissolved the wash will be ready for use. By the addition of paraffin the work is rendered more efficient in the destruction of mussel scale, and the use of iron sulphate ensures the emulsification of the paraffin.

SPOTS ON ODONTOGLOSSUM LEAVES.—P. T., New Brighton: I am sending you a few odontoglossum leaves which are more or less spotted, in the hope that you will be able to tell me the reason for such spotting and the cure.—Spotting is due chiefly to a combination of low temperature and excessive moisture. The moisture in the air condenses on the leaves at night and forms drops, and when the temperature falls low these drops of water severely chill the tissues and disease is set up. More fire-heat accompanied by ventilation will improve matters; give water with great care, and avoid excessive damping down at this season of the year.

NAMES OF PLANTS.

C. R., Dalkey.—1, Escallonia macrantha; 2, Stokesia cyanea.

G. S., Liskeard.—1, Veronica Traversi; 2, V. Andersoni variegata.

M. M. J., Beverley.—1, Aglaonema costata; 2, Adiantum fissum; 3, Polypodium vulgare cambricum.

J. A. S., Harrogate.—1, Sedum spectabile; 2, Kniphofia rufa; 3, Tamarix gallica; 4, Leycesteria formosa.

F. H. W., Frinton.—1, Probably Amelanchier canadensis, send when in flower, next spring; 2, Sarracenia Drummondi; 3, Strobilanthes Dyerianus; 4, Acer colchicum rubrum; 5, Clematis integrifolia.

HOLLYHOCKS.

Can any reader of, or advertiser in, THE GARDENERS' MAGAZINE recommend a strain free from the fateful fungus? We do not grow old plants, and we most carefully spray, yet the foliage of our hollyhocks would be "a disgrace to a gibbet." Has anyone a single healthy hollyhock? I went to Kew a short time ago, and found the plants even worse than those in my garden; and at the Horticultural Hall this year I saw a group of fine spikes, yet not one had clean or healthy foliage. Hollyhocks are (or shall I say, should be) a feature of my borders, and I should regret to give up growing them.

F. R. H. S.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
		At 9 a.m.		Day	Night
1913 SEPTEMBER 14 TO SEPTEMBER 20.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Sept. 14—Sunday	9 30	58	53	63	53
,, 15—Monday	6 0	51	50	60	48
,, 16—Tuesday	2 6	59	55	63	49
,, 17—Wednesday	0 12	54	53	62	48
,, 18—Thursday	2 54	50	50	65	43
,, 19—Friday	6 54	53	53	68	51
,, 20—Saturday	6 0	57	54	62	50
Means	(total) 33 36	54	53	63	49

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
1913. SEPTEMBER 14 TO SEPTEMBER 20.					
	ins.	deg.	deg.	deg.	deg.
Sept. 14—Sunday	0·01	59	59	58	53
,, 15—Monday	0·07	57	59	58	53
,, 16—Tuesday	0·20	56	58	58	54
,, 17—Wednesday	trace	57	58	58	52
,, 18—Thursday	trace	56	58	57	51
,, 19—Friday	0·28	57	58	57	50
,, 20—Saturday	—	58	58	57	49
Means	(total) 0·56	57	58	58	52

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Autumn Flowers.

Although we may not be able to accept without some reservation Donne's opinion, as expressed in his lines wherein he states—

"No spring or summer beauty hath such grace,
As I have seen in one autumnal face"—

we have no hesitation in declaring that the hardy plants which flower after the summer has departed are more than sufficient to admit of the enjoyment of floral effects of surpassing beauty during the greater part of the autumn season. In the olden days, when tender bedding plants were allowed to usurp the whole of the available space in the beds and borders of the flower garden, the production of displays of autumn flowers other than those yielded by plants under glass was an impossibility. Consequently, with the close of the summer, with its warmth and sunshine, flowers vanished from the garden, and left bed and border bare until the following summer, except in those gardens wherein the practice was adopted of filling the beds with spring-flowering plants on their being cleared of their summer occupants. Of autumn flowers there were none, and this state of things continued long after the tender summer flowers had fallen from their high estate, with the result of the garden being wanting in interest and attractiveness at a time when the country house usually contains a goodly contingent of visitors. In the course of time a change was brought about by the inclusion in the selections of hardy plants of a small number of kinds that bloom in the autumn, and their presence was indicated by a few patches of colour scattered over the border. Within the past few years an important reform has been effected in the arrangement of hardy plant borders; and, mainly as the result of our advocacy, increased attention has been given to the production of seasonal displays of flowers. In some cases strenuous endeavour has been made to utilise such kinds as will maintain a procession of flowers extending from about the middle of spring until the autumn is well advanced. In not a few gardens the practice has been to have the beds bright with the colour of bulbous and fibrous-rooted plants, and to devote the borders to hardy perennials that bloom during the summer and autumn, and this method of procedure has much to recommend it. Where, on the other hand, the pleasure grounds are sufficiently extensive to allow of two distinct sets of borders, the arrangement of one with plants which bloom during the greater part of the spring and summer, and the other with kinds which will maintain a succession of flowers from the closing days of the last-mentioned season until the end of the autumn, will be found eminently satisfactory. Whatever be the dimensions and design of the garden, an endeavour should be made to have it bright with the flowers during September and October. In some seasons the rains and early frosts may greatly mar their beauty and diminish the opportunities for the enjoyment of the charms of the flowers in the open, but in the majority the weather is such as to admit of the flowers attaining their full development, and also of their being fully enjoyed. The hardy plants that bloom somewhat late in the year would make a somewhat lengthy list, but we are not so much concerned at the present time with kinds that require special treatment or claim attention more for their interest than for their attractiveness, as with those which under ordinary culture are capable of producing colour effects of sufficient brightness to dispel the gloom that is sometimes cast over the flower garden during the present month. To mention but a few of the plants suitable for beautifying the flower garden during the season on which we have recently entered there are the Japanese anemones, which now form a rather large group; the perennial asters, or Michaelmas daisies, in great variety; the stately Artemisia lactiflora, heleniums, helianthuses, kniphofias or torch lilies, perennial lobelias, and rudbeckias. In selecting from each of these groups it will be necessary to give preference to those of which the flowering extends over the greater part of September and October. The Japanese anemones are sufficiently numerous to afford ample opportunities for the exercise of taste and judgment in making a selection, and to contribute liberally to the attractions of the hardy flower border. The variety known as A. japonica alba has not, perhaps, any superior among the pure white varieties, but there are other white forms that should be selected, and such rose and pink varieties as Monte Rosa, Prince Heinrich, and Queen Charlotte should be grown in preference to the type, which is by no means wanting in attractiveness. The Michaelmas daisies have undergone considerable improvement of late years, and some at least of the more recent introductions should have a place in borders of the most limited dimensions. The amellus section comprises a considerable number of varieties, all of which have a dwarf upright habit, and bear large flowers of various shades of deep blue and purple-blue. The cordifolius varieties are remarkable for their elegant habit and freedom of flowering, and the colours range from white to pale blue and mauve; not less attractive are the forms belonging to the ericioides groups, for they have a graceful

MR. H. G. MOUNT.

habit, and bear a profusion of flowers, the colours including blue, mauve, pink, and white. Very distinct from the foregoing are the Novæ Angliæ and Novæ Belgi varieties, which are rather later, more robust in growth, and have large flowers, with a considerable diversity of colour. Especially noteworthy among the Novæ Angliæ forms, which continue in bloom until November, are Lil Fardell, Mrs. J. F. Rayner, Mrs. S. T. Wright, and W. Bowman, these affording rich shades of crimson. From the Novæ Belgi section should be selected such beautiful varieties as Beauty of Colwall, Climax, Daisy Peters, Miss Southall, Perry's Pink, St. Egwin, and William Marshall. There are many other Michaelmas daisies, but a few only are mentioned to indicate the most useful types. Riverton Beauty and Riverton Gem are of special value among the heleniums, because of their attractiveness and the late period at which they bloom. The sunflowers include several species and varieties of a high degree of utility for late autumn-flowering, and the best of these are Helianthus mollis, and its narrow-leaved form, H. multiflorus, and its varieties Bouquet d'Or and Soleil d'Or; H. orgyalis, tall in growth; the variety of H. rigidus known as the Rev. Wolley Dod; and H. sparsiflorus, the last-named one of the finest of the tall sunflowers, although very slow in making its way into gardens. The perennial lobelias are not sufficiently hardy to withstand the effects of exposure to English winters, but with the aid of an unheated frame they can be successfully utilised in beautifying in the autumn borders devoted to herbaceous plants. In addition to the foregoing, there are now at the command of cultivators a large number of border chrysanthemums of much merit, and as they can be grown in the border from the first, or in the reserve ground, and be transferred to the border early in September, their value is high for the purpose now under consideration, and especially those with brightly-coloured flowers.

Mr. H. G. Mount is comparatively young in years but ripe in experience, and for a quite long period has occupied a leading position among those who are actively engaged in the cultivation of roses for commercial purposes, and is held in high estimation both for his knowledge of these flowers and his personal qualities. As so well known to those of our readers who are keenly interested in roses, the firm of Messrs. George Mount and Sons, of which Mr. H. G. Mount is a member, have from the first devoted special attention to roses, and that some twenty or more years ago they engaged in rose culture under glass for the production of cut flowers, and very quickly distinguished themselves in this branch of their activities. They have, indeed, been so successful therein that for many years past their fine groups of splendidly-developed long-stemmed blooms of varieties specially suitable for floral arrangements in a cut state have formed at the spring exhibitions of the Royal Horticultural Society and elsewhere features remarkable alike for their attractiveness and interest, and useful as object-lessons in the art of rose culture under glass. It may be assumed that much of the success that has been achieved by the firm in this aspect of their business is largely due to the skill and judgment of Mr. H. G. Mount, and it is certainly due to his taste that the blooms are presented to public notice in so delightful a manner as to at once command attention and impress those who have an opportunity of seeing them, for many are the occasions that we have seen him busily engaged in the arrangement of the groups. For some years Mr. H. G. Mount has been a member of the Council of the National Rose Society, and his thorough acquaintance with the society and its work, the moderation of his views on questions of policy, and clearness of expression, are such as to ensure his having the attention of his fellow-members when taking part in discussions.

The Wallichian Collection of Dried Plants, which was presented to the Linnean Society by the East India Company in 1832, has been given to the Royal Gardens, Kew. This collection resulted from the labour of König, Roxburgh, Rottler, Klein, Hamilton, Heyne, Finlayson, Wallich, and Linnæus; and since it came into the possession of the Linnean Society additions have been made to it by Dr. Horsfield and others. In 1857 it was moved from Soho Square to Burlington House, and in 1873 it was transferred to the apartments occupied by the society. In 1873 increased demands for space led to the removal of the cabinets from council room to the old post office, and recently there has been so great an increase in the demand for space, that the Linnean Society was induced to offer the collection to Kew, and this offer was readily accepted.

Fruit Show and Conference at Dublin.—In connection with the forthcoming Winter Fruit and Flower Show of the Royal Horticultural Society of Ireland, which is to be held in the Royal Dublin Society's premises at Ballsbridge on the 22nd and 23rd inst., it is proposed to hold on the opening day of the show a conference of those interested in the Irish fruit-growing industry. The conference will be addressed by well-known fruit-growers and others having expert knowledge of the subject, and it is hoped by the Irish Department of Agriculture that all persons interested in this important industry will endeavour to be present and take part in the deliberations.

Appointment of Lecturers at Aberdeen.—The Governors of the Aberdeen and North of Scotland College of Agriculture have filled the vacant lectureships in Forestry and Horticulture. To the first-mentioned post Mr. Peter Leslie, a graduate of Aberdeen University, was appointed. A native of Edenkillie, Morayshire, Mr. Leslie, after graduating, had several years' teaching experience as a science master. He then returned to Aberdeen University for the purpose of completing the degrees of Bachelor of Agriculture and Bachelor of Pure Science. As part of the curriculum of study for the former degree, he attended the classes in forestry. Mr. Leslie was awarded a Carnegie scholarship, which enabled him to proceed to Munich University, Germany, to further specialise in the subject of forestry. Returning to Aberdeen, he was appointed Assistant Lecturer in Forestry at the University, a position which he has held up to the present time. Mr. George E. Greenhow was appointed to the Lectureship in Horticulture. A native of Cumberland, Mr. Greenhow has had an extensive experience in the culture of fruit, flowers, and vegetables under glass and in the open, having entered upon his gardening career by serving an apprenticeship in the gardens at Hutton-in-the-Forest, Cumberland, the seat of Sir Henry Vane, Bart., and serving in several of the leading private gardens. During 1904-5 he was employed as gardener to the Northumberland County Council at Cockle Park, Morpeth, where he had charge of the horticultural and forestry sections. He left Cockle Park to undergo a course of training in the Royal Botanical Gardens, Edinburgh, where he had considerable experience in public garden work. Since leaving the Royal Botanic Gardens (in 1909) he has been Assistant Lecturer in Horticulture in the Edinburgh and East of Scotland Agricultural College.

Soil Science.—At the meeting of the London Branch of the British Gardeners' Association, which will be held on Thursday next (October 9), Mr. G. P. Berry, Chief Inspector of the Horticultural Branch of the Board of Agriculture, will give a lecture on "Some Causes of Soil Fertility and Poverty." The meeting will be held at Carr's Restaurant, 264, Strand, London, and commences at 8 p.m. As all gardeners are invited, there should be a large audience, for the subject is one of much importance to cultivators, and Mr. Berry's abilities as a lecturer are exceptionally high.

The Late Mr. Robert Sydenham left estate valued at £13,374. He bequeathed considerable sums to his married daughters; £100 to his secretary, Mr. Herbert Smith; £100 each to his executors, and the bulk of his property, in trust for life, to Mrs. Sydenham, with certain bequests to horticultural and other charities, subject to certain circumstances and conditions, with ultimate residue, in trust for life, to his daughters.

Roof Gardens for the Babies.—A philanthropic lady-landlord in New York has built a block of flats, or apartments, for the working classes, and has not only provided a special room in the basement for the storage of perambulators and mail carts, but has so arranged matters that each set of apartments has its own roof garden, properly wired in and with an awning in summer, where the babies can play. Suitable trees and shrubs are to be planted, so that whatever the time of year there will be green leafage in these babies' gardens.

Sterilisation of Seeds.—In the "Kew Bulletin" (No. 5, 1913), Miss Massee has contributed a report of much interest on the experiments she has carried out with a view to determine the relative merits of the various methods of seed sterilisation. Miss Massee refers to the fact that, owing to the unsatisfactory results obtained from the practice usually adopted, de Zeeuw experimented with various other methods, and decided in favour of hydrogen peroxide, and found that Pinoy and Mogrou also obtained favourable results in the use of this substance. The last-named authors found that after seeds had been immersed in hydrogen peroxide for five hours all the spores were killed, without the germination of the seed having been much retarded, and in certain cases it was accelerated. These experiments were conducted with the object of obtaining for physiological research seeds absolutely free from living germs, more especially bacteria. It was suggested to Miss Massee by her father, Mr. G. Massee, that the action of hydrogen peroxide on fungus spores and on the germination of seeds might prove to be of great value in preventing the spread of plant diseases due to the presence of spores on the seed. For the purpose of testing this Miss Massee made a series of experiments in the Jodrell laboratory at Kew. In order to test the action of hydrogen peroxide on the vitality of seeds, two batches of each kind experimented on were soaked in hydrogen peroxide for four and twenty-four hours respectively. A control batch of each kind of seed was soaked in water for a corresponding length of time. It

found that the spores of fungi, and also some kinds of bacteria, are, as a rule, killed by an hour's immersion in hydrogen peroxide; no spores experimented with germinated after similar treatment for two hours. In nearly every instance the germination of seeds immersed in hydrogen peroxide was retarded, and the plants raised from seed immersed for four hours were one or two days later in making their appearance above ground than those raised from untreated seed. Seeds immersed for twenty-four hours were retarded from two to eight or killed outright. After treated seeds have germinated the growth of the plants is very rapid. For all practical purposes soaking seeds in hydrogen peroxide for three hours will kill all superficial fungus spores without injury to the seeds. This method is, according to Miss Massee, preferable to fumigation, which, as a rule, does not kill fungus spores, unless continued for such a time as to damage the seeds.

Professor W. Bateson, F.R.S., has been elected president of the British Association for next year, when the meeting will be held in Australia. Mr. Bateson, when occupying an important position in the Cambridge University, became a prominent exponent of the Mendelian theory of heredity, and mainly as the result of his researches in connection therewith he was appointed to the newly-created Chair of Biology. This he occupied until he was appointed the first director of the John Innes Horticultural Institute at Merton.

The Veitchian Orchids.—We are informed that Messrs. Flory and Black have purchased the whole of the orchids, including the home-raised hybrids, belonging to Messrs. Jas. Veitch and Sons, Chelsea. This collection has been cultivated at the Langley Nurseries, and the purchasers have also taken over the orchid houses, private house, and immediate surroundings at Langley, and will carry on business there under the title of Messrs. Flory and Black. Mr. Flory, nephew of the late Mr. H. A. Tracy, has had a long experience at his uncle's nursery at Amyard Park, Twickenham, which he still controls; and Mr. Black has for many years been a very successful grower and raiser, in charge of the collection of R. G. Thwaites, Esq., at Streatham. Every good wish will be extended to these gentlemen in their new enterprise.

The Scottish Thistle.—There is great trouble because someone has found that a Kew Hand List gives Onopordon acanthium as the Scottish Thistle, whereas Scotsmen think the national emblem is Carduus or Cnicus lanceolatus, which Kew describes, or degrades, as the Burr Thistle. Many common British plants have more than one popular name, and probably this is the cause of the trouble, but if "the rough burr-thistle" of Burns is the true Scottish thistle, there should be no difficulty in deciding the point. But who is to be the authority that shall decide between Onopordon and Cnicus? Who better than Professor Bayley Balfour, of Edinburgh Botanic Gardens, to decide this thistly point?

American Gooseberry Mildew.—A few days since three fruit-growers from different parts of the country were summoned at the Bow Street Police Court for having during the past summer caused to be exposed for sale at Covent Garden a quantity of gooseberries affected with the American gooseberry mildew. Fines ranging from 20s. to 5s., with costs, were imposed.

NEW PLANTS, FLOWERS, AND FRUITS.

CATTLEYA CYBELE.

A very beautiful cattleya with blush-white sepals and petals, and white lip, finely marked with bright violet-purple, especially close to the apex. A.M., R.H.S., September 23. Mr. E. H. Davidson, Orchid Dene, Twyford, Berks.

LÆLIO-CATTLEYA ARMADA.

This very handsome orchid is the result of crossing L.-c. luminosa with C. fulvescens. It has flowers of fairly good size and form, and of distinct colouring. The sepals and petals are cream-coloured, tinted with purplish-yellow, while the lip is yellow with markings of purple towards the apex. A.M., R.H.S., September 23. Lieut.-Col. Sir G. Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

ASTER BEAUTY OF RONSDORF.

Flowers very large, the colour violet-blue. A.M., R.H.S., September 23. Messrs. T. S. Ware, Lim.

ROSE MOONLIGHT.

We have previously referred to this hybrid tea, semi-double rose, which produces its creamy flowers in large elegant clusters. A.M., R.H.S., September 23. Rev. J. H. Pemberton, Havering, Romford.

CARNATIONS.

Fairmount.—A new American perpetual variety of large size. It is apparently a good grower. The colour is soft heliotrope with a French-grey suffusion. A.M., R.H.S., September 23. Mesrs. Allwood Brothers, Wivelsfield, Sussex.

Salmon King. — A beautiful home-raised perpetual variety with very shapely, bright salmon flowers, that are sweetly-scented, and have petals so smoothly edged as to bring the variety almost up to florists' standard. A free-flowering carnation of great merit. A.M., R.H.S., September 23. Messrs. Stuart Low and Co., Enfield.

PERENNIAL ASTERS.

Beauty of Ronsdorf.—A showy variety of the Amellus section, dwarf, free, and bearing large flowers of a very attractive shade of light violet-blue. A.M., R.H.S., September 23. Messrs. Thos. S. Ware, Lim., Feltham.

Mrs. Frank Penn.—A brilliant rose-purple variety of the Novi-Belgi group, bearing its abundant flowers in large, elegant clusters on wiry, dark stems, with dark foliage. A.M., R.H.S., September 23. Mr. H. J. Jones, Ryecroft Nursery, Lewisham.

CHRYSANTHEMUMS.

Olive.—A very useful early variety, with medium-sized flowers, carried in elegant sprays on stiff stems. The colour is bright chestnut-red, with yellow reverse, and very effective. It is classified as: Japanese, sub-section 1 c. F.C.C., N.C.S., September 22; A.M., R.H.S., September 23. Messrs. W. Wells and Co., Merstham.

Susie.—A very bright and distinctive early single variety, bearing its flowers in great profusion on stiff sprays. The colour is charming, and may be best described as salmon-buff Class: Single, sub-section 2 b. Commendation, September 22. Messrs. W. Wells and Co., Merstham.

Golden Firebrand.—A single variety with several rows of florets. It is golden-yellow, and the flowers are borne in large sprays and on very long, wiry black stems. If any fault can be found it is the dearth of foliage on the flower stems. The variety is a sport from the crimson Firebrand. Class: Single, sub-section 2 a. Commendation, N.C.S., September 22. Messrs. W. Wells and Co., Merstham.

DAHLIAS.

Homere.—A big cactus dahlia of full exhibition size, and with the incurved spiky end to the florets that commend a flower to so many exhibitors. The colour is dark and deep crimson-maroon. A.M., R.H.S., and F.C.C., N.D.S. Messrs. J. Burrell and Co., Cambridge.

Ruby.—A very neat and shapely pompon dahlia with bright ruby-red flowers. A.M., R.H.S.; F.C.C., N.D.S., September 23. Messrs. J. Cheal and Sons, Crawley.

Rupert. — A stiff-stemmed, erect garden cactus dahlia, with flowers of a bright yellow and apricot colouring. A.M., R.H.S., September 23. Mr. H. Shoesmith, Woking.

Reginald Cory.—A very distinct decorative dahlia like an enlarged pompon variety, the basal colouring bright scarlet, the tips of the florets shading from the red to pure white. A.M., R.H.S., September 23. Messrs. J. Cheal and Sons, Crawley.

Mrs. J. G. Vaughan.—A very fine pæony-flowered dahlia, with narrower florets than usual, and these incurved a little, as in so many cactus varieties. The colour is wholly of a soft yellow shade. A.M., R.H.S., September 23. Messrs. Warnaar and Co., Sassenheim, Holland.

Herzogin von Braunschweig (or Duchess of Brunswick).—A splendid and effective pæony-flowered dahlia of fine size, the colouring being rich orange-salmon, or flame colour. A.M., R.H.S., September 23. Messrs. Warnaar and Co., Sassenheim.

BERBERIS AGGREGATA.

A neat-growing species from China, and one that is likely to prove suitable for the rock garden or for covert planting. About twenty inches high, its growths are clothed with whorls of small, neat green leaves, slightly spiny. The small berries are very freely produced, and are straw-coloured, tinted with pink, and almost transparent. A.M., R.H.S., September 23. The Hon. Vicary Gibbs (gardener, Mr. E. Beckett), Aldenham House, Elstree.

PRIMULA VINCÆFLORA.

Discovered by the Abbe Delavay about thirty years ago, this very interesting Chinese species has recently come into cultivation through the efforts of Mr. G. Forrest when collecting for Messrs. Bees, Lim. It is a tiny plant, about three inches high, with broad, roundish leaves, produced in a rosette, and reminding one of a pinguicula. The flower stem is erect, sturdy, and bears a solitary flower, which is carried a trifle below the horizontal, and is large for the size of the plant, long-tubed, with deeply-divided lobes, the colouring being violet with an eye of deeper shade. A specimen has lately flowered in the Edinburgh Botanic Gardens, and was exhibited at Westminster on September 23. A.M., R.H.S., September 23. Professor I. Bayley Balfour, F.R.S., Edinburgh Botanic Garden.

MERRYWEATHER DAMSON.

We described and illustrated this very fine fruit in our issue of October 28, 1911. It is of the size of a small plum, and larger than most prune fruits. It is of dark purple colouring, crops abundantly and regularly, is good for dessert when quite ripe, and splendid for culinary purposes. As a late autumn fruit, it is of high merit, and should be borne in mind for future planting. It received an Award of Merit from the Royal Horticultural Society at the fruit show held in 1911, and a F.C.C. at the R.H.S. fruit show on September 25. The higher award is well deserved. Messrs. Merryweather and Son, Southwell, Notts.

Heliotrope.—This is another favourite plant for growing against the roof of the greenhouse, and needs very similar treatment to the fuchsia. Cuttings may be inserted at the present time to produce plants for making large specimens, but for flowering in small pots cuttings are best rooted in early spring.—E. Harriss.

CHRYSANTHEMUM NOTES.

The recent steady rains have moistened the soil to a considerable depth, and, as a result, the work of lifting and potting planted-out specimens has been greatly facilitated.

Young plants which were put out last spring may be lifted without any prior preparation and potted forthwith. Their roots will not be beyond control, and, as pots of various sizes may be used, there need be no difficulty in placing all the roots in them with a fair amount of garden soil attached. But a good compost should be mixed in which to pot the varieties from the open border as fresh roots grow, and if these permeate the rich loam, the buds, as they develop, will gain much strength.

Where flower pots are scarce and cannot be spared, the lifted plants may be placed on a peach-house border, and the roots neatly covered with the prepared compost—loam, leaf-soil, and road grit or coarse sand. If a few stakes are driven into the border and some twine passed through the branches and fastened to them, the plants will not require any separate staking.

December and Christmas Flowering Plants.

There are some splendid batches of plants of varieties for late flowering in many gardens this year. The growth is even, fairly well matured, and very healthy. But it is a very easy matter to spoil the plants in the course of the next few weeks by placing them behind walls and in similar positions where the maximum amount of light at this season cannot reach them. Placing the plants in such positions is done to retard bud development, but it has not the desired effect to the extent one would think; in fact, it is a means of hastening forward the buds, as I proved many years ago.

Having put some plants on the north side of a high wall, and left others in the open quarters, I found that the buds on the latter were later than on the wall-protected ones. The stems of the plants in the open hardened too, while those of the plants behind the wall became very soft.

The best plan is to leave the late-flowering plants in the open, and put up a light framework over them to support mats or tiffany, which should be put on if the nights are frosty. The housing of these plants in the southern counties need not be done until the month of October is well advanced.

Plants Trained on Walls.

Chrysanthemums look charming when their branches are trained on walls. September and October-flowering varieties are mainly used for this purpose, and where both tall and dwarf-growing ones are planted alternately, the whole of the wall space is evenly covered. The upper twelve inches of each stem should be allowed to depend freely from the wall, then the blooms will be seen to the best advantage, and they will receive quite enough protection.

Single-flowered Varieties.

There are many classes provided in exhibition schedules now for this lovely section, and, as the buds do not take a long time to open, the plants must be kept in cool positions as long as possible, so that the flowers will be quite fresh when wanted for the November shows. A few of the very early-flowering varieties, which, owing to late pinching, have been slow in showing buds, must be disbudded as soon as possible. The bulk of the buds of singles, however, will be swelling nicely, and all plants bearing such must be placed under cover before the colour of their florets is seen.

Geo. Garner.

AURICULAS.

The coolish, dry summer seems to have suited the plants well, and they are now completing their autumn growth, and getting ready to face the winter.

They are mostly, as I like to see them at this time, with short, fleshy leaves, some like green rosettes; others with flat leaves and rather starry; and others of an intermediate type, but all that are healthy have short, thick leaves. It is now time for cultivators who have grown their plants in the open to put them under cover in their winter quarters, for heavy rains can now do them no good. It is well at the present time to look out for caterpillars, which do a lot of harm to plants that have been in the open. I do not know of any of these pests that have a special liking for the auricula, but many of them are general feeders, and will polish off a George Lightbody or a Harrison Weir if they can get them, although they would quite as soon feed on groundsel.

When the plants are housed for the winter all that is wanted is to give them plenty of air, night and day, to water them as long as the weather is mild, and, when winter sets in to keep them dry, and give them all the air and sun possible. Auriculas don't mind frost a bit in winter, so long as their quarters are airy and dry. I believe they would resist Arctic conditions treated thus in winter, but when spring comes, and they begin to grow, one must see that no spring frost checks their development.

These remarks apply also to alpine auriculas, although they are not so liable to be checked in spring by frost, their petals not being so thick and fleshy as those of show varieties.

I love the alpines. They are easy to grow, and so diverse in their colourings, and so ready to present one with improved varieties by sensible cross-fertilisation, that one cannot help it.

The show varieties need a Horner, a Simonite, or a Douglas to make any impression on standard sorts, and, alas! these men are gone to their rest; but let us keep trying. It may, perhaps, be useful if I say what, in my opinion, are the best sorts to grow.

Green Edges.—Mrs. Henwood, Shirley Hibberd, and Orient.

Grey Edges.—George Lightbody, George Rudd, and Olympus.

White Edges. — Acme, Conservative, Traill's Beauty, and Heather Bell.

Selfs.—Mrs. Potts, Ruby, Favourite, Harrison Weir, and Mikado.

J. W. Bentley.

Stakehill, Manchester.

Lilium sulphureum. — It is now twenty-four years since this lily, which comes from Upper Burmah, created quite a furore when it was first shown at a meeting of the Royal Horticultural Society, and a first-class certificate awarded it under the name of L. Wallichianum superbum. Since then it has been assigned specific rank under the name of L. sulphureum, and has also proved to be very amenable to cultivation in this country. In many districts it is from its late-flowering qualities, chiefly regarded as a lily for the decoration of the conservatory, as out of doors many of the flowers do not expand before the nights begin to get cold. It is a tall and stately lily, while the large trumpet-shaped flowers are yellowish in the interior, and on the outside tinged with red. A year before the introduction of this species we made the acquaintance of Lilium nepalense, a striking lily, whose flowers are prettily reflexed, and yellowish-green with purple centre.—S.W.

SOME OF THE NEWER SWEET PEAS.

The season of 1913 has not been so productive of new sweet peas as some previous years. Nevertheless, there are a few that the sweet pea enthusiast must secure if he wishes to be quite up-to-date.

Year by year the work of the raiser becomes more difficult, and, seeing the very many varieties that we have had during recent years, it is not surprising to find that real novelties are much more difficult to obtain, and the demand for good things is so great that the raiser has to withhold his novelty for a season or two so as to be able to supply all demands when it is put on the market. Unfortunately, the newer waved varieties become more than ever shy in seeding, and in such seasons as the past two or three, even when great care and attention is paid to the matter, extremely poor crops have been recorded, and it may happen that once we obtain a good seed year we may be inundated with novelties.

King White (Burpee and Dickson) is one of the varieties that was eagerly looked forward to in 1913, and, judging by the way this fine white variety has been exhibited, it should find a place in most collections in 1914.

Florence Wright Spencer (Stark) may not be quite so large, but it is a pea of extremely good quality, which will make quite a bold bid for supremacy.

Stevenson's White (J. Stevenson) is another which is well worth a trial, and probably the purest and best frilled white we have; not having grown it from autumn-sown plants, I am not quite sure whether it has quite the size of the two first mentioned.

Constance Hinton (Hinton) has not been seen sufficiently to enable one to say quite whether it comes up to its promise of last year, but either of these white varieties is good enough to replace the old favourite Etta Dyke.

Mrs. McIlwrick (Dobbie) was shown extremely well in the early part of the year, its rose standard and mauve wings being very pleasing, but after seeing it growing outside, I am inclined to think it will prove a better for indoors than outdoors. I hope I may be mistaken, as it is so large and good.

Margaret Atlee, of American introduction, is, I think, one of the best things of the year; it may be termed a glorified Constance Oliver, with more colour and quality, and may prove quite the best variety in the deep cream pink section.

Agricola (Bolton), as an exhibition pea, is distinctly good, and though not at all decided in colour, it makes a bunch that can hardly be put in the wrong position, and I must confess it has agreeably surprised me this year.

Muriel Quick (Unwin) is another of the soft lavender-blush varieties which is extremely pleasing for all classes of decoration.

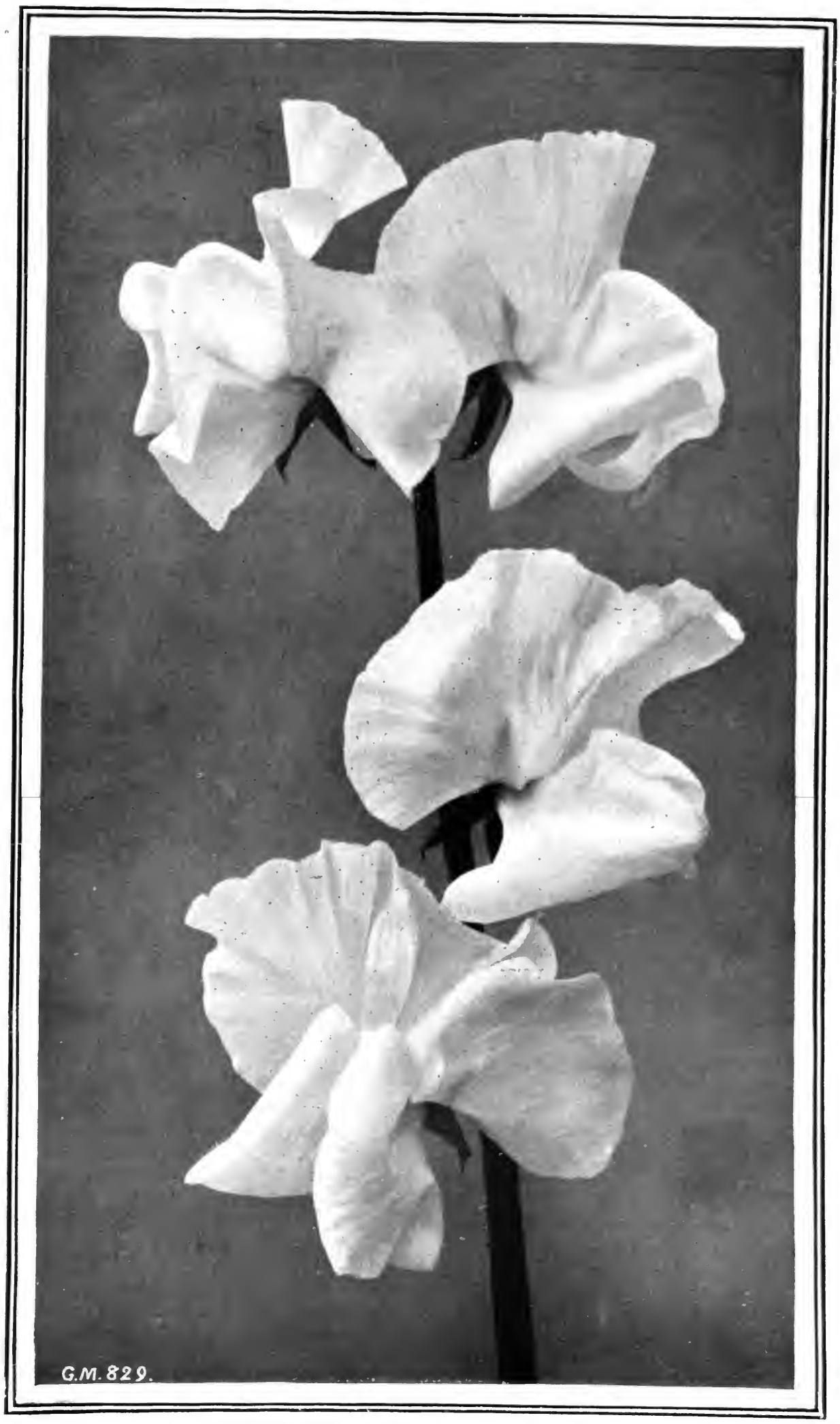
Blue Picotee (Dobbie), as the name implies, is a very dainty blue-edged variety, especially when grown under glass; outside it is like a pale Mrs. Townsend, with, perhaps, a little more "body" in the flower.

King Alfred (Breadmore), a variety noted in 1912, has proved a real giant in the orange-pink class; it closely resembles Edrom Beauty, though possibly a little deeper in colour.

Orange Perfection (J. Box), is another addition to this class, being a giant self-coloured flower, which reminds me very much of Bolton's Pink.

Robert Sydenham (Holmes), is probably the most distinct pea seen for some time. It is rather deeper in colour than Sterling Stent at its best, with the size and shape of Thomas Stevenson, and may be termed a self orange-coloured variety. The demand for this is so great that I understand it will not be put on the market until 1915.

Royal Purple (Wright), is another variety, very distinct in colour, and, though not a giant, a bunch of it should



SWEET PEA KING WHITE.

Flowers pure white. Introduced by Messrs. W. Atlee Burpee and Co. and Messrs. Alex. Dickson and Sons.

Double Maggie Stark (Stark), is still another in this shade of colour. As the name implies, it throws double standards freely, and for this reason it may prove a really good addition to the market varieties.

prove most effective in a collection or decorative scheme, as it is totally distinct from anything else we have among the purples.

Phyllis (Unwin) is a pure white-ground form of the popular variety, Mrs. W. J. Unwin, being even more dainty and pleasing than the latter, the distinct white margin to its standard making it very attractive.

New Marquis (Dobbie) is probably a fine strain of the old favourite, and if quite fixed, and gives four flowers on a stem, it will quickly become popular among the rose-mauve shades.

Mrs. J. C. House (House) is another variety of much the same colour as the last. With me it has certainly done better than Tennant Spencer and Queen of Norway.

Kathleen (Deal) is a delightful sweet pea, deep cerise in colour, and though not quite up to first exhibition size, it should be grown for its colour alone.

Lady Miller (Dobbie) has been exhibited now and again grandly, and when it is in good form it is extremely striking in colour and quality. It is not everybody's variety out of doors, because it bleaches or burns in some situations, but under glass it is one of the best sweet peas we have.

Marks Tey (Dobbie), a 1912 novelty, is a very strong-growing variety, which makes a good bunch for exhibition, and is easily one of the largest varieties.

Prince George (Bolton) has this season decidedly improved its reputation, its distinct colouring being noticeable in a great many winning stands.

Birdbrook, another of Mr. Bolton's 1912 novelties, has found many friends, its finer markings making it preferable to the other varieties in the chocolate-flaked class.

Ruby Palmer (Dobbie) is a fine sweet pea of a peculiar shade of crimson, and, though distinct enough from Sunproof Crimson, I do not think it will supersede that variety for general purposes.

James Box (Box) and Inspector (Dobbie), two salmon varieties, are practically synonymous, and just a little softer in colour than Barbara and Melba; if anything, they are stronger growers, while the shape of the flowers and their position on the stem make them quite distinct from the two last-named.

The above list does not by any means include all the new varieties I have seen, or that may be put upon the market this autumn, but they are all of some merit, and where I find a variety will do better under glass than out of doors, I have given it credit for that purpose, as this phase of sweet pea cultivation is now a very important one, and it is certainly very necessary when growing these flowers under glass to select those varieties which keep their colour well. The experience of those who grow sweet peas under glass in large quantities shows that orange-coloured varieties are far and away the best, followed by the cream and salmon-pinks, with mauve, lavender, and white following along.

Thomas Stevenson.

Woburn Place Gardens.

Calceolaria integrifolia. — This shrubby species of calceolaria is very useful for the embellishment of the conservatory during the autumn months, although for some reason or other it is not much known. It forms a freely-branched bushy specimen, clothed with rugose leaves, and bears a great profusion of golden-yellow blossoms. It is also a desirable kind for bedding, that is, where large plants such as are used in the case of Calceolaria Burbidgei, are employed. This last-named is also useful for flowering under glass during the autumn and winter. The pale-yellow-flowered C. amplexicaulis also, which is so much used for garden decoration, will, with greenhouse protection, continue to bloom well on into the autumn.—K.

OUTDOOR AUTUMN-SOWN SWEET PEAS.

The general practice with growers of sweet peas is to sow the seeds in autumn, and this is usually done during the last week in September, or first fortnight in October. This plan undoubtedly gives the best results, whether the peas are grown to give the best exhibition blooms, or to supply plenty of cut blooms for use at home. Cold frames are generally considered necessary to protect the young plants from injury by frost and rain during the winter months, but only on extremely heavy soils is this so, the best sweet peas being as hardy as the garden cabbage, if treated as hardy from the commencement of their existence.

Some, at least, of our market growers now sow their seeds thickly in loose soil in the same way as cabbages or other hardy plants are sown, and then transplant into their permanent quarters as soon as large enough; these plants stand the ordinary English winter without harm, and come into bloom from ten to fourteen days earlier than those sown in February in frames. This plan may be safely followed on all fairly light soils, or the seeds may be sown (if the ground is ready) directly into their permanent quarters.

We have now had three years' experience of this system, and find that it answers admirably, although, as our soil is so retentive of moisture, we take the precaution to protect the young plants from the winter rains; whether even this is necessary, is an open question, as we have seen them, after the protection has been removed in early spring, completely covered with snow for two or three days at one time without receiving the least injury, and in one instance the ground was frozen hard to a depth of three inches after the plants had begun to make their young spring growth.

We sow on ground which is not rich in nitrogen, but where it has been well managed and deeply worked the previous winter, and a crop taken off in summer, the top is lightly forked over, but no fresh manure is added, and it is allowed to lay at least a few days before sowing. The seeds are sown during the last week in September rather more thickly than is advisable for spring sowing; the seedlings appear in from three to four weeks, and the first thing to be done is to protect them from snails and slugs, for it seems that as soon as the first bit of green appears, every snail or slug within a hundred yards makes a "bee line" for it; perhaps at this time they are tired of the succulent lettuces, etc., and are longing for a change of diet, but, be this as it may, the fact remains that all through the winter these are the worst enemies of sweet peas, and precautions must be taken accordingly.

Soot is only a temporary protection, lasting only for three or four days, or even less, if a heavy rain should come. The best and most lasting protection that we have tried is "Phenol" (probably ordinary carbolic acid would answer just as well). We obtain sufficient perfectly dry coal ashes, coke breeze, or saw-dust to make a thin row on each side of the peas; then make a 50 per cent. solution of "Phenol" and water, and well moisten the ashes so that these become thoroughly impregnated with Phenol. Then place the treated ashes entirely round the plants, and a few inches from them. This protection will last from three to four weeks, when another application should be given; this material is perfectly harmless, and costs little.

In November we place small handlights over the rows in such a way that, while throwing off the rain, they neither obstruct the light or the free circulation of air. The latter is perhaps of more importance than may at first appear, for, naturally, the less protection the plants receive, the better chance will they have of passing through an excepionally hard frost, should one come.

Little else is done until the beginning of March, when the protection from rain is removed entirely, and the plants left to the mercies of, generally speaking, a mixture of all kinds of weather. They will probably present a very disappointing appearance at this time, compared with those that have had the protection of a frame, and the inexperienced might be inclined to "dig them in" as useless, but let him wait for two or three weeks until the spring sunshine and prolonged light have had time to make their influence felt, and he will change his mind. The sweet peas may not have quite as much green top early in the month, but they have the advantage over those in the frames in being thoroughly inured to the cold (a few more nights and days of which they have still to pass through), their roots, which have gone down into the soil from twelve to fifteen inches, will escape the disturbance and consequent injury which the others have to go through, and altogether will have laid a better foundation on which to build up the future flower-bearing growth.

The growths will now come from near or from under the surface of the soil, and these should, as soon as possible, be regulated to one or two to each plant. The seedlings will probably require thinning, as each one should have at least nine inches to itself. If the very best blooms are needed all lateral growths must be kept pinched out in the same way as we treat chrysanthemums.

When the sweet peas have started well into growth, we give a dressing of sulphate of potash at the rate of ½oz. to the square yard. This is repeated in three weeks' time, after which, when the plants commence to show flower, we give occasional dressings of nitrate of potash and phosphate of potash at the rate of ½oz. each to the square yard.

Treated thus, sweet peas produce plenty of "fours" during June and July, with stems up to 18in. long, and will continue to give good blooms right on into September—a full sixteen weeks. If there is any other hardy plant that will give such dainty and fragrant blooms in such quantities, and for so long a time, I should be glad to make its acquaintance.

R. B. Leach.

Woodhall Gardens, Dulwich.

PUSCHKINIA SCILLOIDES

Less familiar in gardens than either scilla or chionodoxa, yet in some ways suggestive of members of both these genera, Puschkinia scilloides appeals to every lover of hardy flowers. It reaches a height of some six inches, producing its bluish-white flowers in the upper part of the slender spikes. The striking features of the flowers is the stripe of blue line that passes down the centre of each petal, and is conspicuous enough to immediately arrest attention. In order to obtain the best results with the Puschkinia it should be planted in a well-drained spot in a mixture of sandy loam, peat, and leaf-soil and on a sunny slope of the rock garden or at the foot of a wall where the border is devoted to choice bulbs. Such a position ensures a thorough baking to the bulbs after they have bloomed, upon which their subsequent flower production largely depends. Heavy soil and damp positions in winter are fatal to the best results with this pretty spring-flowering bulb.—T. S.

SOWING SWEET PEAS.

I have tried many ways of raising sweet pea plants, and have sown seeds during every week between October 10 and the middle of April; but I find those sown about the middle of October are the best in nearly every instance. I prefer to sow the seeds singly in 3in. pots, but have had good results from seeds sown in boxes and in larger pots Plants raised in boxes, or in pots with more than one, should be potted singly into 3in. pots about the end of January, and great care is necessary not to break the roots during removal. Sweet peas sown in 3in. pots we do not disturb, but they are planted out in April from these pots.

I prefer maiden loam for sowing the seeds in, but have used old carnation and old chrysanthemum soil with fairly good results. For sweet peas that are to remain in 3in. pots for about six months, good fresh soil is essential. A few days before starting to sow, we mix up three parts loam, one part leaf-soil, and a half-part of sharp sand. In the bottom of each pot we place one crock and a little rough leaf-soil. Frames should be made ready, and an 8ft. by 6ft. frame will hold about 500 3in. pots. Therefore one can easily tell how many frames will be required.

Before starting to sow, all the hard-skinned seeds are chipped with a knife on the opposite side to the germ. We never chip lavender, blue, cream, or white varieties. These latter I prefer to sow in boxes or pots, put about a quarter of an inch of sand around the seeds, and a little soil on the top of the sand. Seeds of these are very apt to rot if treated in the same way as the other varieties. Fill the pots up to within a quarter of an inch of the top, make fairly firm, and press a seed in the centre of each, about a quarter of an inch deep. In the boxes sow the seeds about an inch apart. Place the pots or boxes into the frames at once, putting them closely together. If the weather is very wet the lights should be put on, but if fairly fine leave the lights off except in severe frosty weather.

If the weather is dry give water with a rose water-pot, but I prefer to let the rain do the watering if possible. A good grower will not allow his plants to become dry, and, if he can possibly help it, never allow them to be too wet. The happy medium is the thing to aim at from the day the seed is sown. If more than five degrees of frost occur, the lights are best on, but should not be closed for less than eight degrees of frost. I protect my plants in severe frosty weather, but five degrees of frost in the frames do not hurt them; at eight degrees close the lights, and if more than ten degrees occur protect with mats, and put something around the sides of the frames, so as to protect those nearest the sides. I do not like to see the soil frozen hard in the pots.

There are three things one must keep a sharp lookout for, and these are slugs, mice, and birds. The best remedy for slugs is to dust the seedlings with soot and lime every two or three days from the time the first seedling shows above the soil and strew some Vaporite or coal ashes around the frame. The only remedy against mice is to catch them; therefore do not wait until they have had a night or two among the seeds, and perhaps destroyed many of the choicest varieties; but place several traps in each frame the same day the pots of seeds are put in. If the birds start upon one plant, precautions must be taken against them at once. Black cotton run over them is the best remedy; or a very thin net may be used; but a heavy net will draw the plants up weakly.

The soil for potting seedlings raised in boxes or pots should be about the same as advised for sowing the single seeds in; but old chrysanthemum or carnation soil will do well. No crocks are needed in the pots, but just a little rough soil over the bottom is all that is necessary. Pot fairly firm, and put them back into frames, and do not let frost touch them for a week or two.

A. E. Usher.

Ranston Gardens, Blandford.

SWEET PEA MARKS TEY.

Flowers rose-maroon and bluish-mauve. Introduced by Messrs. Dobbie and Co.

(See page 746.)

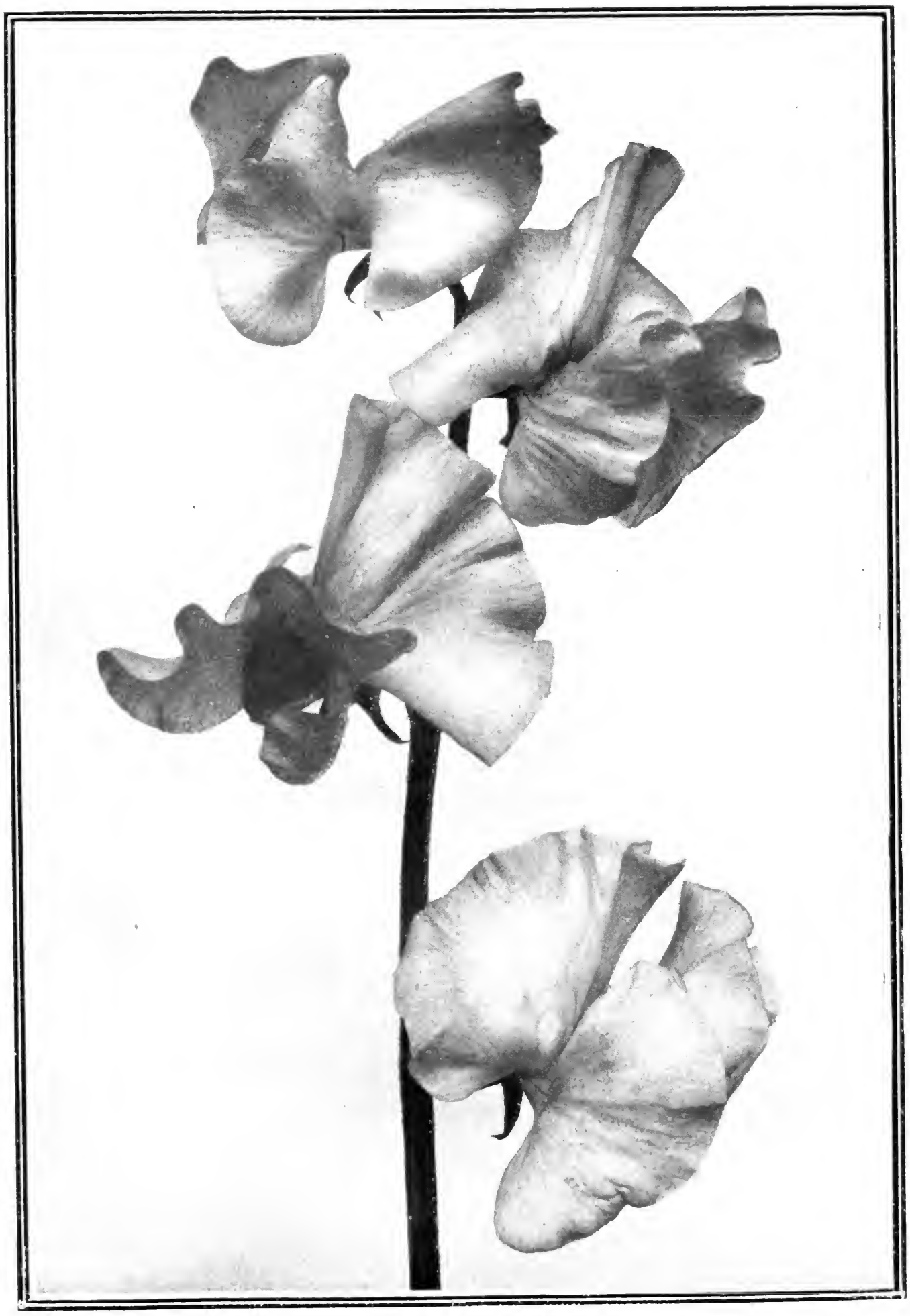
REGARD TO INDIVIDUALITY IN PRUNING.

"Pruning apple trees cannot be reduced to a formula. No two apple trees are alike. Each has individuality with respect to shape and habit of growth. Even the man who prunes with the greatest skill cannot accurately tell another man how to prune an apple tree."—Dr. J. C. Whitten, Prof. of Hort., Univ. of Missouri.

The practice of gardening has become so widespread during recent years that the majority of amateurs may probably be included under the term novices—at least, it seems that most people who speak to me on the subject are in the earlier stages of learning—and the result is that advice and instruction pour in upon them from all quarters, even the morning papers in most cases contributing their weekly quota. Most of it appears to be intended, as might be expected, for those who have not advanced very far in their knowledge of the craft, and doubtless this makes it acceptable to the greatest possible number. There is one respect, however, in which much of the instruction offered might go a little further to the advantage even of the beginner, and that is, by occasionally particularising instead of generalising. It is not enough to tell the beginner in fruit-growing to pinch or shorten the shoots of his dwarf apple trees in July, and further shorten them in the winter, for if he follows this advice with all his trees, he will treat some in quite a wrong way.

Study of Individual Trees.

The great universal rule in all pruning is to study a tree or shrub, and try to understand its nature better before touching it with the knife. It will do it much less harm to wait a year or so before being pruned than it will do to start cutting it before we know anything about it. Clematises form an interesting study in this connection, for while some flower only on the young growth of the current season, others only flower on the growth of the previous year, so that it would be obvious folly to give one general rule for pruning them irrespective of the species to which they belong. Chrysanthemums are another striking instance. If growers were told to take the crown buds in the middle of August, he would be given advice which was good in most cases, but in the remainder either impossible to follow, or the wrong course to adopt, if it could be carried out, the writer or speaker ignoring the fact that amongst a dozen varieties four or five might either not have crown buds to take in the middle of August, or, having them, they ought to have been taken a fortnight previously. It has even been suggested that lists should be made—catalogues would be the ideal place for them—showing the usual dates of the second breaks and the times for taking the crown buds, just as lists of fruit trees show the season and quality of the various fruits. The above will serve as illustrations of individuality, manifested as it is in the habits of growth and flowering in varieties of the same species, or in closely allied species, and the way the system of pruning—for taking the crown buds of chrysanthemums is a form of pruning—should be adapted to their peculiarities.



SWEET PEA LADY MILLER.

Flowers apricot and pink on a cream-coloured ground. (See page 746.)

Varying Characteristics.

These among some fruits are scarcely less than those of the chrysanthemum and the clematis, and to treat all alike will have little less harmful results in the one case than in the other. For instance, certain varieties of apple, such as Lady Sudeley, Worcester Pearmain, The Queen, Irish Peach, and Mr. Gladstone form fruit buds or some of the best of their fruit buds, at the tips of the young shoots, and some of the finest fruit is produced at these extremities. Obviously a universal system of shortening would mean the loss of some of the finest part of the crops. Some very strong-growing varieties, such as Bramley's Seedling, Beauty of Kent, Striped Beefing, and Blenheim Pippin, if grown as dwarf trees, should have their extension growths shortened as little as possible, because they naturally grow too strong for this form of tree, unless we can get them into good bearing early; while, on the contrary, such heavy bearers as Stirling Castle, Lane's Prince Albert, Seaton House, and Court Pendu Plat need to be pruned very hard from the beginning in order to restrict bearing somewhat and encourage freedom of growth. In other words, each variety should be pruned in such a way that we may lessen the power of their defects, and help them to take on good habits. With pears the differences of habit are quite as distinct as with apples, perhaps even more so, as there are several varieties the trees of which we are able to name even when the leaves are off, and many which we can identify from their leaves and manner of growth alone.

Variability of Trees.

All this is, however, subject to one important qualification, namely, that trees of the same variety vary considerably among themselves according to the stock upon which they are worked and the vigour of the original bud or scion from which the tree has grown. Here we have always an uncertain quantity to deal with, for two trees of the same variety may be of such different constitutions that whereas one may need to have its growth repressed to encourage fruitfulness, the other may need to be fed up to get it to make sufficient growth. If the beginner says it is hopeless to think of learning to prune any fruit tree, we must answer him by referring to the basic principle of the pruning of all trees. Study each tree as an individual, and treat it according to its needs, this presupposing, of course, an acquaintance with the general principles which underly all pruning.

Alger Pitts

SOME DEBATABLE TOPICS.

Why are Apples Failing to Mature?

Apples are none too plentiful this year in many places, and in more than one plantation I have noticed the same disappointing trouble as was so prevalent last season. To state a case in point, I was in a plantation the other day which contains a number of healthy and well-grown trees of Lord Grosvenor apple, that are carrying a heavy crop of fruit, but on every tree, and almost without exception, the apples are scrubby little specimens about the size of walnuts, ill-shapen, and wrinkled about the eye. I am told that before the flowers opened the trees were sprayed with nicotine solution for the apple-sucker, which was obviously effective, as no one could wish for a better crop so far as numbers are concerned. The question open to debate then is, What is the cause of the fruits failing to come to maturity?

It is necessary to explain that the trees in question, in common with most others by the way, were the victims earlier in the season of a severe attack of Apple Aphis, and though attempts were made to cope with it by means of spraying, these were only partially successful owing to delay in getting at the work until the pests were safe inside the curled-up leaves. Is the unsatisfactory behaviour of the apples now due to the effects of that attack of aphis? This is the point under debate, and I should like to have the views of other readers of The Gardeners' Magazine on the subject. It has been suggested that the cause of the apples failing to swell properly is due to something being wrong with the fertilisation at the time of setting, but I rather favour the theory of aphis crippling growth and sucking the sap out of the leaves at a critical period. Last year I saw a whole crop of Bramley's Seedling affected in the same way, and in numerous plantations and orchards again this season the trouble is widespread. Is aphis the initial cause of it? If so, we shall have to look upon this pest as being amongst the most injurious to apple crops.

Head Grafting Old Apple Trees.

When is an apple tree too old to be head grafted with another variety? Don't all speak at once please, because it is a subject that wants thinking about. I do not fear contradiction when I say that Bramley's Seedling has no superior as a variety to graft on old trees, and it is claimed for it that it has the power of imparting some of its own natural vigour to the stock, and thereby rejuvenates it, but this is hardly the case, even with Bramley's, if the stock is too old. I could point out now a score or more of orchard trees that have been grafted two or three years, and up to a few months ago they looked very promising. This summer has apparently been too much for them, however, for big pieces of bark on the stems have died and peeled off, and the foliage on the Bramley heads has wilted and fallen. In short, some of the trees are dead, others are dying, and much time and labour are thrown away. Experience of the above kind raises a doubt as to the wisdom of head grafting trees that are getting on in years, but just when they are too old is the point open to debate.

Judges at the Shrewsbury Show.

Why do they not change their judges a bit more frequently at the world-famed Shrewsbury Show? No doubt the Shrewsbury Committee could answer this question better than anybody, and the answer might be that they have got good men and true for the work and could not improve upon them. I do not dispute the point at all, for I happen to know a good many of them, and can testify to their abilities, but the proverb that there are as good fish left in the sea as those that are drawn out applies also to show judges, and in more ways than one changes, so far as the adjudicators of prizes are concerned, are good. I do not mean to say that the present set of more or less stock judges should be put aside altogether, but it would be in no way uncomplimentary to them if they stood out for a year or two in favour of other experts, and then came in again later on. It would be interesting to know, by the way, how many years some of the Shrewsbury judges have officiated, and, though it is complimentary to them to be asked again and again, there is a good deal to be said in favour of changes.

Deep Culture and Prize Onions.

It goes without saying that size is the ruling factor in exhibition onions, and, no matter what other qualities your bulbs may possess, you stand very little chance unless you have them of large size. It has come to be a generally-accepted theory that trenching the ground two or three feet deep is an essential operation in the cultivation of large onions, but I am beginning to have my doubts as to whether there is as much in this theory as we have been led to believe. I should like to hear what others have to say about it, but a well-known exhibitor and prize-winner informed me the other day that he has obtained bigger onions this year than he has had before, and has grown them on well-dug and manured ground that was trenched the year before, but not this season for the onions. I would suggest treating the matter experimentally by trenching half a bed in the orthodox manner, and digging the other deeply, but without disturbing the subsoil. We know that onions like a firm soil, and perhaps it is that this deep trenching process loosens it rather too much.

Why not Natural Effects in Public Parks?

Why do the officials who are responsible for the bedding arrangements in public parks not pay a little more attention to natural effect, instead of surfeiting the eye with glaring masses of flowers whichever way you look? A short time ago I strolled into a pleasant little public park at a popular West of England seaside holiday resort, and a feature of this park is broad stretches of turf, with deciduous foliage trees dotted about on it. These, with the grass growing up to the stems, would have been ornamental and quite in place, but instead of this a circular bed some eight feet in diameter had been made round each of them, and the rings were edged with artificial-looking stones. What was the result? Simply that fine-looking, ornamental trees were seen growing, as it were, out of the centres of round, stone-edged beds, planted with scarlet pelargoniums and yellow calceolarias. Could anything be more absurd? To my mind public park gardening should be educational, with an intent to show people where and how to put flowers where they are in and not out of place, not to put them anywhere and anyhow purely for the sake of having them. H.

EUCRYPHIA CORDIFOLIA.

Among the numerous choice shrubs contained in the extremely interesting collection made by Mr. T. B. Bolitho in his famous garden at Trewidden, near Penzance, is a fine example of this South American species, which, at the present time, early September, is in full flower. It is less well known than the allied species, E. pinnatifolia, of which, by the way, perhaps the best specimen in the country is growing at Trewidden, and it is said to have flowered for the first time out of doors in this country, in the Coombe Wood nursery of Messrs. J. Veitch and Sons, in 1897. Good examples are rare, and the species appears to be unknown in most gardens in the south-west, although it is essentially a plant for the climatic conditions which prevail in Devonshire, Cornwall, South Wales, and Ireland.

E. cordifolia is a native of Chili and Chiloe, where it forms a tree in the forests. The leaves are evergreen, broadly oblong, thick in texture, two to three inches long, and one to one and three-quarters of an inch wide, very downy on the under-surface, especially on the veins and petioles, and clothed with short, silky hairs on the upper surface. The margins are more or less crenate. As in the case with the under-surface of the leaves, the bark of the younger wood is extremely downy. The flowers appear singly from the leaf axils, each one being about two inches across, with white petals, and a central mass of brownish stamens. Each shoot bears seven or eight, or more, flowers from near the apex, and a very beautiful picture is formed when the blossoms are at their best. It is apparently a difficult plant to propagate by any other method than seeds, and like the better-known species, the most satisfactory plants are those raised from them. It thrives in loamy soil, but is not averse to a little peat being placed about the roots at planting time. In those gardens in the south-west where it does not already exist it ought certainly to be given a position amongst the choicest subjects. A figure and description of the shrub is given in the "Botanical Magazine," t. 8209.

W. D.

A Handsome Poplar (Populus trichocarpa).—Our attention has recently been called to a very handsome poplar, of which two specimens occur among the trees forming the roadside avenues, consisting mainly of limes and planes, at East Acton. The tree belongs to an entirely different species from the ordinary slender poplar, representing the popular type of the genus. It has a similar habit to the lime, and bears large leaves, some six to eight inches long without the stalk, of an acutely-pointed pear-shape, attached by the semi-circular base to a rather long stalk, and with the underside of a silvery white. They are somewhat pendulous, and in a breeze display their silvery backs very freely and prettily. The tree is a by no means common one, but might well be recommended for more extensive use for suburban avenues, as its foliage appears very early in the spring, and it forms a capital foil here and there amongst the commoner trees utilised for that purpose.—C. T. D.

STONE-SPLITTING IN PEACHES AND NECTARINES.

This year I have met with rather more than the usual number of cases of stone-splitting among peaches and nectarines, and think it might not be amiss to draw attention to the causes of, and remedies for, the evil, now that we are on the eve of the planting season, in order that provision may be made to avoid such unhappy results in the future.

The evil is due to one, or both, of two causes, viz., an unsuitable border and fluctuations of temperature at certain periods of fruit development. The border may be regarded as the chief source of stone splitting, as its condition, both chemically and physically, has the greatest influence on the vitality of the tree, but even with this as it should be, unfortunate results of stone splitting will follow rapid rises of temperature at the time the stones are forming.

Peaches and nectarines love good drainage in the border in which they grow, and resent anything approaching a clammy and sour root-run; it is therefore imperative that their root medium should be well aired and sweet. All stone fruits must have abundance of lime in the soil, and none need more than peaches and nectarines, and on this account an ample supply should be provided. Phosphates and potash are also indispensable fruit-producing food constituents of a soil for peaches and nectarines.

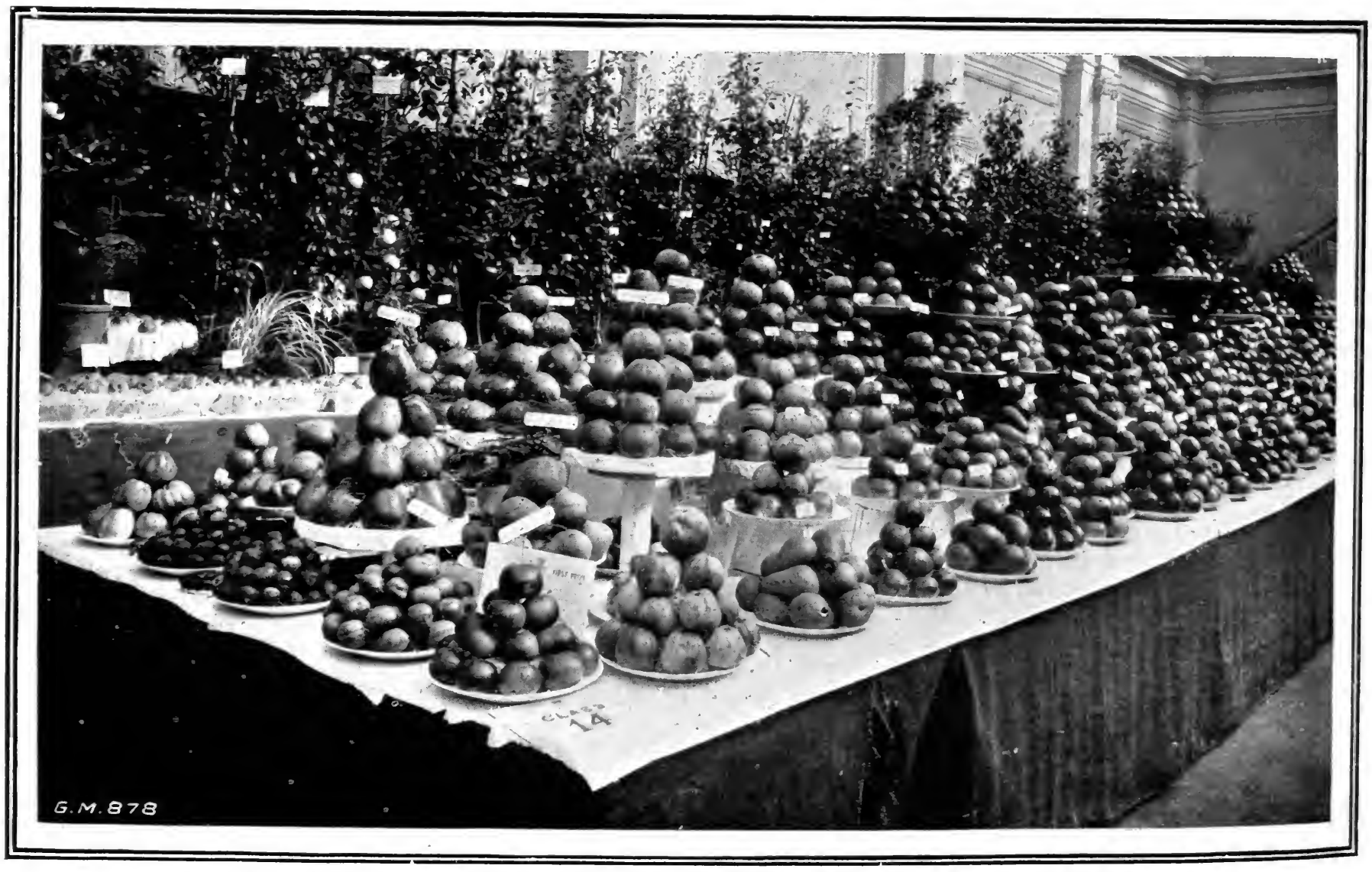
As the aim in cultivating peaches and nectarines is to produce large finely-flavoured fruits, every care should be taken to provide the trees with the needful supply of food constituents—phosphates, lime, potash—in an available form, and to regulate the quantity of nitrogenous manures in accordance with their needs. In the case of stone fruits lime is specially valuable in composts, and the larger the stones the greater the demand for lime. Peaches, nectarines, and apricots have larger stones than cherries, damsons, and the majority of plums. Consequently the former should be afforded a larger supply than the latter. Soils rich in phosphates, potash, and lime, free from acidity and excessive organic matter, give little trouble in stone-splitting, when care is taken at the beginning of the stoning period to avoid rapid changes of temperature. It is when these plant foods, especially lime, are lacking, that stone splitting is most troublesome, as the walls of the stones are weak and unable to resist the pressure of the pulpy tissues within them when a sudden expansion is occasioned by a rise of temperature.

When new borders are contemplated, I would advise making them three and a half feet deep, with a slope to the sun. Along the front of this a main drain, with others at right angles about 10ft. apart, should be run across the border, and the remainder of the bottom filled with brickbats, stones, clinker, or any other porous material, to the depth of one foot. On the top of this should be placed two and a half feet of a compost in the following proportions: Five cartloads of yellow, turfy loam chopped into pieces about three inches square; one cartload of old plaster or lime rubble, screened; three hundredweight of bonemeal, and a quarter-hundredweight of sulphate of potash. The whole must be well mixed and made moderately firm. No organic manure should be employed.

If a border of this kind is made early in the autumn it will be fairly warm, but if made in winter it becomes cold. In the latter case water at a temperature of about 90 degrees should be used to moisten it when the trees are to be started into growth. In such borders stone splitting will be little known if proper attention is paid to ventilating during the early, critical, stoning period. With early forced trees it is sometimes difficult to keep down the temperature and prevent cold winds reaching the tender foliage. If this can be accomplished, much will have been done to prevent stone-splitting. During the stoning period a lower rather than a high temperature, with a free circulation of air in the structure, should be aimed at. By this means the thin wall of the stones will have time to thicken and harden without undue pressure from within, and the likelihood of splitting be rendered remote.

Worn-out borders may be partly renewed with the compost advised, and where this is not convenient, a liberal quantity of bonemeal should be worked in, and lime and potash applied to the surface. Sulphate of potash applied in this way should not exceed one and a-half ounces to the square yard for one dressing. The dressings can be repeated throughout the growing season. Nitrogenous manures should only be employed to assist the trees to finish a rather heavy crop, and therefore should not be applied until the second swelling is taking place.

HIBERNIA.



AN ATTRACTIVE TRADE COLLECTION OF FRUIT GROWN IN THE OPEN.
Exhibited at the R.H.S. Fruit Show by Messrs. H. Cannell and Sons, who were awarded the Gold Medal. (See page 754.)

Rhubarb.—For very early forcing purposes it is absolutely necessary to have crowns which have been properly prepared and given a short season of rest, and suitable early varieties. It is advisable to lift the crowns at the earliest opportunity, leaving them fully exposed to the weather; and if they have a few frosts on them they invariably start into growth much quicker and stronger. When placed in heat the light must be thoroughly excluded, and a strong, moist heat given.—W. MESSENGER.

AMONG THE ALPINE FLOWERS.

O vagrant, happy rover!
Gatherer of treasures rare!
Never did truest lover
A heart so happy bear.

Such almost might the poet have written of the lover of alpine flowers. He is a "vagrant, happy rover," not satisfied with devoting his affections to a few flowers, but delighting himself with the enjoyment of the many treasures which the alpine flora present to his admiring gaze. Yet, though he may roam from flower to flower, he is no less constant in his affection; for it is strange, but true, that hardly anyone who has ever really become interested in the alpine flowers ever loses that love for these winsome plants, and forsakes them for other flowers. Even in autumn, as we wander through the garden we see some treasures, though, of course, the heyday of the alpines is over for the season. Yet in this bountiful year—for bountiful to these plants it has been, and one hardly remembers a better year, as a whole—one is full of gladness as one studies the flowers.

Hypericum coris.

Here, for example, is that dainty little St. John's wort, Hypericum coris, happy-looking and cheering, on its little flat bit of the rock garden. Its small, open starry, bright yellow flowers have all the brightness and beauty of the race, yet look infinitely more refined than many of the sister flowers. The little tuft of heath-like foliage, gracefully set along the fragile-looking branches, or rather stems, each with its refined-looking flowers, completes a picture of really fascinating appearance. One of our keenest critics calls it "that sweet-tempered treasure of golden beauty and golden value," and nobody can well cavil at the description, save it be those who have found that Hypericum coris is not always so "sweet-tempered," as they would like. But even the most placid will become soured by want of consideration, and we have before now seen this St. John's wort unhappy and even sulky when in blazing sun and away from the coolness it seems to appreciate. It has never done so well with the writer as in semi-shade, and there it has stood the hardest winters within many years unscathed, and has flowered with great freedom. There are more showy St. John's worts (and many of them, too), but it is doubtful if any of them is more delightful than that little coris-leaved one which is the subject of this note. Beside the golden, wide-spread flowers of H. fragile, or the softer-tinted blossoms of H. reptans, it may appear less charming, but when we come to know it, we admire it with ever-increasing admiration.

Gentiana septemfida.

Gentians are of wondrous beauty, as a whole, though there are flowers among them which should be rigorously excluded from the garden. They are the pariahs of the race, and justly banned from the company of their own kind, unless, it may be, to act as foils to the grace of their kinswomen. But no one can well say that Gentiana septemfida has not earned its right of admission into the rock gardens of all. It is not so dainty as its sister, G. verna, nor has it the compact beauty of its forerunner, our lovely gentianella, yet it has for us many charms as we look at a good plant on a level place, not too high up, where we can look down on its glossy green leaves and its wondrously fine blue flowers. Give it a cool place, and in July and August you are charmed with its glorious flowers. We call them "azure," but feel convinced that the word has not yet been coined which will give full value to that glorious hue of this easily-grown gentian.

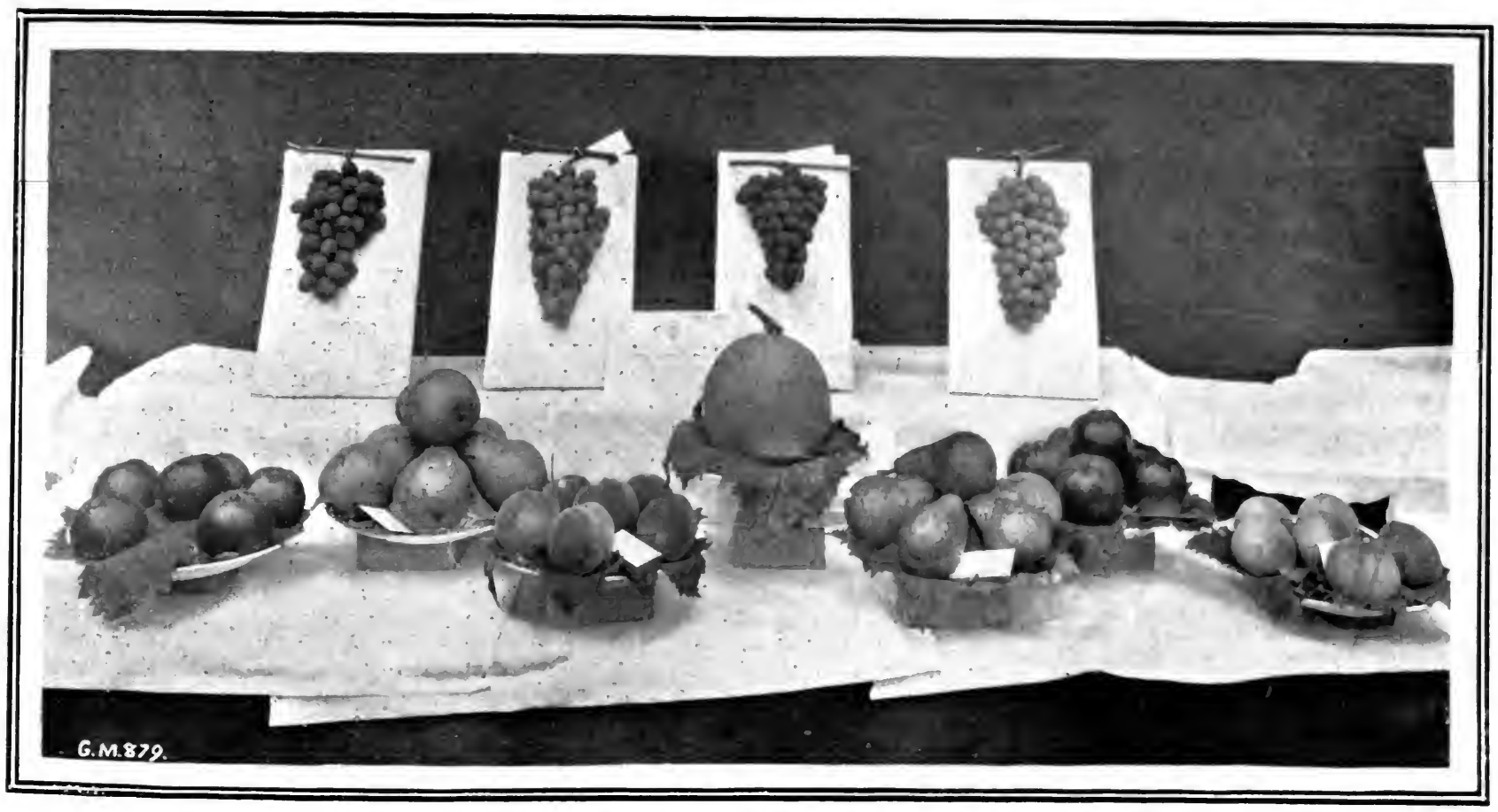
Androsace lanuginosa.

It is some years since I mentioned this grand androsace in these notes, but it is not because of any want of admiration for its charming ways, but rather because of an objection to referring to even the most lovely flowers too many times. Yet it cannot be over-praised. At least, so does one think as one sees it trailing over the stones, with its lovely satiny leaves and its exquisite flowers. Of rare value is it, too, seeing that there are none too many of our alpines which will keep up so long a period of bloom. It began in June this year; in July it was delightful; in August it was one of the most prized of our flowers; and from now until frost comes and despoils our gardens of their beauty it will be the "observed of observers," and the admiration of all. Were one confined to one Androsace alone it would be A. lanuginosa, which would be chosen as the most generally delightful and of the highest value. What more can one say of a flower such as this?

Campanula rotundifolia alpina.

There are two bellflowers which are rivals for the honour of being the finest of the lovely harebells, which come in our gardens in July, and generally last into August should the weather be cool, and not giving us showers or wet days followed by brilliant sun, than which nothing sooner shortens the period of beauty of the varieties of Campanula rotundifolia. These rivals are the true C. r. Hosti and C. r. alpina. One's allegiance may be claimed by both, and it is not easy to pay obeisance to one, and to say that this is the queen of the round-leaved harebells. There are good masses of both in my garden, and when they are in full bloom it is almost impossible to say which is the more beautiful. Both have big bells of deepest blue, and they give exquisite groups of graceful growth and lovely colouring. Of Campanula rotundifolia alpina, often sold as the true C. alpina, but a much more satisfactory plant, it is enough to say that it is a gem, with its dainty, rather hairy foliage and its fine deep blue bells in endless profusion, drooping gracefully from the stout, yet elegant, stems. Perched on the rock garden a little above the level of the eye, a group is exquisite indeed.

S. Arnott.



FIRST PRIZE COLLECTION OF NINE DISHES OF DESSERT FRUIT.
Exhibited by Mr. S. Barker at the R.H.S. Fruit Show. (See page 753.)

Cytisus Andreanus prostratus.—The plants of this cytisus shown grafted standard high are most attractive, but it promises in a general way to be most valuable when allowed to grow naturally as a creeping shrub, in which way it will soon cover a considerable space. For the foreground of shrubberies, or for the bolder arrangements of rockwork, it should be very desirable. The flowers have the colour of the typical Cytisus Andreanus, and consequently produce a bright effect.—S. W.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CYPRIPEDIUMS. — Many of the late autumn and winter-flowering cypripediums are producing their flower scapes. The earliest to bloom are C. Charlesworthi, C. Fairieanum, and the hybrids derived from the inter-crossing of these species with other kinds. The flower scapes of these will need supporting with neat stakes. These should be put in the desired position before the flowers become far advanced. If this is done the flowers will be displayed to the best advantage. If the flowers are permitted to become expanded before staking is done, it is difficult to fix them in the desired position. Many of the specimens of the winter-flowering lady's slippers, such as C. insigne and C. Leeanum, and other vigorous-growing varieties that have their pots matted with roots, may have occasional applications of weak liquid manure, made with cow manure, as soon as the flower buds make their appearance. This will assist root-bound plants in the development of their flowers. In the case of plants that have ample room, care must be observed to see that they are not allowed to become dry. Often at this season, when artificial heat causes a more rapid evaporation, the compost dries much more rapidly than during the summer season. It is a good plan to dip the pots occasionally, instead of watering; this will ensure a thorough wetting of the roots, which are at the bottom of the pots. As the leaves of trees in the open are falling it is necessary to carefully guard the plants from attacks of black thrips. These usually work on the under sides of the leaves, where they also deposit their larvæ. This is indicated by miniature black spots, which immediately on being observed, should be carefully sponged off. If this is not done, the plant will be injured, and the pest may spread over the whole house. Sometimes thrips also attack the flower scapes, but regularly spraying with some safe insecticide will keep all exposed parts free, and it is for this reason I have referred to the desirability of examining the lower sides of the leaves.

REPOTTING CYPRIPEDIUMS.—The potting of any of the summer-flowering kinds may now have attention. Practically all the species and varieties belonging to the tessellated-leaved section do well in a compost of equal parts fibrous peat and sphagnum moss with sufficient broken crock, charcoal, and sand added to render the compost porous. Where loam is used it should be carefully picked and the fibre portions only used. See that the pots used are clean and well drained, and the potting compost should be made moderately firm about the base of the plants. The seedling cypripediums that have not already received attention for repotting purposes; that is to say, those that have not reached the flowering stage, should be attended to without delay. It will be found that young cypripediums make more rapid progress during the next few weeks than is the case at any other season of the year.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CLIMBING PLANTS IN THE CONSERVATORY.—Before the winter sets in it will be necessary to give those plants growing over the roof a thorough overhauling. In some cases pruning or thinning out can be done now, so that plants growing beneath them may receive as much light as possible. Such strong-growing plants as cobæas, tacsonias, and passifloras may be very severely dealt with now, as they make abundance of growth during the summer months. Bougainvillias may have all the old flowering growths cut hard back. Cut out all useless shoots from climbing roses, as these are often spoilt by being overcrowded with weak, useless spray. Before filling the house with plants give the glass, both inside and out, a good cleaning, and remove all temporary shading.

CAMPANULA PYRAMIDALIS.—Give the young plants another shift if they are sufficiently well rooted. Next season's flowering plants may also be shifted into their flowering pots if they are ready. They may then be plunged in ashes in a cold frame. Supply water with care through the autumn and winter months, and place the lights on the frames during very wet weather. This campanula will not stand coddling, therefore give it abundance of fresh air whenever the weather will allow, removing the lights entirely on favourable occasions.

AZALEAS.—Indian azaleas must now be placed indoors, giving them a house where they may be kept as cool as possible until they are required for forcing. The shelter of a vinery or peach house will be suitable if other convenience is not available. Before putting the plants indoors lay them on their sides and thoroughly syringe them with a strong solution of soft soap and sulphur. Pot up Azalea mollis as soon as they arrive from the nursery, using a compost of loam, peat, leaf-soil, and coarse sand, and plunge the pots in ashes out of doors.

VIOLETS. — If these are not already planted in frames, no time should be lost in dealing with them. After they have recovered from the shift they must not in any way be coddled or failure is bound to ensue. Let the lights remain off altogether until severe frost is imminent. The double kinds may be grown successfully in pots, and are most useful when well grown for placing about the dwelling; six-inch or seven-inch pots will usually be found large enough, and a compost of loam, leaf-soil, and a little coarse sand will form a suitable rooting medium. Place them in a cold frame, and keep rather close for a day or two, then gradually inure them to full exposure until the time arrives to place them indoors. During the winter months a position quite near the glass in a cool house will be necessary, using fire heat as little as possible. Special attention must be devoted to the removal of dead flowers and leaves, and in supplying water to the roots be careful not to wet the foliage. A great many flowers are often lost through carelessness in this matter. —E. Harriss, Lockinge Park Gardens.

HARDY FRUITS.

PLANTING FRUIT TREES is now a matter for careful consideration, and, although rather early yet to lift the trees, it is well to settle what amount of planting is to be done, and make every preparation. A selection of the most useful kinds should be made, and the order sent to the nurseryman at once, as most of the orders are sent out in rotation. In preference to forming large collections, plant a number of trees of the most dependable varieties, which will keep up a long supply of both dessert and kitchen apples. There are many good kinds to select from, and we find for dessert amongst the best here are Beauty of Bath, Irish Peach, Devonshire Quarrenden, Lady Sudeley, Worcester Pearmain, King of the Pippins, Cox's Orange Pippin, Ellison's Orange, Scarlet Nonpariel, Kerry Pippin, Ribston Pippin, James Grieve, Blenheim Pippin, Duke of Devonshire, and May Queen.

COOKING APPLES.—The best with us are Lord Derby, Ecklinville Seedling, Golden Noble, Warner's King, Loddington Seedling, Tower of Glamis, Bramley's Seedling, Old Round Winter Nonsuch, Newton Wonder and Byford Wonder; but those who intend to plant on a large scale for market purposes will do well to pay a visit to some good, well-known fruit grower, ascertain the most useful kinds for the purpose and the district, and obtain good, healthy trees in preference to cheap stuff; a little extra cost for good trees is by far the best outlay.

AUTUMN RASPBERRIES.—See that the stools are thoroughly moist, so that the fruits may swell to a good size. Autumn fruiting raspberries should, after the dry season, crop freely; gather the berries at intervals when ripe, as they quickly rot in damp weather if allowed to remain hanging on the canes.

FRUIT GATHERING.—Attend carefully and regularly to this work, gathering the different varieties as they become fit. Although the crops this year are in some instances heavy, and owing to the dryness of the soil the apples are dropping before they are really fit, those that will hang should remain till the very last, or they will not keep, but shrivel and soon be of no value. Watch the nuts carefully, for mice and rats quickly strip whole bushes if not checked, and before one is aware that they are at work. Filberts should be first gathered and used, and the cobs as soon as they are ready. —H. Markham, Wrotham Park Gardens.

THE KITCHEN GARDEN.

SEAKALE.—The plants prepared for forcing should be stripped of dead leaves, as they can easily be removed after the first spell of frost. In order to obtain very early seakale the crowns should be dug up fully a fortnight previous to placing them in heat, taking care of the young roots or "thongs" which may be cut off the proper length, sorted into different sizes, and placed in boxes of light soil in readiness for planting in the spring. For successional batches lift the crowns in sand or ashes under a north wall, taking them out as required. To start seakale during the present month requires a strong bottom and top heat. Crowns which have been "frosted" a time or two always start into growth much quicker than those which have not been subjected to frost.

GLOBE ARTICHOKES.—The old plants should have some protecting material placed about them before sharp frosts occur; clean coal ashes is one of the best materials for the purpose. Where the stock requires replenishing, now is a good time to secure good, strong offsets. These should be potted up and placed in a cold frame for protection during the winter months. Admit plenty of air during suitable weather to ensure stout, sturdy growth; if all goes well they will be satisfactory plants for planting out in April or May, and should yield the first year.

ENDIVE.—Select and tie up the best developed plants in sufficient quantity to meet the demand, doing this when they are dry. Frost must be guarded against, as the tender inner leaves are readily injured by a few degrees of frost. Do not tie them too tightly, but merely collect the outer leaves and secure them with a strip or two of raffia, folding them loosely over the heart. In ten days to a fortnight afterwards the plants will be fit for use. Successional batches should be similarly treated. If a cold frame is available this may be placed over the plants where they stand, and mats should be used to exclude the light. Endive, when in a half-grown stage, may be dug up with a good ball of earth attached, and potted in frames for late use. Fully-developed plants may be lifted and placed thickly together in a mushroom house where they will blanch quickly and satisfactorily.

LETTUCE.—As there is nearly always a demand for lettuce, strong plants of various ages and sizes should be lifted and planted in cold frames. Ample ventilation should be afforded, keeping the leaves as dry as possible. Young plants from the later sowings will now be ready for transplanting to frames or cold pits. Lettuces may be sown in a quite young state if seeds are sown thickly in boxes or beds of soil in a temperature of 60 degrees.—W. Messenger, Waverton Park Gardens.

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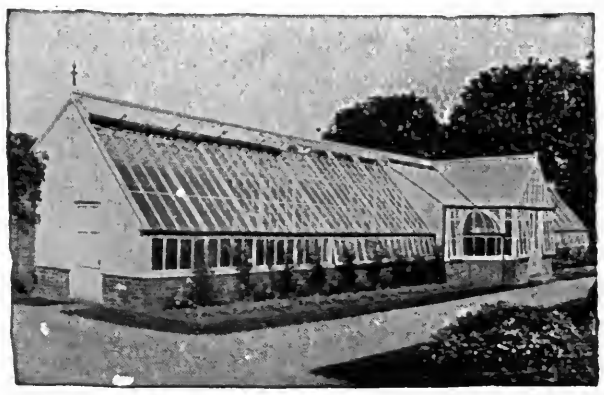

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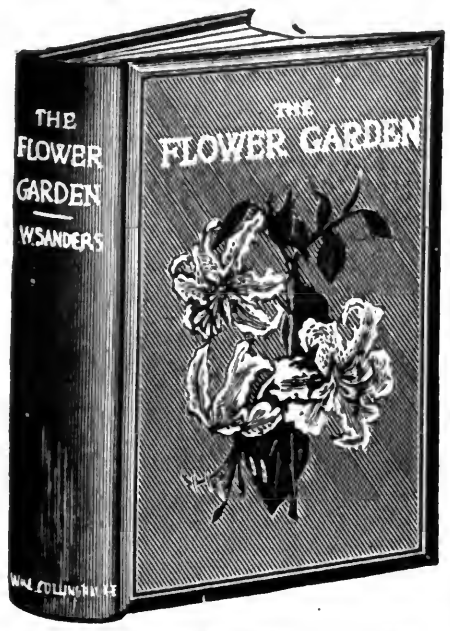

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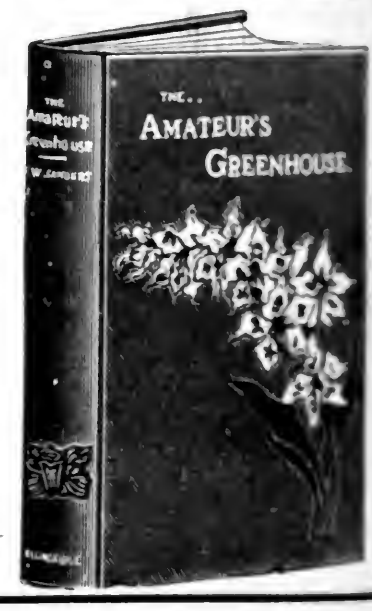

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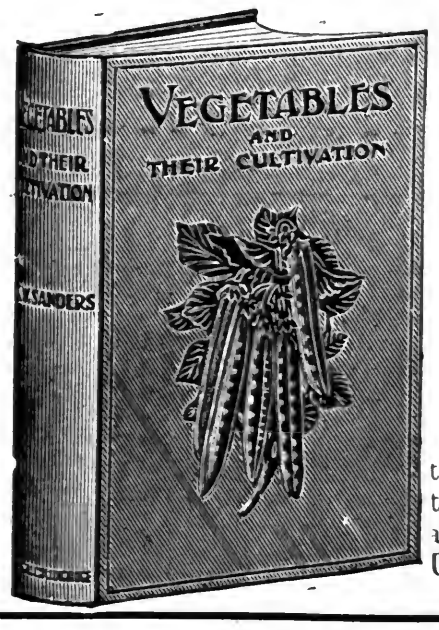

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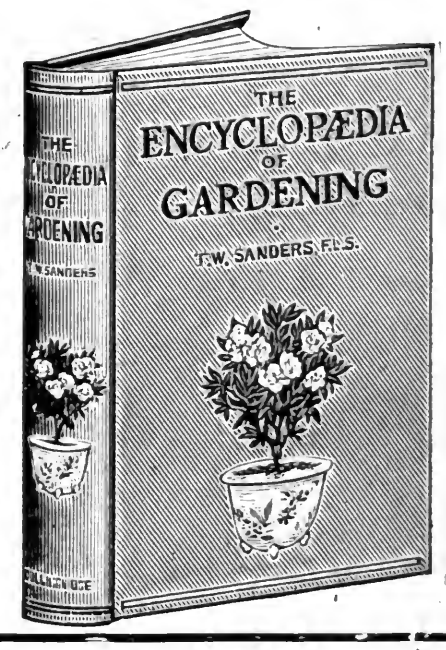

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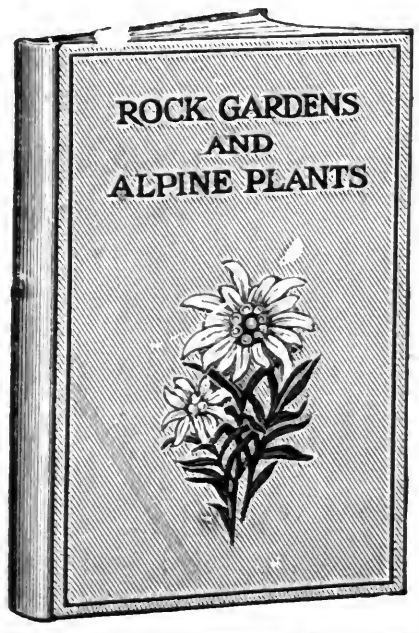

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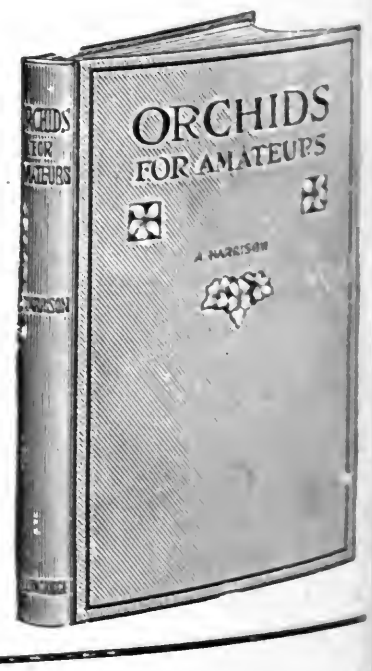

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ROYAL HORTICULTURAL SOCIETY'S SHOW
OF BRITISH-GROWN FRUITS.

Notwithstanding the rumours of poor crops there was a wonderful exhibition of fruit at the Royal Horticultural Hall, Westminster, on Thursday and Friday, September 25 and 26. The date was a rather earlier one, the council of the R.H.S. fixing it thus so that earlier ripening fruits might be shown. There was something lacking in colour, and pears were not so numerous as usual; but apples were remarkably fine all through, and a great contrast to the examples seen at the earlier fruit shows. Grapes were good and largely shown, and orchard-house fruits were a revelation.

On the whole the competition was close, especially so in the traders' classes, where there were some notably good examples of high culture and pleasing arrangement.

A FINE TRADE COLLECTION OF FRUIT GROWN IN THE OPEN.
Exhibited at the R.H.S. Fruit Show by Messrs. G. Bunyard and Co., Lim., who were awarded the Silver-gilt Hogg Medal.
(See page 754.)

At the judges' luncheon Sir Harry J. Veitch presided, and Mr. A. H. Pearson and Mr. E. Beckett responded to "The Judges." Sir Harry Veitch was heartily thanked for presiding, his health being ably proposed by the Rev. W. Wilks.

We venture to again suggest that the council might do a little to make this autumn show a more pleasing spectacle. The use of a few palms, bamboos, etc., behind the grape classes and down the tables where the single-dish classes are staged would improve matters considerably. On this occasion the left half of the hall presented a very flat and uninteresting appearance as viewed from the entrance.

CHOICE DESSERT FRUITS.

In the leading class for nine dishes of ripe dessert fruits, six kinds at least to be shown, there were three competitors, and the premier award fell to Mr. S. Barker, gardener to the Duke of Newcastle, Clumber, Worksop, for medium-sized but finely-berried bunches of Madresfield Court and Muscat of Alexandria grapes, Emerald Gem melon, Cox's Orange Pippin and King of Tompkins County apples, Durondeau and fine Pitmaston Duchess pears, and Barrington peaches. Second prize was awarded to Mr. G. Mullins, gardener to Lady Henry Somerset, Eastnor Castle Gardens, Ledbury, whose Rival apples and Marguerite Marrillat pears were fine, and his clusters of Black Hamburgh grapes very heavy. Mr. G. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, third, with fine dishes of Princess of Wales and Golden Eagle peaches, etc.

The class for a collection of six dishes of ripe dessert fruit brought out five competitors, and the silver cup and £3 as first prize was here won by Mr. J. Shelton, gardener to Lord Hillingdon, The Wilderness, Sevenoaks, with grand bunches of Muscat Hamburgh and Muscat of Alexandria grapes in good condition, a seedling melon, Negro Largo figs, Cox's Orange Pippin apples, and Lady Palmerston peaches. Mr. W. H. Cooke, gardener to Lord Belper, Kingston Hall, Derby, was a very close second with a handsome exhibit, in which Gros Colmar grapes, Cox's Orange Pippin apples, and Sea Eagle peaches were very fine. Mr. T. Pateman, gardener to C. A. Cain, Esq., J.P., Welwyn, third with an excellent collection.

GRAPE CLASSES.

Three competitors came forward in the class for six varieties of grapes, two bunches of each, and first prize was won by Mr. S. Barker, Clumber Gardens, who staged enormous bunches of Gros Guillaume, good Buckland Sweetwater, Muscat of Alexandria, Black Hamburgh, Gros Colmar, and Madresfield Court. Second prize was awarded to Mr. J. H. Goodacre, whose best bunches were of Madresfield Court and Golden Queen. Mr. E. C. Wickens, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill, came third with large, but, in many cases, rather loose bunches.

In the Black Hamburgh grape class there were five entries, and the best of these was shown by Mr. J. Shelton, who had very solid, large-berried clusters; Mr. G. Mullins second, and Mr. S. Barker third. Three competitors showed Mrs. Pince, and Mr. G. Richardson, gardener to H. St. Maur, Esq., Newton Abbot, let with long, well-coloured clusters; Mr. Mullins second. Mr. Mullins scored for Alicante with a heavy brace of richly-coloured clusters, and he was followed in order by Mr. H. Prime, gardener to the Marquis of Salisbury, Hatfield, and Mr. H. H. Bacon, gardener to Mrs. W. G. Raphael, Castle Hill, Englefield Green; there were seven entries. Four came forward in the class for Madresfield Court, and here Mr. S. Barker scored with fair-sized bunches of grandly-coloured, plum-like berries; Mr. J. H. Goodacre second, and Mr. J. Shelton third.

There were only two entries for the finely-flavoured Prince of Wales variety, and here Mr. Lintott, gardener to Sir Walpole Greenwell, Marden Park, Caterham, scored, as his fruits were better coloured than the larger bunches of Mr. H. J. Alderman, gardener to H. H. Konig, Esq., Blendley Heath, Redhill. In the any other black class there were ten competitors, and the best brace of bunches was staged by Mr. Mullins, who set up finely-berried bunches; Mr. W. Allan, gardener to Colonel the Hon. C. Harbord, Gunton Park, Norwich, second.

Eleven competitors came forward in the class for Muscat of Alexandria grapes, and the competition was keen. Mr. W. Lane, gardener to Sir Edwin Durning Lawrence, Bart., King's Ride, Ascot, won first prize with splendid, large-berried bunches, very finely coloured; Mr. W. Allan second, and Mr. J. Kidd, gardener to G. Miller, Esq., Newberries, Radlett, Herts, third. In the "any other white" class Mr. A. G. Nicholls, gardener to the Duke of Wellington, Strathfieldsaye,

was placed first for huge bunches of the green-berried Calabrian Raisin; Mr. Pateman second with Lady Hutt; and Mr. F. L. Pike, gardener to H. W. Henderson, Esq., King's Langley, third with Foster's Seedling.

COLLECTIONS OF HARDY FRUITS.

The classes for a collection of thirty dishes of hardy fruits is always an interesting one, but it is rarely well filled. There were two competitors on this occasion, and Mr. J. Cornford, gardener to Major Powell Colton, Quex Park, Thanet, was placed first for admirable apples, Marguerite Marrillat and other pears of fine quality, figs, peaches, plums, and prunes; a dish of Reculver figs was of special interest. Mr. W. H. Bacon, Mote Park Gardens, came second with very fine apples, a good selection of pears, and dishes of figs, plums, mulberries, nuts, raspberries, prunes, quinces, and St. Joseph strawberries, but no peaches.

NURSERYMEN.

In the principal class open to nurserymen the requirements were a display of fruit, grown entirely in the open air, arranged on a space 30ft. by 6ft. There were five competitors, and first prize was taken by Messrs. H. Cannell and Sons, Eynsford, Kent. This firm had good size all through their fine collection, and they were ahead on colour. Their fruits were chiefly shown in dishes and shallow baskets, and piled up pyramid fashion, a few groups of baskets being raised well above the middle row so as to give effect to the whole. Particularly fine were the samples of such apples as Smart's Prince Arthur, Mere de Menage, King of Tompkins County, Gascoigne's Scarlet, Bismarck, Blue Pearmain, Peasgood's Nonsuch, Allington Pippin, Baron Wolseley, Antonowa (a pale whitish-green apple), Annie Elizabeth, Newton Wonder, Bramley's Seedling, Chelmsford Wonder, Lady Sudeley, and King of the Pippins. Pears were also well shown, and Marguerite Marrillat and others showed quite good colour. Crabs, plums, and medlars completed a very fine display. After so many years' hard fighting for first position it is pleasant to be able to record such a capital win for the Eynsford firm. Messrs. G. Bunyard and Co., Maidstone, were placed second, and they presented a very weighty collection of apples, but had not quite the usual high colouring displayed by Maidstone fruits. There were splendid baskets of Jas. Grieve, Mere de Menage, Bramley's Seedling, Rev. W. Wilks, Warner's King, Lord Derby, Lord Castlereagh, Allington Pippin, Transparent de Croncels, and Hitchin Pippin apples; White Le Brun, Marguerite Marrillat, Beurre Diel, Beurre Superfin, and Pitmaston Duchess pears. Messrs. J. Cheal and Sons, Crawley, were placed third, and they displayed brightly-coloured fruits in pleasing fashion; though very bright, the specimens were a little below the usual size, due probably to the early date of the show. The King's Acre Nurseries, Lim., Hereford, came fourth.

Premier award for a trade display occupying a space 20ft. by 6ft. was won by Mr. R. C. Notcutt, Woodbridge, who put up splendid clean specimens, richly coloured, and of excellent size; James Grieve, Allington Pippin, Coronation, The Queen, Bramley's Seedling, Blenheim Pippin, Mere de Menage, Wealthy, King of the Pippins, Alfriston, Royal Jubilee, and Lord Stradbroke apples were all capital; the latter is a comparatively new culinary variety, dark hued, and solid. Messrs. Laxton Brothers, Bedford, secured the second prize with a highly meritorious display, and their apples and pears, all of good quality, were displayed in admirable style. We were especially interested in the new Beauty of Bedford apple, a promising, highly-coloured, striped dessert variety, obtained by crossing Lady Sudeley with Beauty of Bath—a very handsome apple. Messrs. S. Spooner and Sons, Hounslow, third, their samples of Chas. Ross apple being particularly good.

A third class was provided for nurserymen, and in this case the space allowed was 12ft. by 6ft. There were two entries, and first place was given to the Barnham Nurseries, Lim., Barnham, Sussex, for an attractive exhibit, chiefly of bright-hued apples, shown off to advantage by means of coloured foliage; of Bramley's Seedling, Peasgood's Nonsuch, Lord Derby, Chas. Ross, and Newton Wonder apples this firm had fine baskets. Messrs. Paul and Son, Cheshunt, second, this firm showing a great variety of fruits, including the parsley-leaved blackberries, crabs, and Merveille de Bon Secours strawberries fruiting in tiny pots.

ORCHARD HOUSE FRUITS.

Great interest always centres in the class for a display of orchard house fruits and trees arranged on a space 24ft. by 6ft. Messrs. T. Rivers and Sons, Sawbridgeworth, were placed first with capitally-cropped trees of Emperor Alexander, Buckingham, Gascoigne's Scarlet, Cox's Pomona, and Peasgood's Nonsuch apples; Louise Bonne of Jersey and Conference pears; Coe's Golden Drop, Coe's Violet, and President plums. The picked fruits were superb, especially the examples of Cox's Orange Pippin, Ribston Pippin, Peasgood's Nonsuch, and St. Edmund's Pippin apples, all glorified almost beyond recognition; Guigne de Winkle cherries, grand Marguerite Marrillat, Souv. du Congrès, Doyenne du Comice, and St. Luke's pears; and Primate, Late Orange, Monarch, President, and Coe's Golden Drop plums, and Sea Eagle peaches—altogether a grand display.

Messrs. G. Bunyard and Co., Lim., Maidstone, were placed second, their picked fruits being of particularly high class; Marguerite Marrillat, Doyenne du Comice, Uvedale's St. Germain, Pitmaston Duchess, St. Luke, and Durondeau pears were altogether excellent. The King's Acre Nursery Company, Hereford, were placed third, and though they were very little behind on their picked fruits (though these were very fine), they seemed to lack nothing when the pot fruit trees, clean and heavily cropped with first-rate fruits, were considered.

MARKET GROWERS' CLASSES.

Messrs. Gaskain and Whiting, Dargate, Faversham, were again successful in winning first prize for twenty baskets of cooking and dessert varieties in the section open only to market growers. Last year this firm showed grandly, and their fruits were on this occasion scarcely below last year's high standard. There were superb specimens of Warner's King, Peasgood's Nonsuch, Loddington, Lord Derby, Cox's Pomona, Blenheim Pippin, Bramley's Seedling, Ribston Pippin, Rival, Chas. Ross (splendidly coloured), Cox's Orange Pippin, American Mother, and Lady Henniker.

In the smaller class, for six baskets each of cooking and dessert varieties, Mr. G. Packman, gardener to Colonel Honeyball, Teynham, Kent, led, and here again grand fruits were shown, the varieties being Warner's King, Mere de Menage, Stone Apple, Bramley's Seedling, Lord Derby, Peasgood's Nonsuch, Chas. Ross, Cox's Orange Pippin, Allington Pippin, Worcester Pearmain, Paraquet, and Duchess's Favourite. The Swanley Horticultural College came second; and H. Lumley Webb, Esq., Ham Green, Upchurch, Sittingbourne, was placed third.

COLLECTIONS OF APPLES.

In the gardeners' and amateurs' class for two dozen dishes of apples, sixteen cooking and eight dessert varieties, there were five entries, and the silver cup and first prize fell to Mr. J. Whittle, gardener to Colonel Borton, Hunton, Maidstone, for a fine collection of clean, finely-developed fruits. The varieties, all excellent, were Gascoigne's Scarlet, Bismarck, Lane's Prince Albert, Hambling's Seedling, Belle Pontoise, New Hawthorndeu, Lady Henniker, Lord Derby, Mere de Menage, Loddington, Annie Elizabeth, Emperor Alexander, Peasgood's Nonsuch, Warner's King, Bramley's Seedling, Wealthy, Allington Pippin, Rival, Ribston Pippin, Cox's Orange Pippin, Christmas Pearmain, Chas. Ross, and Melon apples; Mr. W. A. Bacon, The Mote Gardens, Maidstone, came second, and Mr. T. Pateman, Welwyn, third.

Out of six competitors in the class for a dozen dishes of cooking and six of dessert apples, Mr. B. J. Mercer, gardener to H. G. Kleinwort, Esq., Wierton Place, Maidstone, set up a beautifully even and clean collection and obtained the premier award; Mr. J. Cornford, Thanet, second; and Mr. T. Herbert, gardener to T. Charlesworth, Esq., Nutfield Court, Nutfield, third.

The best eight dishes of cooking and four dishes of dessert apples came from Mr. J. Mullins, Eastnor Castle Gardens, whose fruits of Tyler's Kernel, Wealthy, Rival, Cox's Orange Pippin, and Emperor Alexander were finely coloured and of good size; Mr. J. Kidd, Radlett, second; and Mr. H. E. Wallis, gardener to Mrs. Trevor Goff, Sherfield Hall, Basingstoke, third.

The finest half-dozen dishes of cooking apples came from Mr. J. Whittle, Hunton Gardens, Maidstone, who put up Peasgood's Nonsuch and Bismarck in fine form; Mr. W. H. Bacon second. The best half-dozen dishes of dessert apples came from Mr. G. Mullins, who contributed beautiful fruits of Rival, Cox's Orange Pippin, King of the Pippins, Jas. Grieve, Wealthy, and Ribston Pippin; Mr. W. H. Bacon second.

COLLECTIONS OF PEARS.

Four competitors staged eighteen dishes of dessert pears, and this class made a good show. The first prize and silver cup went to Mr. W. H. Bacon, The Mote Gardens, Maidstone, for a handsome lot of fruits, wherein the varieties Marguerite Marrillat, Durondeau, Clapp's Favourite, Souv. du Congrès, Conference, Triomphe de Vienne, and Beurre Baltet pear were notably fine; Mr. J. Whittle second, and Mr. Pateman third.

The Fruiterers' Company's silver medal and £2 offered as first prize for a dozen dishes of dessert pears went to Mr. J. Cornford, Quex Park Gardens, Thanet, whose best dishes were of Gansel's Bergamot, Beurre Alexandre Lucas, and Pitmaston Duchess; Mr. J. Ridd second.

Mr. J. Shelton led for nine dishes of pears, and had Triomphe de Vienne in good form; Mr. J. Whittle scored for nine dishes of pears, and Mr. B. J. Mercer was second, while for three dishes of stewing pears Mr. J. Cornford led with Uvedale's St. Germain, Catillac, and Gilogil.

PLUMS.

The best set of three dishes of plums came from Mr. W. Messenger, gardener to C. H. Berners, Esq., Woolverstone Park, Maidstone, his varieties being President, Coe's Golden Drop, and Monarch; Mr. J. Hill, Kingston Lacy, Wimborne, second, with Grand Duke, President, and Primate, and in all cases the fruits were fine. Mr. F. G. Gerrish, gardener to J. G. Williams, Esq., Pendley Manor, Tring, led for damsons or bullaces, and Mr. G. Mullins and Mr. Gerrish were placed first and second respectively for Morello cherries.

DISTRICT COUNTY CLASSES.

In the district county section each district has two classes, one for four dishes of cooking and two dishes for dessert apples, and one for six dishes of dessert pears. In the apple class the prizes offered were, first, 4l and second-class single fare from exhibitor's nearest railway station to London; second, 15s., and third single rail fare. For pears the prizes offered were, first, 30s., and single third rail fare; second, 20s., and single third rail fare.

In the Kent growers' section first place for apples was won by Mr. J. Bond, gardener to G. H. London, Esq., Wye, who showed beautiful fruits of Jas. Grieve, King of the Pippins, and Bramley's Seedlings; Mr. J. Coleman, gardener to Captain S. G. Reid, The Elms, Yalding, second. The latter was first in the pear class with very fine dishes of Conference, Durondeau, Marguerite Marillat, Pitmaston Duchess, and Doyenne du Comice; Mr. Bond second.

The next section was open to growers in Surrey, Sussex, Hants, Dorset, Somerset, Devon, and Cornwall, and here Mr. T. Turton, gardener to F. J. B. Wingfield Digby, Esq., Sherborne Castle, Dorset, scored for pears, his Doyenne Boussoch and Doyenne du Comice being very fine; Mr. J. Hill, Kingston Lacey, second. For apples, Mr. J. A. Stidston, Bishopsteignton, Devon, won first prize finely, his Rougemont, Chas. Ross, Peasgood's Nonsuch, and Gascoigne's Scarlet being especially good; Mr. A. Tidy, gardener to C. H. Combe, Esq., Cobham Park, Surrey, came second with very heavy culinary apples; four entries.

In the section open to growers in Wilts, Gloucester, Oxford, Bucks, Berks, Beds, Herts, and Middlesex, there were four entries of pears, and first prize fell to Mr. A. Carlisle, gardener to C. Gurney, Esq., Henlow Grange, Biggleswade, for handsome dishes of Clapp's Favourite, Pitmaston Duchess, Louise Bonne of Jersey, and Marguerite Marillat; Mr. C. Page, gardener to J. B. Fortescue, Esq., Maidenhead, second. For apples, Mr. A. Carlisle scored among seven competitors with fine samples of Bramley's Seedling, Peasgood's Nonsuch, Blenheim Pippin, Ribston Pippin, and Cox's Orange Pippin, all brightly coloured and very clean; Mr. T. J. Finch, gardener to the Earl of Suffolk, Charlton Park, Malmesbury, a capital second.

A little difficulty arose in the section for growers in Essex, Suffolk, Norfolk, Cambridge Hants, and Rutland; for the apple class by far the finest fruits were exhibited by Mr. G. Davison, gardener to Colonel Petrie, Westwick, Norwich, and first prize was placed on his card. Eventually "Disq." was pencilled on the card, and the red-lettered prize slip crossed through, and a written note from the Rev. W. Wilks stated, "Prize in abeyance owing to protest, which must be investigated." At the same time, "1st prize" was pencilled on the class-card belonging to Mr. A. Andrews, gardener to the Right Hon. J. W. Lowther, Wickham Market; and second on the card from Mr. A. Humphery, gardener to Sir Montagu Turner, Havering, Romford. We understand the protest was on the ground that Colonel Petrie has a fruit farm, and is therefore a trader. Mr. G. Davison was placed first for pears, and staged superb specimens of Marguerite Marillat, Souv. du Congrès, Doyenne du Comice, Triomphe de Vienne, Pitmaston Duchess, and Durondeau; Mr. W. Allan, gardener to Colonel the Hon. C. Harbord, Gunton Park, Norwich, second. There appeared to be no question as to Colonel Petrie's or Mr. Davison's qualifications in the pear class, curiously enough.

There was but one entry each of apples and pears in the section open to growers in Lincoln, Northampton, Warwick, Leicester, Notts, Derby, Staffordshire, Shropshire, and Cheshire, and so in both classes the premier award fell to Mr. J. Taylor, gardener to F. Bibby, Esq., Hardwicke Grange, Salop, his best dishes being of Beurre de Mortillet pears and Peasgood's Nonsuch and Rival apples. The best six dishes of pears for growers in Worcester, Hereford, Monmouth, Glamorgan, Carmarthen, and Pembroke came from Mr. C. Crooks, Impney Hall Gardens, Droitwich, his Clapp's Favourite being very good. For apples F. Paget Norbury, Esq., The Norrest, Malvern, beat Mr. Crooks.

Mr. Thos. Jones, Ruabon, of sweet pea fame, scored for pears in the section open to growers in other counties of Wales, and he showed good dishes of Princess, Beurre de Mortillet, and Dr. Jules Guyot; he also secured first prize for apples, and was not troubled by other competitors. The only exhibitor in the section for the six northern counties of England and the Isle of Man was Mr. J. C. McPherson, gardener to the Earl of Londesborough, Market Weighton, who secured first prize for both apples and pears; Allington Pippin and Peasgood's Nonsuch apples, and Souv. du Congrès, Pitmaston Duchess, and Conference pears were among his best dishes.

Mr. Jas. Duff, gardener to C. L. Gordon, Esq., Castle Douglas, scored for apples in the Scottish class, and showed remarkably clean and bright examples of Duchess of Oldenburgh, Gascoyne's Scarlet, Lady Sudeley, and Worcester Pearmain—as clean and good as though from under glass; Mr. J. J. Steward, St. Fort Gardens, Newport, Fife, second. There were not any pears shown in this section. Among Irish growers Mr. W. Smart, gardener to J. Congreve, Esq., D.L., Mount Congreve, Waterford, was the only exhibitor of pears, and gained first prize. For Irish-grown apples Mr. T. E. Tomalin, gardener to the Earl of Bessborough, Piltown, Co. Kilkenny, led, and his dishes of Ecklinville, Tyler's Kernel, Hambling's Seedling, and Lady Sudeley were capital; Mr. C. B. Brond, Aghery, Conna, Co. Cork, second.

DESSERT APPLES, SINGLE DISHES.

In these classes we give only the names of the variety, the number of exhibits, and the chief prize-winners.

Adam's Pearmain, ten entries; Mr. T. J. Finch, Malmesbury. Allington Pippin, seventeen entries; Mr. J. Reynolds, gardener to W. Castle, Esq., Holland House, Barton Mills, Suffolk. American Mother, ten entries; Mr. A. Basile, Woburn Park Gardens, Weybridge. Barnack Beauty, four entries; Mr. C. Crooks, Impney. Belle de Boskoop, four entries; Mr. J. Coleman, Yalding. Ben's Red, six entries; Mr. W. Messenger, Ipswich—a fine dish. Blenheim Orange, fifteen entries; Mr. J. T. Tubbs, gardener to J. Walter, Esq., Bearwood, Wokingham.

Chas. Ross, thirteen entries; Mr. F. King, gardener to Rev. H. A. Bull, Westgate-on-Sea. Christmas Pearmain, five entries; Mr. A. Basile. Claygate Pearmain, sixteen entries; Mr. A. Carlisle—very fine dish. Cockle's Pippin, four entries; Mr. A. Tidy. Coronation, three entries; Mr. G. Richardson, Newton Abbot. Cox's Orange Pippin, seventeen entries; Mr. J. S. Kelly, gardener to the Duchess of Albany, Claremont, Esher—a very richly coloured dish. Duke of Devonshire, six entries; Mr. J. Coleman. Egremont Russett, eight entries; Mr. J. Bond, Wye. James Grieve, nine entries; Mr. F. P. Norbury, Malvern. Houblon, no entries. King of Tompkin's County, five entries; Mr. A. Tidy. Lord Hindlip, three entries; Mr. T. J. Finch.

Mannington Pearmain, two entries; Mr. J. Hill. Margil, five entries; Mr. A. Basile. Reinette du Canada, one entry; Mr. G. Richardson. Ribston Pippin, seventeen entries; Mr. W. Allan, Gunton. Rival, eight entries; Mr. W. Messenger—extra fine fruits. St. Edmund's Pippin, five entries; Mr. J. T. Tubb. Scarlet Nonpareil, two entries; second only, to Mr. C. Page. St. Everard, two entries; Mr. C. Page. Wealthy, thirteen entries, Mr. A. Basile. William Crump, no entry.

Any early dessert apple not named above, seventeen entries: Mr. Andrews first with fine Worcester Pearmain; Mr. W. Allan second with Benoni. Any other late dessert variety not already named, fourteen entries: Mr. G. Richardson first with Ballinora, and Mr. J. T. Tubb second with Ross Nonpareil—a fine dish.

COOKING APPLES.

Alfriston, four entries; Mr. A. Tidy. Annie Elizabeth, ten entries; Mr. J. Coleman. Beauty of Kent, three entries; Mr. W. Allan. Bismarck, six entries; Mr. J. Coleman. Blenheim Orange, ten entries; Mr. H. Engell, Hickling—fine dish. Bramley's Seedling, eleven entries; Mr. T. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone—a fine dish. Dumelow's Seedling, seven entries; Mr. G. Richardson. Byford Wonder, no entry. Crimson Bramley's, no entry. Ecklinville, eight entries; Mr. A. Basile. Edward VII., four entries; Mr. A. Andrews. Emneth Early, one entry; Mr. J. R. Smith, Bedgebury Park, Goudhurst. Emperor Alexander, five entries; Mr. W. Stevenson, gardener to G. E. Pearson, Esq., Brickendonbury.

Gascoigne's Scarlet, seven entries; Mr. A. G. Nicholls, Strathfieldsaye. Golden Noble, six entries; Mr. A. Andrews. Grenadier, five entries; Mr. T. E. Tomalin. Hambling's Seedling, six entries; Mr. T. A. Tomalin—splendid fruits. Hector Macdonald, two entries; Mr. J. Copp, Teignmouth. Hormead Pearmain, three entries; Mr. J. Coleman. King of Tompkin's County, three entries; Mr. J. Coleman. Lane's Prince Albert, six entries; Mr. W. Stephenson. Lord Derby, eleven entries; Mr. C. Johnson, The Vicarage Gardens, Yalding.

Mère de Ménage, eight entries; Mr. G. Richardson—grand dish of weighty fruits. Newton Wonder, eight entries; Mr. J. Coleman. Norfolk Beauty, three entries; Mr. A. Andrews. Peasgood's Nonsuch, six entries; Mr. A. Andrews—fine dish. Pott's Seedling, six entries; Mr. J. Coleman. Rev. W. Wilks, four entries; Mr. F. L. Pike, King's Langley. Royal Jubilee, five entries; Mr. A. Andrews. Stirling Castle, eight entries; Mr. F. P. Norbury. The Queen, seven entries; Mr. A. Andrews. Tower of Glamis, eight entries; Mr. A. Tidy. Warner's King, nine entries; Mr. G. Richardson—a heavy dish.

Any other culinary variety, fourteen entries: Mr. T. E. Tomalin, Pilton, with Loddington; Mr. G. Johnson, Yalding, second, with the same variety.

CHOICE DESSERT PEARS. SINGLE DISHES.

The same conditions prevailed in this section as in those for both culinary and dessert apples, the prizes being 7s. and 5s. for first and second places.

Beurre Alexander Lucas; three entries; Mr. T. Turton. Beurre d'Amanlis, six entries; Mr. H. C. Gardner, gardener to Lord Foley, Ruxley Lodge, Esher. Beure d'Anjou, Mr. T. Turton. Beurre Bose, four entries; Mr. T. Turton. Beurre Damont, two entries; Mr. A. Basile. Beurre Hardy, four entries; Mr. W. Messenger. Beurre Peron, two entries; Mr. W. Allan. Beurre Superfin, four entries; Mr. T. Turton. Blickling, one entry; Mr. W. Allan. Charles Ernest, three entries; Mr. G. D. Davison. Comte de Lary, three entries; Mr. A. Tidy.

Conference, four entries; Mr. G. D. Davison. Directeur Hardy, one entry; Mr. J. Taylor, Hardwicke. Doyenne du Comice, eight entries; Mr. G. D. Davison, Durondeau, ten entries; Mr. G. D. Davison. Easter Beurre, four entries; Mr. G. D. Davison. Emile d'Heyst, six entries; Mr. W. Messenger. Fondante d'Autumn, four entries; Mr. W. Allan. Fondante Thirriot, three entries, Mr. W. Messenger. Glou Morceau, four entries; Mr. G. D. Davison. Gratioli of Jersey, one entry; Mr. W. Allan. Josephine de Malines, five entries; Mr. T. Turton. Le Brun, two entries; Mr. F. A. Billings, Launceston. Le Lectier, four entries; Mr. Thos. Stevenson.

Louise Bonne of Jersey, eight entries; Mr. J. Bond. Marie Louise, five entries; Mr. G. D. Davison. Nouvelle Fulvie, three entries; Mr. G. D. Davison. Olivier des Serres, three entries; Mr. T. Turton. Pitmaston Duchess, six entries; Mr. G. Davison. Souv. du Congrès. Mr. A. Basile. Thompson, three entries; Mr. S. Barker, Clumber. Triomphe de Vienne, two entries; Mr. G. Davison. Winter Nelis, six entries; Mr. T. Turton.

Any early pear not named above, thirteen entries, Mr. W. Allan first with Williams' Bon Chretien; Mr. Andrews second with the same variety. Any other late pear not named above, eight entries, Mr. T. Turton first, with a fine dish of Beurre Baltet Père; Mr. W. Allan, second, with Marie Louise d'Uccle.

AFFILIATED SOCIETIES' COMPETITION.

The Affiliated Societies' Silver Cup for a collection of six dishes of cooking and six dishes of dessert apples, and six dishes of dessert pears, six fruits to a dish, was won on this occasion by the Ipswich and District Gardeners' and Amateurs' Association, with a fine set. A few of the finest dishes were of Lord Derby, Lane's Prince Albert, Gascoigne's Scarlet, Peasgood's Nonsuch, Chas. Ross, Jas. Grieve, and Rival apples, and

Pitmaston Duchess, Durondeau, Beurre Diel, and Doyenne Boussoch pears.

Second prize, a silver-gilt Banksian medal, went to the Colchester and District Gardeners' Association, who had fine fruits, admirably staged. Third in order of merit was the East Anglian Horticultural Club.

OTHER EXHIBITS.

Mr. George Pyne, Denver, Topsham, Devon, was awarded a silver Hogg Memorial Medal for a grand dish of the Rev. W. Wilks apple, of exceptionally fine quality and size. Mr. W. H. Hawthorn, gardener to Mrs. Chas. Charrington, Broadoaks, West Byfleet, Surrey, exhibited two dozen dishes of culinary and dessert apples, and a dozen dishes of pears, all of fair quality.

Mr. C. Turner, Slough, showed the very fine new apple named Arthur Turner, and Messrs. Merryweather and Sons exhibited their splendid new Merryweather damson, and gained for it a F.C.C. on this occasion.

MEDALS AWARDED.

In the trade classes already referred to the following medals were awarded as prizes: Premier class, 30ft. by 6ft.—Gold Medal, to Messrs. H. Cannell and Sons; silver-gilt Hogg Memorial medal, to Messrs. George Bunyard and Co., Maidstone; silver-gilt Knightian medal, to Messrs. J. Cheal and Sons, Crawley; silver-gilt Banksian medal, to King's Acre Nurseries, Lim., Hereford; silver Knightian medal, to Messrs. Wm. Seabrook and Sons, Chelmsford.

Second-class, 20ft. by 6ft. — Silver-gilt Knightian medal, to Mr. R. C. Notcutt, Woodbridge; silver-gilt Banksian medal to Messrs. Laxton Brothers, Bedford; silver Knightian medal, to Messrs. S. Spooner and Sons, Hounslow.

Third-class, 12ft. by 6ft.—Silver-gilt Banksian medal, to the Barnham Nurseries, Lim., Barnham, Sussex; silver Knightian medal, to Messrs. Paul and Son, Cheshunt; silver Banksian medal, to Mr. G. W. Miller, Wisbech.

Orchard House Fruit and Trees. — Gold medal, to Messrs. Thos. Rivers and Sons, Sawbridgeworth; silver-gilt Hogg Memorial medal, to Messrs. G. Bunyard and Co., Maidstone; and silver-gilt Knightian, to King's Acre Nurseries, Lim., Hereford.

BALSAMS.

Within recent years several distinct species of impatiens have been introduced into cultivation, some of which have now become popular garden plants. The oldest of all, however, namely, the common Balsam (Impatiens balsamina), does not occupy the high position in gardens that it once did. There is, however, no reason to account for their comparative neglect, as well-grown examples are very handsome, and, what is more, they retain their beauty for a considerable time. In the typical kind, which was introduced from Tropical Asia in 1596, the flowers are single, but now the double-flowered varieties are mainly grown. What is known as the camellia-flowered balsam is a particularly fine strain, the flowers being large, double, and with a wide range of attractive colours. The main essentials to success in the culture of these balsams is to take care that the plants do not suffer any check from the seedling stage till they are in flower. If sown towards the end of March or in April the seed will, in a gentle heat, germinate quickly. As soon as the young plants are sufficiently advanced they should be potted off, using a good open, fairly rich compost. They must be shifted on directly they are sufficiently advanced, and may be flowered well in pots from seven to ten inches in diameter. As they grow quickly the plants must be frequently turned round to prevent them becoming one-sided. S. W.

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EXHIBITIONS AND MEETINGS.

National Chrysanthemum Society.

The opening of the chrysanthemum show season commenced on October 1 and 2, when the N.C.S. helds its early exhibition at the Crystal Palace. Except in a few classes competition was not keen, but the flowers were notably good in size and colour, and were remarkably fresh. We remember several larger early shows, but none at which brilliant colouring has been more pronounced. The traders came out in strong force, and put up very atractive groups of chrysanthemums, dahlias, Michaelmas daisies, begonias, etc.

Not many novelties were forthcoming, but Yellow Moneymaker (Messrs. Cragg, Harrison, and Cragg), Golden Diana (Messrs. Todd and Co., Edinburgh), and Mrs. Richard Hamilton (Messrs. Lowe and Shawyer, Uxbridge), each gained an F.C.C.

OPEN CLASSES.

There were two competitors for the silver cup offered as first prize by the President of the Society, Sir Albert Rollit, LL.D., for the best floral display of chrysanthemums, plants and cut flowers, associated with suitable foliage. The space allowed was a semicircle, 14ft. by 7ft. Mr. Norman Davis, Framfield, Sussex, was a capital first, and his bold disposition of big yellow and white blooms was greatly admired. In the foreground Mr. Davis used early-flowering outdoor varieties, and provided an edging of ferns. Berberis and purple plum foliage was used sparingly in the stands of blooms. Messrs. J. Peed and Son, West Norwood, secured second place, and caladiums were associated with their chrysanthemums.

Mr. Thos. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone, was the only exhibitor of a dozen Japanese blooms, distinct, shown on boards. He was awarded first prize for grand examples of Frances Joliffe, Mrs. Thos. Stevenson, D. B. Crane, Hon. Mrs. John Ward, Lady Talbot, Japan, Mrs. R. Luxford, and Master James. For six big blooms, Japanese, Mr. T. J. Broom, gardener to Miss Langworthy, Gay's House, Holyport, led among four competitors, and staged Amarantha, Master James, and Henry Perkins finely; Mr. G. Mileham, gardener to A. T. Miller, Esq., Emlyn House, Leatherhead, second, and Mr. C. Pullen, gardener to G. P. B. Fores, Esq., Blenheim, Raynes Park, S.W., third.

Early-flowering pompon varieties, twelve bunches, is apparently a rather difficult class to fill, and Mr. J. Smellie, Pansy Gardens, Busby, near Glasgow, annexed the first prize, and showed La Luxembourg, Canari, St. Croutts, Scarlet Gem, the old Piercy's Seedling, and other good varieties of this interesting, but, alas, not very popular section.

The class for a dozen bunches of undisbudded blooms, grown out of doors, bunches not to exceed eighteen inches in diameter, brought out two competitors, and here Mr. J. Smellie was a good first with fine flowers rather densely packed into full-sized bunches; Crimson Polly, La Parisienne, Elstob Yellow, Mrs. J. Fielding, Hector, and Cream Perrier were the best of his varieties; Mr. J. Emberson, Walthamstow, second. Two exhibitors came forward in the class for a dozen bunches of outdoor grown, disbudded chrysanthemums. Mr. Thos. Stevenson gained first prize with handsome fresh blooms of Cranford Pink, Almirante, Princess, Debutante, Emperor, El Draco, Dolores, Bronze Soleil d'Octobre, Framfield Early White, Betty Spark, Hollicot Yellow, and Hollicot Bronze; Mr. A. Henson, Milford House, St. Peter's Avenue, Kettering, a good second.

Mr. T. Stevenson scored for six bunches of early-flowering Japanese or decorative varieties with lovely flowers of Almirante, Cranford Pink, Soleil d'Octobre, Emperor, El Draco, and Debutante; Mr. A. Henson second, and Mr. J. Emberson third; five entries. The best vase of three blooms of any Japanese variety was one of the Hon. Mrs. John Ward, shown by Mr. T. Stevenson; second award fell to Mr. G. Mileham, for White Queen; and third to Mr. R. J. Gladwell, gardener to A. Gosheron, Esq., Tennyson Road, South Norwood, for D. B. Crane.

In each of the two classes for a vase of early-flowering singles, Mr. J. Smellie was the only exhibitor, and he gained second prize in each case; his flowers had suffered somewhat during the long journey.

AMATEURS.

In the amateurs' division Mr. A. Henson led the way for six bunches of early chrysanthemums, disbudded, and he showed Almirante, Cranford Pink, and Countess in fine style; Mr. H. Dunkley, St. Peter's Avenue, Kettering, second. For the same number of bunches of undisbudded, outdoor-grown chrysanthemums, Mr. Henson was again to the front, and here his Roi des Blancs, Perle Chatillonaise, Goacher's Crimson, and Improved Polly were very beautiful; Mr. H. Dunkley second; and Mr. C. Fox, Linden Gardens, Tunbridge Wells, third. Mr. D. B. Crane, Archway Road, Highgate, was the only exhibitor of early pompons, and was awarded first prize.

In the trade excluded class for a vase of chrysanthemums and foliage, Mr. C. Fox, Tunbridge Wells, was placed first, but it was a pity he used large fronds of maidenhair fern, when other more appropriate foliage was at command; Mr. T. W. Stevens, Donnington, Laurie Park, Sydenham, second; and Mr. A. Henson third.

Mr. H. Dunkley had the best three bunches of undisbudded early varieties, winning with Fee Parisienne, Roi des Blancs, and Leslie. Mr. C. Fox second, and Mr. Henson third. For three bunches, disbudded, Mr. Henson won with Miss E. Foster, Golden Queen, and Framfield Early White; Mr. H. Dunkley second.

DECORATIVE CLASSES.

Mr. T. W. Stevens scored for a dinner table decoration of chrysanthemums, and led with a pleasing design, light and elegant, of yellow and bronze flowers, and croton foliage; Mrs. W. C. Roelink, Markhouse Avenue, Walthamstow, second; and Mrs. A. M. Brill, Southdown Avenue, Brighton, third; the latter showing lilac-coloured flowers, but spoiled the effect by having eight blooms under the stands, on the cloth; eight entries.

Mrs. Roelink was the only exhibitor in the amateurs' class for a table decoration, and she was deservedly awarded first prize for her pleasing design in which single flowers of yellow and bronze hue were used with rare judgment.

Mr. T. Stevens was premier prizewinner for three epergnes of chrysanthemums, his central effort consisting of white and crimson bronze flowers; Mr. A. W. Trossell, gardener to H. Attenborough, Esq., The Avenue, Beckenham, second; and Mrs. A. Robinson, Norhyrst, Park Hill, Carshalton, third.

Mrs. Robinson scored for one epergne with a light design; Mr. T. W. Stevens second, and Mr. Fox third.

The only vase of early-flowering single varieties, arranged with suitable foliage, was put up by Mr. J. Smellie, and was a bright contribution that received a first prize. Mr. J. Emberson led for a basket of blooms and suitable foliage with a handsome arrangement of golden, yellow, and crimson flowers with asparagus sprays and fern fronds; Mr. A. R. Bide, Highlands, Farnham, second; Mr. R. Bugden, Gipsy Hill, Upper Norwood, was awarded first prize for a basket of autumn foliage and berries, but the arrangement was rather heavy and dull.

NON-COMPETITIVE.

A particularly pleasing exhibit of disbudded chrysanthemums, chiefly from out of doors, was made by Messrs. Cragg, Harrison, and Cragg, Heston, Hounslow. This large exhibit was arranged in the style of a formal garden, the four corners of a square being filled in with large vases of beautiful blooms, set up over ferns. In the centre was a square-based pyramid, composed of handsome blooms of Juliet, Framfield Early White, J. W. Streater (a yellow H. W. Thorpe), and Yellow Moneymaker, a soft yellow sport from the popular white Moneymaker. The whole of this garden was about 30ft. square, so readers will have a fair idea of its extent. Besides those named, there were fine vases of blooms of Kara Dow, the crimson-scarlet Almirante, Cranfordia, Heston Yellow, Mrs. Cragg, Cranfield Pink, Mrs. Scott, and Mdme. A. Nonin.

Messrs. W. Wells and Co., Merstham, presented a big imposing display, composed of great sheaves of phloxes and delphiniums and large stands of Climax, Grace, and Miss Brazier Michaelmas daisies, with perpetual carnations in variety in the centre, including the fine new scarlet, named The Champion. There was also a great flanking group of early chrysanthemums, set up in vases and tall stands, the most striking varieties being the golden Leslie, the pink Normandie, Mrs. J. Fielding, Goacher's Crimson, and Roi des Blancs.

Ferns were contributed by Messrs. H. B. May and Sons, Edmonton, together with chrysanthemums and begonias. Mr. J. Emberson, Walthamstow, displayed an excellent selection of cactus, pæony-flowered, pompon, and collarette dahlias in stands of varying size, and associated the flowers with asparagus and other suitable foliage. Messrs. Thos. S. Ware, Feltham, used pæony-flowered dahlias to secure the chief effect in their display, but the low pyramids of cactus dahlias under the tall stands of the other sorts was a good idea. Prominent among the "pæonies" were The Geisha, Bertha von Suttner, Flamingo, Mrs. G. Gordon, Pennant, Dusky Queen, Queen Mary, and Mrs. Alfred Platt. The same firm added to the importance of their contribution by staging tuberous begonias finely, as well as hardy border flowers in variety.

Mr. J. B. Riding, Chingford, again gave prominence to collarette dahlias, and provided for them a capital background of pæony-flowered and cactus varieties. Among the collarettes we were attracted by Henri Farman, Maurice Rivoire, Geant de Lyons, new; Maroc, a glorified Ideal; Dora Fisher, new, the only real pink sort yet; Albert Maumene, General de Solis, vivid scarlet; Ville de Schildt, new, orange-salmon; S. von Schelking, new, straw-yellow, with crimson shading towards the base, and light yellow collar. Mr. A. H. Cole, Swanley, showed a capital lot of zonal pelargoniums, growing in small pots, and carrying good heads of bloom; these were from the old "Home of Flowers."

The choicer Michaelmas daisies were put up in most charming fashion by Mr. H. J. Jones, Ryecroft Nursery, Lewisham. A white background proved eminently suitable for the soft lilac, blue, lavender, and rose colouring of these beautiful autumn flowers. Stands about 6ft. high were filled gracefully with sprays of one variety, and the effect was excellent. Outstanding varieties were Climax, Micky Adams, Mabs, Lil Fardell, and Queen, among large-flowered sorts; and Ideal, Bianca, and Chastity among the graceful small-flowered kinds. This splendid and beautifully-arranged exhibit was further brightened by stands of yellow and pink chrysanthemums, and finished off with an edging of Helxine Solieroli.

Messrs. Wm. Cutbush and Son, Highgate, had a very handsome display of Michaelmas daisies, set up in huge spreading bouquets from 4ft. to 6ft. through, set over a groundwork of flowers in vases. Sirius, Climax, Avalanche, Ideal, and Little Bo Peep were the varieties used so boldly, while the double Peggy Ballard provided a central mound of bright colouring. Messrs. W. Russell and Son, Brentwood, contributed a collection of apples and a group of ivies and other shrubs. The Four Oaks Spraying Machine Company, Sutton Coldfield, exhibited spraying machines, syringes, etc.

MEDAL AWARDS.

Gold.—Mr. H. J. Jones, Ryecroft Nursery, Lewisham; Messrs. Thos. S. Ware, Lim., Feltham; Messrs. W. Wells and Co., Merstham; Messrs. Cragg, Harrison, and Cragg, Heston, Hounslow.

Small Gold.—Messrs. Wm. Cutbush and Son, Highgate; Messrs. H. B. May and Sons, Edmonton.

Silver-Gilt.—Mr. J. B. Riding, Chingford.

Large Silver. — Mr. J. Emberson, Walthamstow.

Silver,—Messrs. David Russell and Son, Brentwood.

Small Silver.—Mr. A. H. Cole, Swanley.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE.—September 29.

Present: Mr. E. A. Bowles, M.A. (in the chair), Prof. I. B. Balfour, Messrs. J. W. Odell, G. Wilson, W. Hales, R. Hooper Pearson, A. R. Rolf, F. J. Chittenden (hon. sec.), and Rev. J. Jacob, visitor.

MITES ON LIME TREE.—Mr. A. D. Michael reported that the mites on the lime sent from Bristol to the last meeting were the lime-tree form of the common Tetranychus telarius, sometimes separated under the name T. tiliarum, but really not distinct. It seems unpleasantly abundant and most destructive.

NARCISSUS BULBS DISEASED. — The bulbs sent by the Rev. J. Jacob to the last meeting were referred to Kew, and it is reported that the trouble, which consists of an internal rotting starting apparently from the base, and proceeding gradually throughout the mass, is due primarily to the fungus Fusarium bulbigenum, Cke. and Mass. Eelworms, mites, etc., are secondary. Numerous narcissus bulbs attacked by this fungus have been received recently, and a detailed account is in preparation. Some discussion took place regarding the bulbs, which presented some curious features. There were strange outgrowths from the base presenting somewhat the appearance of roots covered with root hairs, and about $\frac{3}{8}$ to $\frac{1}{2}$ an inch in length. Examination proved them to consist of masses of eelworms, some of which were active, and mixed with them a few eggs. Some varieties were attacked, while others growing side by side with them were immune. It was thought that the attack began while the bulbs were still in the ground, and was so little advanced when they were lifted that it was unnoticed then. There seemed no doubt from Mr. Jacob's description that the damage extended rapidly as the season of storage advanced. Mr. Jacob showed further examples.

ARISTOLOCHIA SEMPERVIRENS FRUITING.—Mr. Bowles showed, on behalf of Canon Ellacombe, some fruits of this aristolochia from Bitton. There seems no previous record of its fruiting in this country.

SEMPERVIVUM ARBOREUM. — Mr. Langworthy sent from his garden at Claygate an inflorescence of this Portuguese sempervivum, with small leaf rosettes at the apex of each of the branches of the inflorescence, which had almost dried up.

SOLANUM CRISPUM. — He also sent a section of a branch of Solanum crispum, measuring about $3\frac{1}{2}$ inches in diameter, cut from a plant growing outdoors at Claygate.

CROCUS PULCHELLUS FASCIATED.—Mr. E. A. Bowles showed Crocus pulchellus with two groups of perianth pieces, one containing six, the other seven parts, arising from the top of a common tube. The stamens were normal in number.

PRIMULA VINCÆFLORA.—A Botanical Certificate was unanimously recommended to this beautiful species, shown by Prof. I. Bayley Balfour from the Botanic Garden at Edinburgh. It was introduced by Forrest, who collected the seed in Yunnan. Its solitary oblique flowers are $1\frac{1}{2}$ inches to 2 inches in diameter, of a rich purplish violet, and and have the anterior stamens bent back, bringing the anthers near together. Three other species, of which P. Elwesi is in cultivation but has not yet flowered, share this character with vincæflora, and form a unique and very beautiful group in this family. The seed from which the present plant was raised was collected in 1911.

ABNORMAL GLOXINIAS.—Mr. Odell reported that he had examined the abnormal gloxinias sent to the last meeting by Mrs. Myles Kennedy, and found that the erect flower had four petaloid outgrowths originating from the base of the corolla and adnate for two-thirds of the length of the tube, terminating with a free apex. The outgrowths were similar in structure and colour to the corolla, and reversed as they are in some semi-double primulas, the spotted surfaces of the outgrowths being turned to the inner surface of the corolla. The stamens corresponded in number and position to the outgrowths (two being suppressed), the filaments being adherent to the walls of the corolla and to the centre of the outgrowths. The anthers were basifixed at the apex of the outgrowths. In place of the normal six glands were five unequal structures, bifid, and thus resembling staminodes. The ovary was normal.

Mr. Odell showed other abnormal forms of gloxinias for comparison.

GLASSINESS IN APPLES. — Specimens showing this peculiar appearance of semi-transparency were shown. The trouble, which is apparently of physiological origin, is very prevalent this year, and no cure is known.

CYTISUS FASCIATED.—Mr. Gaskell sent a branch of fasciated Cytisus—a peculiarity not uncommon in the genus.

SWEET WILLIAMS DISEASED.—Specimens badly attacked by Puccinia arenariæ came from Liphook. This fungus attacks Lychnis dioica and several other wild plants, and no doubt spreads from these to cultivated sweet williams. The attacked plants should be burned, and the remainder sprayed with a rose-red solution of potassium permanganate.

British Gardeners' Association.

The usual monthly meeting of the Watford Branch was held recently, when Mr. Fulton presided, and there was a good attendance, being over thirty present. Mr. J. Weathers gave an able address on "Should Women Gardeners Become Members of the B.G.A.?" which brought out a good discussion, and was thoroughly appreciated by all present. The next meeting will be held on October 16, at 7.30 p.m., when Mr. Durrant will read a paper on "Carnations."

OBITUARY.

MR. ROBERT LINDSAY.

We regret to learn of the death of Mr. Robert Lindsay, at Kaimes Lodge, Murrayfield Road, Edinburgh. Mr. Lindsay had not enjoyed good health latterly, and lived quietly since 1896, when he retired from the Curatorship of the Edinburgh Botanic Gardens, a position he filled for thirteen years. Mr. Lindsay was a capable horticulturist, and no mean botanist, his knowledge of alpine plants being peculiarly intimate and extensive, and these flowers he continued to cultivate in retirement. To him we are indebted for some hybrid saxifrages, and for much assistance in the cultivation of these and allied plants. Mr. Lindsay was a prominent and highly-respected member of the various horticultural and botanical societies in Edinburgh.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of The Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of The Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in The Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

PLANTING THE WINTER ACONITE.—E. S. T., Westbury: As an amateur I am asking for your assistance in what is probably a simple or even trivial matter to my professional brethren. In the garden at my old home we had winter aconites in great beauty early in the year, and so there is a sentimental reason, at least, for my desire to have these bright little flowers in my own garden. My difficulty is to know the best time for planting. — September, indeed as early in the autumn as it is possible to obtain the little tuberous roots, is the best time for planting the Winter Aconite. However, do not despair, but purchase a quantity at once, and plant them a couple of inches deep under flowering shrubs such as lilacs and philadelphuses, where these are thinly planted; around tall oak or other spreading trees, and in the grass also, selecting sites readily viewed from the house windows. An occasional top-dressing of old manure, in autumn, will assist these bright spring flowers materially.

DESIGNS AND COLOURS FOR SUMMER AND AUTUMN BEDDING.—M. D., Bucks, who has a great deal of summer bedding to carry out, asks us to recommend him a book dealing with this subject, giving designs, plants to be used, and the colour schemes. He would prefer a book with the designs in colours. We confess our inability to recommend such a book, but shall be very glad indeed if any of our readers have any knowledge of such a publication as our correspondent desires.

BLUE AND YELLOW BORDER FLOWERS.—B. N., Berlin: Will you kindly give me in your next issue a list of blue and yellow hardy border plants, for borders of one colour, at different heights, but not above one yard?—By restricting the height to one yard, the range of subjects is severely limited, and, it seems to us, the effectiveness of such borders must be reduced as a consequence. Further, you do not tell us at what season of the year such borders are expected to be at their best. Serviceable blue flowers for a blue border would include Anemone appennina, A. blanda, and A. Robinsoniana, all about six inches; Campanula barbata, 1½ft.; C. carpatica, 9in.; C. garganica, 4in.; C. latifolia, 2ft.; C. persicifolia cærulea, 2ft.; C. Van Houttei, 2ft.; Dracocephalum speciosum, 1½ft.; Eryngium alpinum, 2ft.; E. amethystinum, 2ft.; Gentiana acaulis, 4in.; G. Andrewsi, 1½ft.; C. asclepiadea, 1ft.; G. septemfida, 1ft.; G. verna, 6in.; Geranium ibericum, 1ft.; Linum narbonense, 2ft.; Lithospermum Gastoni, 1½ft.; Lobelia syphilitica, 2ft.; selected lupins; Polemonium cœruleum, 2ft.; Veronica incana, 2ft.; V. spicata, 1½ft.; Viola cornuta and blue varieties of garden violas. Then there are such annuals as cornflowers, Asperula oriental, 1ft.; nigellas, nemesias, nemophilas, and Phacelia campanularia. The assistance of delphiniums, of the taller campanulas, of several Michaelmas daisies, and of Anchusa italica and its several varieties. Yellow-flowered subjects of merit are Anthemis tinctoria, 1½ft.; A. Kelwayi, 1½ft.; Alyssum saxatile and its variety citrina, 1ft.; Aquilegia chrysantha and yellow garden varieties of the long-spurred section, 2ft. to 3ft.; Arnebia echioides, 1ft.; Centaurea macrocephala, 3ft.; early chrysanthemums in great variety of heights and shades of colour; Chrysogonum virginianum, 6in.; Coreopsis grandiflora, 3ft.; Doronicum caucasicum, 1½ft.; D. austriaca, 1½ft.; Gaillardias in variety; Helenium pumilum, 2½ or 3ft.; German Irises of sorts, 1½ to 3ft.; Lysimachia vulgaris, 3ft.; narcissus of sorts; yellow alpine auriculas; Rudbeckia speciosa, 2½ft.; Solidago Drummondi, 2½ft.; S. lanceolata, 3ft.; varieties of Trollius europæus, 2ft.; violas in variety, and tulips. These by no means complete the lists in either case, but of yellow annuals there are many capital plants, notably the marigolds, chrysanthemums, coreopsis, erysimums, lupins, and œnotheras. Here again we must point out that the limitations of height prevent the use of the helianthuses, the newer tall rudbeckias and heleniums, many solidagos, and chrysanthemums, liliums, etc.

STREPTOSOLEN JAMESONI FOR SUMMER BEDDING.—R. C. D., Isle of Wight: Will you kindly tell me what is the system adopted by the authorities at Hampton Court to obtain such satisfactory results from Streptosolen Jamesoni in beds? This summer I put out plants raised from cuttings last year. These plants were small, but have grown now to be 3ft. or more high, and, as the small plants were pegged down like verbenas, they have now become a mass of foliage. There have been no flowers, however, and at this late date (September 26), flowers can hardly be expected. I have grown Streptosolen Jamesoni for years in a greenhouse, and have had abundance of flowers. Is the secret of success at Hampton Court to be found in putting out large, two-year-old plants?—To ensure a fine effect in summer bedding by means of Streptosolen Jamesoni, it is necessary to have large plants to start with, and those two years from the cutting are quite frequently used. They are started into growth in the spring, and are in flower or just coming into flower when placed out of doors about the first week in June. As such plants are in many cases in fairly large pots, they are sometimes plunged and not planted, and this has the effect of checking exuberant growth, and at the same time induces the production of flowers, but watering and feeding have to be considered regularly if such methods are followed.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

N. M., Chepstow.—1, Cyperus laxus; 2, Cimicifuga racemosa; 3, a variety of Aster amellus; 4, Cypripedium Milo.

A. F., Midlothian.—Two fine blooms of Cymbidium grandiflorum.

J. C. C., Alverstoke.—1, Streptosolen Jamesoni; 2, Physalis Francheti; 3, Symphoricarpus racemosus; 4, Lonicera japonica.

F. J. W., Bristol.—1, Lycesteria formosa; 2, Clianthus puniceus; 3, Lilium neilgherense; 4, Helianthus multiflorus; 5, Artemisia lactiflora; 6, Justicia carnea.

W. H., Woking.—Please send again when plants are in flower. No. 1 is a sedum, No. 2 a stapelia, and No. 3 probably a genista, but better and flowering specimens are necessary for determination.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, Gardeners' Magazine, as advised in the notice at the head of "Answers to Correspondents."

S. E. C., Aberystwith.—Muscat Hamburgh grape.

E. J. S., Rye.—1, Emperor Alexander; 2, Golden Noble.

T. N., Wolverhampton. — 1, Chelmsford Wonder; 2, Worcester Pearmain.

A. N., Cromer.—1, Fearn's Pippin; 2, Newton Wonder; 3, Bramley's Seedling.

O. F. R., Carnforth.—1, not recognised; 2, Pitmaston Duchess; 3, Dumelow's Seedling.

F. A. G., Swindon.—1, Mère de Ménage; 2, Gloria Mundi; 3, not in character; send again.

B. C., Merton.—1, Bramley's Seedling; 2, Stone's; 3, Beurre Diel; 4, Souv. du Congrès; 5, Beurre d'Amanlis.

J. C. C., Alverstoke.—1, Claygate Pearmain; 2, Lane's Prince Albert; 3, probably a small fruit of Peasgood's Nonsuch; 4, King of the Pippins.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

PUBLISHING MANAGER,
148-9, Aldersgate Street,
London, E.C.,

who will give the matter immediate attention.

NEW BOOK.

"BULBS AND THEIR CULTIVATION." By T. W. Sanders, F.L.S. (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London, E.C.).

The appearance of the second edition of this highly popular and extremely useful work on the cultivation of bulbs, is opportune at the present time, when all who are concerned with garden management are busily engaged in planting the various kinds of bulbous plants that are grown in British gardens, or are making preparations for proceeding with this interesting work. The new edition is also of interest for the direct evidence it affords of the high appreciation of the general body of garden owners of the author's endeavours to assist them in taking full advantage of the aid that the various classes of bulbs are so well able to render in the production of beautiful colour effects. The book is comprehensive in scope, and the cultural details are full and so clearly stated that even the tyro in gardening should have no difficulty in understanding the directions given, or of carrying them out. The selections of the various kinds are sufficient for the various purposes, and afford ample evidence of a thorough acquaintance on the part of the author with all the finest kinds, and a strong desire to assist the reader, whatever may be the purpose for which the bulbs are required.

Statice brassicæfolia. — According to the "Dictionary of Gardening," this shrubby species of statice was introduced from the Canary Islands in 1859, but it would appear to be but little known. It does not occur in the Kew Hand List, but in the greenhouse there it is, and has been for some time, very showy. It belongs to the same section as Statice arborescens and S. profusa, and, like them, should be useful for growing into specimen plants, as well as in smaller examples for greenhouse decoration.—K.

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Size of Vegetables.

Few of the many questions that exercise the minds of horticulturists from time to time have given rise to so wide a divergence of opinion as have those relating to the sizes most suitable for vegetables intended for table use and for competitive purposes at public exhibitions. This difference of opinion may be traced back to the time when the exhibition of vegetables in accordance with modern views was in its infancy, and it is not unreasonable to assume that many years will elapse before it will be possible to obtain a consensus of opinion on all points in connection with the selection of the several kinds for the two purposes referred to. There has been a considerable convergence in the views held by the leading cultivators within recent years, and there is a general agreement that both exhibitors and judges should place a higher value upon the quality of vegetables exhibited than was for a long time the case, and that their size should be a secondary consideration in determining the relative merits of the kinds in competition. As the result thereof there has been a considerable reduction in the sizes of the various kinds, as compared with those which found favour with competitors and those entrusted with making the awards a quarter of a century or so ago. While this reduction has been in progress a general feeling, amounting almost to a consensus of opinion has arisen that practically all kinds may be staged at the exhibitions of a larger size than would be suitable for the tables of those who place quality on a plane considerably higher than that which they would assign to mere bulk. This agreement, while difficult of justification, with a rigid adherence to the view that competitions are of value only for the encouragement of the cultivation of vegetables for the table, has proved a convenience in enabling the judges to make their awards more readily than would be possible were all the specimens limited to table size. Vegetables, when comparatively small, are usually more or less shapely, and differ but little in appearance when shown by various exhibitors, whereas when larger examples are allowed considerable skill is necessary in their production to prevent the development of coarseness, which is a serious defect in vegetables of all descriptions. Whether, because of this convenience in determining the relative merits of products in competition, a size ranging from twenty-five to fifty per cent. in excess of that most suitable for the table should be allowed opens up another question of considerable importance. With reference thereto, we shall not do more than express an opinion to the effect that the closer the approximation in size of exhibition and table vegetables the better for all concerned. The question as to the sizes of exhibition vegetables has become somewhat acute, as a consequence of the disqualification of two exhibitors at the recent vegetable show held by the Royal Horticultural Society. There has been considerable discussion in horticultural circles with reference to the matter, and it appears to have been assumed by some that the Council of the Royal Horticultural Society are endeavouring to effect a decrease in the size of esculents shown at their meetings, and that to enforce their views drastic steps were taken at the show in September last without the exhibitors having been given sufficient notice. In so doing they have been under some misapprehension, for, as we understand the case, a class for nine kinds was, as in previous years, provided for the purpose of obtaining a representation of vegetables that are in general use of a size that is most favoured in households in which the culinary arrangements are under the supervision of a first-class chef. Seeing that a similar class had been included in the schedule of previous exhibitions, and had somewhat failed in its object, it would have been well had the conditions of competition been more explicit, and more fully set forth. Turning to the schedule, we find it simply stated in connection with the class in question that, "The object of this class is to illustrate vegetables which are in daily use and possess the qualities most valued for table use by cooks." This statement was hardly sufficient to meet the necessities of the case, and some reference should have been made to the fact that the real object of the class was to ensure their representation at a stage of development that would admit of their being served whole. It is obvious that pods of runner and French beans ranging from ten to twelve or more inches in length, tomatoes weighing half a pound or more, and other kinds of like proportions, would be unsuitable for the purpose. Not in all households where skilled cooks are employed is this manner of serving vegetables adopted, and, this being the case, it would have been extremely difficult for the exhibitors to clearly understand what was really required of them had they received no information beyond that given in the schedule. It appears, however, that further particulars were supplied, for we learn on good authority that after the exhibitors had sent in their entries they were advised as to the stage of development in which the several kinds must be shown, and the consequences that would follow the staging of products similar

MR. A. C. SMITH.

to those presented at previous exhibitions. It is, therefore, obvious that mistakes were made on both sides, and that, as a consequence, visitors lost the opportunity of seeing at the exhibition vegetables at the stage at which they can be served other than in the manner which finds favour in the greater proportion of households at the present time. It would be a distinct advantage were such classes to be provided in the schedules of the leading societies, inasmuch as the collections in competition would not only constitute a feature of much interest, but they would demonstrate the possibility of considerable variation in the methods of placing upon the dinner table the several kinds of vegetables now represented in British gardens.

Mr. A. C. Smith, estate steward and head gardener to Sir H. B. Samuelson, Bart., Hatchford Park, Cobham, Surrey, is particularly well known in the Metropolitan district by reason of his connection with the Royal Horticultural Society, as its assistant superintendent at Wisley, for six years. Mr. Smith commenced his gardening career under his father, who had charge of the gardens and plantations at Dormont, Lockerbie, Dunfriesshire. After leaving home he spent various periods, as journeyman, at Byram Park, Yorks, the seat of Sir J. Ramsden, Bart.; Brayton Hall, Cumberland; and Petworth Park, Sussex. He eventually became foreman at Ascog House Gardens, in the Isle of Bute, and then secured the post of general foreman at Knighthayes Court, North Devon, the seat of Sir John Heathcote Amory, Bart. Mr. Smith's first post as head gardener was at Eden Hall, the residence of Sir R. G. Musgrave, Bart., where he remained for six years. During the latter part of this period Mr. Smith had the management of the woodlands on the estate, and he was a member of the committee of the Carlisle and Cumberland Horticultural Association. Mr. Smith then came south, and for three years had charge of the Lydhurst Gardens, near Haywards Heath, where Mrs. Mackenzie has a very interesting and extensive collection of flowering trees and shrubs and conifers. While at Lydhurst Mr. Smith was an occasional exhibitor, and on one occasion secured the Silver Banksian Medal of the Royal Horticultural Society for begonias. Mr. Smith left Lydhurst to take up the position of assistant superintendent at Wisley under Mr. S. T. Wright. Here he remained for six years, adding materially to his own renown as a cultivator, and gaining experience of a quite unique character in connection with trials of fruits, flowers, and vegetables. It is not very long since Mr. Smith entered upon his present position at Hatchford Park, but his equipment for his duties is such that he has gained the fullest confidence of his employer.

Ulster Apple Orchards.—Some years since the Ulster Horticultural Society instituted, with the assistance of the Irish Department of Agriculture, a series of competitions among the owners of apple orchards in the several counties forming the province of Ulster. Originally there were two competitions, one for orchards exceeding three acres, and one for orchards not less than one acre or more than three acres. These proved so successful in creating increased interest in the management of apple orchards, and effecting improvements in their management, that two years since a third competition was introduced, this being for orchards exceeding three acres and from four to ten years old. Last year there were four orchards in competition in the last-named class, but this season there were eight, and these were in the counties of Antrim, Armagh, Down, Fermanagh, Londonderry, and Monaghan. In the larger class for old orchards the premier award is the Aberdeen Cup, and in that for small orchards the Gibson Cup is the chief prize. The important task of making the awards was entrusted to Mr. J. Lynas, Moyallen Gardens; Mr. J. Harding, Caledon Castle Gardens; and Mr. W. J. Harding, Fruit Inspector of the Department of Agriculture, and they may be congratulated on the admirable manner in which they performed their somewhat onerous duties. The Aberdeen Cup was awarded Mr. J. Donnelly, Blackwatertown, Armagh; and the Gibson Cup to Mr. J. Moffett, Lisnamintry, Pottadown; while the premier award for young orchards was made in favour of Miss Wright, Desertlyn, Moneymore. The improvement that has been accomplished in the management of the apple orchards since the institution of these competitions is very great, and, as a consequence thereof, their value as a source of profit to the owners has been materially enhanced.

National Rose Society. — This society continues to increase in popularity, and, as the result, new members are being added to the list at a more rapid rate than at any previous period in its history. The present rate in the increase of membership is, we understand, about 100 per month. The society will, in 1914, hold a spring exhibition at the Royal Horticultural Hall, a metropolitan exhibition in the gardens of the Royal Botanic Society, Regent's Park, in the second week in July; a provincial show in the following week at Bath; and an autumn exhibition at the Royal Horticultural Hall in September, the date of the last-named being about a week later than the show held last month.

Horticultural Club.—Following the house dinner of the Horticultural Club, on Tuesday, the 21st inst., Professor W. B. Bottomley, B.A., will give a lecture on "The Effect of Soluble Humates on Nitrogen Fixation and Plant Growth." The lecture will be illustrated with lantern slides, and with living plants showing the good effects of manuring with peat after it has been treated in the manner to be described by Professor Bottomley. The dinner will, as usual, take place at the Hotel Windsor, Westminster, S.W., and commence at 6.30 p.m.

Cause of Colour Changes in Flowers. — Colonel H. E. Rawson, C.B., presented to the Botanical Section of the British Association a paper on "Variation of Structure and Colour of Flowers under Isolation." In this he described certain experiments begun eight years ago in which the method had been followed of shading off with a perfectly opaque screen all direct rays of the sun for certain selected intervals of daylight, while admitting all the diffuse light possible. The garden nasturtium (Tropæolum majus) had been used for the experiments. The new mauve variety obtained in Pretoria by the method of screening, whose seed was brought to England in 1907, and came true, now flowered and seeded freely in any aspect. When any material change had been made in the colouring pigments of the petals the flowers experimented with always showed a marked tendency to be sterile. Sometimes, as the flowers grew, markings on petals had been removed altogether, or, in other cases, intensified and enlarged, so as to suffuse the whole face. Honey guides had been removed. Besides these changes, flowers with a short, blunt spur (a recognised variety), or with none at all, or with two and three spurs, had become common, and were transmitted through the seed. The experiments definitely pointed to a connection between the variations of colour and structure and the sun's altitude, both seasonal and diurnal. There seemed little room for doubt that by this method of screening, which departed but slightly from the conditions to be found in nature, metabolism had been affected, and changes of colour and structure produced which could be reproduced in other individuals. Many instances had occurred of low sun modifying crimson colouring pigments, so that the yellow predominated, and of the highest sun available in these islands promoting the purple and violet pigments. Some red pigments, but not all, could be intensified by intermediate sun.

Perpetual-flowering Carnation Society.—The winter exhibition of this society will be held at the Royal Horticultural Hall, Wednesday, December 3, and the schedule of prizes offered for competition is now before us. There are sixty classes, the most important being the open class for a group of cut carnations, in which the silver cup presented by American florists will form part of the premier award; the open class for twelve vases of blooms, in which the prize is the fifty-guinea silver-gilt challenge cup, presented by Mr. G. Munro, jun.; and the class, open to private growers, for a group of plants of perpetual-flowering carnations, in which Lord Howard de Walden's silver-gilt challenge cup will be the principal award. On the same day Mr. G. H. Lawrence will give a lecture on "Carnations for Amateurs," at 3 p.m., and at 6 p.m. the annual general meeting of the society will be held. The lecture will be given and the annual meeting held, in the Lecture Room of the R.H.S. Hall.

An Interesting Competition at Olympia.—An interesting position has arisen in connection with the Ideal Home Exhibition which opened at Olympia on Thursday last. A fifty-guinea cup was offered to the firm which laid out the best garden on a very limited site such as would be available in a very small area at the back of a house in a congested town district. The task of beautifying such an unpromising site is obviously very difficult, a fact that was, evidently, fully appreciated by the general body of garden makers, for only two firms entered into the competition. In the circumstances the authorities offered to divide the value of the cup between them, but this offer was not accepted, as both firms—Messrs. J. Carter and Co. and Messrs. J. Cheal and Sons—preferred to have the merits of their arrangements determined in the usual way. Sir Albert Rollit was accordingly invited to act as judge, and this invitation was accepted on the condition that if he was in any doubt in the matter he should call in two members of the Councils of the Royal Agricultural Society and Royal Horticultural Society to assist him, in which case the final decision is to be by a majority.

Plants as Rock Builders.—In Sir Archibald Geikie directed attention to the important position occupied by the calcareous algæ in the formation of limestone it was generally assumed by geologists that the limestone deposits were of animal origin. The eminent geologist, Professor E. J. Garwood, has recently made further reference to these lowly forms of plant life with a view to stimulate further interest in them as rock-builders, and the influence they have had in modifying the face of the earth, and in affording supplies of lime that are of immense value to cultivators. Only two British genera of these plants have as yet been described from the

rocks of this country, but Professor Garwood considers that there are several other forms from British rocks that will ultimately be included in the group With reference to the conditions which probably obtained during the growth of these limestone-forming plants, it is suggested that the oolitic deposits and dolomites, with which they are closely associated, accumulated in wide lagoons, similar to those which now exist in the neighbourhood of coral reefs, and in sheltered, submerged plateaux as may be found at the present time in the Bay of Naples. The general conclusions of Professor Garwood are that during the periods at which these growths took place there was considerable elevation or subsidence of the land areas.

Export of Potatoes to America.—The Horticultural Board at Washington has decided to continue indefinitely the quarantine against potatoes from Great Britain, Germany, Austria, Newfoundland, St. Pierre, and Miquelon, notwithstanding the request of the British Board of Agriculture that the quarantine on Great Britain should be raised or modified.

Lawes and Gilbert Centenary Fund.—Next year (1914) is the centenary of the birth of the late Sir John Lawes, and 1917 is that of the birth of Sir Henry Gilbert, and it is proposed to celebrate the occasion by erecting a suitable Commemoration Laboratory at the Rothamsted Experimental Station, which these distinguished agriculturists founded. For this purpose the sum of £6,000 is required to be raised by public subscription. Everyone interested in agriculture and horticulture owes a debt to the work of Lawes and Gilbert at Rothamsted. It was they who first demonstrated in this country the value of artificial manures, and their experiments, more than any others, showed what these could do, and how they should be used. The Rothamsted Field Experiments have become the model on which practically all others are based. They carried out experiments on almost all branches of agriculture, and obtained results of the greatest value to cultivators. The Rothamsted Laboratories are further famous as the place where two other distinguished scientists have worked. Here it was that Professor Warington did so much for Agricultural Chemistry and Mr. A. D. Hall carried out researches that will long continue to bear fruit both at home and abroad. The changes that are gradually taking place in cultural methods make it more urgent than ever that the Rothamsted work should continue to expand. The present laboratories are not adequate for this new work, and it is proposed to build and fit the new Commemoration Laboratory. It is most desirable that horticulturists should assist, especially as when £6,000 has been raised by public subscription a similar sum will be given from the Development Fund. The sum of £12,000 will suffice for the provision of a laboratory adequate for all purposes. Those who desire to contribute should communicate with The Secretary, Rothamsted Experimental Station, Harpenden.

Action of Bordeaux Mixture.—In a paper contributed by Professor Barker and Mr. C. T. Gimingham to the Agricultural Section of the British Association on the action of Bordeaux mixture, the authors stated that their experiments had shown that germinating spores and the thin-walled cells of fungus hyphæa, when in contact with or within a limited radius of particles of the copper compounds of the spray fluid, exercised solvent action, and were killed by absorption of the dissolved copper.

OCTOBER IN THE ROSE GARDEN.

Judging from the general appearance of roses at the autumn show of the National Rose Society, I fear many of my friends are not so well off for rose blooms as we are in East Sussex. We have never had a more pleasing outlook for October, and, with the greater profusion of good autumnal bloomers now available, our beds are really gay. To name the varieties would occupy much space, for most of the free-blooming hybrid teas and teas, together with the dwarf polyanthas, are one mass of blossom, and with quite clean foliage.

In a summer note I mentioned a number of perpetual-flowering climbers and pillar roses. I would like to add that Climbing Liberty, Climbing Orleans Rose and Climbing Richmond are great acquisitions, and there is no need to grow such a lot of our extra vigorous varieties, which only carry one good crop of blossom each season. I think it was in the issue for July 12 that the few notes referred to appeared, and I would like to remind intending purchasers of the varieties then mentioned.

One cannot have a better time than the present for preparing ground intended for roses, and I would not delay longer than can be avoided. Freshly-prepared ground is all the better when it has had time to settle down a little and, unless ready, one's rose plants are not always put in so promptly as many desire.

SYMPHORICARPUS MOLLIS.

Fruits relatively large and pure white. F.C.C., R.H.S., October 7, Hon. Vicary Gibbs, Aldenham House, Elstree.

Where plants have been, or are still, suffering from mildew, red rust, and black spot, which I fear have been rather prevalent this year (if one is to judge by the numbers of queries I have received relating to these diseases), it will be wise to collect and promptly burn all fallen leaves as soon as possible. There can be no doubt that these fallen and affected leaves will spread diseases next season as soon as weather conditions and young growth favour their development once more. There can be no material benefit from rose foliage as a future plant food, so it is better to collect and burn it.

Examine and be prepared to house pot roses at any time now, for bad weather so often comes unexpectedly, and causes a confusing rush of work if one is not duly prepared. Our maiden standards are in full growth and flower. Mdme. Abel Chatenay, Hugh Dickson, Lady Hillingdon, Lyon Rose, Sunburst, Edu Meyer, Caroline Testout, Marie Van Houtte, G. Nabonnand, Mrs. Aaron Ward, Gen. McArthur, and Peace are very gay with blossom, and as bright as at any time this season. Rosarian.

THE NATIONAL ROSE SOCIETY.

Beginning in quite a small way, the National Rose Society has so grown in numbers and developed in operation as to become the one recognised authority on all matters relative to the rose. With increased membership comes increased responsibility, and the question has arisen—Can the society be made still more useful, and that, not only to its own members, but to all who love and cultivate the rose?

There was a period when the National Rose Society confined its attention solely to the organising and holding of exhibitions, but at the present day its efforts are extended to the issuing of publications which should be of valuable assistance to rosarians throughout the United Kingdom. In this respect, as in others, the aim of the society is to inform, to instruct, to focus, and if this is to be efficiently carried out, the society's perspective should be as broad as its membership, and as wide as its title—national in its knowledge, national in its helpfulness. Is there here room for improvement? Is there a danger lest it should fail to fulfil its aims, and so failing, subside into a Southern Counties Rose Society? Let us consider.

The National Rose Society acts through an elected council, from which body standing committees are formed for the purpose of dealing with specific departmental work, and it is obvious that each committee should be in full possession of all facts relative to the subject with which it has to deal. But consider the composition of the council from which committees are formed. The council meets in the Metropolis, and it is essential that its members should be more or less regular in their attendance. Indeed, a record of individual attendances is tabulated, and published at the close of the year, preparatory to the next election. It is, therefore, evident that residential proximity to the Metropolis is an important factor in the composition of the council, with the result that a large majority of its members—nearly all in fact—reside within the Metropolitan area or, at least, in the home counties. But the society claims to be national.

To illustrate this point, let us consider the official catalogue of roses, in which is not only an extensive alphabetical list of roses, with a brief description of each variety, but also several lists of roses recommended for various purposes. It is well known that the quality and habit of a particular rose varies considerably according to the locality in which it is cultivated. In support of this we have only to look at the many roses emanating from Ireland, which, although they were each awarded the gold medal when first exhibited, have been discarded as unsatisfactory by growers in England. Some varieties that flourish in Ireland are poor in the South of England, and vice versa. The writer has visited rose gardens in the south as well as the north of Ireland, and seen varieties flourishing, and, therefore, highly esteemed by their growers, which we in England consider hardly third-rate, and have ceased to grow. And the same may be said of Scotland.

If the committee which prepares the official catalogue is limited to residents in the South of England, can its members have a personal knowledge of the value of a particular rose for growers in Scotland and Ireland; can they, except from report, give adequate advice to growers in these districts?

Now one is perfectly certain that it is the earnest desire of the Publications Committee to make their publications as helpful as possible to all members of the N.R.S. in whatever locality they may reside. But how can this be accomplished? Surely by ascertaining the views of growers as widely dispersed as the membership, so that the catalogue or other publication should help, not only the rosarians of England, but also those of Scotland and Ireland. In a word, it should be a national official catalogue. In the way that this should be done two methods suggest themselves, namely, (1) by the appointment of official correspondents or (2) by a District Committee having advisory, but not executive, powers. The first method, adopted, one believes, in France, has this inherent weakness—it depends for its efficiency in execution upon the knowledge and efforts of an individual. The second is free from such weakness; the body is summoned, members consult together, and, after the opinion of the members has been crystallised, the advice sent to the council carries more weight than if it came from an individual.

It may be asked, is there any real need for this? Well, it has been the privilege of the writer for some years to visit rose shows in an official capacity both in Scotland and Ireland. Here he has seen great gatherings of keen rosarians—one of them met this year was a miner from the pit showing a twenty-four—and also many beautiful varieties that are seldom grown now in the South of England. It is surprising, however, to find how few of these exhibitors belong to the N.R.S.; how small is the influence of the society. And one of the causes is this—the publications of the society, especially the catalogue and pruning book, do not materially assist them, and this question has on more than one occasion been put to the writer: "What practical benefit shall I derive by joining the N.R.S.?" The miner mentioned above remarked, "You in the South of England like Florence Pemberton, but I have to grow it under a jam jar." So let us try to meet the requirements of all rose growers in the United Kingdom.

A few weeks ago "conversations" took place—an informal meeting of a few rosarians was held just for interchange of ideas on this point. The meeting was composed of two growers from Scotland, two from Ireland, together with some Vice-Presidents, two southern trade growers, and the honoured secretary of the N.R.S., Mr. Mawley, and, without going into details here, we may state that it was agreed without one dissentient that the matter was worthy of the consideration of the council of the N.R.S. The plan suggested was that District Consultative Committees should be appointed for Scotland and Ireland, and, if possible, for the North of England as well. The Irish and Scottish growers mentioned names of those who might be willing to serve on their respective committees. For Ireland, it was thought the Irish Rose Society might act; in Scotland leading trade and amateur growers were prepared to move. But they one and all impressed upon the meeting the desirability of undertaking something on the lines indicated in order to extend the influence and efficiency of the National Rose Society, and the writer of these notes was deputed to bring the case before the council.

Joseph H. Pemberton.

SUCCULENT PLANTS FOR AMATEURS.

(Continued from page 619.)

Euphorbias.

The genus Euphorbia is one of the largest in the vegetable kingdom, and includes a large number of succulent species. Most of these are natives of tropical and sub-tropical Africa, India, Madagascar, Canary Islands, and Mexico. Nearly all the species in cultivation are African, and thrive in a warm, sunny greenhouse. They contain a virulent poison in all their parts, and on this account are not recommended for window culture. They should always be handled with caution, and any wound made by their sharp thorns should be immediately washed. Several cases of badly-poisoned hands and arms have come under my notice during the past fifteen years caused by slight scratches from these plants. There is, however, no need for alarm, providing the most ordinary care is taken when handling them, and I have personally handled many hundreds of plants without any serious injury. The succulent species present a most extraordinary amount of diversity in the shape and size of the stems, and many are very beautiful and symmetrical.

Most of the euphorbias possess thorns of some kind, the arrangement of these on the stems being the means of dividing the genus into well-marked sections. Many of them greatly resemble some of the cacti in their general appearance, but botanically are widely separated. A selection for all purposes may be made from the following: E. triangularis, with erect, roundish leading stems, and triangular lateral branches. E. canariensis, E. lactea, and E. heterochroma are dwarf, bushy species, with four-angled stems, and E. abyssinica, E. Hermentiana, and E. candelabrum are tall, tree-like species, also with square stems. E. pentagona usually has five-angled stems; E. heptagona and a few other species, with six-angled stems, while those with eight-angled stems are common and include such well-known species as E. cereiformis, echinus, mamillaris, meloformis, and Beaumeriana. A section of the genus have dwarf, gouty, leading stems, and long or short slender lateral growths; an example of this kind is the well known E. Caput-Medusæ. Many species again have round (terete) stems and branches; these vary in size considerably. Examples of this class should include E. balsamifera fanalis, Tirucalli, mauritanica, and Bertheloti. Two old garden plants of this genus are the well-known "Poison Thorn." E. splendens, and its near ally, E. Bojeri, the stems of which are densely clothed with dark brown or black thorns. Both are quick-growing species, and of trailing habit, and are usually grown trained on balloon-shaped wires, or near the glass as a climber. Their charm lies in the large numbers of bright crimson or red bracts and flowers, which are produced during early spring and summer. The flowers of most of the succulent species are inconspicuous, and of no great beauty.

C. P. Raffill.

(To be continued.)

TUFTED PANSIES.

Despite the many vicissitudes through which gardening has passed during the last decade or two, tufted pansies have ever received recognition as being among the most meritorious of garden plants. They combine the tufted habit and hardy nature of the alpine viola with the rich and varied colouring of the pansy, and it is the union of these qualities that make them so desirable in the garden. They succeed under varied conditions, and on a great variety of soils. Of the latter, those rich in humus, and having a high percentage of calcareous matter, produce the best and most lasting results with tufted pansies, while soils deficient in these substances should have an edequate supply introduced before planting, and the ground should be deeply trenched wherever practicable.

The humid atmosphere of the northern counties fosters the development of the tufted pansy to a remarkable degree, consequently it is there that it appears prominent in every scheme of garden decoration, and from this source many varieties of outstanding merit have emanated. In the southern counties, with drier air and more powerful sun, it is often difficult to maintain such a high level with tufted pansies during the summer months. They are surface-rooting subjects, and the roots form a perfect network of fine fibres that soon exhausts the soil, so that during the hottest periods it is essential to supply some rich surface dressing, augmented by supplies of water, both clear and in the form of liquid manure. It is also of assistance to the plants if all spent flowers are removed at an early stage, as the strain of seed bearing militates against their flowering.

Provided the soil is brought into proper condition tufted pansies will practically succeed in any position, except under dense shade; planting may be carried out at almost any season, if ordinary care is taken to follow up with mulching and watering in dry weather. The months that give the best results in planting violas are October and March. The former guarantees an early spring display, and the latter gives similar results during the summer months. Tufted pansies are readily propagated by seeds, cuttings, or division. The latter gives excellent results in ordinary garden decoration, the flowers are most numerous, but never of the largest size. Such a method entails little expense in time or labour. Cuttings give the strongest plants and largest flowers. They are usually inserted in July or October. The earliest date gives stock for planting in October for a spring display, while cuttings inserted during October are not placed in their permanent quarters before March. This, and division, are always practised when the variety is required true. Seeds from tufted pansies germinate freely, and may be sown any time during the growing season, either in frames or in the open ground. The resulting plants vary to a considerable degree, so that this method of increase is almost entirely adopted for the raising of new varieties. The ranks of the latter are also occasionally added to by older varieties sporting to a different shade.

Tufted pansies are distinguished by having either rayed flowers, when finely-pencilled lines radiate from the centre, or rayless flowers, when these lines are absent. The former have a particularly smart and attractive appearance on the exhibition table, but I think the latter are the most effective in garden decoration. The varieties of the tufted pansy are extremely numerous, and all but the hardiest should be eliminated for garden decoration. Other features of scarcely less importance are dwarf habit, and close, dense growth, so that when in flower the plants present a close carpet of colour. The practice of planting tufted pansies as an undergrowth to roses is one of the most effective arrangements that has lately sprung into prominence. Not only does it solve the problem of the bare soil that detracts from the roses, but the soft contrasts of colour that are readily found are instinct with fresh beauty when associated with roses, and, incidentally, it illustrates that art whereby the most commonplace garden may readily attain to the foremost rank, and results we formerly approached with diffidence now receive full measure of unstinted admiration.

A good selection of bedding violas include: Ardwell Gem, primrose; Ariel, lavender; Bullion, yellow; Blue Cloud, white ground, suffused blue; Blue Bell, violet; George Palmer, golden yellow; Jubilee, dark blue; J. B. Riding, deep mauve; Glencoe, mahogany; Isolde, yellow; Kingcup, deep yellow; Kitty Bell, lavender; Lady of the Snows, white; Marchioness, cream self; Mrs. Allsop, bluish-mauve; Royal Scot, blue; Mrs. Swettenham, rich lavender; William Hill, rose; W. H. Woodgate, soft lavender; and White Empress, white.

THOS. SMITH.

Coombe Court Gardens.

AUBERGINES.

The varietal forms of Solanum melongena provide variously shaped and variously coloured fruits, and consequently there are numerous popular names, such as Egg Plant, Aubergine, Jew's Apple, Mad Apple, and Brinjal, the latter being a title very commonly used in the East; while at home and on the Continent, especially in France and Spain, Aubergine is the most common appellation.

So far aubergines are not very well known or understood in this country as articles of diet, but when their culture is better understood, and a taste for them has been acquired, they may prove scarcely less popular than the allied tomato. As an autumn vegetable the aubergine makes a very interesting and pleasing change from the ordinary kinds.

Unless especially early crops are needed, the best time to sow seeds is during March or April. Thin sowing in pots or pans, in moderate heat, is a good plan—indeed, early treatment follows upon the lines usually laid down for tomatoes—but the great point is to secure sturdy, stout growth. For the seedlings 60-sized pots will suffice; and good loam, leaf-soil, and sand will provide a suitable compost. Larger pots must be subsequently used,

AUBERGINE PURPLE TOKIO.

One of the finely-fruited aubergines shown by Mr. G. Cradduck at the R.H.S. meeting, September 23.

and spent mushroom-bed material and good loam form an excellent compost for the aubergines to fruit in.

A moderate or intermediate temperature should be provided during the earlier stages of growth, ventilation being increased as the plants grow and as the weather permits, until during July and August a house that is thrown wide open day and night will provide the right conditions. Stop the leaders at six inches high, and when the plants are placed in their fruiting pots, of 8in. size, provide a stout 4ft. stake for support. It may be necessary, and it is always advisable, to pollinate the flowers to secure a good set of fruits, just as is done in the case of early tomatoes. In some seasons, however, there is no difficulty in obtaining a "good set."

The best aubergines for cooking are Perfection and Early Long Purple, but Purple Tokio is a very heavy cropper; and other good varieties are Purple Pekin and Purple Pear-shaped. The white-fruited varieties are not considered so good as the purple ones for cooking. For culinary purposes the fruits should be gathered when they have attained full size, but before the seeds commence to form.

Greenfly is sometimes troublesome, but red-spider is the worst enemy the aubergines have to contend with under cultivation, because it is not easy to provide sufficiently moist atmospheric conditions by means of the syringe, etc., and at the same time secure a good set of fruits. It is during the flowering period, and when the fruits are setting, that special care must be paid to keeping the foliage clean and healthy; and, of course, when the fruits are attaining full size a drier atmosphere is again desirable. However, with a knowledge of these peculiarities, and ordinary care, aubergines may be grown readily and in quantity. From a decorative point of view aubergines are not to be despised, and the interest taken in the group staged seems to prove that Colonel Lockwood is quite right in believing that if fruits are exhibited occasionally they will become popular.

G. Cradduck.

Bishop's Hall Gardens, Romford.

AUBERGINE PURPLE PERFECTION.

A well-fruited example shown by Mr. G. Cradduck at the R.H.S. Meeting, September 23.

Franciscea calycina. — Having completed its growth, this lovely flowering plant may be placed in a warm greenhouse, and be kept rather drier at the roots until shortly before it is required to bloom, when it may again receive stove conditions. Plants rooted in spring may be kept in the stove, but many flowers cannot be expected of them; they will commence to grow early, and if potted and occasionally pinched will be useful for next season.—H. Prime.

CHRYSANTHEMUM NOTES.

Intending exhibitors will now be very busy getting their blooms finished for the shows. With the new exhibitor the work will be done with much anxious thought. No doubt many beginners will have closely examined the classes in the schedules, and marked a number in which to enter.

I do not wish to damp the spirits of new exhibitors, but rather to encourage them in their efforts. It is often the case, however, that, as the actual dates of the shows approach it will be found very inadvisable to fill all the classes marked. In some instances the classes may all be filled simply because the blooms are good enough.

The Treatment of Forward Blooms.

The greatest difficulty experienced in regard to early-developed blooms is that of keeping the outer petals fresh. Where blooms of the incurved section are concerned they are often greatly improved by the removal of the coarser outer petals, whereas the blooms of the Japanese section are dwarfed, and lose their chief characteristic by this course of procedure.

When dealing with blooms of both sections the cultivator should carefully examine the outer petals, and, if they are beginning to fade, remove them forthwith, as if left they would be too much decayed to show, and also they would have had time to contaminate other petals which would have remained sound.

Shading the Blooms.

Begin to shade forward blooms in good time, as if once they begin to lose colour and freshness they will soon become worthless for competitive purposes and for vases in the dwelling-house. The best way to apply shade is to put on scrim, paper, or mats early in the morning, long before the sun's rays fall on the flowers, then burning and damping will be avoided to a great extent. Such shading material should be entirely removed after the sun has set, as the exposure to the light will tend to keep the petals firm. As darkness comes place sheets of paper over the flowers, inside the house, and about twelve inches above them, to prevent moisture settling down on the petals.

Feeding and Watering.

All plants bearing blooms more than half developed must have clear water only. Liquid manure must not be given, and only in cases where the centres of backward blooms require developing should a little nitrate of soda or sulphate of ammonia be applied.

Often enough, a great mistake is made in trying to force open backward flowers by giving them very strong doses of nitrate, ammonia, or other concentrated stimulants. Keep the temperature of the house a little higher, and group the plants in a sunny position, only shading the blooms for an hour or so when the sun first shines on them. Although bronze, chestnut, and yellow and bronze colours fade more quickly than clearer colours, such as yellows and whites, the latter show up specks caused by excessive damp and cold draughts more. Keep all doors of glass structures closed now, and depend mostly on the top ventilation for air.

Suckers.

The rarer varieties are generally very shy in producing cuttings, and where this is the case the young shoots from the base, and even the base of the stem of the plant, should be preserved. The time soon comes when cuttings must be rooted, and then it is satisfactory to be able to cut some really good ones for the purpose.

George Garner.

AN AUDIT OF GRAPES.

Those who saw the fruit show held recently by the Royal Horticultural Society at Vincent Square will readily agree that the grapes there shown were most creditable, and, taken as a whole, superior to any seen at a similar show for some years.

The varieties covered a wide range, and this gave one an opportunity of inspecting many varieties that are not generally grown by the cultivators of the luscious grape. Eighteen varieties in all were staged, which proves that some growers still have sympathy with some of the older grapes which, in the opinion of some, are useless in point of high quality. That gardeners as a body are distinctly in favour of much variety cannot be denied, as they find variety interesting, if not profitable.

When the list I have compiled is examined, it will be found that many grapes that I regard as superfluous—as, for example, Gros Guillaume—are sparsely represented as compared with desirable sorts like Muscat of Alexandria or Madresfield Court.

Muscat of Alexandria heads the list by a long way; and, when we consider that this has not been an ideal season for colouring grapes, the specimens staged throughout were really very fine. Perhaps the berries were a trifle small. The second prize pair of bunches ran the premier exhibit closely, and were the result of inarching the Muscat on to Foster's Seedling, a practice which has been eminently successful for many years. One vine so treated has this year, under Mr. Allan's supervision, produced over 130 bunches. On this stock the berries set easily, the bunches are compact, the colour is of a pleasing amber tint, and there is an absence of shrivelling in the skin.

Very fine were many of the examples of Madresfield Court. The berries in nearly all instances were rather small, but the premier exhibit in the special class was an exception, as the bunches were shapely, with fine berries and colour. How much better it is to grow an extra rod of this grape than encourage such coarse varieties as Gros Maroc, or even Alicante! Black Hamburgh was staged in really superb condition, and especially when we consider that late September is not the best time for this grape. The exhibits still further proved what a valuable grape this is.

It would be difficult to find finer examples of Muscat Hamburgh than those staged by Mr. Goodacre; yet how strange it is more do not grow this, the best-flavoured grape in existence. What could be more meritorious in bunch, berry, or colour than those noted? Yet in not one garden in fifty do we see a vine of it! Gros Guillaume was finely shown by Mr. Barker, each bunch being about 6lb., of much symmetry, fine berry and finish; but, alas! the flavour is but third-rate.

Appley Towers was finely shown several times, the bunches of full size, with medium, well-coloured berries. This grape should be more grown than it is, as its good quality and late keeping properties warrant its extension. At Windsor Mr. McKellar thinks highly of it for late use. Alicante was staged in goodly numbers. The bulk of the bunches were of medium rather than large size; while most of the berries were undersized for that variety, which at its best is not of high quality. As an amateur's grape it is all very well, being of easy growth.

The class for Mrs. Pince contained one pair of handsome bunches, fully 14in. long, with perfectly-finished berries, such as would have pleased the late Mr. Meredith, who showed this variety in the highest condition some thirty-seven years ago. Prince of Wales, a sport from the former, was staged quite indifferently. Somehow this fine grape does not make much headway, and gardeners do not seem to grasp its cultural requirements.

It is seldom we see Buckland Sweetwater so good as it was shown on this occasion by Mr. Barker. The berries were evenly disposed over full-sized bunches, and were beautifully coloured. Lady Downes is not a popular exhibition grape, for as a rule the bunches are not large enough, but in spite of that it deserves more extended culture than it receives, as it is easily the best keeping black grape we have of any quality. Calabrian Raisin was represented by two bunches, weighing not less than 5lb. each; and, although the berries were of good size, they carried that objectionable white, dust-like appearance so characteristic of the variety. Lady Hutt was represented once, and, although of undoubted quality, growers prefer Muscat of Alexandria.

Except as quite an early ripening variety Foster's Seedling is not much grown; consequently was but once staged, and in moderate quality. Mrs. Pearson and Golden Queen were staged once each. The former is free bearing, sets freely, and gives a heavy crop, which, if ripened in strong heat, is of good flavour.

Variety.	Bunches.
Muscat of Alexandria	44
Madresfield Court	18
Alicante	18
Black Hamburgh	14
Gros Maroc	10
Appley Towers	8
Muscat Hamburgh	8
Gros Colmar	6
Lady Downes	6
Mrs. Pince	6
Prince of Wales	4
Buckland Sweetwater	2
Gros Guillaume	2
Golden Queen	2
Mrs. Pearson	2
Calabrian Raisin	2
Lady Hutt	2
Foster's Seedling	2
Total Bunches	156
Total Varieties	18

E. Molyneux.

Swanmore Park.

LARGE ONIONS.

Probably the most important item in connection with the cultivation of fine onions is the preparation of the soil. This should be dealt with in autumn, and the soil must be worked 2ft. deep—3ft. is better—and given a good dressing of manure. I use equal proportions of cow and horse manure, with soot and wood-ashes. As the work proceeds, the surface soil should be left as rough and uneven as possible, so that frost and wind can pulverise and sweeten it.

The best time for sowing seeds is about the middle of January; if sown earlier, I find the seedlings become drawn and weakly. A suitable compost consists of about three parts fibrous loam to one of leaf-mould passed through a ½in.-mesh sieve, the rougher portion being placed in the bottom of the pans or boxes prepared for seed-sowing. After the pans are filled with the compost a gentle watering is given. I sow the seeds thinly and evenly, cover them with fine soil, and place near the glass in a temperature of about 60 deg.

A FINE CROP OF AILSA CRAIG ONIONS.
Grown in Finstall Park Gardens.

The seedlings are pricked off into pots or boxes when large enough to handle, and grown freely until about the beginning of April, when I begin to gradually harden them off, and finally plant out about the end of April or early in May, according to weather conditions.

Previous to planting I give the onion plot a good dressing of soot, and several successive applications are afforded during the growing season. I find this is a sure preventive against the onion grub. If extra large bulbs are required, they should be fed with liquid or artificial manure (Webbs' Special Compound is splendid) from about the middle of June to the beginning of August, and the bulbs should be in a fit condition to be pulled and dried by the beginning of September.

By following these methods I have been particularly successful with onions, and send with this note a photograph of our onion bed. The bulbs were large and shapely, and many exceeded 2lb. each. The variety is Webbs' strain of Ailsa Craig.

Ernest Avery.

Finstall Park Gardens, Bromsgrove.

DAFFODILS IN THE GRASS AT DALHOUSIE CASTLE.

Daffodils never appear to greater advantage than when naturalised in grass, and there is no doubt that this is the most artistic way of treating them. Where space is ample, the larger the masses the more effective are they, but it does not follow by any means that effective arrangements cannot be secured in more restricted areas, nor should even the possessor of a villa garden despair of having at least a few odd corners and suchlike spots utilised in this way. Collections in beds are, of course, very fine, and it is the only way in which it is advisable to grow some of the newer and choicer kinds until their properties for naturalising are tested; but such arrangements are always more or less formal, and do not present such pleasing effects as when they are planted in their natural setting.

At Dalhousie Castle, the residence of C. W. Cowan, Esq., who is one of the most enthusiastic and extensive cultivators of the plant in the country, and where the accompanying photograph was taken last spring, daffodils have been naturalised on a very extensive scale, and some very fine effects have been obtained. Dalhousie Castle stands on the right bank of the river Esk, and the soil is a rather heavy loam, which, judging from the way the plants thrive, seems to suit their requirements very well, while the situation is an extremely suitable one for effective treatment.

Many kinds have been tried for naturalising here, and appended is a list of the varieties which Mr. Pirie, Mr. Cowan's head gardener (who is also an enthusiastic grower as well as raiser of narcissi, and some of whose seedlings are very fine indeed), has found to adapt themselves best to naturalising, and they are so inexpensive as to be within the reach of all. Of course, some of the kinds mentioned may not suit all soils and situations (for example, Horsfieldi has failed to establish itself in Princes Street Gardens, Edinburgh), and, on the other hand, there may be varieties which do not succeed at Dalhousie which might grow very well elsewhere; but the number of varieties which Mr. Pirie has found to do well at Dalhousie is large enough to meet almost any case.

In the planting of the bulbs some care is necessary. Lifting the turf in patches, and laying the bulbs underneath it, does not give them a fair chance, more especially in the case of large bulbs. Making holes with an iron rod is also objectionable, as it compacts the soil too much round the bulb, and does not leave a kindly medium for the roots to penetrate. The implement which Mr. Pirie has found to give by far the best results is Barr's bulb planter. By means of this implement a circular hole is cut out of the turf to the desired depth, the plug of soil contained within the cutter being released in the operation of forming the next hole, and, after a portion of the soil corresponding to the depth of the bulb has been removed, is ready for insertion therein. By means of this implement Mr. Pirie has found that one man cutting holes can keep four men at work planting.

The following are the daffodils found most useful for naturalising in the grass at Dalhousie Castle:—

Trumpet varieties.—Alice Knight, Duke of Bedford, Emperor, Empress, Glory of Leiden, Golden Spur, Horsfieldi, J. B. M. Camm, Madame de Graaff, Madame Plemp, Mrs. Thompson, Obvallaris, Queen of Spain, Scoticus, Victoria, and William Goldring.

Incomparabilis varieties.—Beauty, C. J. Backhouse, Frank Miles, Gloria Mundi, Gwyther, Lucifer, Queen Sophia, and Sir Watkin.

Barri varieties.—Conspicuus, Firebrand, Flora Wilson, and Mrs. C. Bowley.

A COLLECTION OF CHOICE DAFFODILS AT DALHOUSIE CASTLE,
Growing in the Walled Garden.

Leedsi varieties.—Albatross, Duchess of Westminster, Katherine Spurrell, Mountain Maid, Seagull, Waterwitch, and White Lady.

Other good varieties are Poeticus ornatus and the double daffodils, Argent and Telamonius plenus.

A. D. Richardson.

Edinburgh.

Figs.—With very few exceptions, the crops of ripe figs will now be over, so cleaning and maturation of the wood must receive attention. Early trees in pots or tubs should soon be placed under protection, and the pruning must be done at once. Very little pruning is necessary, as by bending down the shoots, heavy cropping, and summer pinching, grossness is soon reduced. Cleanse and paint the houses, wash the trees, and also wash the walls with hot lime and sulphur where scale or mealy bug has been troublesome. — F. Jordan, Warter Priory Gardens.

IBROX HILL GARDEN, GLASGOW.

Annually the citizens of Glasgow have some additions made to their sources of pleasure, as derived from the public parks and gardens. Within the last two or three months the old walled garden belonging to Ibrox Hill House, and now included in the Bellahouston Park, has been opened to the public after having been laid out and planted for the purpose. The garden is of large size, and is surrounded by high walls, which, when fully clad with climbing plants, will not only give shelter, but an added beauty to the flowers with which the garden is filled.

On entering by the main entrance we find on either side beds of good ferns arranged in borders in front of the walls flanking the gateway. These look highly attractive, the ferns being planted in groups, with stones between. Many choice ferns are to be seen here, including unusually beautiful varieties of athyriums, scolopendriums, etc. Another pretty feature of the garden is a bed of heaths of various kinds, planted among stones, and comprising an unusually good selection, among them being the new varieties of Erica carnea.

In another border we find a large variety of the best dwarf-flowering shrubs, these being likely to prove a popular and useful class of subjects for the public taste. Large numbers of phloxes are also cultivated, and among them we noticed as some of the best the following: Hercule, the fine white Meteore, the lovely Mary Campbell, soft pink with white eye, Baron von Deden, Regulus, Henri Farman, Selma, Gruppen Konigin, Fanny, La Mahdi, and a number of others.

Violas are greatly appreciated, and are planted in groups, and along some of the edgings. Among the many varieties one observed Bertha, a fine white; the old, but good, yellow Bullion; Archie Grant, and a number of others. They are doing well at Ibrox Hill. Some good pentstemons are used in groups, and among them was a capital bedding white one, called Countess of Strathmore, which, though not the largest white, is so free and good that it deserves greater favour. It is largely employed in Glasgow parks. Newbery Gem, Southgate Gem, and others are also grown. Sweet peas are cultivated in good groups, and add much to the appearance of the garden. They are very fine here—as good as any the writer has seen this year. Herbaceous plants are not forgotten, and are supplemented by some good annuals. There is a fine variety of the perennial asters with chrysanthemums of the type of King Edward, and others of the same class, veronicas, pyrethrums, and other flowers of worth.

Early chrysanthemums are an impressive sight. There are thirty-six varieties, in lines of one variety, and thirty-six plants in each row. They are very finely grown, and made a grand feature to all admirers of these useful and beautiful autumn flowers. Roses are a feature of this garden, and good pergolas or arches have been erected over some of the main paths. They are of substantial construction, and, unlike too many now erected, have a sufficient span to prevent interfering with the plants beneath on either side of the path. A capital collection of Wichuraiana and other ramblers is planted, and these are doing well, though they have not had time to cover the archways with their beautiful foliage and charming flowers. Another feature of this garden is the group of Polyantha and other dwarf roses. To show the varieties which constitute such a delightful feature one may say that they include Baby Tausendschon, Madame Norbet Lavavasseur, Jessie, Gloire des Polyanthas, Ducher, the old Crimson China, Cramoisie Superieure, Engène Beauharnais, Clothilde Soupert, and others of approved quality. Other roses also receive a full share of attention.

Some good hollyhocks were also noted, and a most pleasing plant observed among the border and bedding plants was Calceolaria Mrs. Gladstone, which was raised by a Vale of Leven amateur. It is hardy enough for a cold frame in winter, and is of a fine crimson, broadly margined with gold. It is highly effective. Dahlias of different types are not neglected, and there would appear to be a good future before the collarettes for park and public garden purposes.

Many other good features of this, one of the latest additions to the beauty spots of Glasgow, might be mentioned, but enough may have been said to show how well justified is the popularity of the old garden of Ibrox Hill, now open to the public. Mr. James Whitton, V.M.H., the Superintendent of the Glasgow Parks, may well be gratified at the public appreciation of this evidence of his anxiety to improve the public gardens under his care, and Mr. Williamson, the Bellahouston Park foreman, with Mr. Macdonald, who has the immediate charge of the garden, may well be congratulated on their admirable work.

S. Arnott

DAFFODILS IN THE GRASS AT DALHOUSIE CASTLE.

These are growing on the Castle slopes.

AN OLD-ESTABLISHED SUFFOLK NURSERY.

In more than one respect Mr. R. C. Notcutt's nursery at Woodbridge has an individuality quite uncommon among the nurseries of Britain. It has been in existence well over 150 years, and the records of the early days reveal the fact that business was done with county families whose descendants are still numbered among the firm's regular clients. Until less than twenty years ago the name of the owner of this old-established nursery was John Woods, but in the Diamond Jubilee year, after the death of the last male representative of this highly-respected family, the business passed into Mr. Notcutt's hands, who had already established a reputation as a chrysanthemum specialist with a nursery in Ipswich, which, by the way, is still retained, it being here that a varied collection of stove and greenhouse plants is grown.

One scarcely has passed through the entrance gates to the Woodbridge Nursery ere he is confronted with unmistakable evidence of the great age of the garden. For it is more in the nature of a garden than an ordinary nursery—afforded by the remarkably fine magnolias that completely cover the front of the house. There are also in the nursery noble trees of Cedrus Deodora, and a magnificent fern-leaved beech and the maidenhair tree that must have waved their spreading branches in the breeze for many a long year.

At one end of the nursery is a plantation of tall Scots pines, and in a sheltered hollow in this plantation one finds a splendid colony of bamboos growing with a luxuriance that bespeaks entire satisfaction with their environment. Not many nurseries have a collection of bamboos to equal that at Woodbridge, for, in addition to towering masses of Phyllostachys, Bambusa metake, and Arundinaria anceps, there are fine clumps of the handsome foliaged Arundinaria nitida, the neat little B. nana, the graceful Phyllostachys aurea, and P. quadrangularis, with curious four-cornered canes. As a matter of fact, almost all species of bamboos found in this country are seen growing in the Woodbridge Nursery, and Mr. Notcutt is justly proud of his extensive and valuable collection.

That the nursery is more like a garden than an ordinary trade establishment is largely due to the fact that great care is exercised in order that even the stock beds of flowering plants are so arranged that in height, colour, and season of flowering each may contribute its proper share to the harmonious effect of the whole display. The ground rises from the roadside in a gentle slope, so that one obtains a fine view from the offices, and at all periods from spring to autumn a pleasing picture is presented. Hardy perennials are extensively grown, and the collection includes a large number of the best subjects for the border, the rock garden, and for bedding. Romneya Coulteri does wonderfully well here, there being plenty of bushes 5ft. or 6ft. high, and almost as much through. Eremuri were practically past at the time of my visit, but the tall spikes carrying innumerable seed pods bore witness to the glory that had been theirs. Some beds of the newer varieties of Heuchera sanguinea were aglow with crimson and coral-red. The Shirley variety of H. sanguinea grandiflora was exceptionally fine, and it is open to question whether any more dazzling but delightfully elegant plant for a circular bed, or for a group in the herbaceous border is available. Curious, but quaintly beautiful, was Salvia turkestanica hybrida, with large cordate, somewhat hoary foliage, and dense spikes of almost white flowers, arranged in tiers surrounded by mauve-coloured leafy bracts. A colony of this plant grows on the rising margins of a newly-formed water garden wherein aquatic plants have already established themselves

A BEAUTIFUL WATER GARDEN
In the Woodbridge Nursery.

while the boggy stretch of ground surrounding the water has been well planted with spiræas, funkias, irises, and other moisture-loving plants. Astilbe Ceres, A. Davidi, and the increasingly popular pink forms were throwing up a wealth of bloom, and the noble leaves of gunneras, the rising plumes of Arundo conspicua and Gynerium argenteum produced an effect of stately luxuriance.

There is a sunken rockery in the nursery with a lily pool, and shelving rocks adorned with a great variety of alpine plants. Dianthus of sorts, gay helianthemums, and the nodding yellow flowers of Onosma taurica claimed admiration, and although mostly past the flowering stage, one noticed a fine selection of saxifrages, both of the encrusted and mossy sections. Delphiniums receive the attention their striking beauty deserves, and among the many fine-class varieties the one named Mrs. Notcutt particularly pleased me. It produces

dense spike of beautifully symmetrical flowers of pure sky-blue colour.

Away beyond the herbaceous quarters one finds a rich and varied collection of the most useful flowering shrubs, and also of coniferous and other ornamental trees. Hedysarum multijugum was flowering most beautifully, and kalmias, philadelphus, berberis, and cistus were represented by all the best kinds. The collection of cut-leaved acers is very fine, and ornamental vines, wistarias, clematis, and other climbing plants were plentiful.

On a well-furnished pergola the best of the rambler and hybrid Wichuraiana roses run rampant. The white-flowered Una was at the time of my visit just one sheet of glistening whiteness in contrast to the ruddy glow of Paul's Carmine Pillar, and others of varied tints. The bulk of the garden and exhibition roses are grown on the Creek Farm Nursery, which is a recent development due to the growth of the business. Suffice it to say that the collection of roses embraces practically all the varieties worth having. A similar remark may be made in regard to the fruit which is also grown at Creek Farm. The English paradise is the stock most in favour for apples, although certain varieties are also worked on the crab.

A large stretch of land has been permanently planted with fruit trees, there being bush and cordon trees in alternate rows. The latter are entirely unsupported, and are rendering a capital account of themselves, producing fine crops on a quite small space per tree. The plantation includes varieties of the several fruits in cultivation, both dessert and culinary, so that purchasers have an excellent opportunity of comparing style of growth and quality of fruit, as well as cropping capabilities, where all trees are grown under like conditions. Flowering trees, such as cherries, crabs, and the like, are largely grown. A highly ornamental tree that attracted attention was Pyrus malus floribunda purpurea. Its foliage is of a distinct bronzy purple shade, and it bears deep carmine flowers, which are extremely effective.

On still another branch nursery, known as Martlesham Fields, there is a further stock of fruit trees and bushes, and also of forest trees and game covert shrubs, so that altogether Mr. Notcutt's establishment is comprehensive, and embraces practically all branches of the nursery, seed, and florist's business, and it is the more interesting in that while, as here mentioned, there are features that have taken generations to develop, the whole business is to-day carried on in accordance with the modern methods, and among the plants cultivated one finds both the oldest of old favourites and the latest productions of present-day raisers and collectors.

Reference must be made to the Old English Rose Garden, which, surrounded by such a yew hedge as one but rarely sees, is so outstanding a feature of this nursery that it should not be overlooked. This hedge, rising like a solid green wall to a great height, impresses one, perhaps more than anything else, with the great age of this nursery garden, and it forms the most perfect boundary for the rose beds cut in the greensward, with the rough-flagged, straight walks that divide the garden into four quarters, an old, weather-worn sundial standing where the walks cross at right angles in the centre of the garden. In the crevices between the broken flagstones grows the creeping thyme, with stonecrop, thrift, and toadflax for its companions, and in the beds the Provence and the Damask rose, the well-loved moss rose, and the showy Rosa Mundi, seem more at home and befitting than the modern hybrid teas of ever so perfect form. It is no disparagement of the freedom from formality in present-day garden making to admit that in this peaceful little enclosure, where the whole atmosphere seems to belong to long ago, there is a charm and air of restfulness quite distinct from the delights of any other type of garden. VISITOR.

FLORAL TABLE DECORATIONS.

The article on "Table Decoration" in THE GARDENERS' MAGAZINE of August 30 has aroused not only the public interest, but that of the exhibitors themselves. I, as a fairly well known exhibitor, second Mrs. Hales in her remarks concerning rustic stands. These have been most useful, both at the shows and on private dinner-tables, and if anyone should decry them it is surely the florists, simply because the vessels require so few flowers; these can be so lightly arranged, and every bloom can be shown off to perfection.

We do want something new in the table decoration classes to vary the monotony; that is why I like the rustic designs, as one can have high or low decorations. There is not much chance of introducing anything really new at the shows, as most of the judges have a fixed idea, and it is only sheer pluck that allows an exhibitor to venture on a new colour-scheme, much less a new arrangement. There were forty tables at the Royal Botanic Gardens, and a number that secured prizes were very much alike; and if some of the show committees do as Mr. E. Molyneux suggests, viz., limit the height as well, the sameness will be greater than ever. He also seems to think it difficult to hide the silver colour of the rustic stands; that is so in about one instance, where sweet peas with their own foliage is used; otherwise it is really quite simple.

Originality is what we want, and there ought to be a class for it at all shows. There is not a show in town where we can use mixed flowers. I wonder if your corespondent is so restricted. Perhaps he has not thought of that. We have to use flowers according to the show. Most of the classes are open, so why does he not compete? We should all welcome any idea that he has dared to put before his committee.

Now that I am writing on the subject of table decoration, I think there is a great deal to be said about the wording of the schedules, and, to my mind, many alterations are really quite necessary. For instance, lately, at the National Rose Show, one noticed how new blooms and varieties secured first prizes. Ought this to be? When our schedules say, "For the most artistically-arranged dinner-table," what are we to understand by that? Does it mean well-arranged tables shall count, or good blooms? It ought to be made clear, and points given thus: First, artistic arrangement (most essential); second, lightness; third, good style, blending of colours of foliage and flowers; fourth, originality; fifth, quality of bloom.

As there are many like myself who have nearly always to depend on market flowers, this makes it very difficult to compete with more fortunate exhibitors, who are able to grow, or secure, specimen blooms. The principal rose grown for market is Mdme. Abel Chatenay, now quite old-fashioned, but beautiful to decorate with, and a good night colour; but how can it succeed in the eyes of judges who welcome new varieties like Melody, etc., before good arrangement? Table decoration must be considered an art pure and simple, and must not be judged on the quality of the flowers or the new varieties used. At how many private houses can prize blooms be obtained? The thing needed is to arrange, as artistically as possible, nice flowers that can be secured from one's own greenhouse, garden, or shop.

Then, again, there is the size of the table; they may be 8ft. by 3ft. or 5ft. by 3ft. It ought to be stated if the exhibitor is to take those measurements for the centre of a dinner table or that the floral arrangement is to be in proportion with the measurements. One hardly ever sees a 3ft. wide private dinner table. Did your correspondent think what a handicap that is?

I have been most interested in this discussion, and trust it will still continue.

(MRS.) A. ROBINSON.

Norhyrst Park Hill, Carshalton.

DEEP CULTURE AND PRIZE ONIONS

Under the heading, "Some Debatable Topics" in THE GARDENERS' MAGAZINE for October 4, "H." expresses doubt as to the wisdom of deep culture for exhibition onions. That onions are deep-rooting subjects is beyond dispute, and a shallow soil is consequently incapable of producing large, heavy bulbs. I have grown a good many exhibition onions in my time, and call to mind one particular plot on which they were grown for five seasons in succession. In the first place, the plot was trenched and well manured to a depth of fully four feet, the trenching being done six months before the onions were planted. In after years the ground was only dug to a good spade's depth, and there were as many three-pounders in the fifth season as in any of the preceding crops. In my opinion, when once a piece of ground has been thoroughly broken up to a great depth, it is several years before the soil becomes really solidified, and the roots of onions, which, as "H." remarks, like a firm soil, will without difficulty find their way down.

On one occasion, to satisfy my own curiosity, I took out a trench alongside the outer row of the plot, and, with the aid of a small handfork and my fingers, laid bare the roots of the onions, which I found had gone straight down to the full four feet that had originally been dug. To my mind, therefore, although it is quite unnecessary to trench the onion bed every year, it is hopeless to attempt to grow big onions on ground that has not been deeply dug, and well manured right through.

A. J. MACSELF.

ROOT-PRUNING.

Those fruit trees that annually bear but little, if any, fruit, and produce too much soft wood, should have their roots lifted and pruned some time during October and November. Open out a trench quite two feet wide, and fully five feet away from the stem of the tree, remove the soil with care, and thoroughly undermine the roots, severing any that may have grown down into the cold subsoil; trim the damaged ends, and relay all in a fresh, sweet compost. Large trees may have half their roots pruned this autumn, and the remaining half next year. Young trees may have the whole of their roots lifted and relaid at various depths. This is by far the best way to deal with young peach trees until the wood made annually is of medium thickness, and firm, with a brown tinge on the bark; when once the trees begin to make the right class of growth little further attention will be necessary, with the exception of feeding, etc., when the crops are heavy. Old pears and other trees growing on walls and trellises that have become fruitless, but otherwise are healthy, may be greatly improved by carefully removing from amongst their roots all the old, worn-out soil, and giving fresh, sweet turf and bone-meal. All the trees to be lifted should first be thoroughly watered, and before filling up with good soil the drainage should be made efficient. H. MARKHAM.

Saintpaulia ionantha. — The plants raised in spring and fully established in 48's may now be allowed to flower. The best position for them will be a stage or shelf near the glass. Apply a little plant food occasionally, and take care that no fallen flowers remain on the plant to cause damping, a fine show will thus be ensured for the next two or three months. Those raised in May or June should be ready for potting into 48's; keep the plants to a single crown, and remove all flower spikes as they appear. This batch will provide a good display for Christmas and the succeeding two or three months. —H. PRIME.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CYMBIDIUMS. — The late autumn and winter-flowering cymbidiums, species and hybrids, will now have flower scapes in different stages of development, and should receive every encouragement. Several of these may be successfully cultivated under the same atmospheric conditions as odontoglossums. In fact, we consider C. Tracyanum does far more satisfactorily under these conditions than when grown in a higher temperature; the flowers produced are of finer colour and substance, and are much more durable under the cooler conditions. As most of the cymbidiums do not flower satisfactorily until they have filled their pots with roots, a little weak liquid cow manure may be applied occasionally up to the time that the flowers expand, but manures for orchids must be used with every care and discretion. If there is plenty of root room and a good compost was used when potting, there is little need for any other material, and rain water will generally afford all that is necessary for their successful cultivation. The plants should be placed in a position where they will have the full benefit of available light, as this will prevent the flower scapes becoming unduly drawn and will also assist the development of colour in the flowers when they expand.

POTTING.—Such of the winter-flowering kinds that are producing growths, instead of flowering, may be repotted, and the flowering plants, as they pass out of bloom, should also receive attention. Plenty of good fibrous loam of a lasting nature should be used, with ample broken crocks, charcoal, and sand to render the compost porous.

PERMANENT SHADING should now be removed from the roof glass, and ends of the orchid houses. The ends may have to be covered for a short time during the middle of the day, where they are facing due south, but full advantage should be taken of the available light during the next few weeks, for, after the end of the present month, there is little power in the sun's rays to assist in maturing growth. The roof blinds also must be used with discretion, and should only be lowered where there is a danger of the foliage being injured by the sun. With the cooler conditions prevailing outside, the greater amount of moisture in the atmosphere and the rapid shortening of the days, less damping is needed to provide atmospheric requirements. The temperature of the different divisions should reach the normal degree in the morning before damping is done, and the weather outside will suggest whether further damping will be advisable later in the day.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

EUCHARIS. — Eucharis that have been resting since completing their summer growth will have benefited considerably by the recent spell of lovely autumn weather. Assuming they are now in a slightly heated frame or an intermediate house, to ensure a prolonged supply of their beautiful flowers a few of the most forward plants, which are probably just showing their spikes, should be placed in a temperature of 70 deg. Give them a thorough watering, and maintain genial conditions by occasionally damping between the pots and syringing overhead when the weather is favourable. After the flowering season and just as growth is recommencing a good opportunity is offered for repotting, or for removing some of the spent surface soil, and top-dressing as may be considered desirable. The remaining plants will provide one or two successional batches, and for the present may continue partially resting, though at no time must they be kept excessively dry. Where mealy bug or scale exists, occasional sponging with a strong insecticide will be necessary to keep these pests in check.

APHELANDRA ROEZLI.—This handsome flowering plant will now be showing its spikes, and will require somewhat drier atmospheric conditions. Continue to give occasional applications of weak liquid manure, and of an approved fertiliser, until the colour of the flowers is seen, when only clear water should be given. After flowering a few plants may be retained for the production of seeds, from which stock is easily raised. If large plants are desired, they may be kept somewhat dry, though not dried off, have the flower spikes removed, and when growth recommences in spring they must be shaken out and repotted, with the intention of giving larger pots when ready for them.

ALOCASIAS.—The evergreen species will now require similar treatment to that recommended for anthuriums in a preceding calendar. Deciduous forms should be rested and stored, as recommended for caladiums.

HÆMANTHUS KALBREYERI.—Having completed its growth this should be allowed to rest, and no water will be required until the flower spikes are seen. Evergreen species of Hæmanthus will require less water at the root from now until new growth commences. They require to be wintered in the stove.—H. Prime, Hatfield Gardens.

FRUITS UNDER GLASS.

EARLY PEACHES.—No further time should be lost in having all root-lifting, root-pruning, and any renovating of the borders brought to a conclusion. The summer and autumn have been most favourable to the ripening of the wood, so that any large trees which were prepared last season, by being root-pruned, may now be moved with perfect safety to other positions. The removal of large trees must be carefully and quickly performed; it is also most important that one or two good waterings should be given before lifting is attempted. Peach trees which are kept in good condition lift easily, and soon recover when placed in a fresh position if the soil is well washed in with tepid water, which is the best method of settling the compost amongst the roots. Tie loosely to allow for settling down; keep rather close and syringe frequently, and shade for a few days to prevent distressing the trees more than is necessary. Treated carefully in this way, large trees in full leaf will be re-established in a month or so, and, given ordinary attention afterwards, will be ready for forcing with the other trees.

PRUNING must be very light for lifted trees. Where former directions have been carried out it will be very slight in any case and only the mere removal of a shoot here and there to balance the trees. The same remarks apply to undisturbed trees, except that more of the old bearing wood may be spared, and other shoots which were overlooked at summer pruning. I do not favour the shortening back of bearing wood, but it sometimes becomes a necessity for the proper balance of the trees.

SUCCESSION HOUSES.—Trees in these houses, when well thinned of old bearing wood, and where the buds are well advanced (the best proof of well-ripened wood), should be well watered if this is found necessary until the foliage falls naturally. In many places, there is no help for it, but where possible avoid wintering flowering and other plants in the peach houses, as this keeps the buds in a state of excitement when they should be resting. Such conditions are also favourable to bud dropping, weak flowers, and other causes of failure in the spring.

LATE HOUSES.—Thin out the wood on late trees as soon as possible to let in light and air; a little steady fire-heat can do no harm until the wood is ripe, always providing ventilation is on a liberal scale. Fumigate where there is any suspicion of insects, and frequently wash the trees by means of the hose. Follow on with root-pruning and top-dressing, etc., so that all may be finished off without delay. — F. Jordan, Warter Priory Gardens.

THE FLOWER GARDEN.

SWEET PEAS.—The autumn sowing of sweet peas has greatly increased in favour during the past few years, and the advantages are obvious to all who adopt it. Some growers are very successful with autumn sowing in the open ground early in the present month, but probably the most satisfactory method, especially in localities where the soil lays wet and cold, and where exhibition flowers are required, is to sow the seed in pots. Five-inch pots will be found very suitable for this purpose, and should contain soil to which a good quantity of sand has been added. Seven or eight seeds to each pot will suffice, and these should be covered with about a half-inch of soil. Plunge the pots containing the seeds in ashes, up to the rims, in a cold frame. When the young peas appear, as much air as possible should be given them whenever the weather permits, the lights being left on only during wet and very cold weather; this is a most important detail, and one that has a great effect constitutionally on the plants. Water must be cautiously given, and very little will be required until the days lengthen in the New Year.

SPRING BEDDING.—Much reluctance is often shown in clearing beds of their summer occupants, especially when no early frost has been experienced to make them appear unsightly. To be over-indulgent in this respect is not wise, as the subjects used for spring bedding are much benefited by being planted in good time, so that they may become well rooted before hard frosts set in; and, as bulbs figure largely in such displays, it is necessary to get them planted as early as possible if they are to be satisfactory. After the beds have been cleared, dig in a good dressing of rotten manure.

DAHLIAS.—A few degrees of frost quickly terminates the flowering season of dahlias, and no time should be lost, once that condition is arrived at, in lifting the tubers. As the work proceeds, secure the labels with thin wire to one of the strongest tubers, and afterwards stand the roots in an airy shed to dry previous to storing them away in a cool, dry shed for the winter, where they will be safe from frost and damp, and not subjected to artificial heat, which has a drying effect on the tubers.

TRANSPLANTING TREES AND SHRUBS. — The roots of deciduous trees and shrubs are now less active than at any other period, and, providing the ground is thoroughly moist, it is a most suitable time to commence transplanting them. When moving specimens which have been growing undisturbed for several years, it is most important that the work should be carried out in good time, owing to the fact that many strong roots will be severed in lifting, and the longer these have to develop new root-fibres before the spring growth commences the better. It is not quite such an important matter when dealing with trees and shrubs coming from a nursery, as the practice which most nurserymen follow of frequently moving them prevents the roots becoming coarse, and they are then in a good condition for transplanting. But even in this case early planting is to be recommended.—T. B. Field, Wych Cross Place Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

The Clerk of the Weather has to be primarily thanked for the splendid exhibition held at the Royal Horticultural Hall, Westminster, on Tuesday, October 7. Had he been in a bad temper and given frost and rain a few days previously the show would have been shorn of more than half its glory, because dahlias, and the great majority of the border flowers so finely displayed, would have been a dreary desolation. As though regretting his generosity, the weather man gave us a deluge of rain in the earlier part of the day, but followed this with sunshine and warmth, consequently the attendance at the hall was large. Mr. S. T. Wright informed us that on no previous occasion has there been such a demand for space at the hall.

Besides dahlias and Michaelmas daisies there were many groups of fruit, a good show of autumn-flowering orchids, carnations, late roses, and wonderful exhibits of bamboos and new Chinese trees and shrubs. Novelties were fairly numerous, and of considerable interest.

TREES AND SHRUBS.

Filling a large breadth all along the whole side of the hall was one of the most remarkable collections of new Chinese trees and shrubs ever exhibited. It was from the celebrated gardens at Aldenham House, Elstree, where the Hon. Vicary Gibbs and his able gardener, Mr. Edwin Beckett, V.M.H., do so many wonderful things. This fine collection of trees and shrubs, grown almost entirely in pots, consisted of six hundred species and varieties, many as yet unnamed or determined. Every plant had been raised from seed at Aldenham, and seed sowing commenced in the autumn of 1908. The seeds were collected and sent home by Mr. E. H. Wilson, whose work as a plant collector in China is well known to our readers.

A few of the plants exhibited, like Berberis Wilsonæ, for example, are sure to become popular and general favourites in our gardens, and there are others that will find a place in the larger gardens and pleasure grounds of the country, but there are very many which, as at present known, have little claim to special notice, although of their value as park or woodland trees it is not possible to speak; years must elapse before the full value of Wilson's finds can be estimated. Everyone is grateful, however, to the Hon. Vicary Gibbs for cultivating such an immense collection, and for the opportunity of seeing so many well-grown examples.

In the gold medal group in question a few kinds that seemed to possess merit were the extraordinary broad-leaved willow, Salix magnifica; Ligustrum Pratti, small-leaved, and suggesting a free-growing cotoneaster; Clematis uncinata, with dark purplish-green trifoliate leaves; Liriodendron chinense, a new tulip tree; Ailanthus Vilmorinianus, a very graceful "Tree of Heaven"; Paulownia tomentosa lanata (A.M.), with big palmate leaves; Liquidamber formosana monticola, with dark purple-red leaves; Berberis subcaulialata, of neat and elegant growth; Berberis Sargenti, with large spines and autumn-tinted foliage; and an evergreen perpetual-flowering yellow jasmine. Symphoricarpus mollis, an American plant, crowded with large snow-white berries, also came from Aldenham, and gained, deservedly, a F.C.C.

Dahlias and cut sprays of trees and shrubs from Messrs. J. Cheal and Sons, Crawley, proved interesting; ceanothuses, Genista tinctoria, Amygdalus communis purpurea, Choisya ternata, and Buddleia Veitchianus were notably good things, while Dahlia Crawley Star attracted everyone by means of its bright pink and elegant flowers.

Bamboos were most extensively exhibited by Messrs. James Veitch and Sons, Chelsea; there were about forty species and varieties, and these were represented by large specimens, grouped with grass plumes, along the end of the hall.

HARDY FLOWERS.

Michaelmas daisies were well shown by Messrs. Cutbush and Son, Highgate, and included huge bouquets of the small-flowered Silver Queen, Perfection, Novelty, Ringdove, Ideal, and Simplicity. With these were other varieties, notably Climax, Sirius, and Bluebeard, and small grouplets of perpetual carnations, where the new cerise and heliotrope Mrs. L. Fullerton was conspicuous. Messrs. Barr and Sons, Covent Garden, showed early chrysanthemums in variety, Michaelmas daisies, montbretias, kniphofias in variety, the lovely pink Gladiolus Dawn, and some spikes of the yellow-flowered Groff's hybrids.

Mr. G. W. Chantler, Cockmannings, Kent, filled a table in the fruit annexe with a selection of hardy autumn flowers and dahlias. Messrs. G. and A. Clark, Dover, in their group of hardy flowers, displayed the beautiful Helianthus sparsifolius, the white Delphinium Moerheimi, and the graceful Cimicifuga simplex. Messrs. Gibson and Co., Bedale, put up Verbascum Caledonia in fine form, and a selection of Michaelmas daisies and the light blue form of Lupinus polyphyllus. Mr. A. L. Gwillim, Sidcup, was a small exhibitor of hardy flowers, and showed Campanula Burghalti and the useful Boltonia asteroides, but his chief display consisted of picked blooms of his fine strain of double and single tuberous begonias.

Pot plants of various pretty little polyantha roses were grouped on the floor by Messrs. Paul and Son, Cheshunt; Jessie, Katherine Zeimet, Madame N. Levavasseur, Queen of the Musks, and Mrs. Cutbush were the leading varieties; the same firm contributed sprays of interesting shrubs.

Mr. Ernest Ballard, The Court, Colwall, Hereford, presented new Michaelmas daisies in bulk; Ragtime, loosely single, bluish-lavender; Glory of Colwall, double, pale lavender-blue; Nancy Ballard, and Peggy Ballard, the latter double blue, were a few of the best sorts.

Roses were capitally shown in large stands by Messrs. B. R. Cant and Sons, Colchester; the popular Madame Abel Chatenay, Frau Karl Druschki, George Dickson, La Tosca, Mrs. J. Laing, and Irish Elegance were very much in evidence. Messrs. G. Jackman and Son, Woking, submitted roses in variety, and put up a bank of Climax and other Michaelmas daisies, chrysanthemums, Kniphofia corallina, helianthuses, etc. Mr. G. Reuthe, Keston, including Desfontainea spinosa, Berberidopsis corallina, Schizostylis coccinea, red and white lapagerias, and Gentiana Andrewsi in his group of flowers. Messrs. Price and Fyfe, Grove Park, Lee, were exhibitors of hardy flowers.

The Wargrave Plant Farm, Arcade, Liverpool Street, E.C., put up a big bank of Michaelmas daisies and chrysanthemums, and among the former made special features of Thora, Bianca, Gaiety, Climax, Chastity, Proserpine, Damosel, and other good varieties. Messrs. W. Wells and Co., Merstham, made up a bright autumnal display of chrysanthemums, showing big blooms of Mrs. R. Luxford, Queen Mary, and Mrs. W. Hookey, and stands of smaller blooms of Joan Caster, Monarch, Harrie, Leslie, and the pink Normandie.

Mr. H. J. Jones, Ryecroft, Lewisham, always shows well, and on this occasion used a white paper ground for his sprays of Michaelmas daisies Henry Adams, Climax, Micky Adams (of Climax type), Silver Queen, and Royalty. Mr. Jas. Box, Lindfield, had a splendid bank of autumn flowers, a trifle crowded perhaps, but it contained a fine selection of phloxes and Michaelmas daisies, with the blue Gladiolus Baron Hulot, Lilium tigrinum fl. pl., Cimicifuga simplex, delphiniums, and montbretias. Messrs. Whitelegg and Page, Chislehurst, were large exhibitors of Michaelmas daisies, pentstemons, delphiniums, etc., and had a nice grouping of the pretty Potentilla Miss Willmott, a fine rockwork plant.

A rock garden exhibit from Messrs. Thompson and Charman, Adam Street, Adelphi, contained a selection of encrusted saxifrages, Liatris pycnostachya, the dainty litle daisy-like Lagenophora Forsteri, the equally dainty white-flowered Veronica Lyalli and Primula megasæfolia.

DAHLIAS.

Dahlias were brilliantly exhibited by Messrs. Dobbie and Co., Edinburgh. This firm confined its attention to collarette varieties, and in many instances set up from fifty to a hundred blooms of a variety. Outstanding sorts were Frogmore, Eddystone, Lowestoft, clear yellow; Tuskar, crimson and rose and white; Queen Anne; Clock, lavender; Princess Louise, and the white varieties Inchcolm and Purity. A very fine display for the time of year. Show dahlias were very finely shown by Mr. S. Mortimer, Farnham, the blooms being of large size, full, and richly coloured, especially in the case of the varieties Esmond, Marjorie, Perfection, Wm. Pemberton, and Buttercup.

Mr. J. B. Riding, Chingford, submitted collarette dahlias again, and the attention paid them by the visitors was ample evidence of the way these varieties attract the public. Varieties that met with the approval of the Floral Committee were Carl Bechstadt (A.M.), scarlet, tipped yellow, and yellow disc florets, and General de Sas (A.M.), rich crimson-scarlet with yellow collar and fine stiff stem, very fine. Mr. Riding had also a splendid yellow decorative dahlia named Offenbach (A.M.), of large size, satiny sheen, slightly pointed florets, and splendid stem. These varieties also secured the F.C.C. of the National Dahlia Society. Mr. A. H. Cole, who has now the Swanley Nurseries, put up a considerable variety of dahlias, representing most of the sections.

Pæony-flowered and cactus dahlias associated with Michaelmas daisies, and together, made a pretty exhibit from Messrs. T. S. Ware, Lim., Feltham. The largest display of dahlias was from Messrs. Carter Page and Co., London Wall. This firm staged selections of collarette, pompon, cactus, pæony-flowered, decorative, and single dahlias, and in the midst of these gorgeous autumn flowers they had the fine Cory Cup won at the previous meeting for decorative dahlias.

A particularly pleasing corner group from Messrs. Pipers, Bayswater and Barnes, commanded attention, and was greatly admired. The sides of the corner were filled with towering stands of such handsome pæony-flowered dahlias as Mrs. T. E. Baker, Mrs. W. E. Whinerey, Codsall Gem, The Warrior, Connie Humphreys, Hon. Mrs. Walter Forbes, King Leopold, Mrs. Stanley Hill, and the pink Mrs. R. Copeland. Out in the centre of the corner space, with a path all round it, stood a column of Michaelmas daisies and pæony-flowered dahlias—just that little bit of novelty that proves so interesting and attractive. The firm had also a number of dwarfed Japanese shrubs on view.

GREENHOUSE FLOWERS.

Perpetual carnations were shown by Messrs. Allwood Brothers, who made up bold stands of Fairmount, Mary Allwood, and Enchantress Supreme; with these were some perpetual Malmaison varieties named Majestic, blush; and Exquisite, old rose. A very

bright exhibit of perpetual carnations, set up by Messrs. Stuart Low and Co., Enfield, was very pleasing, and the flowers of St. Nicholas, British Triumph, Snowstorm, Sunstar, and Salmon King were excellent.

Winter-flowering begonias, shown by Messrs. Jas. Veitch and Sons, Chelsea, included splendid varieties we have previously referred to, and there was a newcomer named Optima, the result of crossing B. Pearcei with B. Socotrana; the habit is free and graceful, and the flowers are soft salmon-pink. Celosias in a variety of colours, all carrying fine plumy heads, made up a bright group from Mr. L. R. Russell, Richmond. Messrs. Wm. Cutbush and Son, Highgate, displayed coleus, liliums, the lovely rose-pink Hydrangea General de Vibrage, heaths, etc.

Messrs. J. Hill and Son, Edmonton, presented a grand group of ferns, and put up fine examples of Platycerium angolense, Gleichenia rupestris glaucescens, Davallia repens, Adiantum Farleyense gloriosa, and A. macrophylla. Messrs. H. Cannell and Sons, Eynsford, sent cut pelargoniums in variety.

A small group of new varieties of nerines from Mr. H. J. Elwes, Colesbourne, contained many good things; and Miss Violet Elwes, salmon; Hon. Mrs. H. Beach, rich hued; Salmon Queen, light salmon; Lady Carrington, pale rosy-pink; and Lady Clementina Mitford, a lovely soft pink, were very beautiful. Tricyrtis stolonifera (A.M.) from Mr. Elwes proved very interesting. Messrs. H. B. May and Sons, Edmonton, exhibited well-grown chrysanthemums in pots, exquisite little specimens of Erica mollis, etc., in tiny pots, veronicas, and the newer ferns.

ORCHIDS.

Messrs. Charlesworth and Co., Haywards Heath, put up an effective group of orchids. Oncidium incurvum and odontoglossums lent elegance to the larger deeper flowers and hues of Brasso-cattleya Marie, Miltonia Bleuana nobilior, L.-c. Pallas, Odontioda Brewi callistoglossa, cypripediums in variety, and the lovely autumn-flowering form of Epidendrum vitellinum majus. Mr. E. V. Lowe, Vale Bridge, Haywards Heath, showed a very fine orchid in Cattleya Iris Prince Arthur, with deep maroon petals and sepals. Mr. C. H. Davidson, Twyford, and Mr. H. S. Goodson, Putney, each showed a few orchids.

Brasso-cattleya Iris (C. Iris crossed with Brasso-cattleya Thorntoni) has a fine violet-purple, gold-blotched lip, and mauve-purple sepals and petals; it gained an A.M., and was the feature of a small group of orchids submitted by Messrs. J. and A. McBean, Cooksbridge, Sussex; Cattleya Lord Rothschild albescens was also fine in this group. Mr. C. J. Phillips, Sevenoaks, sent Cattleya Adula Glebe var. (F.C.C.), a beautiful orchid, with old rose petals and buff-rose sepals, and glorious purple lip. P. Ralli, Esq., Ashtead Park, Leatherhead, sent Odontoglossum Crawshayanum superbum (A.M.), carrying white-lipped, yellow, and chocolate-blotched flowers.

Messrs. Armstrong and Brown submitted Cattleya aurea, C. Armstrongæ, Cœlogyne pendurata, Cattleya Fabia, and other good autumn-flowering orchids. Mr. R. G. Thwaites, Streatham, sent forms of Cattleya Iris, and Messrs. Flory and Black, Orchid Nursery, Slough, showed Lælio-cattleya Morna superba, and the pretty Brasso-lælia-cattleya Eric, with a bluish blotch on the fringed lip. Messrs. Hassall and Co., Southgate, had a very bright exhibit, in which the leading subjects were Cattleya Iris, C. aurea, C. Adula, C. Hardyana, C. Hassalli, the chaste C. Harrisoniæ alba, and the handsome Odontoglossum grande.

Fine spikes of Oncidium varicosum were shown by Messrs. Stuart Low and Co., and these arched over blue spikes of Vanda cærulea, Cattleya Harrisoniæ, and Brasso-cattleya Masonæ. Messrs. Sander and Sons, St. Albans, brought up a great variety of orchids, and a few of the more important kinds were Cattleya Mrs. J. W. Whiteley, Lælio-cattleya La Belle, Cypripedium Rich-man, Odontioda Charlesworthi, the curious Eria Mooreana, and the graceful Stelis longifolia.

FRUITS.

A splendid collection of fruit from Mr. E. Neal, gardener to J. A. Nix, Esq., Tilgate, Crawley, proved a great attraction; it consisted of sixty-three varieties of apples grown on the paradise stock, twenty-two varieties of pears grown on the quince stock, and six varieties of grapes all from one house. The finest of the apples were Mère de Ménage, Blenheim Orange, Nancy Jackson, Bramley's Seedling, Peasgood's Nonsuch, Warner's King, Lane's Prince Albert, and American Mother. Of Doyenne Boussoch, Catillac, and Pitmaston Duchess pears there were fine samples. Mr. Neal has proved himself to be a splendid cultivator of hardy fruits, and he deserves full credit for his success in this direction.

Apple trees, lifted from the open and shown in pots, both bush and trained, were very finely shown by Messrs. James Veitch and Sons, Chelsea. Some of the small trees carried over a dozen splendid fruits; Newton Wonder, Lane's Prince Albert, Bismarck, Bramley's Seedling, Landsberger Reinette, and Cox's Pomona were a few varieties that attracted special attention. The new variety, S. T. Wright (A.M.) was very fine; this is a cross between Peasgood's Nonsuch and Bismarck. Mr. P. H. Potter, Pond Farm, Old Malden, submitted two dozen dishes of well-grown and highly-coloured apples, chiefly popular varieties.

The Purfleet School Garden, Purfleet, Essex, exhibited a quite good collection of apples and pears grown in the school garden by lads from eleven to fourteen years of age, on trees planted in November, 1909. There were very fair samples of Golden Spire, Warner's King, Allington Pippin, and Lord Derby. In this garden there are over 150 varieties of fruits, including about thirty varieties of plums. The group included tiny bunches of Esperione grape grown out of doors, on a wooden fence.

CERTIFICATES AND AWARDS.

First Class Certificate.—To Symphoricarpus mollis, from the Hon. Vicary Gibbs (gardener, Mr. E. Beckett, V.M.H.), Aldenham House, Elstree; to Cattleya Adula Glebe var., from C. J. Phillips, Esq., The Glebe, Oak Lane, Sevenoaks; to Apple The Guelph, from Mr. W. Pope, Newbury.

Award of Merit.—To Dahlias General de Sonis, Carl Bechstadt, and Offenbach, from Mr. J. B. Riding, Chingford; to Dahlia The Quaker, from Messrs. Strudwick and Son, St. Leonards; to Helianthus speciosus, from Mr. W. Batchelor, Bruerne Park, Towcester; Paulownia tomentosa lanata, from Hon. Vicary Gibbs, Elstree; to Tricyrtis stolonifera, from H. J. Elwes, Esq., F.R.S., Colesbourne, Gloucester; Nerines Giantess and Gloria of Sarnia, from Messrs. Barr and Sons, Covent Garden; to Nerine Salmon Queen, from H. J. Elwes, Esq.; to Carnation Yellowstone, from Messrs. Allwood Bros., Haywards Heath; to Apple Peacemaker, from Mr. W. Pope, Newbury; to Apple Clivedon Prolific, from Mr. Cam. Cliveden Gardens, Taplow; to Apple S. T. Wright, from Messrs. James Veitch and Sons, Chelsea; to Odontoglossum Crawshayanum superbum, from Pantia Ralli, Esq., Ashtead Park, Leatherhead; to Cattleya Fabia Prince of Wales, from Messrs. Sander and Sons, St. Albans; to Brasso-cattleya Iris, from Messrs. J. and A. McBean, Cooksbridge; to Carnation Queen Alexandra, from Mr. G. Clarke, March.

MEDAL AWARDS.

Gold.—To the Hon. Vicary Gibbs (gardener, Mr. E. Beckett, V.M.H.), Aldenham House, Elstree, for Chinese trees and shrubs.

Silver-gilt Knightian.—To J. A. Nix, Esq. (gardener, Mr. W. Neal), Tilgate, Crawley, for fruit.

Silver-gilt Flora.—To Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver Flora.—To Messrs. W. Cutbush and Son, Highgate, for hardy flowers, etc.; to Messrs. Carter Page and Co., London Wall, for dahlias; to Messrs. J. Veitch and Sons, Chelsea, for bamboos, etc.; to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids.

Silver Knightian.—To Messrs. James Veitch and Sons, Chelsea, for fruit trees in pots.

Silver Banksian.—To Mrs. H. Potter, Old Malden, Surrey, for fruits; to Messrs. B. R. Cant and Sons, Colchester, for roses; to Messrs. J. Cheal and Sons, Crawley, for dahlias, etc.; to Messrs. Dobbie and Co., for dahlias; to Messrs. J. Hill and Sons, Edmonton, for ferns; to Messrs. G. Jackman and Son, Woking, for roses and hardy plants; to Mr. H. J. Jones, Lewisham, for asters and chrysanthemums; to Messrs. Hassall and Co., Southgate, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. H. B. May and Sons, Edmonton, for flowering plants; to Messrs. Pipers, Bayswater and Barnes, for dahlias and Japanese shrubs.

Bronze Knightian.—To Purfleet Council School, Essex, for collection of fruits.

Bronze Flora.—To Mr. S. Mortimer, Farnham, for dahlias; to Messrs. Paul and Son, Cheshunt, for roses, etc.; to Mr. J. B. Riding, Chingford, for dahlias; to Mr. L. R. Russell, Richmond, for celosias; to Wargrave Hardy Plant Farm, Lim., The Arcade, Liverpool Street, E.C., for asters and chrysanthemums; to Messrs. W. Wells and Co., Merstham, for asters and chrysanthemums; to Mr. E. Ballard, Colwall, for Michaelmas daisies; to Mr. J. Box, Haywards Heath, for hardy flowers.

Bronze Banksian.—To Messrs. Thomas S. Ware, Lim., Feltham, for dahlias and asters.

Northern Counties Fruit Congress.

Held at Kendal on September 24 and 25, the Northern Counties Fruit Show and Congress proved a great success. The delegates to the Congress were welcomed and entertained on the evening of September 23, in the Town Hall Assembly Room, by the Mayor and Mayoress, Mr. J. R. Illingworth, and Miss Illingworth. The Rev. J. Bernard Hall suggested that the show and congress should be held at Hexham and Kendal in alternate years. Mr. G. P. Berry pointed out how greatly fruit culture had advanced in the north during recent years, and how the Northern Fruit Congress had encouraged that advance. Mr. Jas. Hudson, V.M.H., referred to the need of increased fruit cultivation and consumption, and to the fact that fruits were often exported from this country.

The opening ceremony on the following day was performed by Lord Henry Cavendish Bentinck, M.P., the Mayor presiding. Mr. J. Hudson, V.M.H., as representing the Royal Horticultural Society, referred to the exhibits, and offered a brief criticism of the show.

He was followed by Mr. Joseph Cheal, who made special reference to the need for greater care in combating insect and fungus pests. Mr. Harper, of Manchester, spoke of the great advantages of proper grading and packing, and said there was nothing better than a 24lb. sieve for uniform packing. Votes of thanks to his Lordship and the Mayor concluded the opening proceedings.

On the Wednesday evening Lord Henry Bentinck, M.P., presided at the Conference, when Mr. C. J. R. Tipper, Director of Education in Westmorland, lectured on "Organisation of the Fruit Industry in Westmorland," and he pressed for the co-operative plan. An excellent discussion followed.

Mr. R. A. Harper Gray, of Armstrong College, then lectured on "Fruit Insect Pests: the Winter and Codlin Moths," and we hope to publish his lecture in a succeeding issue.

The subject for the afternoon meeting on Thursday, September 25, was "Land Tenure and Fruit Culture." Mr. F. W. Crewdson

presided, and the lecture, by Mr. W. F. Emptage, was read by the Rev. J. Bernard Hall. This proved a most interesting subject, and a great point made was that a tenant should have at least a 21 years' lease in front of him when planting fruit on suitable agricultural land. Mr. C. H. Hooper explained the "Evesham Custom" and its advantages, and Mr. G. P. Berry referred to the splendidly-organised raspberry industry in Scotland.

During the afternoon Mr. G. P. Berry, General Inspector of Horticulture under the Board of Agriculture, lectured on "The Culture of Potatoes," and advised prospective planters to have their soil chemically tested, and manured accordingly. Mr. Berry quoted Professor Wallace's formula for manuring for early potatoes: 18 to 20 tons of ordinary farmyard manure, and chemical materials at the following rate—6cwt. sulphate of ammonia, 6cwt. of superphosphate (25 per cent. soluble), 2cwt. of potash salts (35 per cent. solution), 1cwt. guano, containing 6 per cent. ammonia and 40 per cent. of phosphate. This should be applied at the rate of 12cwt. per acre.

At the evening meeting Mr. W. B. Mercer, B.Sc., lectured on "The Diseases of Potatoes." The customary votes of thanks brought the Congress to a close.

Bristol Gardeners' Association.

The monthly meeting of this association was held at St. John's Parish Rooms on Thursday last, Mr. Baston presiding over a large attendance.

The evening was devoted to a lecture and demonstration in table decoration, by Mr. Thoday, who dealt with his subject in a most practical manner, every detail receiving his most careful attention. Numerous questions were asked, and much valuable knowledge gained from the answers. A hearty vote of thanks to Mr. Thoday brought a most instructive evening to a close.

Mr. Coombs was elected assistant secretary, in place of Mr. Wiltshire, who is leaving the district. A hearty vote of thanks was passed to Mr. Wiltshire for his past services.

The prizes for four dishes of ripe fruit were won by Mr. Jennings, first; Mr. Scott, second; Mr. Spry, third. In the point competition Mr. Bird was awarded 93 points for a cypripedium.

TRADE DISCOUNTS.

Did I not read in some newspaper, a few days ago, that a trade society desired to call the attention of the Government (such as it is, worse luck!) to the offer of discounts to gardeners by foreign firms? I rubbed my eyes, adjusted my pince-nez, and read again—Yes, there it was, in cold black and white! The grandest book ever written records an incident in which those who were without sin were invited to cast the first stone! A grand old book, and yet ever new.

F. R. H. S.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

PUBLISHING MANAGER,
148-9, Aldersgate Street,
London, E.C.,

who will give the matter immediate attention.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of THE GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

GLASSINESS IN APPLES.—R. L. M., Chepstow: I am sending you a couple of apples which have a very peculiar appearance; they look glassy or waxy. We have many fruits affected in this way, but not to the extent of the examples enclosed. Kindly state whether this peculiarity is caused by a disease; and, if so, what methods can be taken to cure it.—Glassiness in apples is not caused by disease, but is the result, we believe, of moisture getting into the intercellular spaces of the fruits. How the moisture gets there is not well understood, and at present no cure for the trouble can be suggested. Unfortunately, glassiness is more in evidence this year than usual.

THE BEST MICHAELMAS DAISY.—B. R. Y., Lincoln: Following a meeting of gardeners a few days ago, the conversation turned upon Michaelmas daisies, which are exceptionally fine this season, and there was some difference of opinion as to which is the best variety. The varieties that appeared to find most favour were Climax, Ideal, and Beauty of Colwall, curiously enough, all representing distinct sections. As we could not arrive at a definite conclusion, I promised to write to THE GARDENERS' MAGAZINE, and ask you to decide between the three varieties named.—Taste enters so largely into the determination of your question that it is scarcely likely any answer we give will meet with general approval, because "a man convinced against his will is of the same opinion still." Some of our friends are all for the small-flowered and beautifully graceful varieties like Ideal, Chastity, Bianca, etc., while others, still appreciating these smaller-flowered sorts, give preference to the larger flowers of the Nova-belgiæ section. We do not admit that there is any one best Michaelmas daisy, but we are prepared to go so far as to say that, if circumstances compelled us to grow only one variety, and our selection had to be made from the three you name, then we should choose Climax without the slightest hesitation.

DISEASED CHRYSANTHEMUMS.—R. B., Bickley: We hope to reply to your question in our next issue.

STORING CARROTS.—C. G., Portishead: Kindly tell me how best to store carrots. I have an excellent crop, and should like to lift and store them for the winter. As an amateur gardener I take a great interest in THE GARDENERS' MAGAZINE, but have not noticed a reference to this matter, though doubtless most of your readers understand the business quite well.—An open shed, i.e., one with a roof and sides and no front, forming a lean-to against a wall, is a capital place for storing crops of garden roots; but, failing such a shed, the store heap may be arranged at the foot of a wall and shielded from severe cold and wet by means of soil, straw, and a piece of galvanised iron roofing. Lift the carrots carefully, remove the soil from the roots and trim off the tops within an inch or so of the crown. Place a layer of ashes on the ground where the store heap is to be made, and on this lay a little straw or dry bracken. Then add some finely sifted dry soil, and lay the roots, crowns pointing outwards, in a single layer. Add more soil and then another layer of roots, and so on. An endeavour should be made to estimate the amount of space the crop will need, and as the heap is built up it should gradually recede towards the wall, and eventually form the half of a circular-based cone. Until severe weather sets in only a covering of straw or bracken will be needed, with a sheet of iron to throw off the water if the heap is not under cover; but when severe weather is imminent, then the covering of straw or bracken must be thickened and covered with soil, allowing a twist of straw to protrude from the soil and form a sort of ventilator for the heap. This method is subject to several modifications, and most gardeners have their own pet method of dealing with roots, but we have found the method described very successful over a number of years.

NORTH OF ENGLAND HORTICULTURAL SOCIETY: A. L., Manchester.—I think I noticed in your columns lately that the Rev. J. Bernard Hall was retiring from the secretaryship of the North of England Horticultural Society; if that is so, please tell me who is the new secretary.—We believe the new secretary has yet to be elected, but for the present all communications respecting the North of England Horticultural Society should be addressed to Mr. J. C. Jackson, A.C.A., hon. secretary, 26, Bond Street, Leeds.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

H. R. E., Epsom.—1, Berberis Thunbergi; 2, Abutilon megapotamicum; 3, Fuchsia macrostemma.

E. H. O., Limerick.—1, Cornus florida; 2, Eleagnus pungens; 3, Begonia gracilis; 4, Alisma plantago.

S. S., Warwick.—1, Cotoneaster microphylla; 2, Juniperus chinensis; 3, Tsuga canadensis; 4, Verbena venosa.

T. C. J., Southport.—1, Cypripedium Miss; 2, Epipendrum vitellinum majus, autumn-flowering variety; 3, Cattleya labiata.

E. L. P., Iver.—1, Polygonum affine; 2, Cupressus Lawsoniana Allumi; 3, Caryopteris mastacantha; 4, Viburnum Tinus; 5, Penstemon Southgate Gem; 6, Hypericum calycinum.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor of GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

H. W. Durham.—Probably Golden Eagle peach.

D. G., Hereford.—1, a very fine fruit of Gascoyne's Scarlet.

W. C. H., West Bromwich.—1, Adam's Pearmain; 2, Court Pendu Plat.

P. R., Merton.—1, Cox's Orange Pippin; 2, Fearn's Pippin; 3, Wealthy.

R. R., Warminster.—1, Mother Apple; 2, Dutch Mignonne; 3, Ecklinville Seedling; 4, Golden Noble.

J. B. C., Exmouth.—1, Fearn's Pippin; 2, Mabbott's Pearmain; 3, Warner's King; 4, Buerre d'Amanlis.

A. E., Wolverton.—1, Colonel Vaughan; 2, not recognised; 3, Tyler's Kernel; 4, Brownlee's Seedling; 5, King of the Pippins; 6, Bismarck.

S. T. H., Hungerford.—1, D'Arcy Spice; 2, Lemon Pippin; 3, not recognised; 4, probably Chelmsford Wonder; 5, Cornish Aromatic; 6, Blenheim Pippin.

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Tulips.

Tulips, which are now so highly appreciated for the aid they are so well able to render in beautifying the flower garden during the spring months, have had a somewhat chequered career during the three and a half centuries that have elapsed since Richard Hakluyt, writing in 1582, recorded the fact that "within these four years there have been brought into England from Vienna, in Austria, divers kinds of flowers, called tulipas." They were at once regarded with great favour, and their increase by means of seeds was entered into with much spirit; and Gerard has an interesting note relating thereto in his "Herball," which was published in 1597. He writes: "My loving friend Master James Garret, a curious searcher of simples, and learned apothecary in London, hath undertaken to find out, if it were possible, the infinite sorts by diligent sowing of their seeds, and by planting those of their own propagation, and by others received from his friends beyond the seas, for the space of twenty years not being able to attain to the end of his travail, for that each new year bringeth forth new plants of sundry colours not before seen; all which to describe particularly, were to roll sisiphus stone or number the sands." The work so well begun by Garret was taken up by others, and, as the result of their labours, an immense number of beautiful varieties, evincing a wide diversity of form, were raised and introduced to cultivation. For a long time tulips enjoyed a high degree of popularity, and about the middle of the seventeenth century such high prices were paid for the bulbs of the leading varieties in Holland and France as to bring ruin to many. Tulips were held in high estimation by the British florists until the nineteenth century was well advanced, and societies devoted to them were a hundred years ago, if not as plentiful as blackberries at Michaelmas, very numerous in and around London and other great centres. Towards the middle of the century there was a decrease of interest in the delightfully-marked show flowers and the collections slowly disappeared. This was not all that befell the tulip. The use of tender plants for the production of summer effects was introduced, and the fashion became so general that, as in the case of many other hardy plants of great beauty, the decorative varieties, now known as cottage tulips, were banished from gardens of any pretensions. Happily, the majority of the finest of them obtained refuge in the gardens of cottagers and others, who cared but little for blue lobelias, yellow calceolarias, and scarlet pelargoniums, or were unable to incur the expense involved in the annual renewal of stocks of them. Now the garden tulips have returned to their own, and, as we enjoy the surpassing beauty of a tastefully-arranged selection during the season of flowering, it is impossible to suppress a feeling akin to wonder that fashion should have been so blindly followed as to prevent for a long period owners of gardens enjoying the varied charms of the cottage or May-flowering tulips. The show varieties, on which the older florists lavished so much love and care, have not been able to regain their popularity, and afford opportunities for becoming acquainted with their distinctive characteristics. As a counter-balance owners of gardens are able to plant, grow, and enjoy the beauty of the Darwins and Rembrandts, which have been been developed by means of cross-fertilisation and selective culture within quite modern times. Those who give their attention to garden tulips have their preferences, not only for different varieties, but for the sections, and sometimes this preference is shown by a disparagement of others. To refer otherwise than appreciatively to either section is a mistake, for, while one section may appeal the more strongly to some tastes than others, it should be recognised that all possess much value in garden decoration, and can be utilised to advantage. To produce a continuous display of the flowers of these bulbs over the longest possible period, and less should not satisfy the owner of a garden of some size, all the important sections must be pressed into service. A free use must be made of the Dutch varieties which bloom in April, when bright colouring is especially appreciated, and if they do not possess the grace of the chief sections that bloom a month or so later, they have finely-formed flowers, so varied in colouring as to admit of the production of colour schemes suited to the most varied tastes. The reader has only to refer to a fairly comprehensive bulb catalogue to find how wide is the range for selection, even among the cheapest varieties. If Coleur Cardinal and Crimson King are selected from the crimson-scarlet varieties, Dusart, Maas, and Vermilion Brilliant from the bright scarlets, Duchess de Parma and Keizerkroon from those with flowers coloured scarlet and gold; Prince of Austria and Thomas Moore from those having orange-red flowers. Ophir d'Or and Yellow Prince from the yellows, Cottage Maid, Fabiola, President Lincoln, Proserpine, and Rose Grisdelin from the pink and rose shades; and La Reine and White Potterbakker from the whites, a selection will be obtained that will enable the owner to produce colour schemes of great beauty. The Darwins and Cottage tulips bloom at much the same time, and three or four weeks later than the Dutch varieties, and are especially suited to border cultivation. They produce fine effects in the beds, but when arranged in groups in mixed borders, there is not the same

MR. G. E. GREENHOW.

necessity for disbudding the bulbs before they have completed their growth, as in the case of flower beds that have to be cleared for the purpose of preparing them for their summer occupants. We need not give the names of varieties in these two sections, because their merit is high throughout, and there will be little risk of obtaining flowers of decided inferiority, even if the selection is limited to those of quite moderate price. The use of the Darwin and Cottage tulips should not be limited to filling beds and borders in the flower garden, but be planted in the reserve ground or kitchen garden for the supply of flowers for indoor decorations. Flowers of tulips stand remarkably well when in water, provided they are cut before they reach an advanced stage of development, and the end of their stalks placed in water immediately on their severance from the plant. To those who fully appreciate the distinctive beauty of the Darwin and Cottage tulips, a fairly comprehensive selection will afford immense pleasure and unbounded interest throughout the season of flowering. From six to twelve bulbs of each variety will suffice, and these should be planted in a border convenient of access, and where they can remain undisturbed until the leaves reach a stage that clearly indicates the completion of their functions. With these should be included some of the finer of the specific forms which are now sufficiently numerous to form a considerable collection and to afford much pleasure.

Mr. George E. Greenhow, the newly-appointed lecturer in horticulture to the Aberdeen and North of Scotland College of Agriculture, was born at Hulton-in-the-Forest, where his father is still head gardener to the Dowager Lady Vane. Under his father's care, Mr. G. E. Greenhow served an early apprenticeship, and so was well trained ere he passed on to Greystoke Castle, and subsequently, with added experience, to Styford Hall. From Styford Hall, after a term of three years' service, he became gardener to the Northumberland County Council, at Cockle Park, Morpeth, where the horticultural and forestry departments came under his charge. Seeking to widen his experience, Mr. Greenhow went to the Royal Botanic Garden, Edinburgh, and after two years and a-half very profitably spent at that famous establishment, he passed on to become assistant lecturer in horticulture at the East of Scotland College of Agriculture. Later on the Fife and Kinross area of the college activities came under his direct care and supervision, and it is from that responsible post he has been appointed lecturer at Aberdeen. Mr. Greenhow has taken advantage of every opportunity for increasing his knowledge of horticulture and its allied arts and sciences, and rarely has a man been so well equipped for the duties he now takes up.

Anglo-American Exposition at Shepherd's Bush.—Arrangements are being made for holding an exposition at Shepherd's Bush from May to October next year in celebration of the centenary of Anglo-American peace, and on Tuesday afternoon a meeting of the general committee was held at the Mansion House under the presidency of the Lord Mayor. Reports on the progress that has already been made were read by the Earl of Kintore, chairman of the executive committee, and by the chairmen of several of the sectional committees. Horticulture will, we understand, receive due prominence in the scheme. Among the horticulturists present we noticed Sir Jeremiah Colman, Bart., V.M.H., Mr. John Green, and Mr. George Gordon, V.M.H. A special committee has been formed for horticulture, arboriculture, and forestry, and the members thereof are Mr. Edwin Beckett, V.M.H., Mr. Fred. J. Chittenden, F.L.S., Mr. Oswald B. Cowley, Mr. Edward Davidson, Mr. George Gordon, V.M.H., Mr. John Green, Professor F. Keeble, F.R.S., Mr. George Marshall, Mr. Arthur W. Paul, F.L.S., Mr. Spencer Pickering, F.R.S., Dr. A. B. Rendle, F.R.S., Mr. Donald McDonald, F.L.S., Major A. L. Renton, Mr. Martin J. Sutton, Mr. Fred. V. Theobald, F.E.S., Sir Everard im Thurn, K.C.M.G., Hon. J. H. Turner, and Mr. R. W. Wallace.

"Gardeners' Magazine" Rose Number.—The season of rose planting on which we have just entered has, in consequence of the remarkable increase in the popularity of roses, the promise of proving one of the busiest on record. The remarkable extension of rose culture has given rise to a largely increased desire for information on the selection of varieties and the various cultural details requiring attention at this season of the year, and for the purpose of assisting our readers we shall devote our next issue (October 25) chiefly to roses. The subjects that will receive prominent attention will be "The New Roses of the Year," "Roses for Arches," "Roses for Beds and Borders," "Pot Culture of Roses under Glass," "Roses for Pillars," "The New Hybrid Briar Race," and "The Best Roses for Standards." The issue will be freely illustrated, and the illustrations will include several of the new roses introduced during the current year.

Rose Wedding at Worksop.—Mr. Henry Vessey Machin, of Gateford Hill, Worksop, one of our foremost amateur rosarians, was married on October 2 to Miss Evelyn Mary Hawson. The wedding ceremony was largely attended, as both bride and bridegroom are very popular in Worksop. From a horticultural point of view, the ceremony was remarkable for the profusion with which roses were used in all the decorations; every pillar and every window of St. John's Church was wreathed with roses, and there were splendid blooms over the reredos and in the candelabra. The flowers used came chiefly from Mr. Machin's garden, but Messrs. Alex. Dickson and Sons, of Newtownards, sent over a thousand blooms, and also arranged the Mdme. Abel Chatenay roses on the shepherds' crooks carried by the bridesmaids. The bride's dress had roses for its design, and the bride's bouquet consisted of Molly Sharman Crawford roses. All rosarians join with us in wishing that every happiness may attend the Squire of Gateford Hill and Mrs. H. Vessey Machin. Mr. Machin is a vice-president of the National Rose Society, an ardent horticulturist, a keen huntsman, and a successful breeder of cattle.

Ghent Autumn Show.—The last of the flower shows to be held in connection with the Ghent International Exhibition will take place on October 25 to 28. The schedule provides for 256 classes for chrysanthemums, other flowers, fruit, vegetables, etc. A supplementary schedule, adding further chrysanthemum classes, has recently been issued. The premier prize is a work of art, value 1,000 francs, for the finest group of chrysanthemums, not less than 250 plants. The second prize in the same class is a gold medal, value 500 francs. About 40 classes are devoted to chrysanthemums in all. The others are for ornamental-flowering plants, floral art, hardy plants, hardy shrubs, orchids, apples, pears, stone fruit, grapes, market garden produce, in various sections. Coincident with the show will be held the annual congress of the French Chrysanthemum Society. Various questions relating to the flower will be considered, and a programme of festivities issued. We note that on Saturday, 25th inst., the jury and Floral Committee will meet, the opening of the show will take place, and a visit will be paid to the International Exhibition. On Sunday, October 26, visits to the great nurseries will be made, and a reception of the members of the Congress by the Royal Agricultural and Botanical Society of Ghent. On Monday, October 27, there will be a morning and an afternoon session of the congress. Official banquet in the evening. Tuesday, October 28, an excursion toBruges; visit to Sander's Nursery. Lunch given by M. Firmin de Smet.

Grass Lawns at Ghent.—The beautiful grass lawns have been one of the most attractive features of the great international exhibition now being held at Ghent. It is therefore a matter of some interest to learn that the success has, in a large degree, been achieved by sowing Messrs. Sutton and Sons' grass seeds, for which the Reading firm has been awarded a Grand Prix by the jury.

Accident to Mr. H. C. Prinsep.—Our old friend, formerly of Buxted Park Gardens, and now residing at Brookthorpe, Gloucester, was travelling home the other evening after a visit to the famous Toddington Orchards, where he met Mr. G. P. Berry, the Inspector of Horticulture, when a motor car ran into his conveyance and smashed it. By great good fortune Mr. Prinsep was uninjured, and we congratulate him upon his providential escape.

Presentation of Fruit to the Lord Mayor.—In accordance with an ancient custom, the Worshipful Company of Fruiterers made, a few evenings since, the annual presentation of fruit to the Lord Mayor of London. In making the presentation the Master of the Company (Mr. J. C. Hewlett) said that, as usual, the whole of the fruit had been grown in the British Isles, and admirably illustrated the high position to which fruit culture had attained therein, and helped to bring before the citizens an industry of much importance. The Lord Mayor, in acknowledging the gift, said he accepted the magnificent collection of fruit with great pleasure, especially as it must bring home to every one who had an opportunity of seeing it the great potentialities of the great industry with which the Fruiterers' Company had been so long associated.

Trials at the Wisley Gardens in 1914-1915.—The following trials will be held in the Wisley Gardens of the Royal Horticultural Society during 1914-15: Melons, of which ten seeds of each variety are to be sent in February. Tulips, of all descriptions, as mentioned in another paragraph. Herbaceous phloxes, three plants of each to be sent in February. Early flowering outdoor chrysanthemums, three plants of each to be sent in March. Perennial stemons, three plants of each to be sent in March. Perennial sunflowers (including heleniums and rudbeckias), three plants of each to be sent in February. Asters, French, German, or China, seed to be sown in February. Broccoli, one packet of seed of each to be sent in February. French beans, outdoor, one pint of seed of each to be sent in March.

Proposed Trials of Tulips at Wisley. — The Royal Horticultural Society has been asked to take the lead in drawing up a list of correct names of tulips. This the Council will gladly do, provided the Dutch bulb growers will cordially co-operate. The proposal is to plant the autumn at Wisley (where tulips do well as

representative a collection of all descriptions of tulips as can be got together, and then, when they are in bloom, it is hoped the Dutch bulb growers will send over some of their best men to co-operate with the Council in determining the correct names. All who can assist are invited to send, as soon as possible, five bulbs (named) of each variety, to the Superintendent, R.H.S. Gardens, Wisley, Ripley, Surrey, England.

Perpetual-flowering Carnation Society.—Having concluded arrangements with the Bournemouth authorities, this society will hold its second provincial show in the Winter Gardens of this popular resort on April 29 and 30, 1914. The famous musical conductor, Mr. Dan Godfrey, has charge of the local arrangements, so that a highly successful exhibition is anticipated. The society's annual winter show will be held at the R.H.S. Hall on December 3. New members joining before October 31 will receive the 1913 "Year Book," and all other privileges until October 31, 1914. Schedules may be had on application to Mr. T. A. Weston, hon. secretary, Orpington.

Distribution of Surplus Bedding Plants in London.—The surplus bedding plants in the London County Council parks and gardens will be distributed to the public to-day (Saturday, October 18). Persons desiring to participate in the distribution should make personal application at the parks or gardens. The distribution will commence at 9 a.m., and terminate not later than 11 a.m. Plants will not be handed to children under the age of 14, unless they present a note from their parents or teachers.

Nerine Bowdeni Out of Doors.—Some raisers who are especially interested in bulbous plants are aiming at a race of variously coloured hardy nerines—at least, hardy in favoured situations. With this end in view they are using Nerine Bowdeni as a parent, because this is about the hardiest kind we have. At Kew, in a warm border in front of the orchid houses, where gerberas are now flowering, and where Amaryllis belladonna is a fine sight in its season, Nerine Bowdeni has been planted, and at present there are about a score of spikes or umbels of its rosy flowers. At the recent R.H.S. meeting a very strong-growing hybrid named N. The Giantess gave evidence of extreme vigour and freedom, and suggested further possibilities, when others, like it, have been raised from N. Bowdeni.

United Horticultural Benefit and Provident Society.—For the purpose of advertising its usefulness the above society, through its committee, has just issued a large, stout card, 19 inches by 12½ inches, on which are printed in bold characters the chief aims and objects of the society, together with amounts of subscriptions and benefits. We notice with pleasure that the society has £42,000 invested. The card referred to—which, by the way, has calendars for 1914 and 1915 attached, so is well abreast of the times—has been distributed among leading gardeners and nurserymen, and a covering letter has been sent by the secretary, Mr. A. C. Hill, Alexandra Road, West Kensington Park, asking the recipients to place the card in a prominent position in one or other of the dwelling-places or offices in the garden or nursery. The committee ask those who have it in their power to do so to use their influence in attaining the objects in view, "believing that by placing the advantages of membership of this society before journeymen and apprentices in gardens, they are serving, not only the best interests of the society, but of the young professional gardeners also."

CATTLEYA ADULA THE GLEBE VARIETY.

A beautiful hybrid orchid, with bright old rose petals, and buff-rose sepals, and a handsome violet-purple apex to the broad lip. F.C.C., R.H.S., October 7. C. J. Phillips, Esq., The Glebe, Oak Lane, Sevenoaks.

Burnham Beeches. The members of the Coal and Corn and Finance Committee of the City of London recently paid their autumn visit to Burnham Beeches, under the direction of the chairman, Mr. Deputy Morton, M.P. The beeches were found to be wonderfully green for the time of the year, a few frosts being needed to turn this delightful tract of country into a fairy land of russet and gold. A halt was called at a point on the north-west side of the Beeches, and there the Chairman planted a fine young beech, close to the entrance to an unnamed road—leading from the main highway to Halse Drive—which was afterwards christened "Morton Drive."

Southampton Chrysanthemum Show, originally fixed for November 4 and 5, will be held on Tuesday and Wednesday, October 28 and 29, in the Coliseum, Portland Terrace, Southampton.

JULY-FLOWERING LILIUMS.

While it is impossible to define the actual flowering period of lilies, so much depending on the season and the situation of the garden, the species and varieties named below may be expected to be at their best during the month of July. A few of them may commence to blossom during June; while others, like the Panther Lily, which lasts in good condition for some time, may continue well into the month of August.

Lilium giganteum.

Groups of this lily in the flower garden and pleasure grounds are few and far between, the reason for this generally being lack of knowledge of its cultivation. Most lily bulbs, whatever their size, push up flowering stems the first season after planting, but, unless the bulb is a large one, the Giant Himalayan Lily does not do this, but builds up a good bulb, perhaps taking two or even three years before producing a vigorous flower-stem 5ft. to 10ft., sometimes even more, in height. Another peculiarity is that after flowering and producing seed the bulb dies; but it also generally leaves several offsets in the ground, which in their turn, on reaching maturity, produce flowering stems. A stem may carry from six to eighteen, possibly more, of the long tubular, white blossoms, which are streaked inside with purple. The large heart-shaped leaves are also a distinct and attractive feature of this lily. L. giganteum is one of the most proliferous lilies in seed production, and it is also one of the longest in reaching the flowering stage after sowing the seed. Yet the noble flower-spikes are worth waiting several years for, and, when once a commencement has been made, a few seeds sown each year as soon as ripe will ensure an annual production of flowering stems; while, when planted in favourable surroundings, the bulbs also develop offsets. Choose half-shaded positions for planting, where the subsoil is moist, and do not cover the bulbs with more than about two inches of soil.

L. longiflorum.

It would probably not be an exaggeration to state that there are as many, if not more, bulbs of the White Trumpet Lily sold annually in this country as of all the other lilies put together. Market growers purchase the bulbs by the thousand and grow them under glass to supply the demand for cut flowers; and in public and private gardens hundreds are used, both under glass and outside, for decorative purposes. Whether it is because the bulbs can be purchased at such a small cost that it would not pay to cultivate the bulbs in this country, or may be the climate and soil are not favourable for the free growth of the bulbs, the fact remains that the imported bulbs fail to establish themselves in our gardens, and it is necessary to frequently replenish the stock. It is not a difficult matter to raise the bulbs from seeds, but as a commercial venture the competition of imported bulbs is apparently too great for such an undertaking to be successful. Japan, and in a lesser degree Holland and South Africa, supply the imported bulbs. Though thousands of acres of the White Trumpet Lily are cultivated in Japan, experts who have studied the subject are inclined to the belief that L. longiflorum is a native of China.

A gross-feeding, stem-rooting lily, the bulbs should be planted 8in. or 9in. deep in light, well-drained soil, containing plenty of grit and leaf-mould or peat. In addition to the type there are several improved varieties or forms. Harrisi and formosum are early-flowering varieties recommended for pot culture; eximium, or Wilsoni, is a very free-flowering dwarf variety; giganteum, or robustum, is a vigorous form, and perhaps the most desirable for outdoor planting; and Takesima, which has dark stems, and the outside of the trumpet tinged with brown.

L. japonicum.

This species, more often grown in gardens as L. Krameri, is a lily which every enthusiast tries to grow, but few succeed in permanently establishing the bulbs in their gardens. It is an easy matter to purchase imported bulbs of this lily annually coming from Japan, but these seldom flower more than once or twice, failing to become established. L. japonicum is worth much trouble in its culture, and success seems most likely by raising seedlings. The flowers are funnel-shaped, pink or blush in colour, borne on a slender stem 2ft. to 3ft. high; usually one to three flowers, occasionally more, on a stem. Plant the bulbs among low-growing shrubs in a mixture of sandy loam, leaf-mould, and peat.

L. japonicum var. colchesterense—also known as L. Browni var. odorum—is not unlike L. Browni in general appearance, but the leaves are shorter and broader, while the interior of the flower is not so dead white, and the outside is not so dark. The flowers are deliciously fragrant, and the plant, on the whole, is a better grower than L. Browni. A stem-rooting lily, plant the bulbs 5in. to 6in. deep in light, well-drained soil. The average height of the stems is from 2ft. to 30in.

L. Humboldti.

A Californian lily, growing to a height of from 4ft. to 5ft.; resembles in some respects the well-known L. pardalinum. When established, a single stem may bear twelve to twenty recurved orange-red flowers, splashed with purple. The variety magnificum is an improvement on the type. This lily will grow in a well-drained light loam, and should be planted 7in. to 9in. deep.

L. Thayeræ.

This is a Chinese lily, introduced by Mr. E. H. Wilson when collecting during his second journey for Messrs. Veitch, of Chelsea, in 1904. For some time this lily has been grown in gardens as L. sutchuenense, a species, also from China, introduced by Father Farges, a French missionary. Under cultivation the lily introduced by Mr. Wilson proves to be quite distinct from L. sutchuenense, and for garden decoration is far more valuable. Growing 3ft. to 4ft. high, occasionally more, the stems of L. Thayeræ are thickly clothed with lance-shaped leaves, and carrying up to twenty-five flowers and buds. With its orange-red flowers, much recurved, and black spots, this lily might be described as an early-flowering tiger lily, though it lacks the familiar bulbils in the axils of the leaves of that species. L. Thayeræ is an easy lily to raise from seeds, flowering in two or three years from the time of sowing. A stem-rooting species, the bulbs should be planted from 6in. to 8in. deep. It thrives well in ordinary garden soil, and is also adapted for cultivation in pots.

L. carolinianum.

This is a rare lily, in the way of L. superbum, but is not nearly so free in flowering, and not often seen. The dainty, reflexed, orange-red flowers, spotted with maroon, are borne on stems 2ft. to 3ft. in height, and are pleasantly fragrant. A native of the Southern United States, this is another lily to plant 4in. to 5in. deep among shrubs of the erica family.

L. Browni.

This is a very old inhabitant of our gardens, coming, presumably, originally from China, as Mr. Augustine Henry collected wild specimens in that country some twenty-five years ago. Annual importations reach this country from Japan and Holland, but comparatively few of these bulbs establish themselves in our gardens. Growing about 2ft. in height, the large trumpet-shaped flowers are white inside, with conspicuous brown anthers, the exterior chocolate-brown. One to three blooms are produced on a stem. L. Browni appears to thrive best in a light, sandy soil, in which flaky leaf-mould and peat have been liberally incorporated. A stem-rooting lily, plant the bulbs 6 to 8in. deep.

A. OSBORN.

(To be continued.)

SUGGESTIONS FOR BORDER PLANTING.

A delightful feature in many gardens is to combine beauty with utility, and nowhere is the charm of flowers more acceptable than when plants are skilfully introduced as a screen or foil to the various occupants of the kitchen or fruit garden. The latter in themselves present no indifferent picture when wreathed with their beautiful flowers in spring, and again in autumn, when the fruits take on their ruddy tints, so that a combination of flowers at these seasons adds considerably to the attraction of the garden. A simple and effective display is produced here by Aubrietia deltoidea, planted as narrow borders at the foot of cordon apple trees; the mauve of the aubrietia is charming in contrast with the rose, pink, and white of the apple blossom, and the display is by no means a short one. Three double borders were planted respectively with German iris, antirrhinums in various colours, and different kinds of annuals. Fruit trees occupy the borders, and are planted at regular intervals, so that they appear let in a carpet of flowers, and rivet attention, and the ordinary occupants of the kitchen garden have their presence scarcely revealed.

One of the most satisfactory borders of the past season consisted of a broad belt of mixed Sweet Williams arranged in front of apple trees, with a single row of Viscaria oculata cærulea as an edging. The growth of this free-branching annual interlaced among the Sweet Williams, and the rich green foliage of the apple trees, formed an ideal background for the flowers.

Recently I visited some Scottish gardens, where a similar idea is carried out, in one case with pentstemons planted in bold groups of a kind; in another instance East Lothian stocks were used in distinct colours, and a third had China asters, while several examples had antirrhinums, both tall and intermediate varieties being used, a sure index of the great popularity these handsome and easily-grown subjects enjoy.

THOS. SMITH.

Coombe Court Gardens.

NEW PLANTS, FLOWERS AND FRUIT.

NERINES.

The Giantess.—A large-flowered nerine, with elongated blooms borne in a large and slightly lax umbel. The colour is a bright shade of rose. We understand this is the result of crossing N. Bowdeni with N. corusca major. A.M., R.H.S. Messrs. Barr and Sons, Covent Garden, W.C.

Glory of Sarnia.—Evidently a Guernsey-raised variety, derived from N. Fothergilli major crossed with N. corusca major. The flowers are of good size, and carried in a shapely umbel. The colour is brilliant scarlet of a peculiarly "live" shade. A.M., R.H.S., October 7. Messrs. Barr and Sons.

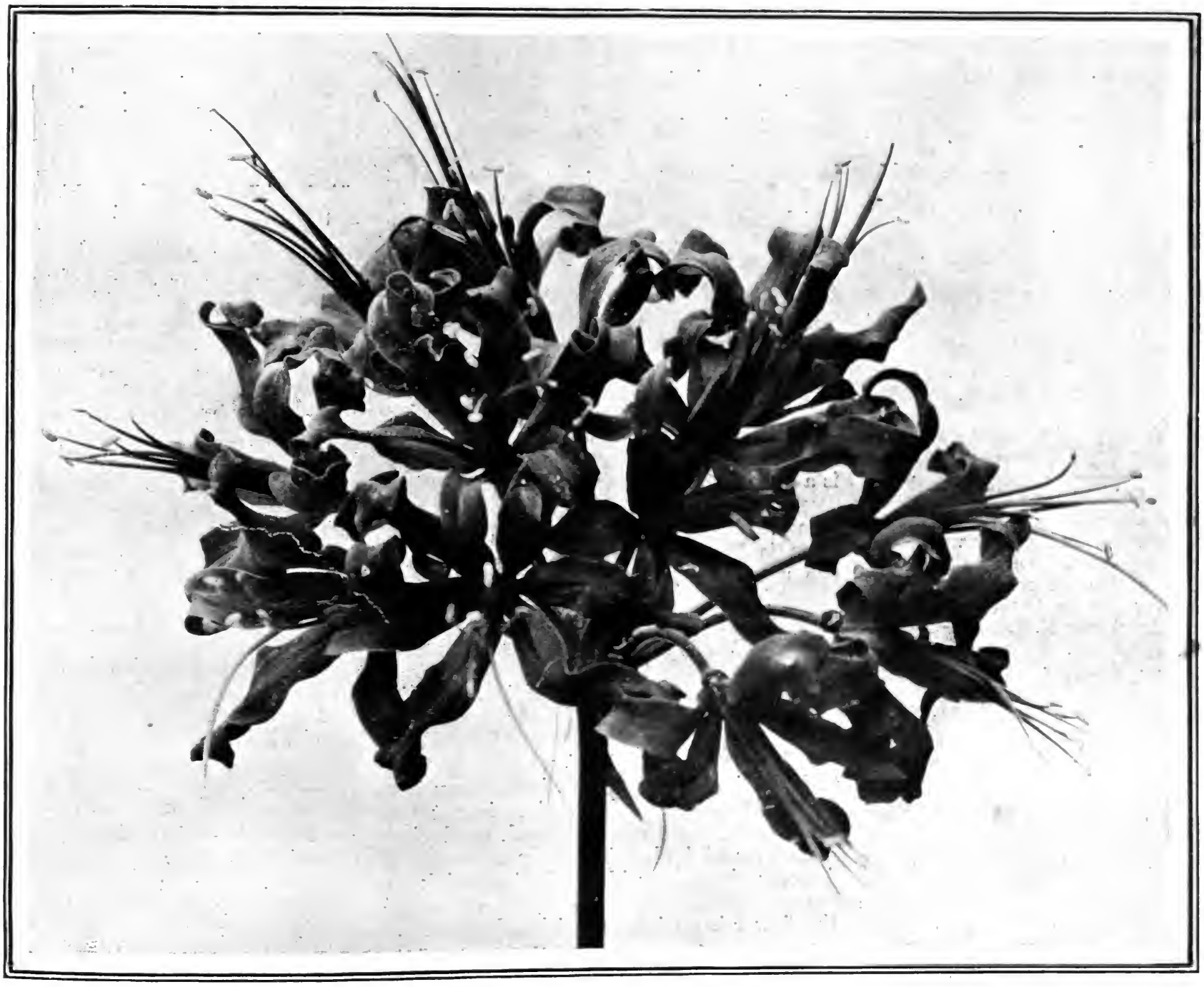
Salmon Queen. — A very beautiful nerine which carries a compact umbel or truss of finely-formed salmon-pink flowers. The segments reflex regularly, and the whole of the inflorescence shows how far florists have advanced in the improvement of these beautiful bulbous plants. A.M., R.H.S., October 7. H. J. Elwes, Esq.

CATTLEYA ADULA GLEBE VAR.

This is a very fine form of the increasingly popular hybrid derived from C. bicolor and C. Hardyana; indeed, The Glebe variety is by far the finest that has yet come before the public. The flowers are very shapely, the petals a lovely rich old rose shade, and the sepals old rose with a buff suffusion. The fine lip is remarkable for its spreading, violet-purple apex. F.C.C., R.H.S., October 7. Mr. C. J. Phillips, The Glebe, Oak Lane, Sevenoaks.

CATTLEYA FABIA PRINCE OF WALES.

A remarkably large and richly-coloured form of the fine autumn-flowering C. Fabia, which is the result of crossing C. aurea with C. labiata. The variety under notice has larger flowers than usual, and the colouring is rich deep purple, the lip royal purple with golden lines in the throat. A.M., R.H.S., October 7. Messrs. Sander and Sons, St. Albans.



NERINE GLORY OF SARNIA.

Flowers of a rich glowing scarlet colour, borne in a large and shapely cluster. A.M., R.H.S., October 7. Messrs. Barr and Sons, Covent Garden, W.C.

BRASSO-CATTLEYA IRIS.

A handsome hybrid with large and beautiful flowers, the sepals and petals soft rose-purple, and the large fringed lip deep purple with a dull yellow throat. A.M., R.H.S., October 7. Messrs. J. and A. McBean, Cooksbridge.

ODONTOGLOSSUM CRAWSHAYANUM SUPERBUM.

A distinct advance on the original hybrid, and the well-grown plant displayed bore a tall spike of large and handsome flowers. The yellow ground colour served to show up the purple-brown markings, and the large white apex to the lip, with purple spots and golden disk, added to the other attractions. A.M., R.H.S., October 7. Pantia Ralli, Esq., Ashtead Park, Leatherhead.

TRICYRTIS STOLONIFERA.

The genus tricyrtis is a small one, consisting of plants with creeping root-stocks, erect slender growths, and lily-like leaves. T. stolonifera has flowers a couple of inches across with prominent stamens. The colour is rose-purple, with brownish spots. A very interesting liliaceous plant. Of doubtful hardiness, found in Formosa by Mr. Price when visiting the island with Mr. Elwes. A.M., R.H.S., October 7. H. J. Elwes, Esq., F.R.S. (gardener, Mr. Walters), Colesbourne, Gloucester.

SYMPHORICARPUS MOLLIS.

An extremely beautiful Snowberry, and, though there seems to be some doubt as to the correct name of this shrub, there is no doubt at all as to its effectiveness in the garden, when, in autumn, its growths are pendulous with the weight of its crowded white berries. It is a free-growing, hardy shrub, that has been most successfully cultivated for some time at Aldenham, and may well be described as a very much glorified snowberry, as compared with the well-known Symphoricarpus racemosus. The symphoricarpuses are all natives of North America. F.C.C., R.H.S., October 7. Hon. Vicary Gibbs (gardener, Mr. E. Beckett, V.M.H.), Aldenham House, Elstree, Herts.

HELIANTHUS SPECIOSUS.

A very distinct plant that did not do itself justice as shown, the flowers having suffered, apparently, during transit. Four inches or so across, the flower heads suggest a big single zinnia, and the ray florets are of a brilliant orange-vermilion. The stem of the flower is smooth, and for about a couple of

inches below its junction with the flower-head, it is curiously hollow and inflated. We believe the species is of annual duration, and should be referred to Tithonia, a small genus of Mexican and Texan plants. A.M., R.H.S., September 7. Mr. W. Batchelor, Towcester.

CARNATIONS.

Yellow Stone.—An American-raised perpetual carnation that brings us nearer the desired deep yellow variety. It has shapely flowers of fair size, and the colour is yellow, with a few faint white markings. A.M., R.H.S., October 7. Messrs. Allwood Brothers, Wivelsfield, Haywards Heath.

Queen Alexandra.—A beautiful addition to the soft rose-tinted pink varieties, of fine size and shape, with fringed petals, and a faint fragrance, this variety has also a good habit, as evidenced by the plants exhibited. A.M., R.H.S., October 7. Mr. G. Clark, March.

DAHLIAS.

Carl Bechstadt.—A vivid scarlet-red collarette dahlia, the rounded ray florets tipped with yellow, and the collar yellow also. Very effective. A.M., R.H.S.; F.C.C., N.D.S., October 7. Mr. J. B. Riding, Chingford.

General de Sonis.—A fine collarette variety with beautiful crimson-scarlet colouring, and a well-developed, rich yellow collar. Strikingly handsome. A.M., R.H.S.; F.C.C., N.D.S., October 7. Mr. J. B. Riding.

Offenbach.—A very fine decorative dahlia, of good size, and carrying its flower-heads on stiff, erect stems. The colour is rich yellow. The flowers are flattish, a trifle pointed, and they overlap prettily. Should become a popular garden dahlia. A.M., R.H.S.; F.C.C., N.D.S., October 7. Mr. J. B. Riding.

The Quaker.—A pretty cactus dahlia, of soft greyish-blush colour, fading to white at the base of the graceful florets. A.M., R.H.S.; F.C.C., N.D.S., October 7. Messrs. J. Stredwick and Son, St. Leonards.

APPLES.

The Guelph.—A handsome dessert apple, of good size and shape. It is the result of crossing Charles Ross and the Rival. The colour is greenish-yellow, with a thin veiling of russet and a fine flush of red on the sunny side. It is fit for use in the autumn, and keeps fairly well. A.M., R.H.S., October 7. Mr. W. Pope, Newbury.

Peacemaker. — Another good dessert variety, very much like The Guelph, but of more conical shape; in colouring it differs little from its companion. The parents were The Houblon and Rival. A.M., R.H.S., October 7. Mr. W. Pope.

S. T. Wright.—This fine cooking apple bears the name of the popular Superintendent of the Royal Horticultural Society's Gardens, Wisley. The fruits are of large size, pale green, tinted with yellow, and streaked and splashed with red. The variety was obtained by crossing Peasgood's Nonsuch with Bismarck, and we understand it crops well. A.M., R.H.S., October 7. Messrs. Jas. Veitch and Sons, Chelsea.

Cliveden Prolific.—A flattish, ribbed, green apple that appears to be a long-keeping culinary variety. A.M., R.H.S., October 7. Mr. W. Camm, Cliveden Gardens, Taplow, Bucks.

Cleanliness in Fruit Houses.—All trees should be detached from the trellis and carefully washed with a strong soapy solution, in which a few handfuls of sulphur have been placed, a stronger solution being used for the wires and woodwork. If the trees have been free from insects, one washing will suffice, painting the trees with various mixtures often does more harm than good, while two washings, properly performed, will be found better for the trees and safer than painting. When all has been thoroughly cleansed, and any repairs and painting done, fasten the shoots to the trellis, allowing plenty of room, six to seven inches apart being quite close enough. Prick up the surface of the border of undisturbed trees down to the roots and top-dress.—F. Jordan.

SOME GOOD DECORATIVE ROSES.

At every progressive floral exhibition, one is instinctively drawn to the classes for cut flowers arranged either in some floral design, such as baskets or bowls, or as an embellishment to the luncheon or dinner table. The keen and increasing attention these classes receive is partly explained by the fact that they are usually confined to ladies, but even when open to both sexes they appear to give distinction, as they bring into prominence a number of roses whose flowers in general lack the substance of the purely exhibition flower, hence we conveniently group them as garden decorative varieties.

It is notorious that for the purpose under review these varieties are inimitable, for no other flower gives such delightful gradation and combination of colours as the rose, and these single or semi-double flowers are exquisite when lightly arranged by deft fingers and accompanied by artistic perception. It is interesting to examine the position of Rose Irish Elegance in this respect, for its simple beauty appeals to all, and no other rose figures more prominently in competitive displays; its purple leafage and perfectly-formed single flowers, in which yellow, orange, and copper are so delicately blended present a harmony of most exquisite colour, that if the artist but grasps the proper balance of the object aimed at, the result is generally a floral display of incomparable beauty.

Mdme. Pernet Ducher is only a semi-double rose, but the buds are of faultless form, and when these are arranged with partly-opened flowers, the combination is most pleasing. In the bud stage the colour is a deep canary-yellow, and in the perfect flower this is softened to a lighter tint of cream. Another lovely rose of semi-double form is Papa Gontier. In this the buds are unusually long, and coloured intense rose-crimson. The colour however, loses its strength with development, and when fully expanded the colour approaches carmine-rose. In Mrs. Alfred Tate we have a decorative rose of superb quality, wherein those sunset colours are highly developed, and, when associated with purple-coloured rose leaves, the combination leaves nothing to be desired. Mdme. Abel Chatenay is a flower of some substance, but is not too heavy when tastefully arranged, employing a number of buds with the partly-opened flowers; the colour is a pale fawn-pink on the expanded petals, while the centre of the flower is an intense, rich salmon-rose.

The Lyon Rose presents the most subtle colour among purely double roses; in this the chrome-yellow of the petals appears shaded and suffused with varying shades of pink, but under subdued light the combination of colour has more the aspect of orange and apricot, the colour being both intense and of great depth. Duchess of Wellington is another fine decorative rose, of saffron-yellow colour in bud, the partly-opened flowers holding the rich orange in the centre. Rayon d'Or is the most exquisite of all yellow roses, the flowers being of a faultless shade of daffodil-yellow, and lovely in contrast with the attractive foliage. Among the newest roses Sunburst gives long pointed buds of a deep golden-yellow, the centre being rich orange; although of but recent introduction, the good qualities of this rose as a decorative subject are fully recognised.

Mdme. Melanie Soupert has distinct qualities; the flowers are somewhat variable in colour, and with the carmine flush developed on the salmon-yellow petals the flower is delightful, especially when arranged upon the luncheon table. Other good roses that may be mentioned for their decorative qualities include Honble. Ina Bingham, a semi-double flower of purest pink; the buds, flowers, and foliage are alike good. Instituteur Sirdey, with golden-yellow flowers, the buds being a deeper shade of reddish-yellow. Gustave Regis, a thin flower, with long, pointed buds of deep canary-yellow, the centre holding the colour well when open. Dorothy Page Roberts, the colour a delicate shade of coppery-pink, the whole flower being suffused apricot-yellow. Liberty, a deep crimson flower of medium size, the colour being best in bud and when partly opened; it takes second place to Richmond, the latter holding the colour best in the open flower, which is most suggestive of scarlet-crimson.

Roses grown for decorative uses call for lighter pruning than where exhibition flowers are the sole aim, and when the pruning is carried out at varying dates an extended flowering season is enjoyed.

Thomas Smith.

Coombe Court Gardens.

EARLY CHRYSANTHEMUMS IN SOUTH-WEST SCOTLAND.

Generally speaking, this has been a highly-favourable year for early chrysanthemums in the south-west of Scotland. Where early under way, before the drought set in, they have done exceedingly well, but those which were planted late, and in dry soil, particularly where water was scarce, have not been so good. As a rule, however, they have been very fine, colour being especially clear and bright, while the blooms have been large and well formed. One of the finest collections in the south-west, although in a small garden, is that of Mr. Joseph Black, Maxwelltown, Dumfries, and a study of these, together with the plants seen in a number of other gardens, forms the foundation of these notes.

The Masse varieties have, as in former seasons, held their own admirably, and are still grown in very large numbers. Improved Marie Masse has been very good, as also has been Crimson Masse and others. A distinct gain is that named Striped Masse, which is a grand flower of crimson, the petals nicely margined with white, this giving the flowers a distinctly striped appearance. Mr. Black has a very fine plant of this. A notable white early chrysanthemum is Framfield Early White, which is a gem of the first water, with its large, deep, graceful flowers of the purest white, and just such a plant as the enthusiast would go into raptures over. May Greaves, one of the newer varieties, is highly promising, and has good flowers of rosy-pink on a plant about two and a-half feet high, though the height varies under different conditions. That fine chrysanthemum, Marie Mason, which has been so well received of late, has done exceptionally well, and the writer has seen several fine specimens laden with the large, massive blooms of crimson.

A great acquisition to gardens where tall varieties are desired has been that called Golden Glow—quite an appropriate name, seeing that the handsome flowers are of a brilliant golden-yellow. It is somewhere about four feet high under good cultivation, and has stout, sturdy stems, and excellent flowers. By the way, among the older yellows which have been first class this season are Yellow Bird, Sybil, O. J. Quintus, and Horace Martin.

Red Diana is a striking flower, striped, and formed almost like a French marigold,

and red and gold in its colouration. It may be that this district does not suit Crimson Pollie, or that the stock distributed is not good, but Crimson Pollie is not crimson at all, and is a disappointment to all who grow it here. The sport from Lillie, called White Lillie, is doing well, and has all the good qualities of its parent, with good white coloration.

A little tall, it may be, for some tastes, but a really good early chrysanthemum is Mrs. William Copeland. Its colour is described as light crimson, but it is perhaps rather less pronounced in its colour than that implies, possibly owing to seasonal or climatic conditions. White Touraine is a new and very beautiful white variety, which one has seen in splendid condition, as, indeed, has also been the parent Touraine. Le Danube has evidently appreciated the weather conditions, and some plants have given immense purple-lilac flowers. Betty Surtees has greatly attracted the writer, the lovely flowers being of an exquisite silvery-pink. One of the newer varieties, named William Scott, is also highly promising, the flowers being of a fine golden-bronze. Under the name of Cherry I came across a good variety in Mr. Black's collection. This had fine red flowers of delightful colouring, but the plant is a little late this year. It will probably be earlier from early-struck cuttings.

It has been pleasant to see Caledonia so good this year, as some of us were thinking that it was not going to maintain its reputation so well as it now promises to do. A charming little yellow sport from Tottie, called Annie Laurie, which originated in the garden of a local amateur of renown, is proving an acquisition, and would make a charming dwarf pot plant, as well as being excellent for the front row. But for its name, R. Pegg, which has good flowers of a pleasing shade of deep rose, would find favour with many who desire flowers of its colour. Point de Jour has even surpassed its former good qualities, and has been really grand in several gardens, with its large heads of fine blooms. It is most effective when not disbudded. Disbudding, by the way, is not much practised in the district.

Emily Sturt reminds one of the older Normandie, but it has a more massive and solid bloom. It promises to do specially well in a dry season. Marjorie Bailey, though only small plants were seen, looks promising on account of its good colour. The catalogues call it golden terra-cotta, but I should feel disposed to describe it as very deep, but brilliant, orange. Ethel Bellamy is most attractive, the petals hanging gracefully, and the colour a rich rose-pink.

Quite a number of others have been studied, about three hundred varieties, in point of fact, and it is impossible to detail all the best even. Very fine, however, have been Pollie, Improved Pollie, White Pollie, Goacher's Crimson, the richly-coloured Emily Bartlett, the exquisite La Tamise; Hector, magnificent; William Sydenham, not easy to surpass; the fine Helena, chestnut and gold; the orange-yellow Sunstar, the old Vesuve, Dame Blanche, still excellent among the many lovely whites; and the primrose sport from Esperance called Canariensis.

Of great beauty, as a rule, have also been Pluie d'Argent, S. F. Richmond, Eva Williams, Lady Raphael, Mrs. J. Fielding, Hon. Mrs. Lyttelton, Robbie Burns, Firefly, Mabel Adams, Lady Mary Hope, and Jimmie. Such, with many others, are flowers which have come under the observation of the writer, and which he has seen in splendid condition this season.

S. Arnott.

ROSE DANAE.

While the new roses remarkable for the large size and superb form of their flowers that have been presented to public notice during the past summer received a warm welcome and, in most cases, high distinction, the merits of those with flowers of quite moderate dimensions have not been overlooked. So far from this being the case, the small-flowered roses have received much attention from visitors to the shows, and have had their value recognised by the several societies that make awards to novelties. The two beautiful hybrid teas—Moonlight and Danae—raised by that distinguished rosarian the Rev. J. H. Pemberton, are a case in point. These have flowers of a moderate size, and in one case they are single, and in the other are semi-double. The first-named received a gold medal from the National Rose Society, and the second had from that society the next highest award—a silver-gilt medal, while both have had an award of merit made in their favour by the Royal Horticultural Society. We mention this as a proof that garden roses, and these essentially belong to the garden, are readily welcomed by rosarians, provided they possess merit of a high order.

As in the case of Moonlight, which we illustrated a short time since, Danae is a hybrid tea cluster rose, remarkable for its elegant habit and the freedom with which it blooms from June until the autumn is well advanced. The flowers are semi-double, of a soft yellow hue, and have a pleasant fragrance that reminds one of the perfume of the musk rose. The growth is vigorous, the plant producing throughout the season strong growths from near the base four feet or so in length, and bearing clusters of flowers. The foliage is dark green, and is in perfect harmony with the yellow flowers, which, it may be aded, are admirably adapted for association with other garden roses in exhibition collections, as exemplified by the beautiful vases of flowers that Mr. Pemberton had in his two winning collections of decorative roses at the exhibition held by the National Rose Society in September last.

NEW H.T. ROSE DANAE.

Flowers, soft yellow. Raised by the Rev. J. H. Pemberton, Havering-atte-Bower.

Carrots. — The main crop should be lifted at an early date and stored in a cool shed or cellar; if the crop is a large one, the best plan is to pit the larger portion, as was recommended for beetroot. When lifting the crop put aside all undersized and deformed roots for immediate use. Short-horn carrots sown in June or early in July should be left in the ground as long as the weather will allow. Later-sown batches for supplying small roots should be left in the ground and drawn from as required, with, during severe weather, some litter or bracken sprinkled over them.—W. Messenger.

SUCCULENT PLANTS FOR AMATEURS.

(Continued from page 764.)

Crassula.

The genus Crassula is a large South African one, a few species of which are commonly grown. The bulk of them are not of any particular beauty, the exceptions being the well-known C. falcata and C. coccinea, with bright scarlet, and C. jasminea, with pink or white flowers. The two latter species are referred to the genus Rochea by some authorities.

Mesembryanthemums.

The mesembryanthemums, or "figworts," are all natives of tropical or sub-tropical South Africa. They all revel in sunshine, and many kinds will only open their flowers during spells of bright weather. Numerous species are in cultivation, and they are mostly of very easy culture, especially the shrubby kinds. Some of these soon make large bushes, and flower profusely in a light and sunny greenhouse. A few of the best of these are M. Browni and coccineum, with scarlet flowers; M. aureum and edule, with yellow flowers; M. violaceum and spectabile, purplish-red; M. curviflorum and blandum, pink or rose; M. aurantiacum, deep orange; M. conspicuum, red; and M. multiflorum, and numerous others, pure white.

Of the dwarfer kinds, with thick fleshy leaves, a large number are rather rare in collections, and for this reason cannot be included here. A few of the best species obtainable from succulent specialists are M. tigrinum, testiculatum, Salmi, nobile, fragrans, grandiflorum, felinum, minutum, and agninum, all of which have flowers of some shade of yellow.

Mention must also be made of the distinct, and somewhat rare, M. Bolusi, with its curious thick, fleshy, and irregular-shaped leaves, which closely resemble a piece of granite, and bearing an occasional flower of a curious reddish-brown colour.

Stapelias.

The stapelias, or "carrion plants," are a beautiful and distinct class of succulents, mostly natives of tropical and sub-tropical South Africa. They are all of a dwarf tufted or trailing habit, with square, fleshy, erect or spreading stems, leaves greatly reduced, or almost entirely aborted, and most beautiful flowers of various shades of yellow, cream, and red to deep maroon. The flowers are often densely covered with long or short hairs, which greatly enhance their beauty, and a few of the species have numerous and irregular bars, spots, or tubercles on the inside, and occasionally also on the outside of the corolla. As a class they are all of considerable merit, and most of them may be readily managed in a sunny window or greenhouse. They have one peculiarity that, in spite of the great beauty of their flowers, they all emit a most offensive odour for a day or two after the flower opens, resembling that of decaying meat, hence the common name applied to them.

A few species have very large flowers, such as S. Planti, grandiflora, and Barkleyi, but these are rare in collections; the commoner kinds are smaller in size, with flowers from one to four inches in diameter, and, usually, compact habit. A few useful and easily-grown sorts are the following: S. variegata, atrata, discolor, Desmetiana, mutabilis, normalis, reflexa, and trifida.

Echeverias.

The cotyledons, or echeverias, are natives of South Africa and Central America. They vary greatly in habit, and in the degree of succulence. Most of them have thick fleshy leaves, often brightly coloured or silvery or bluish-grey. They require rather more water at the roots than most succulents, and require to be frequently propagated by rooting the tops of the plants, as they grow quickly, and soon become leggy and unsightly. A few of the dwarfer kinds are frequently used for summer bedding, and most of the commoner sorts may be wintered in a cold frame if kept a little on the dry side. A few useful species are as follows: C. agavoides, amœna, secunda, farinosa, gibbiflora and its variety metallica, glauca pulverulenta, and fulgens; a fine variegated plant of garden origin is C. Hoveyi, distinct and pretty, and a few good hybrids are C. Funcki, dasyphylla, mutabilis, and Scheideckeri.

C. P. Raffill.

BEDDING OUT FOR WINTER.

Autumn bedding should not only be planned for the gain of a spring flower show; the winter sightliness of the garden is a benefit well worth securing, especially as it will help, not hinder, the effects of March and April, those months that witness the chief glories of our bulbous plants and bring in also the many-hued wallflower, the azure forget-me-not, and the splendour of violas. Neat little shrubs should be used for centrepieces and to replace the dot plants that have given dignity to summer beds; the varieties suitable are very numerous, for all evergreen subjects may be employed in genial localities, while in the coldest situations miniature laurels and euonymuses are sure to thrive. Charmingly graceful additions to beds are plants of any of the hardy ivies, trained to bamboo sticks, and it should be realised that an ivy plant only a foot or two tall is a lovely object, while older specimens may tower a dozen feet. If ivies were more used there would not be such monstrous levels in garden landscapes during winter.

Apart from shrubs, however, excellent evergreen lines and carpets can be obtained. Dwarf wallflowers keep their foliage fairly well, but many of the 3ft. campanulas offer pretty verdant tufts, and can be left in the beds when bulbs are lifted, to accompany May and June flowers by their blue or white blossoms. London pride will mark out designs of quite intricate character, or clothe stretches of ground beneath trees, enabling pattern planting to be indulged in even there. Mossy saxifrages, with their fine parsley-green, close leafage, are ideal for the best beds, separating species of bulbs, or mingled with myosotises, wallflowers, polyanthuses, double daisies, pulmonarias, and hybrid single or double primroses.

Heucheras continue green during most winters, and their neat habit entitles them to general use; of the merit of plain and variegated arabises there is surely no need to speak; and the eye rests with pleasure always upon the stately spear leaves of German irises. There are no seasons that find pinks other than attractive. Members of the primrose family may become withered as to foliage in hot summer, but their gay green in the dreary season is a boon indeed, even the grey of the auricula possessing merit. While Cerastium tomentosum is well known, few gardeners make use, as they should, of the earlier-blooming Cerastium arvense compactum, the feature of which is its close, prostrate, green foliage. Thrifts are valuable, and so are the sandworts, Arenaria balearica, and A. laricifolia, which give verdant carpets. Then acænas, or New Zealand Burs, are dwarf evergreen plants willing to flourish even beneath cedar and cypress trees.

No one who has seen clever winter bedding done, with even the most ordinary shrubs and plants, will ever again desire that all the ornamental portions of the garden shall be given up to bulbs that afford no show until spring is advancing. A two-foot or three-foot bushy Berberis aquifolium, surrounded by dwarf wallflowers alternated with polyanthuses and edged by a line of pinks, will fill a bed excellently. Another bed could contain pattern-forming lines of London pride, in single tufts, dividing spaces filled with double daisies, stachys, and variegated arabis, with German irises at the corners, and a pillar ivy for centrepiece.

Extreme neatness should characterise winter bedding; any encroachment of one plant on another, any unevenness of shrub clipping, will ruin the display. Among most of the lesser plants that clothe the ground, such as saxifrages and arabises, bulbs may be freely planted in November; tall red or pink tulips look their best springing from these underlings, blue and rose hyacinths, too, or the early narcissi and trumpet daffodils.

A final idea for affording colour in winter beds in small gardens is to make lines of stones, temporary rockwork, in fact. In a dark, shaded spot groups or lines of pure white rocks are, with a few shrubs around them, very welcome to the eye. M. H.

A GREENFLY MYSTERY.

Although the life history of the greenfly or aphis tribe is now thoroughly known to entomologists, and every plant grower is only too familiar with its remarkable faculty of rapid reproduction, it often appears under circumstances that are extremely puzzling to the student of plant life.

In my own experience, for instance, I have sown fern spores from plants certainly devoid of aphis life. These spores were sown on soil sterilised by baking or by copious saturation with boiling water. After the sowing it may be weeks or even months before the spores produce the little green prothalli or scales, from which the fern proper arises again, after, it may be, a considerable lapse of time. All through this time pans will have been constantly covered close with glass, certainly precluding the advent of the egg-laying winged generation of the aphis, and yet, over and over again, as soon as the little fronds appear, young aphis have been found upon them, though it is absolutely impossible to believe that aphis eggs were associated with the spores, since it is my rule to allow the spores to be shed on to a glass slip, and to examine them under a fairly high-power microscope prior to sowing.

Another fact difficult to account for is that ferns with creeping underground stolons, the young fronds of which push through the soil irregularly, are not infrequently found to be covered with young aphis directly they emerge, though the previous season's fronds have died down long ago, and been entirely removed. Moreover, when this occurs, it is found that every frond, though it may rise quite separately and well away from its neighbours, will have its pernicious aphis accompaniment. In these cases it is true that the soil has not been sterilised, since that has been impracticable; but the previous season's fronds having been removed, it is difficult to conceive how eggs have remained, and the only conclusion is that individuals have wintered somehow on the underground stolons.

C. T. Druery, V.M.H.

DAHLIA TRIALS AT DUFFRYN.

The dahlia, as so well exemplified by its wondrous diversity of form and colour, has undergone many changes since its introduction to this country, and it has had a somewhat chequered history as a cultivated plant. From the first it received unremitting attention from the large band of florists who were attracted by the distinctive character of the flowers, and, as the result of their strenuous endeavour in the work of improvement, a complete transformation in the flowers was effected. As so well known to those who are acquainted with the historical aspects of the dahlia, the flowers of the plants that were raised from the seed that first reached the British Isles were single, and within three or four decades the flowers had not only become quite double, but had closely approached the ideal that had been adopted. By this time two distinct types had obtained a place in gardens, one the decorative, and the other the show section, and dahlias were largely grown for beautifying the garden and for the production of blooms for exhibition.

Concurrently with the continuous improvements in the form of the flowers in accordance with the ideals of the old florists, and the development of quite new colours, the popularity of dahlias increased by leaps and bounds, and many were the societies established for the purpose of affording encouragement to raisers and cultivators. For half a century or so after the dahlia had obtained a place in British gardens, the attention of raisers was concentrated on the development of show varieties with the object of increasing the size and improving the form of the individual blooms. If a decorative variety possessing sufficient merit to justify it being distributed through the usual channels of trade was obtained, it was an accidental occurrence. The object of the raisers was to obtain flowers that would be suitable for competitive purposes. Then, as at much later periods in the history of the dahlia, comparatively little consideration was given to the habit of the plants, and, if show varieties proved useful in the garden, as unquestionably a considerable proportion of the finer forms did, it was because Dahlia variabilis and its variety coccinea, from which they had descended, were free from some of the defects inherent in Juarezi, the progenitor of the cactus varieties. By the time this last-mentioned dahlia made its appearance in this country the owners of gardens who were not specially interested in the exhibition side of the dahlia cult had become tired of the formality characteristic of the blooms of show and fancy varieties, and, indeed, of the pompons also, and the newcomer was hailed with delight.

The great interest evinced in Juarezi was such as to induce many to enter on the raising of dahlias with cactus-like flowers with much spirit, and from the exhibition point of view with not a little success. Following much the same lines as their predecessors, raisers devoted the greater share of their attention to the production of varieties bearing blooms of a size and form that rendered them of special value to competitors at the public exhibitions. The splendidly developed blooms, when tastefully arranged, were so highly attractive as to at once receive attention and evoke admiration, and it is not altogether surprising that considerable numbers should have been selected by amateurs from the exhibition stands for beautifying their gardens. They, indeed, did exactly what many hundreds of rose lovers did in bygone days; they purchased varieties admirable in their way but unsuitable for garden decoration, and experienced much disappointment. Owing to the robust growth of the greater proportion of the earlier cactus varieties and the shortness of the flower stem, the blooms were more or less hidden from view, and the plants incapable of rendering material aid in the production of colour effects. The raisers were by no means wholly to blame for so few of the cactus dahlias being really suitable for the garden, for those responsible for making awards to novelties attached but little importance to the length and rigidity of the flower stems, and it is probable that, until within the past few years, but few really good garden cactus would have been purchased even had they received awards.

Within the past decade the garden has been enriched by a considerable number of pæony-flowered dahlias, which, owing to the large size and distinct form of the blooms and their effective colouring, at once attracted attention, and were not long before attaining a high degree of popularity. A considerable proportion of the varieties that were introduced during the earlier stages of development were tall in growth, and had flower stems of sufficient length but not strong enough to carry their blooms well beyond the foliage. The desirability of greater rigidity in the flower stems has been fully recognised by the leading raisers, and their improvement is

VIEW IN THE DAHLIA GARDEN AT DUFFRYN.

The variety in the foreground is Gluchant, in the centre Brentwood Yellow, on the left Marianne, and on the right Mertensen.

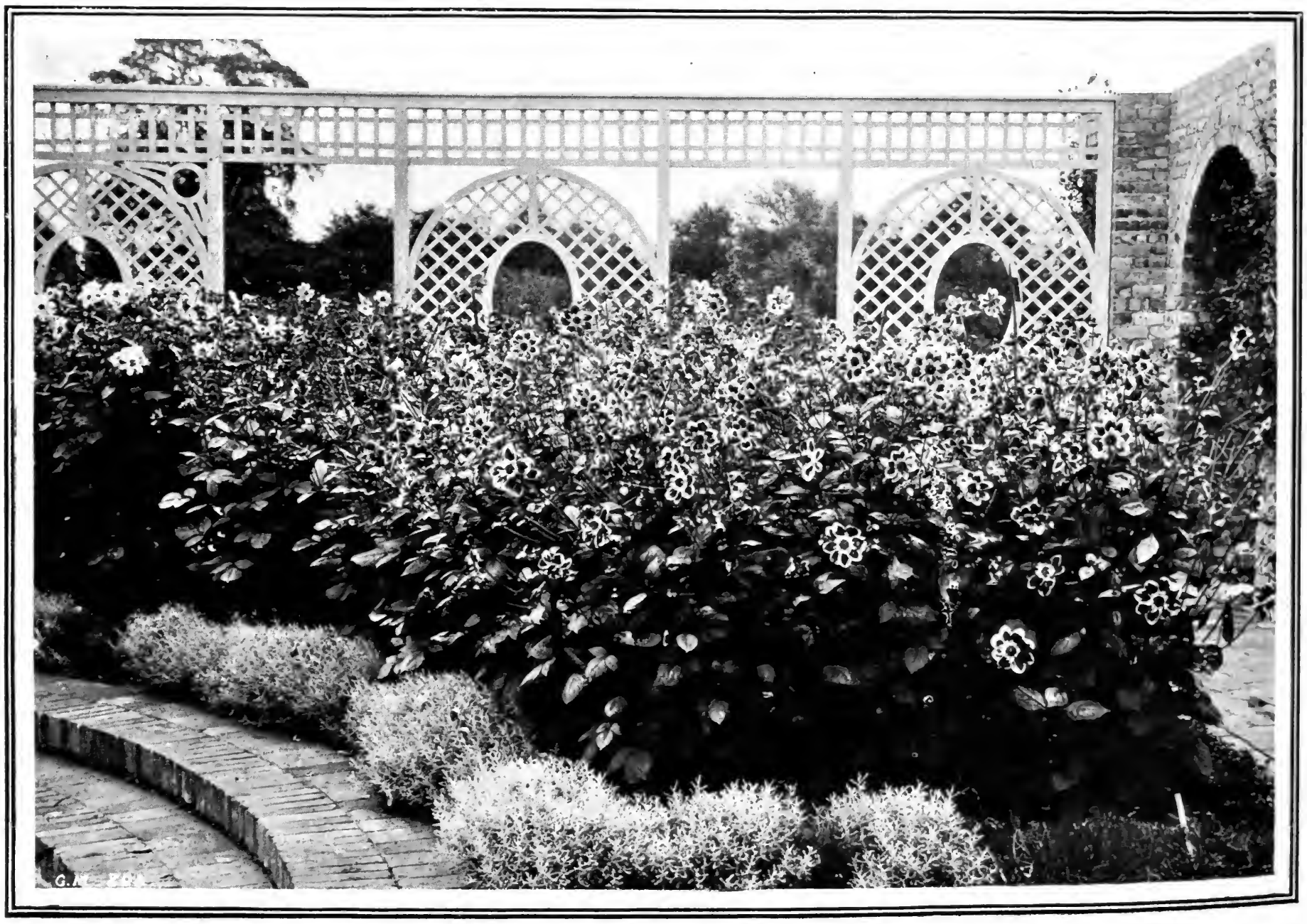
now proceeding so rapidly that at no distant date there will be no cause for complaint of their weakness. In like manner there has been a marked improvement in the decorative varieties, a considerable proportion of the newer forms having flowers that possess much beauty, and are borne on stems that carry them well beyond the foliage.

The immense improvements that have, from the decorative point of view, been made in dahlias has materially increased the difficulties of making the best possible selection. This fact has not escaped the attention of those who take a broad outlook of the position of dahlias in the flower garden, and it has been recognised that only by a comprehensive and careful trial could the finer varieties be given the requisite degree of prominence. It was felt also that the carrying out of an adequate trial would be so stupendous a task as to be almost impossible of accomplishment by existing organisations. Immediately after an agreement had been arrived at upon this point, I received, by virtue of my position in the National Dahlia Society, an intimation from Mr. Reginald Cory that he proposed conducting trials of garden dahlias at Duffryn, near Cardiff, and was desirous of obtaining the co-operation of the society. The proposal was received with the warmest expression of approval, and the promise was at once given that the National Dahlia Society would heartily co-operate in the bringing to a successful issue so important an undertaking. Similarly the Royal Horticultural Society at once promised their co-operation, and this was given in the heartiest manner.

These preliminaries having been arranged, Mr. Cory issued an invitation to raisers and cultivators to send for the purposes of the trials plants of such varieties in the several sections as they considered suitable for garden decoration. The response was so generous that it must have been somewhat embarrassing, notwithstanding the resources of the Duffryn gardens. When the last package had been received it was found that the collection included about 1,000 varieties, and the number of plants exceeded 7,000. Had the latter been allowed to remain in the small pots in which they were received, or, in the case of the home-raised stock, in the pots in which they were first put, it would have been no light matter to deal with them. But it is not the practice of Mr. Cobb, the able gardener at Duffryn, to subject dahlias to the starving process with which we are so familiar, prior to bedding them out. The importance of strong plants at this stage is fully appreciated, and as these cannot be obtained without the aid of ample root-space and a substantial compost during the preparatory period, they were all shifted into larger pots. For a few six-inch pots were used, and the remainder were given pots nine inches in diameter. Hence, when bedded out, they were strong and well advanced in growth, and made rapid progress. As the result they came into bloom at a comparatively early period, and flowered freely and continuously throughout the season.

As upwards of 7,000 dahlias require a considerable area for their full development, it is a point of some interest, as indicating the large extent of the beautiful gardens of Duffryn, that they were given ample room for their development without appearing to appropriate any considerable proportion of the area of the pleasure grounds. Within the forty or more acres comprising the ornamental features there are several gardens devoted to specific purposes, and these are so arranged that, while fitting into the general design, they can be readily reached or omitted, as may be desired, in a tour of inspection. This arrangement very closely approaches the ideal in garden-making, and one would like to make some reference to the specific gardens, but it is now impossible to do justice to them. Suffice it to say that one of them is devoted to dahlias, and that from the first it has been one of the centres of interest and attractiveness throughout the summer and a considerable part of the autumn. A portion is shown in one of the accompanying illustrations, and, as will be seen, contains a central bed furnished with that fine decorative variety Brentwood Yellow, surrounded by four other beds containing pompon cactus dahlias, among which the brilliant scarlet Gluchant is very conspicuous. Beyond these are raised borders devoted to the remarkably attractive collarettes. The garden is having large additions made to it, and on the eastern side a considerable area has been devoted chiefly to decorative pompon, and show varieties. On the southern side a still larger area is wholly occupied by pæony-flowered varieties, which have produced a glorious display. On the western side is a broad stretch of lawn bounded by spacious shrubberies formed with the choicest kinds. Along the front are borders for summer-flowering plants, and this year they are occupied by garden cactus dahlias. By this arrangement, the greater part of this closely-shaven lawn is enclosed in a belt of dahlias, and the display of flowers has been not only highly attractive, but of much interest as demonstrating how considerable is the number of really good cactus dahlias for garden decoration.

The determination of the relative merits



BORDER OF COLLARETTE DAHLIAS AT DUFFRYN.
The variety so prominent to the right is Henri Farmer.

of the varieties in the several sections was, as already recorded in these pages, entrusted to a joint committee of the Royal Horticultural Society and the National Dahlia Society, and this committee visited Duffryn during the first week of September last, and spent two whole days in the performance of their pleasant but onerous duties. My engagements prevented me joining the joint committee at Duffryn, but, on the invitation of Mr. Cory, I went down a fortnight later, and the two days I had among the dahlias afforded much pleasure and were full of interest. The results of the work of the joint committee will be published in due course by the two societies, and for these it will probably be necessary to wait some time.

I also made notes of some of the more noteworthy varieties in the several sections, and, with the co-operation of Mr. Cobb, who is fully acquainted with the characteristics of the immense number of varieties in the collection, have been able to prepare a short list that cannot fail to be of value to those who are anxious to grow a few of the best of the several types. Especially noteworthy among the better-known of the decorative varieties are Delice, a charming form with flowers of a rich pink hue; Loveliness, bright yet soft pink, and so beautiful as to fully merit its name; Princess Juliana, pure white; Jeanne Charmet, bright heliotrope; Brentwood Yellow, dwarf in growth and bearing a profusion of large, soft yellow flowers; and Kaiserin Augusta Victoria, creamy white, an exceptionally useful variety for beds. A few highly meritorious varieties that are not so well known are Charming, a new variety with lovely pink flowers; Harmony, pale pink; Perle de la Tête d'Or, a very fine dwarf white variety; and Lagdina, crimson shading to white, a lovely flower, borne on a good stem. Some of the best of the giant decoratives are Papa Charmet, deep crimson; Phenomené salmon; Le Grand Monitor, flaked purple; F. Grimsted, yellow striped red; Ulysses, crimson, dwarf; Souv. de G. Douzon, scarlet; Yellow Colosse, yellow; and Mont Rose.

Very effective among the cactus varieties were Conquest, deep crimson maroon, probably the best of the dark varieties for the garden; Effective, lemon colour, very free flowering, and one of the most valuable for the garden; Erecta, a rather deeper shade of pink than Sweet Briar, and very good; Hon Mrs. A. Greville, orange-yellow suffused salmon; Mauve Queen, clear mauve; Miss Willmott, golden-yellow; Mrs. Forester Paton, scarlet, early, free, and continuous in flowering, very fine; Mrs. Lonsdale, yellow edged with rose, a pleasing combination; Mrs. H. Treseder, bronze-yellow, the florets tipped pink, one of the very best; Salmon Queen, bright salmon; Star, bronze-yellow; Sweet Briar, pink, the best of its colour, but late in coming into bloom; White Ensign, white, this has the best flower-stem of the white varieties, but is not so pure as Mrs. Douglas Fleming or Snowdon, and is later in coming into bloom; Vivid, scarlet, dwarf, and good; and Westhall Scarlet, a good variety in its colour. The following are a few of the best of the pompon cactus varieties; Gluchant, scarlet, very free; Gracie, yellow tipped scarlet and white; Miss Hicks, crimson; Magenta Queen, magenta; Niobe, yellow, very good; and Queen of Pinks.

The Pæony-flowered varieties, which have formed so glorious a feature at Duffryn, include the following, all of which are of special merit: Bayard and Geisha, scarlet and yellow, both very attractive; Balak, soft dark red, fine habit; Garibaldi, crimson, the height ranging from four to five feet; Ladysmith, deep rose; Liberty, London, scarlet; Holman Hunt, a grand crimson, tall; John Green, a new variety of exceptional merit, the blooms are large and attractively coloured scarlet and yellow, and are borne on stems of good length; King Leopold, the best tall pale yellow; Mrs. Kerr, cream-white striped pale pink; Mrs. T. G. Baker and Princess Ida, white; Paul Kruger, cream-white, heavily splashed and striped rose-crimson; and Warrior, deep red, fine habit. The dwarfer varieties in this section include many that possess much merit, the following being very fine: Colonel Cody, buff; Frau Anne Galster, bronze-yellow; Kahadee, unique, pale yellow, with long cactus-like florets, habit not perfect; May Day, a lovely variety, the habit good, and the flowers are large and borne on good stems clear of the foliage; the white striped rose-pink should be included in the smallest selection. Miss Walton, white striped rose, very fine, and most effective; Lord Milner, pale yellow striped and suffused rose-pink; Mrs. George Gordon, lemon-white, flowers large and borne on good stems, Primrose Queen, a fine yellow; Red Indian, rich deep red; Reynolds, a grand crimson variety; Romolo Piazzani, yellowish-salmon; and Viscount Newport, orange-red, flowers small but freely produced.

Although but few regard the show and fancy dahlias of value for garden decoration, it must be stated that Canary Bird, yellow; Duchess, scarlet; Edward Mawley, crimson; Harbinger, peach; Miss Ormerod, rose-peach; Peacock, crimson and white; Queen of the Belgians, delicate pink; Tom Jones, cream edged rose; and Sunbeam, are wondrously attractive when grown, as at Duffryn, under conditions favourable to flower production.

SHOW AND FANCY DAHLIAS AT DUFFRYN.

The variety in the foreground is Goldsmith, immediately behind is Queen of the Belgians, and on the left David Johnson.

The pompons included in the trial that are of special excellence comprise: Bacchus, scarlet; Crimson Beauty, Evellyn, crimson; Firebrand, scarlet; Glow, coral-red; Horace, purple; Ideal, yellow; Neatness, cream and salmon; Queen of Hearts, pure white, very fine for beds, and valuable for the supply of cut flowers; Tommy Keith, red, tipped white; Virginia, white. The most effective of the single varieties are: Cardinal, rich red; Crimson King, crimson; Hilda, flesh with yellow margin; Mary, crimson margined salmon; Mikado, centre scarlet with outer band of yellow; Mrs. Hood, yellow; Owen Thomas, scarlet tipped yellow, very striking; Peggy, rose-crimson, purple and orange; Rosemary Bridge, deep rose; and Rosy Gem, bright rose.

The great value of the collarettes for garden decoration has been amply demonstrated in the Duffryn trials, and their splendid habit, freedom of flowering, and effective colouring suggest their attaining a high degree of popularity. The first two characteristics are well shown in the accompanying illustration of one of the borders devoted to the section. The finest of the older varieties are Comtesse Duzon, Diadem, Goldstein, Henri Farmer, Holyrood, Le Congo Belge, Maurice Rivoire, Negro, Prince de Venosa, and Queen Bess. New varieties of promise included Cambrae, Lynas, Prince of Orange, and Regularity.

The varieties enumerated form a thoroughly representative selection, and those who purchase and plant them will have varieties that rank high in their several sections and are capable of contributing in a lavish manner to the attractions of the flower garden. One would like to refer to other points of interest in connection with this remarkable trial, but the available space will not permit of more being done than to congratulate Mr. Cory on his judgment and public spirit, and Mr. Cobb on his skill in carrying out the cultural details.

George Gordon.

BRONZE AND TRICOLOR PELARGONIUMS.

I was very much interested in reading the note on these plants (page 709, September 20) by "W. T."

Twenty-five years ago, when I served in Lathom House Gardens, Ormskirk, Lancashire, the then head gardener, Mr. James Hathaway, grew hundreds of tricolors, and used the plants most effectively in the flower garden—in carpet bedding combinations and also in beds by themselves.

In order to bring out the rich colours in the leaves the plants were grown in rather small pots, and the potting was done as early as possible so as to get the pots well filled with roots by bedding-out time. Once, I remember, late potting was tried in spring, but the plants were not benefited, the colour in the leaves was less intense, and it was rather indifferent throughout the summer season. "W. T." refers to these plants being grown as specimens. The finest I have seen were grown by an amateur cultivator, and they looked charming in his greenhouse. They were very old specimens, too.

I used these tricolors extensively for edgings—broad ones—to large beds which were filled with groundwork flowering plants and others as dot plants, and found such arrangements successful. In many gardens there are raised beds in very warm positions and the tricolor pelargoniums do well on them.

George Garner.

POMPON DAHLIAS AT DUFFRYN.

The varieties are: In foreground, Glow; on left hand, Tommy Keith; and beyond the first-named, Irene.

VERONICAS.

Veronicas are not only free-flowering border subjects, but very beautiful foliage plants also. Many border plants, when given good treatment, fail to branch out well near the bottom of the main stem, and then it is necessary to put in other kinds of plants to "front up," as it were, and thus hide the bare stems. In the case of veronicas there is no trouble in this respect at all. They grow compactly, but not too closely and stiffly.

The period of flowering extends from June to October. Indeed, in mild winters in the southern counties I have seen plants bearing flowers throughout those months. At the present time—beginning of October—I have just seen many plants bearing flower-spikes that are beginning to develop, and promise to be in full flower in December.

As rockery subjects, veronicas—especially those of creeping habit—are very charming. It is difficult to name a position in which the plants will not grow and thrive. In a sandy soil, a medium loam, and on dry borders they flourish. The only soil they fail to grow quite satisfactorily in is a cold clayey one, and under the shade of tall trees.

Veronicas are charming border subjects for growing near the sea coast, and do remarkably well in gardens in seaside towns, especially where a sandy soil prevails.

Veronica spicata, which has erect stems bearing bluish-violet flowers, is a general favourite, but I like the variety longifolia rosea, with its lovely rose-coloured flowers. The deep blue of V. subsessilis is very pleasing, also, and V. alpestris must be included. V. alba, pure white, is a good one, as also are V. rupestris and V. repens for rockeries.

G. B.

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Anemones, single, mixed	1	6	14	6
Anemone, The Bride, pure white ...	1	6	14	6
Crocus, 1st size, in the finest mixture	1	10	16	8
Crocus, 2nd size, in the finest mixture	1	2	10	0
Scilla campanulata, blue bells	2	0	—	
Scilla campanulata, white bells	2	0	—	
Scilla campanulata, mixed	1	6	—	
Scilla sibirica, rich blue	1	6	14	6
Triteleia uniflora	1	0	—	
Iris, Spanish, mixed	0	8	5	6
Narcis., single, in the finest mixture	1	4	12	6
Narcis, Trumpet, in the finest mixture	2	6	20	0
Narcis., double, fine mixture	3	0	25	0
Narcis-Polyanthus, finest mixed	3	6	30	0
Snowdrops, Elwesi, the Giant Snowdrop	1	6	13	6
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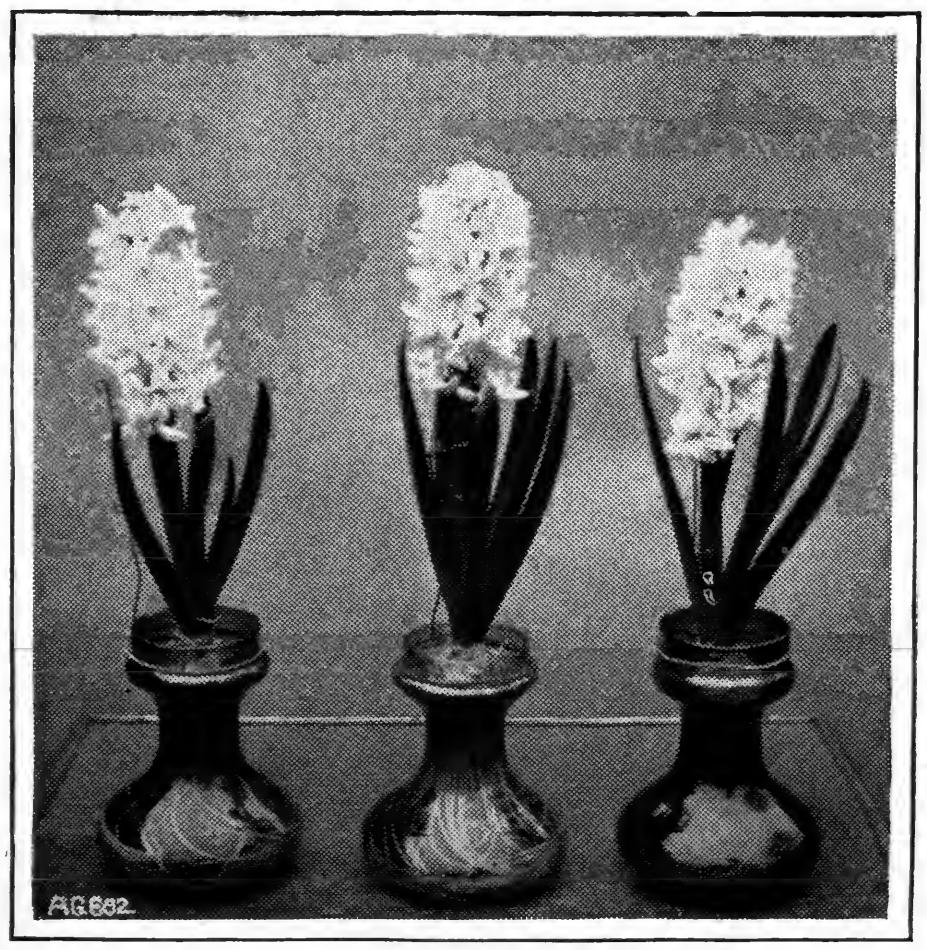

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FLOWERS IN THE SOUTH-WEST DISTRICT.

For the first four months of the year the rain was exceptionally heavy, 24.78 inches falling in that period, the heaviest fall for the four months that has been recorded for fifteen years. Since that time the weather has been very dry, less than an inch of rain being registered during the months of June, July, and August respectively. In June rain fell on eight days, but only once exceeded a quarter of an inch. In July there were only five days on which rain fell, and in August six days. The total fall for these three months was only 2.30 inches. In July there was a period of twenty days in which not a drop of rain fell.

In the garden the spring was very early, Gladiolus tristis being in full flower at the end of March, considerably earlier than is usually the case, as it never, as a rule, blooms before April. This beautiful flower, of a uniform pale yellow, does not appear to be in the hands of any nurseryman, as those who catalogue it invariably send out corms the flowers of which have purple stripes in the centre of the three upper petals. The pale yellow form is known as Gladiolus tristis concolor, and, as I have been able to provide some nurserymen with seed of it, in a few years' time it should be procurable from the trade. Being informed by a friend that this gladiolus appreciated manure, the corms were lifted and planted eight inches below the surface above manure a foot deep, and one will be anxious to see how they prosper under this treatment.

Œthionema pulchellum flowered splendidly in the late spring, but last year, from some unexplained reason, a plant of this species, and one of Œ. grandiflorum, died when in full bloom. Clematis tangutica behaves in a most extraordinary way. Early in February it becomes green, but late in March the leaves wither, and by early April the plant appears dead. About the end of May, however, green leaves are again put forth, and it continues to grow and flowers in July. It has behaved in this manner for the past three years, and, although I have consulted several experts, no one has been able to account for this strange behaviour. Clematis indivisa lobata was a glorious sight in March and early April, a plant covering a space of six feet in height and forty feet in length, being a simple sheet of flower.

Daphne Blagayana, with all its shoots pressed into the ground by stones, flowered well in the spring, as did the beautiful D. cneorum. Osteomeles anthyllidifolia was very pretty when bearing its clusters of white hawthorn-like flowers, and appears quite hardy, as it is said to thrive in the open in Oxfordshire without protection. It was discovered in China by the Abbé Delavay. In March Edwardsia (Sophora) Macnabiana was covered with yellow flowers. This species and E. grandiflora appear to be fairly free flowerers, but E. microphylla very rarely blooms in this country. Carpenteria californica was very handsome when in full flower, as was a large specimen of Drimys Winteri.

Solanum crispum having grown too tall has been cut back, but is breaking strongly low down. Atragene alpina has increased considerably in size, and flowered well, as did the handsome Tricuspidaria lanceolata, better known as Crinodendron Hookeri; while Tricuspidaria dependens bore a fair quantity of white blooms, but cannot for a moment compare with its relative for effect. Callistemon salignus bore a profusion of its red bottle-brushes, but C. lanceolatus did not flower this year. Plagianthus Lyalli, which was received from New Zealand as a small rooted cutting, about six inches high, is now a tree over 12 feet in height, and flowered abundantly this summer. A variety named grandiflora was planted two years ago, but has not flowered yet. The leaves are, however, absolutely distinct from those of the type, so the blooms may also vary.

The New Zealand Arthropodium cirrhatum flowered poorly this year, though in former seasons it has borne a dozen or more bloom-spikes. Echium callithyrsum bore tall, blue-flowering shoots in March, but it is a very tender plant, and is generally badly damaged in a hard winter. Lathyrus pubescens, growing against a south wall, reached a height of over seven feet, and bloomed profusely, though whether it will come through the winter remains to be seen. Salvia dichroa, from the Atlas Mountains, was very fine, exceeding eight feet in height, and bearing its tall purple and white flower-spikes in quantity. This plant, I believe, is not offered by any nurserymen, but is extremely handsome. Abelia floribunda, against a south wall, was a sheet of colour in the spring, and a large mass of Androsace lanuginosa about a yard across has been flowering all the summer.

One of the most beautiful plants in the garden has been the rare Dierama (Sparaxis) pulcherrima alba. A group had over two dozen tall, arching flower-wands, each set with from eight to ten drooping clusters of pure white blossoms, and created a most lovely picture. This plant is only catalogued by one nurseryman, who lists it at 3s. 6d. a bulb. Watsonia coccinea perfected its scarlet flower-spikes in the late spring and early summer, and W. Ardernei threw up a dozen flower-scapes of the purest white early in August; but W. rosea did not bloom. A plant of Cypripedium pubescens bore over two dozen flowers, and, later on, C. spectabilis flowered well, as did the rare Wulfenia Amherstiana. Ourisia coccinea, watered very freely in dry weather, succeeded admirably, and bore several dozen brilliant scarlet flower-heads, and was a beautiful sight when in full bloom.

A group of Dictamnus fraxinella alba was very handsome when in flower, and in August Francoa ramosa bore its tall white spires of bloom. This Chilian plant appears perfectly hardy here. Bowkeria Gerardiana has never flowered so well as this season, and was full of bloom. The specimen is eight feet in height, and as much through, and is probably the largest example in England. It is a very rare shrub, and is scarcely ever met with. Lonicera Hildebrandiana came into flower early in August, and bore quite a hundred bloom-clusters. It is growing on a north-west wall, where it gets about three hours' sun in the day, but it never fails to bloom freely. The plant is eight feet in height and six feet across. The blossoms are six inches in length and five inches spread at the mouth. They are at first white, but turn to a bright orange, and are most deliciously scented. Lonicera syringantha is another very pretty honeysuckle with extremely fragrant flowers.

Convolvulus tuguriorum, a very rare New Zealand plant, bore its white flowers, two inches across, in the early summer. It is almost unknown in English gardens, but is a very attractive subject. The new Chinese Thalictrum dipterocarpum, with maidenhair-like foliage, threw up a flower-stem three feet high, the small, pink, yellow-centred flowers being very pretty. Gerbera Jamesoni flowered fairly well, and the uncommon Campanula punctata produced masses of blossom. Ipomæa rubro-cærulea, started in heat in May, came into bloom in the open in July, and has now reached a height of seven feet. The rare Lobelia laxa perfected its scarlet blooms in the early summer, a fine plant of Olearia insignis flowered well, and a seedling is making fine growth. Solanum aviculare is bearing its large violet-purple flowers with their golden centres, and is covered with fruit, from which self-sown seedlings will probably appear. It is far tenderer than most New Zealand shrubs, and is almost invariably killed in a hard winter.

Bouvardia triphylla has been a sheet of scarlet for the past two months, and the Australian Candollea tetranara has been bearing its yellow blooms. This plant was cut down to the ground and apparently killed in the severe frost of February, 1912, but subsequently broke from the roots again and is now a fine little shrub about two feet high. Cyrtanthus lutescens and C. McKenni have come into flower in a narrow, well-backed border; and Manettia bicolor is blooming finely on a wall. Clethra arborea, which was nearly killed in the severe frost alluded to, came into bloom early in August, and Trachelospermum jasminoides has flowered well. Cassia corymbosa has commenced its flowering period, and will carry blossoms until Christmas.

Of the sisyrinchiums, S. bellum has been a marvellously lovely sight, being absolutely covered with blue flowers; and S. chilense and S. iridifolium have bloomed well. Asparagus deflexus has mounted the wall to a height of several feet, and the Lapagerias, red and white, are now in flower on a north-west wall. Montbretia Prometheus is in fine flower, and the rare Crinum Moorei variegatum has perfected several flower-scapes of white blossoms. A little plant of the newly-introduced Leptospermum Nichollsi is making good growth, and an extremely interesting plant is Campanula isophylla variegata, whose lavender-blue blossoms are prettily set off by the marbled foliage, which hangs over a two-foot rock. Mitraria coccinea has been a glorious sight, having been covered with its scarlet urn-shaped flowers.

Wyndham Fitzherbert.

Kingswear, Devon.

WESTMALINE SYSTEM OF PLANT CULTURE.

Mr. C. E. West, of Higham Hill, N.E., sends us a lengthy article on what he describes as the "Westmaline System of Plant Culture." Mr. West declares that he is the sole inventor of this new system, and then proceeds to state that. "At the present time, it is the one belief all over the world, that all vegetation, including wild and cultivated plants, feed on ingredients found in the soil, or compost, in which they grow. On this belief millions of pounds are spent on manures every year. This I state to be a false doctrine; for all vegetation lives on the four organic elements contained in water, air and light. The mineral elements in the soil are only present as deterrents to fungoid and insect pests, the soil thus only acting as the best receptacle for retaining the water and air." Neither students of plant physiology or practical cultivators are likely to accept Mr. West's views on the manner in which plants obtain nutrient matter.

Amaryllis.—Most of the bulbs used for flowering during the spring and early summer months are now becoming well ripened, and as the foliage dies down they may be stored under the stage of a cool house, laying the pots on their sides that there may be no possibility of their being watered by drip from the plants above. Later batches, and, indeed, any that still have green leaves, should be kept in the full light, preferably on the shelf of a moderately heated, airy structure, gradually reducing the water supply until finally rested. Store with the earlier plants. Seedlings raised in the spring or summer of 1912 may be kept in a growing condition within the intermediate house, and if considered necessary, give them a top-dressing. Under judicious treatment a fair percentage of these may be expected to flower next year. Those raised from seed this year should be kept growing on the stove shelf, and when sufficiently rooted be shifted into 54's. Care must be taken in watering that the soil does not by any chance pass into a wet and sour condition.—H. Prime, Hatfield House Gardens.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

LÆLIAS.—The small-growing lælias, such as L. præstans, L. pumila, L. Dayana, and their numerous varieties, are among the most interesting and useful of our autumn-flowering orchids. They are exceedingly decorative, and make a fine display when in bloom while suspended near the roof-glass in the intermediate house. The growths are now rapidly developing, and the flower buds are produced with the expanding leaves. As the plants are now in their most active stage of growth, every help must be afforded them to develop and satisfactorily expand their flowers. Suspended as suggested they will receive the full benefit of all available light; they must receive ample root moisture, and be protected from attacks of scale and other pests. Any repotting that may be necessary should be attended to as the plants pass out of flower. Afford ample drainage and only a shallow depth of potting compost; select good fibrous peat, of a lasting nature, so that repotting may not be needed frequently.

SOPHRONITIS GRANDIFLORA.—In the cool division this charming little orchid will now be producing new growths. I have found considerable advantage from placing the plants in slightly warmer conditions than that of the odontoglossum house for a few weeks before the flowers expand. Larger and finer-coloured flowers are then produced, and the plants may be removed again to the cool house as soon as the uowers are fully expanded, where they will be more durable than if allowed to remain in the warmer conditions. There is nothing more cheerful in the orchid houses during the dull winter months than well-flowered plants of Sophronitis grandiflora.

ONCIDIUM CHEIROPHORUM.—Grown suspended near the roof-glass of a cool intermediate house, this species, with its clustered spikes of miniature, brilliant yellow flowers, is most effective and useful for autumn exhibitions and general decoration. The flowers remain a long time in perfection, and, as the species is easily cultivated, it is worthy of every consideration in gardens where a variety of orchid flowers is required in winter. The plants have their flower-scapes in a forward state now, and so must be carefully attended to, to guard against insect pests which readily attack the tender flower-scapes. Repotting may be carried out when the new roots appear, shortly after the plants pass out of flower, but it should not be done more frequently than is absolutely necessary. This species is best grown several plants together in the same pan or basket, and plants never do better than when they have grown into crowded specimens so long as the rooting material is sound and good.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

ROSES IN POTS.—The whole batch of dwarf roses should be examined now, and any repotting necessary must be done at once. In preparing the plants for repotting, carefully remove the soil from about the roots with a pointed stick, using every care to damage the roots as little as possible. A suitable compost will be loam, brick-rubble, old mushroom bed manure, and a sprinkling of crushed bones. Pot firmly, and, when finished, plunge the pots up to the rims in ashes. The plants which do not require repotting must have the drainage made good, and two or three inches of the surface soil removed and fresh compost added. If buying new roses for potting is contemplated, these should be procured and potted at once, using them for the latest batch.

BEGONIA GLOIRE DE LORRAINE.—The earliest batch should now be allowed to flower. Give them plenty of room to develop, and keep them as near to the glass as possible. This begonia is often spoiled by being grown in a stove temperature, as the plants will not remain fresh when placed in the greenhouse or conservatory, neither are they so useful for decorative purposes as when grown under cooler conditions. Now that the flower-buds are expanding, a temperature of 50 or 55 degrees will be ample. Support the flowering shoots with neat ties before moving them to the conservatory. The late batches must be liberally supplied with stimulants.

PLUMBAGO CAPENSIS.—This is a very useful plant for furnishing the conservatory during the summer months. It may be used both for covering a wall or as a pot plant. Plants which have been employed in the flower garden may be potted up, using 6in. or 7in. pots, and kept in a cool house for the winter. They will commence flowering early in the summer, and continue to do so the whole season through. The colour of this variety, which is a pleasing shade of light blue, makes a distinct contrast to other summer-flowering subjects.

CHRYSANTHEMUMS.—From now till the end of the year chrysanthemums will be very much in evidence in the greenhouse and conservatory. To keep them flowering as long as possible strict attention must be paid to watering. Unless they are in close proximity to hot-water pipes once a day will be often enough to examine the plants, but make sure that they receive enough water to soak the ball of soil right through. Watering must be done before noon, and when finished the floors and paths must be mopped dry. Clear water only must be given to plants in flower. Air must be admitted to the structures according to the conditions prevailing outdoors, and, if possible, the top ventilators should be left open a little at all times. Artificial heat must be used sparingly, and during bright sunny weather it should be dispensed with altogether. Examine the large-flowering kinds frequently for damped petals, and, in removing them, be careful not to damage the rest of the flower. The late-flowering varieties may be left outdoors for some time yet, if provision is made for covering them on cold nights. It will pay to disbud such varieties as Madame Oberthur, A. J. Balfour, W. H. Lincoln, Nellie Pockett, François Pilon, White and Yellow Thomson, and others of similar habit.—E. HARRIS, Lockinge Gardens.

HARDY FRUITS.

PEARS.—Old, worn-out trees or useless varieties occupying valuable wall space should be rooted out, and their places filled as quickly as possible with healthy trees of the best and most suitable varieties obtainable. I often wonder why these old encumberers are allowed to remain year after year, producing only a few ill-formed, useless fruits, when, with but little cost and trouble, very fine specimens could be grown. If we are to deal with this work, no time must be lost in removing the old trees and getting the borders thoroughly prepared. The drainage should be perfect, especially in low land or in cold districts. Remove a portion of the old soil, and replace it with moderately rich loam of a lasting character, adding to it a good sprinkling of bones, old brick mortar, and a little well-decayed manure. Upright or oblique cordons planted at two feet apart will give the quickest returns, and these should be planted about three or four inches away from the wall to allow for stem swelling. If cordons are to be used, remove about three feet of the old soil, both in width and depth, and at the bottom of the trench put fully six inches of old brickbats, on which lay turves, grassy side downwards, and then fill up with good soil, as above mentioned, making it rather firm. Trim the damaged ends of the roots, and lay them out as evenly as possible in various directions, and cover up to the depth of six inches.

GOOSEBERRIES.—Prepare land for new plantations of gooseberries; let it be thoroughly trenched, and choose an open position. Gooseberries more than pay for good cultivation, and yet we find these frequently occupying an out-of-the-way spot, unfit for the production of fine large berries. When planting, allow ample room for the development of fine specimen bushes, and select a few of the very best varieties. Young plants raised from cuttings inserted last autumn should be lifted and transplanted to give them a chance of making good planting material by the end of next season. Plant them in lines two feet apart, and 18 inches from plant to plant.—H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

CAULIFLOWERS.—Where the plants are now "turning in," they should be examined every two or three days, and have the heads thoroughly protected by bending down the inner leaves over the curd; where the heads are just forming draw the leaves together and secure them with a tie of raffia. Those which are fully matured should be lifted and hung head downwards in a cool shed or cellar, where, if syringed every two or three days, they will last a fortnight or so in good condition. To carry on the supply for the next two or three months, plants from the later sowings should be carefully lifted with plenty of roots and soil, and planted in frames or cold pits; a good soaking of water should be afforded when planting is completed. Late sowings of Autumn Mammoth or Autumn Giant are the most suitable for this purpose.

CABBAGE.—All vacancies should be made good and the land be stirred with the draw-hoe. The most forward batch of plants should be earthed up, drawing the soil well up to the leaves. A good batch of all the varieties grown should be planted rather thickly together on a sheltered border, or in a skeleton frame where protection can be afforded if required.

PEAS.—In favoured districts where the soil is of a light character, a sowing of a hardy and early type of pea on a warm, sheltered border will provide early pickings next season. For this purpose, Pilot Improved is most suitable. It is not advisable to sow any of the marrowfats, as they are more liable to rot than the round-seeded type of pea. It is a good plan to place in the drill some well-decomposed leaf-mould on which to sow the seeds.

BRUSSELS SPROUTS.—The early-sown batch of plants has made satisfactory progress, and the sprouts are available for use; to assist their development, have all the decayed and some of the coarser leaves removed from the lower part of the stem to permit light and air to reach the sprouts.

CELERY.—Proceed with the earthing-up of the main crop, but avoid the use of too much soil at a time. The soil should be broken up as finely as possible; secure the leaves firmly together either by tying or holding them with the hands, and make the soil firm round each plant, taking care not to place any higher than the last leaf made. The earthing-up of the latest planting should be delayed as long as possible, as the crop will keep much better in an unblanched condition.

TRENCHING.—When dealing with light soils this work should now be proceeded with, and the earlier it is done the better it will be for future crops.—W. MESSENGER, Woolverstone Park Gardens.

THE NATIONAL CHRYSANTHEMUM SOCIETY'S
GREAT AUTUMN SHOW
OF
CHRYSANTHEMUMS
will be held at the
CRYSTAL PALACE,
on NOVEMBER 5th, 6th, and 7th, 1913.
Write for Schedule (post free) to the Secretary,
Mr. RICHARD A. WITTY,
72, Savernake Road, Gospel Oak, N.W.
Admission to Palace (including Show), 1s.

SCOTTISH HORTICULTURAL ASSOCIATION.

GREAT CHRYSANTHEMUM EXHIBITION
AND BAZAAR,
In Aid of Horticultural Institution Fund,
WAVERLEY MARKET, EDINBURGH,
NOVEMBER 13, 14, and 15.

Prize Lists may be obtained from the Secretary,
A. D. RICHARDSON, 19, Waverley Market,
Edinburgh.
Entries close on November 5th.
Applications for space for Non-competitive Exhibits should be made without delay.

WINDSOR, ETON, AND DISTRICT CHRYSANTHEMUM SHOW.

THE TWENTY-SECOND ANNUAL EXHIBITION
will be held in the
ROYAL ALBERT INSTITUTE, WINDSOR,
FRIDAY, NOVEMBER 7th, 1913.
For schedules and particulars apply
G. E. KEER, Hon. Secretary,
"Meadowlea," Datchet.

THE BOURNEMOUTH HORTICULTURAL SOCIETY.—The Twenty-seventh EXHIBITION of AUTUMN FLOWERS will be held at the WESTOVER RINK, on TUESDAY and WEDNESDAY, October 28th and 29th, 1913. Special engagement of the Band of H.M. Grenadier Guards, by permission of Col. R. Scott-Kerr, M.V.O., D.S.O Conductor: A. Williams, M.V.O., Mus.Doc., Oxon, Second Lieutenant. Will be opened on Tuesday at 2 p.m. by Mrs. H. Page Croft. Schedules to be obtained from the Secretary, W. SHAVE, 118, Ensbury Park Road, Winton, Bournemouth.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Bournemouth Gardeners' Association.

Mr. Crook, of Camberley, a well-known figure in the horticultural world, gave a very interesting and instructive lecture on the subject of "Insect Pests in the Garden" on October 7 before a full attendance of members.

The lecturer said he did not intend to go into details, as time would not permit him to do so. But he wanted the members to think well for themselves after he had given a lead. He said he had never found greenfly on hard wood, but always on young from which the juices could be extracted.

The lecturer dealt on the importance of keeping plants clean, and not allowing them to become infested with insects. This was better than trying to clean a specimen. He instanced Morello cherries and roses as being subjects very soon infested by black and green fly respectively, and said that, if syringing and spraying was begun in good time, carried out once a week, and a weak solution of an approved insecticide used at about a fourth of its normal strength, no trouble would be experienced from pests.

Furthermore, Mr. Crook said, smooth, glossy-leaved plants could be syringed with a stronger solution than rough-surfaced ones, and instanced the pear and apple. Practically all insecticides were more efficacious if warm water was used than cold in the mixing.

A very animated discussion followed the lecture, many members taking part in it. Mr. Crook answered the questions put to him, and was accorded a hearty vote of thanks, as also was Mr. Smith, the chairman.

Dumfries and Galloway Gardeners' Association.

Mr. S. Arnott, Sunnymead, Dumfries, president of the association, gave the opening lecture at the first meeting of this session in the Wesley Halls, Dumfries, on October 11. Mr. W. Hutchinson, Terregles Gardens, a vice-president, occupied the chair. The lecture was on "Alpine Plants," and covered the subject from its various sides, dealing with the natural habits of the alpines and the conditions under which they grew at home, these being contrasted with those under which they were cultivated in this country. The best provision for their cultivation was also considered, the construction of rock, wall, water, bog, and moraine gardens being referred to pretty fully. Propagation and other cultural questions also received consideration, and a short mention was made of several of the leading genera and their value.

A vote of thanks was accorded to the lecturer on the motion of the chairman. The new session promises to be a successful one, and the meeting arranged for two special meetings, on October 30 and November 27, to hear lectures by Mr. A. Hosking, of the Glasgow and West of Scotland College of Agriculture.

Dundee Horticultural Society.

There was a melancholy note in the speech delivered by the President, Mr. W. S. Melville, at the financial meeting of this society on October 9, when, moving the adoption of the various reports, he attributed the loss of £68 on the year's working to the inclement weather which prevailed on the Saturday forenoon of the show. The committee had made a special and determined effort to reduce the expenditure, and had succeeded to the extent of over £100, but the gate money and the membership had been responsible for the deficiency. In eloquent terms he appealed to the wealthy citizens to give "shekels" to help on the labours in what he characterised as "an educative, enjoyable element in the life of their industrial city and district." The record of the society was a good one, and spoke for itself, and were they to let it die out there would be a loud and long hue and cry raised; nevertheless, "without straw they could not make bricks," but they would go hopefully forward to another year. The election of office-bearers resulted in the re-election of all those retiring, and the prize-money for 1914 was fixed at £250. A motion to extend the show to four days was defeated by 27 votes to 17.

Scottish Horticultural Association.

The monthly meeting of this association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on October 7. Mr. David King, the president, was in the chair, and there was an attendance of 100 members.

A paper was read by Mr. David Armstrong, Kirknewton House Gardens, Midlothian, on "The Cultivation of Salvia splendens."

The exhibits were: Collection of collarette dahlias and new early-flowering white Chrysanthemum Artemis (awarded a Certificate of Merit), exhibited by Messrs. Dobbie and Co., Edinburgh, who were also awarded a Cultural Certificate for the dahlias; new early-flowering yellow Chrysanthemum Golden Diana (awarded a Certificate of Merit) and Chrysanthemum Framfield Early White, exhibited by Messrs. Todd and Co., Edinburgh; early-flowering chrysanthemums, exhibited by Mr. John Downie, Edinburgh; Ficus sp., exhibited by the President; Canadian-grown peaches, exhibited by Messrs. James Grieve and Sons, Edinburgh; potato Irish Gem, exhibited by Mr. Wm. E. Sands, Hillsborough, Co. Down; potatoes Dobbies' Prolific, The Chapman, and The Admiral, exhibited by Miss Burton, Polton, who was awarded a Cultural Certificate; runner beans Webbs' Golden, Webbs' White-seeded, and Webbs' Exhibition, exhibited by Mr. Walter Y. Staward, Aston Gardens, Oswestry, Salop; and Cunynghame's Frost Predictor, exhibited by Messrs. Stewart and Co., Edinburgh.

At the meeting on November 4 a lecture will be given by Dr. W. G. Smith, Edinburgh and East of Scotland College of Agriculture, on "The Influence of Drought on Plant Form" (with lantern illustrations).

Cardiff Gardeners' Association.

The fortnightly meetings of the above society recommenced at the Queen's Hotel, St. Mary's Street, Cardiff, on the 7th inst. The President, J. J. Neale, Esq., Penarth, presided over a good attendance, and four new members were elected.

The lecturer was Mr. A. Cobb, The Gardens, Duffryn, St. Nicholas, and his subject, "Dahlias for Garden Decoration," was illustrated by lantern slides, several of which were from recent colour photographs. The dahlia was first introduced in 1789 from Spain by the Marchioness of Bute, and now Reginald Cory, Esq., Mr. Cobb's enthusiastic employer, has awakened a great interest in the flower by growing a wonderful collection of varieties. Mr. Cobb, in his interesting lecture, spoke of the fine qualities of the various sections, and singled out the paeony-flowered as the most attractive for forming bold masses in the mixed herbaceous borders. The star varieties and Parisian singles were, he said, most suitable for table decoration, etc. The discussion which followed evidenced the lasting qualities of the collarette section both as cut blooms and during wet weather. It was also pointed out that a late batch of cuttings, grown in small pots to produce planting tubers for the following year, were best for small gardens.

Croydon Gardeners' Society.

On Tuesday last, at this society's rooms, Sunflower Temperance Hotel, George Street, the members attended in force to hear a lecture given by Mr. E. Scaplehorn, Lindfield. Mr. Scaplehorn has been a grower and exhibitor of hardy flowers for many years, and his reputation as an expert is widely known. Mr. Scaplehorn said that popularity necessarily brings improvements, and the work of the hybridist, as well as the plant collector, had created wonders in this department. There is such a diversity of colour and an extension of flowering periods that one may arrange a border into colour schemes which may possess one tone of colour such as a blue border, a red, a white, or almost any hue one chooses; and amongst the plants there are sufficient varieties to provide bloom during all the year.

The lecturer favoured a mixed border, his reason being that it is more attractive and contains more interest to the general observer. If there is one chief characteristic about the hardy flower border it is that it may be situated at any aspect, and there are plenty of plants to provide a wealth of bloom. The best site, however, is south or south-east, backed by a wall. Upon the wall can be trained some of the taller climbing varieties, and slanting to the front there are plants of all heights to fill the border. Another position is that in front of a shrubbery when taller-growing trees require colour to brighten up the scene.

For most of the subjects a well-trenched and well-drained soil is required. When trenching a liberal dressing of well-decayed manure should be incorporated, and this is best done in the early autumn. A surface dressing of sulphate of potash, in the proportion of ¾oz. to the square yard, will suit the plants, and also conserve moisture in the summer months. When the border, which should be as wide as possible, has been well made and planted, only occasional dressings

of rotted manure slightly forked in will be necessary to keep it in condition.

With the aid of the society's electric lantern Mr. Scaplehorn showed views illustrating well-made borders, etc. As each picture was shown the lecturer advised the best methods of propagation, and the most suitable soils for the plants. To support some of the taller-growing kinds he recommended using stakes and the bushy pea boughs.

Exhibits brought by the members included dishes of apples staged by Messrs. E. Mann, O. Jeal, and A. J. Holcombe. Mr. Mann also contributed a few vegetables; and Mr. G. Scrivens had a vase each of Salvia Zurich, Michaelmas daisies, and pompon chrysanthemums. Mr. F. W. Moore brought an interesting exhibit of the Cape gooseberries.

Bristol Gardeners' Association.

The opening meeting of the winter session of this association was held at St. John's Parish Rooms on Thursday, October 9, Dr. Shingleton Smith presiding. Mr. E. T. Parker read a most interesting paper on "The Dutch Bulb Farms, and Gardening Operations in Holland," which was much enjoyed by a large audience. Mr. Parker gave a detailed description of the methods of propagation, planting, and storing of the various kinds of bulbs, and referred to the work of a Dutch bulb farmer. A good discussion followed, at the close of which votes of thanks were accorded to Mr. Parker, and Dr. Shingleton Smith. The prizes for the evening, kindly given by Mr. Garnish, for an effective vase of chrysanthemums, own foliage, were won by Mr. Bird and Mr. Baston in the order of their names.

Wimborne Gardeners' Association.

On Monday, October 6, Mr. Geo. Garner, of Bournemouth, gave a lecture on "Some Salient Points in the Forcing of Bulbs and Plants" before a good attendance of the members of the above association. Mr. J. Stevenson, of Wimborne, occupied the chair.

The lecturer, having referred to the fact that in these times flowers for dwelling-house decoration, as well as for furnishing greenhouses and conservatories, were in more demand than was the case a generation ago, dealt with some of the main points essential to successful cultivation.

He recommended clean sand for burying bulbs in pots and boxes, and warned any inexperienced growers against using coal ashes fresh from the furnaces; ashes that had been exposed for six months to the weather might be used. He also recommended watering, and especially the feeding, of bulbs in pots from saucers, allowing the liquid to remain in the latter for twelve hours and then emptying away any surplus. This form of feeding might be done three times each week after the flower stems were well advanced. He said it was fatal to the general welfare of tulips to allow the soil to get very dry after growth had commenced.

NOTICE.

READERS experiencing difficulty in obtaining "THE GARDENERS' MAGAZINE" at any bookstall or newsagent should write to the

PUBLISHING MANAGER,
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who will give the matter immediate attention.

Having referred to the forcing of lilac and other kinds of shrubs, the lecturer answered a number of questions. The members, led by Mr. Stevenson, took part in a very good discussion. Some excellent vegetables, in collections, were staged.

AURICULAS.

As a keen auricula grower, I was very pleased to see an article on these plants in your issue of the 4th inst. Before reading it I glanced at the subscriber's name, and hoped for something really good from such a well-known expert as Mr. Bentley. As I thoroughly appreciate this gentleman's success as a grower and exhibitor, I am sure he will take in good part my gentle "dressing down" for not being right up to date in important matters touching the cult.

He, naturally enough, regrets the lack of such men as Simonite, Douglas, and Horner who have passed from their activities, and sighs at the apparent impossibility of making further progress without the help of such giants. Does Mr. Bentley know a green edge of the name of Wm. Smith? If not, I would like to whisper in his ear that it is the finest that has yet seen light, and it well earned a premier award last spring at Vincent Square. This was raised, not by any of the wonderful growers of 20 or 30 years ago, but by the son of the late Mr. James Douglas at Bookham. Wm. Smith was, by common consent, and in comparison with Mrs. Henwood, Shirley Hibberd, and Orient (about 80 specimens of which were staged alongside), judged to be the finest green-edged auricula of the present day. Another triumph scored by young Mr. Douglas last April was premier of the whole show with Victor, a dark self of perfect proportions, which must be recognised by Mr. Bentley as a distinct advance.

The story is the same as regards the white-edged section; Guy Cranfield, Eucharis, and Loveliness, when better known, will make Heatherbell, Frank, and even Acme look out of date. I don't like saying so of the last-named, but there is no use ignoring the fact that Acme is not so good as it used to be. There is also a new grey-edge raised by a collier in Northumberland, said to be as good as Geo. Lightbody, but it is growing very, very slowly, and will not increase as its raiser hoped it would.

Some of the varieties mentioned by Mr. Bentley are out of date. Who would ever put on the show bench such auriculas as Robert Trail, Beauty, and Ruby? Even Olympus, Mrs. Potts, and Conservative have to be in exceptional fettle to justify their inclusion.

Silverwood, Belmont. J. L. Gibson.

Plums.—Any trees that have made too much unfruitful wood should be lifted and root-pruned some time after this date. See that the roots are thoroughly moistened before starting to dig around them. Take out a trench quite two feet wide at a distance of four feet away from the stem; get well down, and work the soil carefully from amongst the roots, avoiding damage as far as possible; when within two feet of the stems, undermine and sever every root that is travelling downwards, for if one or two of these are missed the whole of the work may prove useless. Trim the tips of all damaged roots, and relay at various depths. Work plenty of fine soil among the young fibrous roots, and if the soil is moderately dry give a good watring, and mulch afterwards with long strawy manure. Should the weather prove dry and warm, a few syringings overhead will help to keep the leaves and wood plump. Keep a good stock of useful trees trained in readiness to take the place of those which give out, as valuable wall space can be then quickly filled, and much time is saved. Good useful varieties are Coe's Golden Drop, Comte d'Althan's Gage, Green Gage, Early Transparent, Jefferson, Kirk's, Oullin's Gage, Washington, Czar, Monarch, Victoria, Sultan, Gisborne's, Pond's Seedling, Cox's Emperor, and Prince of Wales.—H. Markham.

THE WINTER AND CODLING MOTHS.

The following is the text of the lecture given by R. A. Harper Gray, Esq., M.A., B.Sc., Adviser in Agricultural Zoology, Armstrong College, Newcastle-upon-Tyne, at the Kendal Fruit Congress:

My reason for choosing these pests is partly because they are so common in our orchards and therefore likely to interest a Congress audience, and partly because there are points in the life-history of each which go to show very clearly the importance to the horticulturist of a knowledge of economic entomology in devising means of preventing or of minimising the injuries associated with the presence of such pests.

I.—The Winter Moth (Cheimatobia brumata).

The moth commonly called the Winter Moth or Evesham Moth, is small in size, and only in the males do we find fully-developed wings. The front wings are greyish-brown to brown in colour, with transverse darker wavy lines, while the hind wings are uniformly paler. These males may be seen flying rather lazily in orchards and gardens during the latter months of the year, and, in favourable weather, in January and even in February in some parts of the country. The females, on the other hand, are quite unlike the males, inasmuch as they possess only vestiges of wings—indeed, so abortive are they that they are useless for the purposes of flight.

Both these—male and female—have issued from the chrysalids, or pupæ, which have been lying in the ground some little way below the surface. The female moths, on emerging from the ground, proceed to make their way up the stems of the trees, and it is on the way up that they appear to be fertilised by the males. At any rate, on reaching the smaller branches of the trees, they begin laying their eggs. These small eggs have a light greenish-yellow colour, which after a short time, becomes reddish, and they have a thick sculptured shell. They are laid in tiny groups, round the base of the buds, or on pruned surfaces, and in the small crevices on the branches and twigs. From these eggs come the caterpillars that are so destructive. The time elapsing between the laying of the eggs and the appearance of these caterpillars or "loopers," varies in different years and in different places, most probably owing to climatic conditions, but the eggs usually hatch out some little time before the buds burst, and the caterpillars begin at once their work of destruction.

During the years 1911 and 1912, I made a special study of the habits of the caterpillars of the Winter Moth in the North, by keeping a close watch on them, not only in the laboratory, but also in the open. I think, therefore, that some of the more general of these observations should be of interest to the Congress, not only because they will serve to show the habits of the caterpillars, but also because they refer particularly to our Northern Counties.

In 1912, in which year the Winter Moth larvæ were very prevalent, they were first reported to me as having been seen on April 22, and they were then one-quarter of an inch in length. A week later they were doing much damage on apples, pears, plums, and gooseberries in Northumberland. On May 7 I found the leaves on many trees much destroyed. There were large holes in the leaves, and they were also eaten round the edges. Many leaves were almost entirely destroyed, practically only the mid-rib remaining, while some of the leaves were connected by fine silk threads, evidently made by the caterpillars travelling from one leaf to another. The blossoms showed signs of attack, and the petals were falling off.

Two days later (May 13) some of the larvæ took up a position between the lower side of one leaf and the upper side of another, living well sheltered by the silken threads

surrounding them. On this date I found an interesting case of a blossom from which all the petals had fallen, leaving only the calyx through which a larva was boring into the fruitlet. And they proceed even farther, for in places where gooseberries are grown near apple trees, or in orchards under apple trees, I have found that they readily attack the gooseberries, and this year they have been reported to me as having been attacking black currants.

I also find, in my records for 1912, that they were attacking many trees, viz., the horse chestnut, lime, sycamore, elm, hawthorn. As a matter of fact, they are known to attack many other trees outside our orchards, but I mention the above as having come particularly under my notice in 1912; they are sufficient to give us an idea of the varied nature of the food plants acceptable to the larvæ of the Winter Moth.

By the end of June, in the North, the caterpillars are mature, and proceed to the ground, where they hide under the earth, usually to a depth of two or three inches. Last year I reared a male and female Winter Moth from pupæ which were just under the surface of the soil. This, however, was under the somewhat artificial conditions of a breeding cage in the laboratory, and it is probable that, in the open, the larvæ usually go farther down, as already mentioned.

When in the soil, they spin round themselves a silken cocoon, which will be found covered with particles of earth. Soon afterwards the larva inside changes into a brown pupa, and it is from this pupa that the adult moth emerges at the latter part of the year (October to January).

II.—The Codlin Moth (Carpocapsa pomonella).

The Codling Moth is small in size, and may be easily identified by examining the wings when spread out. The front wings are grey in colour, with an oval patch of a dark golden hue at the tip of each, while the hind wings are of a darker grey, with a slightly golden sheen. During the daytime, however, the moths may be easily passed by unnoticed, as they cling to the undersides of the leaves, or to the bark of the trees with their wings folded in a roof-like manner.

The moths may be seen flying in our orchards at the time when the apple blossom is falling, and they are most active towards evening, at which time the female moths proceed to lay their eggs singly on the apples that are just forming. These eggs, when newly placed on the side of the fruitlets, are white, shining bodies, scale-like, and roughly oval in shape.

In a week or ten days, a tiny caterpillar hatches from the eggs, which, as a rule, eats through the "eye" of the apple, and makes a tunnel to the core. After feeding on the seeds and the surrounding parts till it is full grown, it forms another tunnel from the centre to the rind, and thus escapes. By this time, however, the vitality of the apple may be so destroyed that it falls to the ground, whence the caterpillar proceeds to the nearest stem in order to spin its silken cocoon.

If, however, the apple has not fallen to the ground, the caterpillar may make its way down the branches and stem until it finds a suitable crevice in the bark where it may pupate, or it may let itself down to the ground by means of a silken thread, in which case it generally reascends the tree to spin its cocoon.

The caterpillars remain thus sheltered till spring, when they change into yellowish-brown pupæ, from which the moth emerges about the end of May or the beginning of June.

Application of the Life Histories to Methods of Prevention and Remedy.

Having treated of the essential points in the life histories of these two pests, we are in a position to appreciate more fully the reasons for adopting the methods recommended for meeting the attacks of each.

I.—The Winter Moth. Grease-banding as a Preventive.

The habits, for example, of the Winter Moth clearly suggest a simple means of prevention, viz., the preventing of the wingless females from getting up the trunks of the trees in autumn and winter. It is this peculiarity in the structure of the female Winter Moth (the absence of functional wings) that has suggested the idea of grease-banding. Bands, six or seven inches in width, and made of grease-proof paper, are tied firmly round the trunk of the tree, and then covered with a sticky grease.

There are several "makes" of this sticky grease on the market, which are claimed to possess a more or less permanent stickiness. It may be well to note, however, that whatever grease is used it is advantageous to "comb" the grease with the fingers, so that horizontal furrows and ridges are formed on the band.

By so doing, the grower will find that the grease will retain its "stickiness" for a longer period than if left on the paper as a uniformly thin layer.

The position of the bands on the trunks requires consideration. Some growers place them high up—four or five feet from the ground—while others prefer to have them only a foot or so from the ground. The objection brought forward to having the bands placed high up is that many eggs are found to be laid in the crevices of the bark below the band, and by the time the caterpillars from these begin to ascend, the grease has lost its "tacky" qualities, so that they can crawl over it and reach the boughs. It would seem, therefore, that if the bands were placed lower down the number of eggs likely to be laid would be small, and therefore fewer caterpillars would succeed in getting over the grease-band in the event of its having become dry enough for them to do so. One objection to the low band is that, where the ground in the orchard is cultivated, the band may become covered with mud or dust, and, again, it is just possible that the males may carry the females safely over a low band.

On the whole, I consider the placing of the bands three to five feet from the ground preferable to placing them so low down—providing that the grower makes sure that the bands are kept in good working order.

The bands should, in the North, be on the trees by the middle of October, and I would here point out that one application of grease is not enough. As I have said, it is the duty of the grower to see that the grease is in proper working order, and whenever it shows signs of dying, a second application should be put on, probably in December, and again in March, to prevent any caterpillars that may have hatched out below the band from ascending, and at the same time to serve for catching the March moth.

Damage from Winter Moth larvæ has not been so marked this season as compared with 1912, in Northumberland at least, but Mr. Withers, who has ably helped me in adding to or confirming the observations I have made on the habits of this pest, has reported that trees which were grease-banded in autumn certainly do show less damage than unbanded trees growing alongside. Careful records were kept and the bands caught a large number of apterous moths, so that it was only to be expected that not so much damage would result.

On October 4, 1912, grease-bands were put on four trees that had been specially badly damaged that season, and marked for the experiment—two Potts' Seedlings and two Lord Grosvenors.

On October 22 the bands were sticky and effective, and much covered with winged insects, but no Winter Moths; but when observations were made on November 16, one tree had 15 females and many males, the next 9 females and many males, the next 24 females and a few males, while the fourth had 19 females and a very few males adhering to the band. On December 7, only four females and a few males were caught. On February 1, the bands were still kept in working order, but no females had been entrapped since December 7.

The number of females caught, as given above (71 from the four trees) is exceedingly small compared with the numbers given for observations in other parts of the country in other years, but when one considers that one female may lay from 150 to 200 eggs or more, one can understand how effective grease-banding is in preserving our orchards from the ravages of Winter Moth caterpillars.

Spraying as a Remedy.

When the caterpillars are on the twigs, which is sure to happen where grease-banding has not been carried out, or has been carelessly applied, they can be got rid of by spraying the trees with arsenical washes from a fine jet. Owing to the scorching effect of Paris Green on the leaves, arsenate of lead, bought in paste form, is now recommended as being the better spray to use as a remedy against the Winter Moth larvæ. Where grease-banding is not carried out, spraying should begin as soon as the leaves appear in order that the caterpillars may be destroyed before they have done any damage, and again within 10 days after the blossom has fallen. In this way the Codling Moth, March Moth, etc., are also coped with.

II.—The Codling Moth.

With regard to the habits of the Codling Moth, there are two points to which I wish to draw attention. One of these is that on leaving the apple on the tree large numbers of full-grown caterpillars proceed to crawl down the branches to seek shelter in the rough parts of the bark on the stem, or they may get to the ground in the manner described and reascend.

This habit has led to the adoption of a method of prevention which has been made compulsory by law in California and Tasmania, viz., to place firmly round the trunks, close to the ground, bands of hay, clean sacking, etc. In order to further encourage the caterpillars to enter these traps, the tree-trunks should be kept free from rough bark. The bands are examined periodically during summer and autumn, and the caterpillars found sheltering in the bands are destroyed.

The second point is that many apples containing the caterpillars fall to the ground, the caterpillars escape, and proceed to pupate—usually on the tree trunks. These "windfalls," therefore, should be cleared away as quickly as possible.

Here, again, spraying with arsenical sprays is to be recommended as a remedy when the eggs are on the fruitlets, or against any caterpillars that have remained above the band. This spraying should take place while the calyx of the apple is still open, that is, within a week after the falling of the blossom. The reason for this will be seen by referring back to what has been said of the life-history of this moth. Suffice it to say that the wash will thus be retained by the calyx, so that the first "bite" of the caterpillar will contain the poison which will kill it.

FORTHCOMING ENGAGEMENTS

NEXT WEEK.

MONDAY, October 20.—Annual General Meeting of the National Sweet Pea Society, Hotel Windsor, Victoria Street, Westminster, at 2.30 p.m.; dinner at 6 p.m.; Conference at 7 p.m., when Mr. J. S. Bruaton will lecture on "The Sweet Pea Industry."

TUESDAY, October 21.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "The Evolution of Plants, and the Directivity of Life shown by the Reproductive Organs," by Rev. Prof. G. Henslow, V.M.H.; Scientific Committee at 4 o'clock.

WEDNESDAY, October 22.—Hereford Fruit and Chrysanthemum Show; two days.

CATALOGUES RECEIVED.

A. J. KEELING AND SONS, BRADFORD.—An interesting general list of orchids, illustrated, with a special offer of unflowered seedlings.

JOHN JEFFERIES AND SON, LIM., CIRENCESTER.—A useful list of roses, fruit trees, ornamental trees and shrubs, and herbaceous plants.

AUCTION SALE AT COOMBE WOOD NURSERY.

An event of unusual interest and importance in the horticultural world was the sale of nursery stock on the Coombe Wood Nurseries which opened on Monday, October 13, and continued until Friday, October 17. The interest was twofold, first on account of the wonderful variety and high quality of the trees and shrubs offered for sale, and secondly by reason of the fact that the event marked a further step towards the departure of the illustrious firm of James Veitch and Sons from the field of British horticulture. It has become common knowledge that Sir Harry Veitch intends to retire from business, and that the whole business of the firm, whose name is a household word throughout the realm of horticulture, will ere long terminate its operations. The seed business has already passed into the hands of Messrs. Sutton and Sons. The collection of orchids and the orchid houses has been sold, and the week just ending has witnessed the sale by auction of a large portion of the stock of trees and shrubs, including many choice Chinese plants which have been recently introduced to commerce by the firm. Messrs. Protheroe and Morris have during their career conducted many important sales of nursery stock, but even they must have felt that this week's sale was by way of being unique. As Mr. Slade remarked at the opening, the name of Veitch has long been held in highest esteem throughout the horticultural world. Not only has the firm been renowned for the quality of the plants grown, but they have been raisers and introducers of probably more plants of sterling merit than any other firm. In the course of an appropriate and well-received speech, Mr. Slade referred to the personal qualities and business abilities of Sir Harry Veitch, whose courtesy, benevolence, and knowledge had won him the respect and esteem of all who had come in contact with him, and he expressed the wish that every horticulturist will heartily endorse, that Sir Harry will live to enjoy many years of well-earned peace and happiness after he finally severs himself from the sphere of commercial horticulture, to which he has been an ornament and a benefactor. Sir Harry Veitch, in a few well-chosen words, expressed his appreciation of the kind remarks that had been made, and also thanked the company for their presence at the sale. One might have expected a larger gathering, but it soon became evident that those who attended were there for business, and some brisk bidding was made.

We noticed among the buyers General Sir Alfred Paget, the Hon. Lady Ronald Greville, Mr. W. Watson (Kew), Mr. Whitton (Glasgow), Mr. D. Thomson (Edinburgh), Mr. P. Weathers (Manchester), Mr. Boyle (Ireland), and Messrs. Hutton, Davidson, Fletcher, Matthews, Kelly, Paul, and Jackman. The lots were arranged in convenient numbers, and the trees and shrubs, being for the most part useful kinds of convenient size for removal, very fair prices were realised without difficulty. The larger material, such as specimen hollies, golden yews, cedars, etc., went cheaply, but smaller trees, flowering shrubs, cut-leaved acers, magnolias, etc., in many instances realised fully catalogue prices.

One particular lot that ran up to a remarkably good figure was a row of nine plants of Berberis Wilsonæ, which realised 63s. Lots of various ornamental shrubs, numbering about 25 plants, made up to £4 and £4 5s., and climbers in pots sold at from 9s. to 15s. per dozen. There were some fine stools of lilacs, spiræas, philadelphus, etc., with rooted layers attached, and these formed the chief attraction to the trade; whilst the superintendents of public parks were keen on the well-furnished specimens that would produce immediate effect. Altogether the auctioneers may be complimented on the manner in which this great sale was handled, and Messrs. Veitch may be congratulated upon having brought forward a remarkable stock of most useful plants and trees.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of The Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of The Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

BORAX AS MANURE.—A. M. B., Wavertree: I have a quantity of borax, and am told that it will make a good manure. Will you kindly tell me if this is so, and how it should be used?—Borax is of very little value as manure, and would be of much greater service if used as a cleansing medium. It is used in glass-making, glazing, and in medicine, as well as in domestic washing as a substitute for or economiser of soap. If you desire to dispose of your borax in the garden, spread it thinly, say, 2oz. to the square yard, in spring, over borders occupied by fruit trees, or among quick-growing crops in the kitchen garden.

COTONEASTERS.—G. S., Bournemouth: Will you please tell me which of the cotoneasters are evergreen, and which deciduous?—Among the better-known cotoneasters the evergreen kinds are C. buxifolia, C. microphylla, C. pannosa, C. rotundifolia, and C. thymifolia; and the deciduous sorts are C. acuminita, C. affinis, C. bacillaris, C. frigida (almost evergreen), C. horizontalis, C. integerrima, C. laxifolia, C. multiflora, C. nummularia, C. Simonsi, and C. tomentosa.

VARIETIES OF SOLOMON'S SEAL.—C. M. S., Bridgwater: I shall be glad if you will inform me, through your columns, whether there are any varieties of Solomon's seal. I grow this plant very successfully, both in the open and in pots, and if there are varietal forms I should like to obtain them; so any help you can afford will be appreciated.—There are several varietal forms of Polygonatum multiflorum, and the chief of these are the variegated variety P. m. striatum; P. m. roseum, from the Altai Mountains, with rosy flowers; P. m. flore pleno, with double flowers; P. m. bracteatum, a late variety with strongly-developed bracts; and P. m. Broteri, a large-flowered or "gigantea" form.

BLACKENED LEAVES OF CHRYSANTHEMUMS.—R. B., Bickley: Please tell me what is the matter with the chrysanthemums I send you. In many cases the leaves have become blackened like those sent, and this lowers the vigour of the plants considerably. Any help you can give will be much appreciated.—An insect has pierced the epidermis of the leaves, and the punctures are readily discernible; what the insect is we cannot say, but probably Lygus pratensis, a sort of bug that is a fairly common enemy to the chrysanthemum. The pest pierces the epidermis of the leaf and sucks out the sap, and so the leaves blacken and decay. Through the punctures it is a quite simple matter for a fungus to enter the leaves and complete the work of destruction, but the insect attack is the beginning of the trouble, and spraying regularly with a paraffin emulsion would render the foliage distasteful and do a great deal to ward off attacks.

TURF FOR A GRAVE.—Anemone, Ewell: I should be pleased if you could help me in regard to obtaining some nice green turf on a grave. The grave was turfed about eighteen months ago, but I am afraid the turf was of very poor quality. I have tried to improve it by the use of fertilisers, by beating, by sowing seeds, and by keeping the grass cut regularly once a week, but the turf is very weedy, and a tiny creeping weed is now becoming quite plentiful.—If you could protect the surface from birds it would be an excellent plan to sow the grave-top with lawn grass seeds in spring; but as this will, in all probability, be out of the question, the next best thing will be to obtain some first-rate turf from someone who has to do with tennis lawns, golf links, or cricket ground, or you might write to Mr. Jas. Macdonald, Harpenden, who makes a speciality of raising grass on a prepared material all ready for laying down.

PIG NUTS OR EARTH NUTS.—E. M. S., Belfast: You will very greatly oblige several of your readers in the North of Ireland by stating, in your columns, the name of a plant, fairly common in the northern parts of the Sister Isle, which goes by the name of pig nut. The root is more or less tuberous, and when roasted it is said to be very much like a chestnut.—The plant is Conopodium denudatum, an umbellifer, about 2ft. high, with umbels of tiny white flowers. It is of rather wide distribution, and found in the British Isles from Shetland to the Channel Isles. The brownish root-stock is about the size of a chestnut. St. Anthony's Nut is also a title sometimes given to the pig nut, probably because St. Anthony was the patron saint of pigs.

YARROW IN A BOWLING GREEN.—D. R. Y., Ayr: We have a bowling green which is badly infested with what I call "yarrow"; it is, I think, an achillea, and is growing very strong. Can you suggest any remedy for this weed, one that will not damage the grass?—If the yarrow has spread very much and killed the grass, it must be cut out, and the bare places must be re-turfed; but if it is as yet a minor evil, the application of lawn sand, followed later by a suitable top-dressing, will no doubt remove the trouble.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

R. G. W., Kettering.—1, Polygonum Baldschuanicum; 2, Coronilla varia.

T. A., Harrow.—1, Oncidium pubes; 2, a quite good form of Cattleya Hardyana.

H. H., Tenterden.—1, Physalis Alkekengi; 2, Berberis Thunbergi; 3, B. stenophylla.

W. K. R., Winchester.—1, Libonia floribunda; 2, Aglaonema costata; 3, Viola cornuta; 4, not recognised.

A. J. F., Horsham.—1, Cedrus atlantica glauca; 2, Cotoneaster horizontalis; 3, Cimicifuga simplex; 4, Rhus cotinus.

P. J., Okehampton.—1, Gerbera Jamesoni; 2, Rudbeckia speciosa (this used to be commonly known in gardens as R. Newmani); 3, Arbutus Unedo.

F. B. C., Lichfield.—1, Ruscus racemosus; 2, Pteris umbrosa; 3, Physianthus albens; 4, probably Mackaya bella, send when in flower; 5, Todea superba; 6, Hedera helix dentata.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, Gardeners' Magazine, as advised in the notice at the head of "Answers to Correspondents."

B. C. K., Haverford.—1, Mere de Menage; 2, Warner's King.

E. B. C., Limerick.—1, Lane's Prince Albert; 2, King of the Pippins; 3, Col. Vaughan.

C. T., Ilfracombe.—1, Peasgood's Nonsuch; 2, Bismarck; 3, Court Pendu Plat; 4, Adam's Pearmain.

W. B., Calcot.—1, not recognised, send again later; 2, Cornish Aromatic; 3, Hollandbury; 4, Fearn's Pippin.

G. R. S., Alnwick.—The fruits sent were all very small, and did not appear to be in good character. Nos. 3 and 5 we do not recognise, but we believe the others are: 1, Gravenstein; 2, Dumelow's Seedling; 4, Yellow Ingestrie; and 6, Keswick Codlin.

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THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Essentials of Success in Rose Culture.

The several contributions to our present issue on the all-important question of rose cultivation cover so large a proportion of the area of the rose garden that those who are careful to make themselves fully acquainted with the advice given should be able to achieve a high degree of success in the planting and management of those parts of their gardens devoted to roses. It will be seen from the information contained in the contributions on roses that the chief essentials to success in the cultivation of these flowers are a thorough preparation of the soil, the selection of varieties suitable for the purpose desired, careful planting, and close attention subsequent to the latter operation, necessary to maintain the plants in a robust state of health. This attention will involve careful pruning, and in making such provisions as will enable the plants to obtain the necessary supplies of plant food and moisture. To do these things, important as they are, will not involve a heavy outlay or impose a serious tax upon the time of the owners of gardens, but they will, in some few cases, require an expenditure rather greater than is occasionally thought necessary, and will necessitate care and watchfulness, and call for rather more energy during the more busy periods than some may be disposed to give. Thorough soil preparation may well be described as the foundation of success, because so close is the association of the roots and branches that unless the former are provided with a medium in which they can readily extend, and obtain liberal supplies of plant food, the growth will be weak and the development of the flowers unsatisfactory. It may not, in many cases, be possible to obtain good turfy loam, which is so strongly recommended, and is unquestionably an important factor in the achievement of a high degree of success, but the inability to obtain supplies should not be regarded, as is now and again done, as a barrier to deep cultivation. The soil must be broken up to a depth of two or three feet, and when this cannot be properly done without bringing the unfavourable subsoil to the surface, remove a portion and replace with ordinary garden soil, should nothing better be available. A few barrowfuls of such soil from one of the quarters of the kitchen garden will greatly improve the soil conditions, and materially assist the plants in their development. Let it not be forgotten that leaf-mould and decayed vegetable refuse, which are both plentiful in not a few gardens, may be utilised with great advantage, especially where the soil is naturally light. Leaves and other vegetable matter in an advanced state of decay contain plant food in appreciable proportions, but their greatest value is the aid they render in helping to conserve the moisture so essential to the full development of the roses. The selection of varieties that are suited to the purposes for which they are required is most essential, and it is satisfactory to have evidence that its importance is being recognised; but the recognition is proceeding so slowly that an acceleration is most desirable. We are anxious to see reared aloft in gardens standards with buxom heads bearing, in the season, a plenitude of flowers of high quality, instead of the poor, weakly objects that are seen in so many gardens. There is no difficulty in having the garden embellished with the finest examples of these, provided planters will limit their selections to varieties that have a strong constitution, instead of selecting, without regard to the constitutional vigour of varieties. The range in colour of one is not greater than the other, while there is no great difference in the variation in colour they afford. In the selection of dwarf varieties also considerable care is necessary, more especially when they are to be grown in beds on the lawn. Whether the beds are to be devoted to one variety only, or to contain several, the whole of the plants should be uniform in growth, the effect being anything but pleasing when the strong growers are associated with those of a quite dwarf habit. It is important also in this case that the varieties be selected with due regard to harmony of colour. A point of primary importance in the subsequent management of the rose garden is the maintenance of the fertility of the soil by judicious cultivation. Owners of gardens should disabuse their minds of the idea, which is all too prevalent, that when once roses are planted they are able to take care of themselves for an indefinite period. This is not so, as may frequently be seen even in gardens wherein roses are grown with some degree of success. From three to five years will be a sufficient length of time for the beds to remain undisturbed, the exact period being determined by the condition of the plants. When these show an indication of a decrease in vigour they may, with advantage, be lifted, and the bed remade, previous to their being replanted. The substitution of new compost for a portion of the old soil will be an advantage, but if nothing more can be done than trenching the soil and incorporating a moderate quantity of manure therewith, the roses will benefit greatly. In some cases the beds will have received such liberal additions of manure annually that a dressing of slaked lime will be more beneficial in its effects than would an application of some

MR. W. BATCHELOR.

manurial agent. Especially will the lime be useful for the purpose of sweetening the soil when liquid manure has been used freely. A matter of considerable practical importance that is referred to by one of our contributors is the necessity for devoting special attention to the provision of an ample water supply for roses trained to pillars. What is said with reference to these applies with still greater force to roses clothing pergolas and trained to walls. In such positions the moisture that reaches the roots is much less than in beds and borders, and unless this deficiency is made good, the plants suffer, and fail to make a satisfactory growth. Roses are moisture lovers, and when growing where there is a shortage they should be assisted with liberal supplies at intervals, the first being given when new growth commences. If a practice was made of maintaining the soil in a moist state about the roots of climbing roses we should hear fewer complaints of the havoc made by aphis, or of the failure to obtain ample leafage and flowers.

Mr. W. Batchelor.—It is with very great pleasure we present our readers with a portrait of Mr. W. Batchelor, who for eleven years has been head gardener and estate steward to B. Wentworth Vernon, Esq., at Stoke Bruern Park, Towcester. Altogether Mr. Batchelor has been in the service of Mr. and Mrs. Wentworth Vernon for five-and-twenty years, as he was with them at Harefield, Uxbridge, previously. Mr. Batchelor is not an exhibitor, but he is a splendid cultivator, and probably in no garden in the kingdom is there such a profusion of bloom during the summer season as at Stoke Bruern Park. Mr. and Mrs. B. Wentworth Vernon love their beautiful garden, and are always pleased when visitors come to enjoy its beauty. The garden is practically always open to the public, and on Sunday evenings many people take advantage of the owners' kindness and enjoy a few hours in this garden fair. Roses are a conspicuous feature at Stoke Bruern Park, and there are over three hundred ramblers on poles and arches in the kitchen garden alone, and all the borders in this part of the garden are edged with flowers. To keep such a garden in the pink of condition is no light task, but Mr. Batchelor manages it, to the great satisfaction of his employers and the delight of the people resident in the district. He has little time for raising new flowers, but in 1895 he gained an Award of Merit from the Royal Horticultural Society for the decorative dahlia Willie Batchelor, and on October 7 he gained a similar award for Tithonia speciosa (Helianthus speciosus), a showy annual with orange-vermilion flowers. Mr. Batchelor tell us this is very showy in the garden, but it must be sown early, in warmth, to be of real value. As evidence of the regard in which he is held, Mr. Batchelor was presented with a solid silver tea service by Mr. and Mrs. Wentworth Vernon on the completion of twenty-one year's service, and the occasion of his silver wedding, the dates coinciding.

"Gardeners' Magazine" Fruit Number.—We have once more entered on the season for planting fruit trees, and to enable us to assist our readers in carrying out the various operations connected therewith we shall devote our next issue (November 1) chiefly to fruits. The contents will include articles on "Soil Preparation for Fruit Trees," "Autumn-fruiting Raspberries," "Cordon Apple Trees." "Best Twelve Fruits for Exhibition," "The Black Currant Mite," "Some of the Newer Fruits," "Promoting the Fertility of Fruit Trees," and "Cherries for Gardens." The issue will be freely illustrated.

International Botanical Congress of 1915.—A very important part of the work of the Fourth International Botanical Congress, to be held in London in May, 1915, will be the consideration of nomenclature. This difficult subject remains over from the previous Congress, and it is of interest to both botanists and horticulturists. The Organising Committee consists of Sir David Prain, Professor Bower, and Professor Seward, while the Executive Committee is composed of Professor Farmer, Mr. A. W. Hill, Professor Keeble, Professor F. W. Oliver, Mr. A. G. Tansley, and Miss E. N. Thomas, with Sir Frank Crisp, Dr. Otto Stapf (Kew), and Dr. A. B. Rendle, British Museum, Cornwall Road, London, S.W. The latter is acting as general secretary, and to him should be forwarded all donations to the fund needed (£1,000) to carry out the Congress arrangements. A subscription of 15s. will entitle anyone to admission to the Congress, and to all its publications.

The Potato Crop in Germany.—A report dated September 26 has been received by the Board of Agriculture from His Majesty's Consul-General at Berlin stating that favourable reports of the German potato crop are being received from all parts of the country, and the damage caused by the unfavourable weather in August appears to have been greatly exaggerated in all preliminary estimates. In the opinion of the Consul-General, it is not yet possible to determine the quality of the crop. Some disease will undoubtedly be found, and unfavourable weather at this juncture would do much to impair the prospects.

Sir Rufus Isaacs.—The newly-appointed Lord Chief Justice of England is an ardent lover of flowers and of gardening. In the gardens surrounding his residence at Foxhill, Reading, he and Lady Isaacs possess a remarkably fine collection of roses, which they cultivate with skill, and in which they are keenly interest. Doubtless the new Lord Chief Justice will continue to turn with pleasure to his charming garden, after his arduous legal duties. Some time ago we gave several illustrations of the gardens at Foxhill.

Anglo-American Exposition, 1914.—A meeting of the Horticulture, Arboriculture, and Forestry Committee of the Anglo-American Exposition, 1914, was held on Tuesday afternoon at the Hotel Windsor, Victoria Street, S.W., when the Right Hon. Sir Herbert Maxwell, Bart., was unanimously elected chairman of the committee, and Mr. George Gordon, V.M.H., vice-chairman. Sub-committees were also formed for fruit, flowers, forestry, and sundries sections. It was decided that the gardens of the exhibition be completely transformed in a manner worthy of the occasion.

October Sweet Peas from Cadland Park.—October 18 is late for sweet peas in all but the cooler and moister parts of the kingdom, therefore we were surprised and delighted to receive a fine box of blooms on this date from Mr. Lewis Smith, The Gardens, Cadland Park, Fawley, Southampton. Mr. L. Smith not only cultivates sweet peas well at Fawley, as he did at Shotesham, but he is a raiser, and the flowers sent included a number of new seedlings, a brilliant salmon variety, deeper in tint than Barbara, being one of the most attractive. Both in colour and fragrance the flowers were delightful, and the varieties were Zarina Spencer, Mrs. Hugh Dickson, Lord Nelson Spencer, R. F. Felton, Princess Mary, Mrs. Warren (a waved Helen Pierce), Rosabelle, Melba, King Manoel, Clara Curtis, and Walter P. Wright. With the blooms Mr. Smith sent the following note: "Knowing your love for sweet peas a few blooms at this date may prove of interest. The flowers were all cut from plants which have been in bloom continuously since the second week in May. These plants are from ten feet to twelve feet high and bushels of flowers have been cut from them. We are decorating continually with sweet peas, and as the plants are as vigorous as ever they promise well for another month if the weather holds good. The seeds were sown last October, and the cultural methods followed have been precisely as I have advocated in The Gardeners' Magazine time after time."

Variability and Sportiveness of Lilium Leafage. — Mr. C. R. Scrase-Dickins, of Coolhurst, Horsham, recently exhibited a most interesting series of specimens of Lilium Sargentiæ before the meeting of the R.H.S. Scientific Committee. A bulb had last year produced a stem one part of which carried the foliage of L. Sargentiæ, and a part foliage similar to that of L. myriophyllum. This plant was grown from a bulbil, not from seed. This season offsets from it bore respectively foliage similar to that of L. Sargentiæ, L. myriophyllum, and partly of the one, partly of the other. The flowers were indistinguishable. It would seem that Mr. Scrase-Dickins had seen the passage of one species of lily into another, or that the breadth of foliage which is constantly used as a distinguishing feature of these plants is a character of less importance than it is usually considered. Mr. Elwes drew attention to the remarkable variation to be seen between lilies as one passes up the Formosan mountains, as though one species had produced forms adapted to the conditions under which they were growing, and regarded by botanists who had seen only collected plants as specifically distinct. Other characters in plants which had been used by herbarium botanists as a basis of classification were frequently variations of adaptation as seen in the field.

Changes in Secretaryship of National Sweet Pea Society.—In consequence of pressure of business Mr. Charles H. Curtis recently resigned the honorary secretaryship of the National Sweet Pea Society, a position he has ably filled since early in the year 1906 he succeeded Mr. H. J. Wright. At the annual meeting of the society, on Monday last, it became necessary to elect a successor to Mr. Curtis, and it was decided that a salaried officer be appointed. There were four nominations for the office, and eventually Mr. H. D. Tigwell secured the appointment, and to him, at Harrow View, Greenford, Middlesex, all communications concerning the society should be addressed.

Presentation to Mr. W. J. Pritchard. — At a largely-attended meeting of the members of the Elstree Horticultural Society, which was held a few evenings since, advantage was taken of the opportunity for presenting Mr. W. J. Pritchard, the hon. secretary, with a testimonial, in recognition of the splendid services he has rendered during the past five years. The testimonial took the form of a mahogany roll-top desk, and the presentation was made by the Rev. A. R. Eales, vicar of Elstree, who presided at the meeting. In asking Mr. Pritchard to accept the gift, Mr. Eales spoke in appreciative terms of the ability, courtesy, and energy he

evinced in the course of his work on behalf of the society. Mr. Pritchard acknowledged the testimonial in suitable terms. A beautiful gold chain was also presented to Mrs. Pritchard.

Postal Transmission of Plants to America.—The Board of Agriculture desire us to bring to the notice of nurserymen and exporters of plants that the importation of plants by post has been prohibited by the Government of the United States of America. The Board are also informed that the Horticultural Board of the Department of Agriculture, Washington, has ruled that orchids are included in the definition of nursery stock, and cannot, therefore, be imported without a certificate of freedom from disease.

Camberwell and the Crystal Palace.—There has been a rumour abroad to the effect that Camberwell would not fulfil its promise to contribute liberally towards the purchase of the Crystal Palace. At a meeting of ratepayers held on Tuesday evening last a resolution was carried asking the Borough Council to make a contribution of at least £15,000 towards the acquisition of the Crystal Palace.

Blue Water Lilies at Kew.—In the Victoria regia house at Kew the splendid flowers of the blue water lilies are a great attraction to visitors. Not only are the blooms of large size and lovely colours, but they are carried about eighteen inches above the water on short stems. Passing through the house a few days ago we counted nine expanded blooms of Nymphæ gigantea, and five of N. stellata. At Gunnersbury House Gardens these flowers are also very successfully cultivated.

Grants for Botanical Research.—The general committee of the British Association has appropriated the sum of £150 for botanical research. This sum has been allocated as follows: Prof. F. J. Oliver, structure of fossil plants, £15; Prof. A. C. Seward, Jurassic flora of Yorkshire, £5; Prof. F. Keeble, flora of peat of Kennet Valley, £15; Mr. A. G. Tansley, vegetation of Ditcham Park, £20; Prof. F. F. Blackman, physiology of heredity, £30; Prof. F. O. Bower, renting of Cinchona Botanic Station in Jamaica, £25; Prof. W. Bateson, breeding experiments with Œnotheras, £20.

New Recreation Grounds at Colne.—The Colne Corporation has purchased from Lord Derby sixteen acres of land at Judge Fields for the purpose of a new recreation ground. The sum paid was £4,000, and as the value of the land for building purposes was £1,000 per acre, Lord Derby sold the land to the Corporation for one-fourth its cost, and thereby made a gift of £12,000 to the town.

Trial of Horticultural Sundries.—The Council of the R.H.S. will continue their trials of horticultural sundries in 1914 under the scheme introduced in October, 1912. The system then adopted has proved admirable after twelve months' practical test, and sundriesmen are again invited to send their specialities (not more than three articles in any one year).

A WELL-FLOWERED SPECIMEN OF CYPRIPEDIUM PICTURATUM.

Exhibited by Sir Trevor Lawrence, Bart. (Mr. W. H. White, grower), at the R.H.S. Meeting on Tuesday.

THE NEW RACE OF ROSES.

In the opening year of the twentieth century the first of a new race of roses was presented to the public. It was the production of one of the most eminent of raisers of new roses of modern times, M. Pernet-Ducher, a raiser to whom rosarians are indebted for so many popular varieties, among which—to mention half a dozen—are Madame Abel Chatenay, Antoine Rivoire, Joseph Hill, Prince de Bulgarie, Madame Leon Pain, and Caroline Testout; and the class referred to is that which is known as "Pernetiana."

Pernetiana Roses.

To call a new class of roses after the name of the introducer, or originator, is no new thing. For instance, we have but to point to that comparatively new class of rambler, the original species of which was brought from Japan by Dr. Wichura; the class called Wichuraiana. Also, when, in 1817, M. Philippe Noisette obtained a new race of roses by crossing the musk rose with R. indica, of which Lamarque, Ophirie, Celine Forestier, and Marechal Niel are descendants, that series of roses, out of respect to its originator, was henceforth termed Noisette. So to-day, and for the same reason, this new race of yellow roses is called Pernetiana. In all three instances, Wichuraiana, Noisette, and Pernetiana, we give honour where honour is due.

And this is how the Pernetiana originated. In the botanical classification of the rose there is a pale yellow species, whose habitat is Asia Minor, and found growing chiefly in Armenia and Persia. It is called Rosa lutea. This species was brought to Europe by Miller, in 1768. Of the subspecies of R. lutea there are several, all bearing yellow flowers; the two best known are Austrian Copper and Austrian Yellow, introduced to England by John Gerard as far back as 1586. Seeing that both are natives of Asia Minor, not Austria, it is not easy to understand why the prefix "Austrian" was given them, unless Gerard attached the name of the country in which he purchased, or otherwise obtained them. Another sub-species is Harrisoni, a pale yellow semi-single, also a native of Asia Minor, introduced by Harrison in 1830. And there is another variety of R. lutea, whether sub-species or hybrid of species is an open question, brought from Persia by Willock in 1837, and called Persian Yellow, and from this Persian rose came the Pernetiana.

Development of the Race.

In the year 1900 M. Pernet-Ducher startled the rose world by bringing a perpetual-flowering orange-coloured hybrid of R. lutea, and known as Soleil d'Or, having as one of its parents Persian Yellow. It came a little before its time, because in those days if a rose did not possess the qualities of a so-called "exhibition" variety it was deemed of little worth, and Soleil d'Or is not one of this class. Nevertheless, the raiser worked on in patience, until, eight years later, he sent out another of the same, the Lyon Rose, a rose so remarkably distinct in colour and beautiful in form that it at once received universal admiration. The following year, A. R. Goodwin, another rose of the same class, and by the same raiser, appeared. In 1910 eight more varieties of the Pernetiana rose were placed on the market, the best of these being Rayon d'Or, Beauté de Lyon, by M. Pernet-Ducher, and Juliet, the production of Messrs. William Paul and Son. Thus the race was established, and will continue to be recognised as Pernetiana until an entirely new classification of the modern rose, so greatly desired, is adopted, and they are grouped according to the purpose for which they are best suited.

Although all Continental growers accept the name Pernetiana, nevertheless there are some rosarians here who have substituted such terms as "hybrid briar" or "Austrian briar." The former cognomen conveys nothing, and, as to the latter, one would ask why Austrian any more than Hungarian or Bulgarian, seeing that the progenitor of the race is a rose of Persian origin?

But by whatsoever term you now designate this race of glorious yellow roses, one thing will eventually happen, as it has already happened to other classes of the modern rose, its racial characteristics will, by interbreeding, disappear. The Pernetiana is now in its initial stage; definite and distinct is the race in the colour of the flowers, the glossy deep green foliage, the directness of the scattered prickles, and inflorescence. But signs are not lacking, even in the slight curving and basal thickening of the prickles, that varieties of the second and third filial generation are losing their distinctness. As with the hybrid perpetual, the tea, and the hybrid tea, so it will be with the Pernetiana race; the originator of the race may, perhaps, continue to give us pure-bred varieties, but it is very doubtful if others will.

With respect to the constitution of these pure-bred varieties. Coming from Asia Minor, where the atmosphere is hot and dry, R. lutea is not quite comfortable in the English climate. And, likewise, are some of the best varieties of the Pernetianas; they are tender, susceptible to damp and cold, and do not readily propagate by budding in the open. One refers in particular to Rayon d'Or and Louise Catherine Breslau. On the other hand, those that have less of R. lutea and more of other sorts in their composition, such at Beauté de Lyon, are quite at home in the English climate.

Some of the Pernetiana Roses.

Soleil d'Or (Pernet-Ducher, 1900).—Colour varying from orange-yellow to ruddy gold. Flowers of medium size, globular in bud, flat when open, short petals, confused centre like Persian Yellow, foliage bright green, growth vigorous.

Lyon Rose (Pernet-Ducher, 1908).—Colour varying from coral-shrimp to chrome-yellow. Flowers of large size, pointed, of good form and substance. One of the most popular of the series.

Entente Cordiale (Guillot, 1908).—Colour golden-yellow, shaded red. Flowers semi-double. Growth moderate, tender.

A. R. Goodwin (Pernet-Ducher, 1909).—Colour varying from coppery-orange to salmon-pink. Flowers of medium size, short petals, flat when open. Growth moderate. We have ceased to grow this rose in the open.

Beauté de Lyon (Pernet-Ducher, 1910).—Colour deep coral-red, remarkably distinct. Flowers resemble Soleil d'Or, but larger. Handsome dark green foliage, red prickles, mildew-proof. Not free-flowering. Growth very vigorous; makes a handsome shrub. It received the prize for the best French rose at Bagatelle in 1911. A very popular rose in France. It requires no pruning.

Johanisfeur (Turke, 1910). — Colour golden-yellow at base of petals, passing to bright red at tips. Flowers cupped, semi-double, produced from laterals. Growth long. Should not be pruned, but pegged down.

Juliet (William Paul and Son, 1910).—Colour remarkably distinct. Outside of petals old gold, inside brick-red. Flowers large and globular. Growth very vigorous. The long shoots should be bent over, not pruned. Mildew-proof. A popular rose.

Madame Ruan (Gravereaux, 1910).—Colour carmine, shading shrimp-pink to yellow at edges of petals.

Rayon d'Or (Pernet-Ducher, 1910.—Colour, Buds globular, yellow streaked with red, sunflower yellow when fully expanded. Flowers, deep-cupped, opening flat. Good growth, free and branching. Foliage bronze-green, glossy, mildew-proof. A handsome bedding rose. No pruning required. Tender. At the approach of winter the plants should be earthed up three or four inches at least above the junction where budded. The best of all the yellow roses. Excellent under glass.

Viscountess Enfield (Pernet-Ducher, 1910).—Colour, pale-pink, shaded yellow. Flowers deep-petalled, pointed; growth, tall, upright. Free-flowering under glass. We have ceased to grow this rose in the open.

Soleil d'Angers (Detriché, 1910).—A sport from Soleil d'Or, which it resembles in form of flower and habit, but not so good. Colour, deep yellow, edged with vermilion. We have ceased to grow this rose.

Deutschland (Kiese, 1910). — Colour, pale-yellow. Flowers short-petalled, medium size; growth long. Not free-flowering. We have ceased to grow this rose.

Louise Catherine Breslau (Pernet-Ducher, 1911).—Colour, deep coral-red, shaded coppery-orange. Flower large, semi-double, oval bud, opening flat. Red wood, glossy dark-green foliage. Mildew-proof. In growth and habit resembling Rayon d'Or. Promising.

The following are roses of 1913, and the descriptions are for the most part abridged from the raisers:

Cissie Easlea (Pernet-Ducher, 1913).—Colour, saffron-yellow, shaded carmine. Flowers globular. Foliage dark-green. Growth vigorous.

Madame Edouard Herriot (Pernet-Ducher, 1913).—Colour, coral-red, of the shade of Beauté de Lyon. Flowers medium size, semi-double.

Willowmere (Pernet-Ducher, 1913).—Colour, shrimp-pink, shaded yellow. Flower large, full, deep-petalled. Habit vigorous, branching. Called after the name of the house of Admiral Aaron Ward in Long Island, U.S.A. It is said to have first bloomed in this garden, where the winters are most severe.

Grand Duchesse Marie Adelaide (Soupert et Notting, 1913). — Colour, deep orange-yellow. Free-flowering. Growth erect. Vigorous.

Joseph H. Pemberton.

Salvia patens.—Beautiful as are many of the salvias, this old species is fully entitled to a place in the foremost rank, as the exquisite blue colour of its blossoms is admired by everyone. In some districts it is not hardy, but even where this is the case the tuberous roots can be readily stored in boxes of dry soil and kept safe from frost.—K.

ARCHES OF ROSES.

Some roses never appear to better advantage than when grown upon arches or over porches. Those with a natural tendency to droop show off the beauties of their large trusses or single blossoms to much better effect thus grown than when kept too dwarf or low. It is this habit that renders the majority of the Ayrshires, Boursaults, climbing polyanthas, and Wichuraianas so suitable for arches.

The main defect, up to quite recently, was the scarcity of blossoms produced after the first flush that almost all of our extra-vigorous growers give early in the season. To a certain extent this is unavoidable, from the fact that the majority of such varieties make extra long growths, from which they flower the following season. Although minus the wonderful showers of blossom we have the benefit of cleaner and more healthy foliage upon these ramblers than is generally the case with others. Few, indeed, are the roses that can compare in foliage with such as American Pillar, Gardenia, Ards Rover, Goldfinch, Reine Olga de Wurtemburg, Rêve d'Or, Tausendschon, Felicité Perpetué, Ruga, and Evergreen Gem.

Cultural Requirements.

Recently there have been some very welcome additions to the climbers by the sporting of several perpetual, or almost perpetual bloomers, and these have, fortunately, retained the greater part of their free-flowering qualities.

We must remember that in growing these strong-habited varieties there will be need of extra food. Not that they are in want of high culture, like some, but must have a good root run if they are to continue at their best. Yet we often find them with their roots much cramped, so much so that it is surprising they thrive so well as they do.

Pruning is a great feature in securing well-clothed arches. The greater part of this should be done late in the summer, and consists of cutting out as much of the older wood as possible. Generally one can remove the bulk of the young rods that have finished flowering, and thus give more room and light to those growing rods that will provide the chief display the following season. It is this judicious thinning that keeps the plants healthy and floriferous. When allowed to become overcrowded a quantity of useless and rapidly deteriorating wood must result.

A little before new spring growth commences I am much in favour of a good syringing with a rather stronger insecticide than would be safe later on. The wood will stand more powerful washes than young growth, and one may frequently kill the eggs of numerous insects as well as the germs of disease that would develop and spread all too quickly otherwise. While loose growths should be secured, to a certain extent, care is needed not to bundle these too closely together, or we not only lose much of the characteristic beauties of each variety, but contract and overcrowd the many leading trusses of blossom that would otherwise break from the best-matured wood.

I often come across cases where too little attention has been given to the permanent stability of arches upon which roses are grown. It does seem such a pity to find these weak and failing just when their support is most needed; but, without due precautions, this must invariably be the case. The material used, or the construction, need not be over-artistic and graceful. In the natural course of events we shall be covering most of this, and our main object should be stability. I am sure that not enough consideration is given to the enormous weight of quantities of heavily-foliaged growth, and more especially should wind and rain come together.

Choice Varieties.

Some care should be given as to whether a large quantity of blossom is wanted at any particular time, or a more or less continuous supply. As some little help here I have given the approximate date of the greatest display from those varieties only flowering well once in the season. There are some varieties much better suited for large and spreading arches than others. The climbing forms of Liberty, Richmond, Mrs. W. H. Cutbush, and Orleans are really grand for the less spreading arches and porches. Some of the most suitable for wide arches or those

ARCHES OF ROSES IN THE GARDENS OF OSIDGE,
The Southgate residence of Sir T. J. Lipton.

that are taller than usual will be found among the following, the main point of selection being in the colours most desired and the time of flowering.

Felicité Perpetué has been with us ever since 1828, and is still one of the best evergreen trailers. No matter what the weather this rose seems bound to succeed, beginning to flower early in July, and continuing all through the month. Small, rosette-shaped flowers of creamy-white are borne in semi-drooping trusses. Other good old favourites are Dundee Rambler and Bennett's Seedling, both of which flower at the same time, and much resemble the first in colouring. The Garland also opens early in July, carrying large trusses of fawn-coloured flowers, that turn creamy-white with age; of medium size, double, and thoroughly reliable.

Madame d'Arblay is a delicate flesh-white that flowers towards the end of June, while Flora is a still earlier bloomer, but with rosy-flesh flowers. Some good mid-June reds are Amadis or Crimson Boursault, and Gracilis. One of the best early whites is Queen of the Belgians. There are several others from these classes, but the above are most dependable.

We find a grand selection from the hybrid Wichuraianas, of which Dorothy Perkins and its various sports are good examples. White Dorothy, Christian Curle, Dorothy Dennison, and Lady Godiva; the last are soft flesh, all flowering during the second and third weeks of July. One of the most brilliant of all is found in Excelsa, which opens a little earlier and keeps on longer. For whites we cannot beat White Dorothy, Schneeball (July 10), Snowdrift (July 20), and the old Wichuraiana type, or alba, beginning to flower late in July, and continuing until stopped by frost. A very early red and blackish-purple is found in Diabolo. No collection of roses for arches can be complete without Hiawatha and American Pillar. Both commence to flower during the second week of July, and continue throughout the following month.

Hiawatha is a rich crimson with a white eye, small, borne in large pyramidal trusses, and with the grandest of foliage. American Pillar is large, a rich pink, with well-defined white eye and prominent golden stamens. Very showy foliage that seems exempt from mildew and red rust. In fact, we have no better grower. Both are single. In Una we have another grand single from the briars; pale buff, opening to pure white, a wonderful showy single where it takes.

Aimée Vibert scandens is an old friend (1828), and quite the best white from among the Noisettes; pure white when open, flowers in large clusters, always accompanied by clean green foliage, and flowering again in the autumn. A grand dark crimson to contrast with this is Graf Zeppelin, flowering very freely in large clusters, and continuously. For yellows over wide arches we may do well with Gardenia. A very sweet rose this, but only flowering well once. I have already alluded to its delightful foliage. Aviateur Bleriot is a saffron-yellow with a deeper centre, and retains its colour better than Gardenia or Robert Craig. For a larger flower one cannot do better than select Rêve d'Or, a good grower and continuous bloomer, that is almost sure to please if pruned carefully and only the older wood cut out.

Minnehaha and Delight, the first a double rosette-formed flower, and the last one of our clearest singles, both last longer than most, and carry exceptionally clean foliage. Some soft and pleasing blends of copper, salmon, and rose are found in Edmond Proust, Elisa Robichon, Francois Juranville, Joseph Billiard, Leontine Gervais, and Ruby Queen.

For more upright and narrow arches I would keep to the climbing polyanthas, although those already named may be made use of too. Scarcely anything can be better here than Blush Rambler, and its white sport, also Crimson Rambler. Electra and Goldfinch are two good yellows, but both, unfortunately, go much lighter in colour as they age. Waltham Bride is a good white. Grand deep reds are Climbing Liberty and Richmond, with Climbing Papa Gontier. Ards Rover is a dazzling crimson, shaded with maroon, and very perpetual. Reine Olga de Wurtemburg is difficult to beat as a deep and vivid red, and it is a continuous bloomer. Tausendschon, a rosy carmine-pink, has now produced a pretty, almost white sport, that will be very useful. William Allen Richardson is the most reliable of the deep orange-yellows, and generally does well.

It is useless to try any but exceptionally free-growing roses upon arches and porches, and one may safely select from any of those named above. Rosarian.

BUTTONHOLE ROSES.

Without doubt the rose is one of the most popular of all the flowers grown in this country, and deservedly so, for who is there who does not appreciate its charms, and as the flowers can now be had at all seasons of the year this makes them doubly valuable, especially as buttonhole flowers, which form one of the chief wares of the flower girls.

To many it is a source of wonder how such numbers of fine fresh blooms can be produced at the dullest period of the year, and sold at the prices they are at the present day. This could not have been done in years gone by. Our forefathers knew little or nothing about forcing roses by the thousand through the winter. It was not until we had cheap glass, the modern horticultural buildings, and the more scientific methods of heating, that such things became possible, and the rose advanced in popularity amongst the florists and general public. Thanks also to improved varieties and a better knowledge of the mode of treatment necessary to induce the plants to produce a profusion of flowers, we are now able to enjoy the beauty of these favourites at all seasons. Where houses can be set apart specially for the production of these flowers during the winter and early spring, there should be no difficulty in keeping up a supply of bloom, but the case is far different where the grower has to associate roses with other forced plants; it is then that the difficulty arises in keeping up a supply of bloom, and one cannot wonder should there be failures.

In the first place, before any attempt be made at forcing it is essential that the plants be well established, for one cannot reasonably expect a wealth of bloom from plants that have recently been lifted from the open ground; they should have been grown at least one season in pots before forcing is attempted. They should be stood in a sunny position out of doors, or, better still, be plunged, to save much watering. About the latter part of August these plants should be turned out of their pots, and, after the removal of a portion of the old soil, be repotted, using a rich compost consisting of about four parts of good turfy loam to one of dried cow manure; to this a liberal supply of dissolved bones may be added. The size of the pots used must be in accordance with that of the plants, but those from eight to twelve inches in diameter will usually be found most suitable; these should be well drained, so as to allow the water to pass away freely. When repotted they should be stood in the open until the new roots have become established in the new soil, which will be about the middle or latter part of October, when they should be pruned and housed ready for starting into growth. At this season of the year very little fire heat will be necessary, but as the weather gets colder it will require a greater amount to maintain healthy growth. Plants that have previously been forced and duly rested will start into growth much more readily than those which have not been so treated, therefore, it is always advisable where early blooms are required to use such.

Roses in their early stages of growth are very subject to both aphis and mildew, so a sharp look-out must be kept for these pests. It is not very difficult to rid plants of the former, as there are now so many good fumigants and insecticides on the market, but during the dull, sunless weather mildew is often prevalent, and unless this is kept in check the plants cannot thrive satisfactorily. Preventives are always preferable to cures, therefore, as a precaution, spray the plants once or twice a week with sulphide of potassium dissolved in water at the rate of about one ounce of the former to three gallons of the latter; this will prevent the mildew from doing any harm, and keep the foliage clean, which is a great advantage, as the blooms then develop much faster, and are finer. When the plants are in active growth it will be necessary to apply some stimulant, for roses are gross feeders; but this must be done with judgment, otherwise more harm than good will be the result.

There are now so many fine varieties suitable for buttonholes that to name a tithe of them would take up far too much space, and as most people have their own particular fancies as to shades of colour and shape of flower I shall only mention a few. Niphetos, in the bud, still holds its own as one of the best for early forcing, and its long-pointed, white buds are always appreciated. Bridesmaid is another good useful kind, of a clear pink colour. In Richmond we have a scarlet rose of good form that forces well. Madame Hoste is pale lemon-yellow, and good in every way. Madame Abel Chatenay, a bright carmine, is very popular; and Madame Falcot, a deep apricot; Lady Roberts, a coppery-red; L'Ideal, Sunburst, and Sunrise, and other good varieties. Where space can be afforded such kinds as W. A. Richardson may be grown, as they are pretty in the bud. It is, however, not the number of varieties that one need take into account, but the most profuse bloomers, and those best suited for the purpose. A mistake frequently made by private growers is trying to grow too many varieties, instead of contenting themselves with a few of the most useful. It is far better to grow a few well than attempt that which is beyond the means at disposal. H. C. Prinsep.

Michaelmas Daisies. — In the south-west of London the Michaelmas daisies have been far less satisfactory than in previous years. It was not that they flowered poorly, but just as they were at their best we experienced a spell of very hot weather accompanied with such a burning sunshine that the blooms shrivelled up completely, and in a few days their beauty was gone. I may say that I am entirely in accord with the opinion expressed on page 776, that, if limited to a single variety, Climax would be the selected one, as not only does it make a grand specimen, but the disposition of the sprays eminently fits it for cutting. —S. W.

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THE BEST ROSES FOR STANDARDS.

Roses grown in standard form enjoy a high degree of popularity among all classes of lovers of the rose, and deservedly so. Specimens with highly-developed heads are not only very beautiful in themselves, but they add much to the charm of those parts of the garden in which the roses are grown by relieving the flatness characteristic of beds and borders devoted exclusively to dwarf plants. Unfortunately for the attractions of the garden and the peace of mind of the owner, standard roses are seldom seen at their best. Instead of being furnished with large, well-balanced heads, bearing a goodly number of finely-developed blooms, a considerable number of the standards coming under notice present a more or less starved appearance, and bear but few flowers, these latter being relatively small in size and of indifferent quality. These unsatisfactory results perplex not a few cultivators, but they are by no means difficult of explanation. To state the case in the fewest possible words, the failures that occur in the cultivation of roses as standards is due simply to a misconception of the chief essentials of success. One of the mistakes that is constantly being made, and that, perhaps, the most important, is the selection of varieties that are quite unsuited to this method. The other is the want of appreciation of the fact that the English briar, as, indeed, are all the stocks suitable for being worked at some distance from the ground, is a hungry plant. If these two essentials are borne in mind when purchasing and planting, and have practical expression given to them, failures now so common will soon be reduced to the vanishing point.

There are hundreds of varieties of roses in the catalogues, and of a considerable proportion of them standards are offered by the trade growers. As a consequence of so great a number of the varieties being obtainable as standards, the inexperienced assume that nearly, if not all the varieties are suitable for growing in such manner. It is not suggested that the nurserymen are responsible for the existing state of things. They are compelled by an inexorable law to provide for their clientele the classes of plants that are in general demand. They would, unless the writer is much mistaken, be only too glad to limit the number of varieties grown as standards and proportionately increase the stocks of those which can be successfully grown under the conditions that usually obtain in gardens. The best varieties, and these only should be selected for growing in this way, are those possessing great vigour, combined with a somewhat branching growth and freedom of flowering. If the growth is not strong, the plants appear to fail in drawing up through the stocks the moisture and nutrient matter essential to their full development. They certainly make an attenuated growth, and present within a short period of their being planted a "sticky" and otherwise miserable appearance, which is retained until they are rooted out and consigned to the rubbish heap or fire. A free-branching habit is not less essential than a strong constitution, for when a few stout rods are produced in association with a number of small shoots, well-balanced heads and an abundant production of flowers are impossibilities.

The English briars, as do other roses suitable for use as stocks for standard roses, require a moderately rich and deeply-cultivated soil. They also thrive most satisfactorily in soil that is best known as a heavy loam, as evidenced by the remarkably vigorous growth made in a wild state when the roots have the run of soil that contains a moderate percentage of clay. Should the soil be light, owing to the large percentage of sand, add a quantity of clayey loam, if available. A layer about six inches thickness spread over the surface will be the most suitable, and to this should be added before the digging is commenced a similar quantity of well-rotted manure and leaf-mould in about equal proportions. Should the clayey loam not be available use the leaf-mould and manure in a slightly increased quantity. In the preparation of strong loams first spread over the surface a layer four or five inches in thickness of partially-rotted manure from the stable or farmyard, and apply bone superphosphate or finely-ground bones at the rate of 6 or 7oz. to the square yard. In all cases break up the soil to a depth of two feet, and well incorporate the manure chiefly with the bottom spit. Should the subsoil be very sandy, or stony, or consist of clay, and be less than two feet from the surface, remove enough to give the roots of the roses two feet of good soil and replace with such suitable compost as may be available. The planting should be done as early in November as practicable, the soil being trodden very firmly about the roots, and stake at once to prevent their being swayed about.

The following varieties are of exceptional merit for standard culture, and

A FINE GROUP OF ROSE FLORENCE PEMBERTON.

Grown in standard form at Kew. The blooms are a rich cream colour. (See page 802.)

can be recommended as the best in their several shades. They are, indeed, so good that not until they have been given a place in the garden should others be selected. Captain Hayward, H.P., bright red, not so continuous in flowering as could be desired; Caroline Testout, H.T., pink; Frau Karl Druschki, pure white; Florence Pemberton, H.T., rich cream colour; General McArthur, H.T., scarlet-crimson; Gustave Grunnerwald, H.T., bright carmine-pink; Hugh Dickson, scarlet; Lady Ashtown, H.P., deep pink; Lady Hillingdon, rich orange, passing to bright yellow; Lady Roberts, T., yellow, with apricot centre; La Tosca, H.T., cream, suffused blush; Madame Abel Chatenay, H.T., rich rose-pink; Madame Ravary, H.T., yellow, passing to cream-white with orange centre; Madame Jean Dupuy, H.T., light yellow; Marie Van Houtte, T., bright lemon-yellow; Molly Sharman Crawford, T., white; and Suzanne Marie Rodocanachi, H.P., bright rose. G.

ROSES FOR BEDS AND SMALL BORDERS.

Now that we have such an immense variety of roses the owner of a small garden finds much difficulty in allowing space for the yearly addition of some new varieties. For this reason an annual overhauling is necessary to bring the collection up to date. Many persons prefer a whole bed or border filled with one special variety, which provides a glorious mass of colour and flower. It is doubtful, however, if this is the best way of utilising space, or for providing a continual supply of bloom. Many varieties that give the best results in a mass are not so perpetual-flowering as others; therefore, although they may have the desired effect at one period, they are neither so interesting nor so useful.

For this reason mixed planting has its advantages. One can have masses of colour by including three, or even more, plants of one variety, and by a judicious arrangement of colours. This method of planting in variety is most interesting when strolling round the garden, and comparing varieties with friends, which is really one of the great charms of a garden. When the massing of one variety only in a bed or border is employed all we can say is we get a brilliant display of colour, which can be seen at a distance, but it does not provide equal interest on a close inspection.

However, that all may participate in the two methods of planting I will give a selection of varieties for massing and for planting in variety. The former may be made more interesting by the introduction of standards or half-standards in the same bed or border, as these add to the flowering mass, and also relieve the flatness of dwarf varieties.

The dwarf polyantha varieties are useful in providing continuously a quantity of flower, and also in hiding the soil near the edge of the beds or borders. Many growers plant too sparingly, and leave so much space between the roses that they are tempted to include other things, such as violas, mignonette, etc., which may serve the purpose of hiding the soil, but are not an advantage to roses.

Varieties for Massing.

The best H.P. varieties are Captain Hayward, scarlet-crimson; Frau Karl Druschki, white; Gloide de Chedane Guinoisseau, vermilion-red; Hugh Dickson, crimson—the long growths of this variety should be pegged down; Madame Gabriel Luizet, silvery-pink; Marquise de Castellane, clear rose; Tom Wood, cherry-red; and Victor Hugo, dark crimson.

Hybrid Teas.—Arthur R. Goodwin, coppery orange-red; British Queen, pure white; Chateau de Clos Vougeot, velvety-scarlet; Dorothy Page Roberts, coppery-pink; Duchess of Wellington, saffron-yellow; Ecarlate, brilliant scarlet, extra free and continuous; General MacArthur, bright crimson, especially sweet; Lady Battersea, cherry-crimson; Kaiserin Augusta Victoria, pale primrose, requires extra thick planting; Killarney, flesh, shaded white; Lady Pirrie, coppery-salmon, perpetual-flowering, strong grower; Madame Abel Chatenay, carmine-rose; Madame Jules Grolez, China rose; Marquise de Salisbury, velvety-red; Mrs. Edward Powell, velvety-crimson; Richmond, bright red - scarlet; Viscountess Folkestone, creamy-pink; Caroline Testout, bright rose; and Cheshunt Scarlet.

Tea-scented.—Corallina, deep rose, extremely good in autumn; G. Nabonnand, pale flesh, shaded yellow; and General Schablikine, coppery-rose. Rayon d'Or, sunflower yellow, flushed outside with crimson, is one of the finest roses ever raised for massing.

Dwarf Polyanthas.—Aschenbrodel, peach, with salmon centre; Aeunchen Muller, rose; Canarienvogel, golden yellow and orange; Boskoop Baby, china rose; Jessie, bright cherry-crimson, rather tall, like Orleans Rose in that respect, but free flowering, geranium red in colour; Ellen Poulsen, rich pink; Rodhatte, cherry-red; Gruss an Aachen, yellowish-red; Iceberg, pure white; Mrs. W. H. Cutbush, pink, shaded rose; Yvonne Rabier, white, sulphur-yellow centre; and Tip-Top, coppery-pink, yellow centre.

The best standards are Frau Karl Druschki, Caroline Testout, General MacArthur, Madame Abel Chatenay, and Ulrich Brunner.

For Mixed Beds.

In addition to the varieties noted above the following are especially desirable, embracing the cream of the new sorts (except those very expensive), and the best of older kinds. I have not named many hybrid perpetuals, as they do not flower in the autumn like the hybrid teas, and, therefore, are not so valuable: Horace Vernet, velvety-red; Hugh Watson, crimson, shaded carmine; Madame Gabriel Luizet, silvery-pink; Margaret Dickson, white, flesh centre; Mrs. A. M. Vierker, cerise; and Mrs. John Laing, soft pink.

Hybrid Teas.—Avoca, crimson-scarlet; Betty, coppery-rose, delightful for cutting; Carine, coppery-salmon; Countess of Gosford, salmon-pink rose; Countess of Shaftesbury, silvery-carmine; Dorothy Ratcliffe, coral-red, shaded yellow; Duchess of Westminster, madder-rose; Edward Mawley, velvety-crimson, quite one of the best garden roses raised; Florence Edith Coulthwaite, deep cream, stippled rose; Florence Haswell Veitch, brilliant scarlet, shaded black; G. C. Waud, orange vermilion; George Dickson, velvety scarlet-crimson, quite the finest dark rose yet raised; James Coey, deep golden-yellow; Jonkheer J. L. Mock, carmine, changing to imperial pink; Lady Ashtown, pale Rose du Barri; Lady Greenall, saffron-orange; La France, bright pink, still unsurpassed for perfume; Leslie Holland, deep scarlet-crimson; Lieut. Chaure, velvety crimson-red; Lyon Rose, shrimp pink, salmon shaded; Mabel Drew, deep cream and canary-yellow; Madame Melanie Soupert, salmon-yellow, suffused carmine; Margaret Molyneux, saffron-yellow, shaded apricot; Melody, deep saffron-yellow, with primrose-yellow; Mrs. Alfred Tate, coppery-red, shaded fawn; Mrs. Cornwallis West, pure white, flushed pink, especially sweet; Mrs. Peter Blair, lemon-chrome, golden-yellow centre; Mrs. Theodore Roosevelt, creamy-white, centre rose; Prince de Bulgarie, rosy-flesh, shaded salmon; and St. Helena, cream, with pink blush in centre.

Tea-scented Varieties.—Alexander Hill Gray, deep lemon-yellow; Dr. Grill, clear rose, so useful for cutting or buttonhole wear; Lady Hillingdon, apricot-yellow; Lady Roberts, apricot, shaded orange; Madame Lambard, bright rose; Molly Sharman Crawford, eau de nil white; Mrs. Foley Hobbs, ivory-white, tinged pink; and Mrs. Herbert Stevens, white, fawn, and peach shaded towards the centre.

Soil Preparation.

Soil preparation is important. Light loamy soils require little labour, as compared to heavy ones. Deep digging and the addition of plenty of half-rotted cow manure is all that is required. Soil of a sandy character should have an addition of clay mixed with the soil at planting time.

Stiff, heavy, cold, retentive soils that are not actually clay, but closely approach it, usually have an impervious subsoil, which, if not broken up, is all against success, as it provides a hard pan, through which the water from heavy rains cannot percolate during the winter and early spring, at a time when the roses are dormant. Such soils, and clays, when properly prepared, grow excellent roses. A month before planting trench the soil quite a yard deep, breaking up the bottom of each trench. Keep the surface soil in the same relative position, and add to the top spit half-decayed stable manure in quantity. If long strawy manure or road sidings are available they may be added to the lower trenches to assist porosity. A two-inch thickness of wood ashes, old potting soil, or decayed vegetable matter spread over the surface when trenching is complete will assist quick rooting when the plants are put in. If half-rotted turf can be had at planting time a small portion given to each tree will be an advantage.

Early planting is an advantage, as new roots are formed at once before the soil becomes cold. The end of October or early in November is the most suitable period. Take off the points of any long shoots at planting time to prevent the plants being loosened in the soil by wind, and stake standards securely. A thin mulching of manure about the plants in light soil, and of leaf-soil or decayed vegetable refuse in the case of plants in heavy soil, will keep roses snug for the winter, but I object to heavy manure in quantity on the surface of stiff soil, as it excludes air and warmth from the sun. Light bracken, straw, or even soil, drawn up around the collar of each plant, is best for protection.

Swanmore Park. E. Molyneux.

Selecting Pears for Planting.

—When selecting varieties choose only the very best to keep up a long supply, and unless the soil and climate are good, plant late varieties very sparingly, as these rarely ever come to perfection. Do not plant for the sake of variety, but enough of each of the best to produce a good supply. Williams' Bon Chretien, Triomphe de Vienne, Beurre d'Amanlis, Marguerite Marillat, Conference, Marie Louise, Pitmaston Duchesse, Doyenne du Comice (plenty of this), Durondeau, Charles Ernest, Emile d'Heyst, Beurre Hardy, Beurre Superfin, Glou Morceau, Josephine de Malines, Beurre Perran, Nouvelle Fulvie, and Le Lectier, etc., will grow well in the bush form in favourable districts. —H. Markham.

ROSES FOR PILLARS.

Among the many varieties of roses now in cultivation there is so much variation in habit of growth, as well as in the form and colour of the flowers, that it is possible to obtain varieties suitable to almost any purpose and situation. The type now under consideration—pillar roses—comes about midway between the dwarfs and the vigorous climbers, and the section includes some of the most beautiful roses. I think the section has been neglected, to a certain extent, since the Wichuraianas have come so much to the front. Without descrying the merits in the least of this latter popular type, there is not the slightest doubt but that it has often been planted where space does not allow full development, whereas there may have been ample room for a pillar variety.

What is desirable in a pillar rose is a character of growth that allows it to furnish a pillar to the height of about six feet or so without a tendency to produce too vigorous shoots, which would get out of bounds. Such roses are most useful for the upright pillars of verandahs, pergolas, and for low walls and trelliswork. They are seen to great advantage when trained to stout stakes, and in this manner they are very effective if arranged at intervals towards the back of herbaceous borders, or when grouped in a sheltered spot on lawns, selecting the more vigorous varieties to form the centre of the group. An arrangement I saw during the present season of several plants distributed evenly in a large bed, with a carpeting of violas, was very striking, as also was another with a groundwork of pegged-down Wichuraianas beneath them.

The cultural requirements of pillar roses are much in common with that of other kinds. It will be understood that they will differ constitutionally, as they originate from various classes, and some are much hardier and more robust than others. Roses require a well-drained soil in which to thrive, and if this important condition does not occur naturally it must be provided artificially before success can be anticipated; and as some of the choicest pillar roses are vigorous varieties of teas, hybrid teas, and noisettes, the importance of this matter will be understood. Such roses delight generally in a rich and moderately light soil of good depth, and no trouble should be spared in preparing the sites before planting. Fungoid attacks upon roses are much aggravated by unsuitable conditions of the soil. It frequently happens that pockets have to be formed at the foot of the supporting pillars of verandahs, etc., and it is essential in such instances, in addition to providing good drainage, to take care that the soil does not become dry, as they are not always in a position where the rain has full access to them.

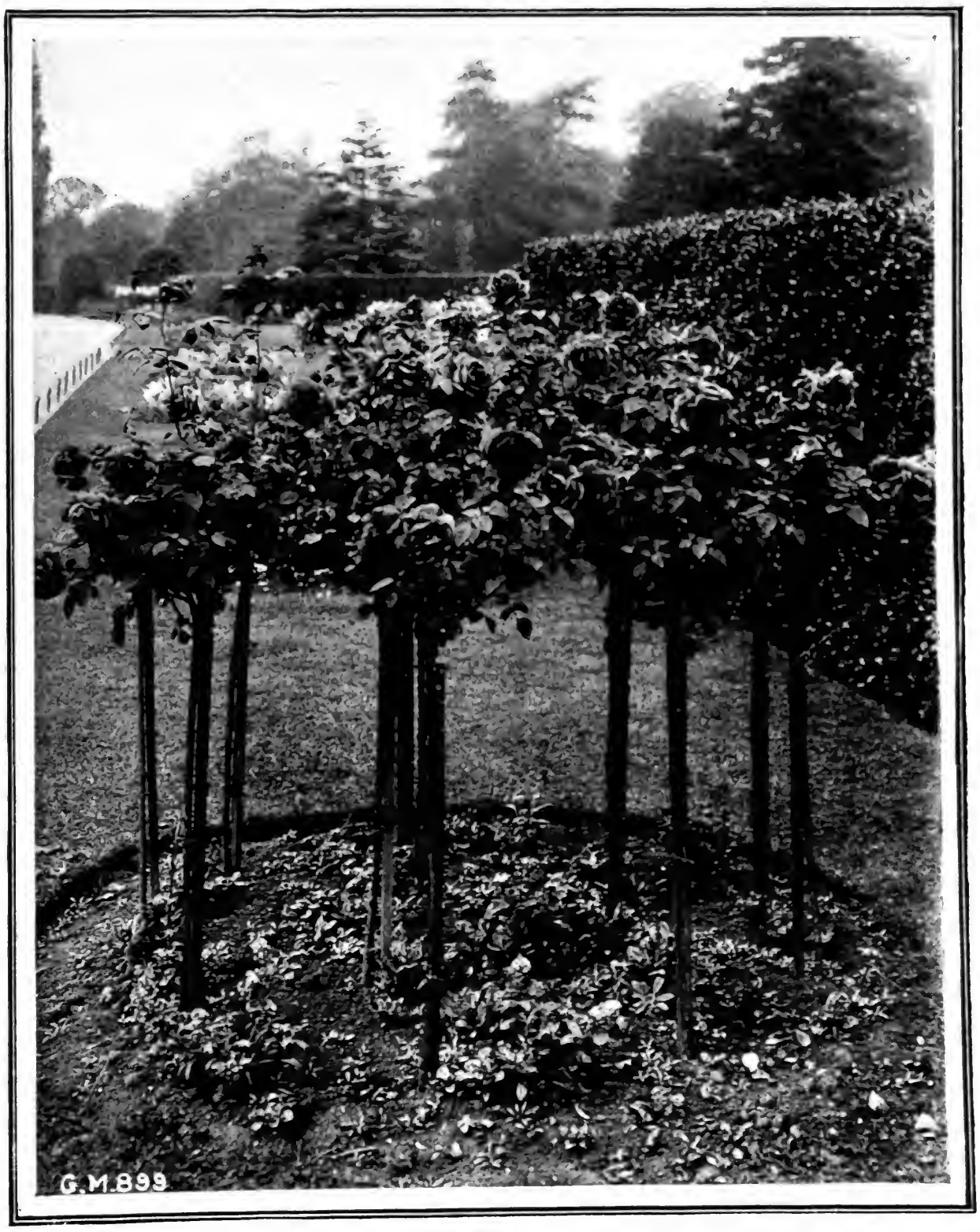
Established specimens are much benefited by occasional applications of some special rose manure during the growing season, and in the autumn a quantity of the surface soil should be removed, and new loam given, to which coarse bonemeal has been added. This treatment is most necessary to roses growing in a restricted root run.

Pruning pillar roses is an operation which exacts due attention. Young plants, the first spring after planting, must be pruned back hard to induce basal growth; the following season the work consists of cutting out all weak and old wood, and shortening back young shoots not required for extension. Securing the shoots, either by tying or nailing, is of importance, and in summer this will need regular attention.

Tea and hybrid tea roses of vigorous habit provide us with some very choice pillar varieties, and the following are reliable kinds in most districts: Madame Abel Carriere, Francois Crouse, Lady Waterlow, Gruss an Teplitz, Ards Pillar, Bardou Job, Waltham Climber, and Noella Nabonnand, while the climbing counterparts of the varieties Caroline Testout, Captain Christy, and K. A. Victoria are very desirable. Amongst the noisettes and their hybrids are several very free-flowering varieties adapted for pillars; some are rather tender and require a warm position, but the varieties Celine Forestier, Fellenberg, Alister Stella Gray, Longworth Rambler, Carmine Pillar, Charles Lawson, and Coupe d'Hebe thrive in most localities, while La marque, W. A. Richardson, L'Ideal, and Bouquet d'Or generally require some shelter. Madame Issac Periere and Marie Pare are two effective Bourbons, which rarely fail. Conrad F. Meyer, a Rugosa hybrid, makes an ideal pillar rose, invariably producing its fragrant flowers until Christmas. Climbing Cramoisie Superieure is a most continuous bloomer of rich colour. Several varieties of Penzance briars can be used with good effect, and their single flowers are generally admired; Amy Robsart, Anne of Geierstein, Refulgence, and Meg Merrilies are a few of the best.

One might give a much longer list of suitable varieties, but the majority of those mentioned can be depended upon. During severe weather it is advisable to afford roses of the tea and noisette sections a little protection, and pieces of bracken entwined amongst the stems is recommended for the purpose. T. B. Field.

Wych Place Gardens.



AN EFFECTIVE GROUP OF ROSE HUGH DICKSON,

Grown as standards at Kew. The flowers rich scarlet, and the illustration represents the group at an early period of the flowering season. (See page 802.)

Helenium Riverton Gem. — I consider this to be one of the finest border flowers brought forward within recent years, as it both grows and flowers freely. The warm terra-cotta tint of the flowers, with their reddish suffusion, form a particularly showy feature, so different in tint from the yellow-flowered composites and the Michaelmas daisies which go to form the bulk of outdoor flowers at this season.—T.

NEW ROSES OF THE YEAR.

Rosarians who take a special interest in roses of recent introduction will this year have no cause to complain of a slackening of effort on the part of raisers in their endeavour to maintain liberal supplies of novelties. So far from this being the case, their activities have been maintained at a high level, and these have been so successful as to place at the disposal of the rose-loving community a large number of new varieties possessing much merit. It may be that those who are conservative in their views with regard to roses may consider the number rather too large, but, in the opinion of the writer, this cannot well be the case, provided they are sufficiently high in quality to justify their inclusion in a representative selection. That those which have received awards during the past season from the National Rose Society or the Royal Horticultural Society may be so described there can be no doubt. With reference to these, it may be said that while any one cultivator may not require the whole number, or any considerable proportion thereof, there does not appear to be one that can well be spared. In the olden days, when roses, on their introduction, were judged solely from the exhibition standpoint, the case was different. Then there were but few types that engaged the attention of cultivators, and the estimate of the varieties was based upon the size, form, and colour of the flowers. It was, therefore, difficult to obtain in a selection of twelve or more varieties the necessary degree of distinctness. Now there are many types, each of which has its proper place in the garden, and, in the case of the majority, the growth receives hardly less consideration than do the flowers. There are, as so well known, both exhibition and garden roses, and the latter comprise several sections, all more or less necessary to the proper furnishing of the rose garden or to the production of attractive and continuous displays of bloom in the flower garden. Hence the possibility of having numerous varieties without the risk of their being in excess of requirements, or of a difficulty, in selecting from the novelties, of obtaining some that are too much alike. Of the novelties that were shown at the exhibitions of the National Rose Society at Gloucester, Regent's Park, and Westminster, thirty-one received awards, these comprising fifteen gold medals, nine silver-gilt medals, and eight cards of commendation.

H.T. ROSE MRS. F. W. VANDERBILT.

Flowers yellow, suffused rose-pink, orange centre. N.R.S. Gold Medal at Gloucester, July 15. Messrs. S. McGredy and Son.

(See page 805.)

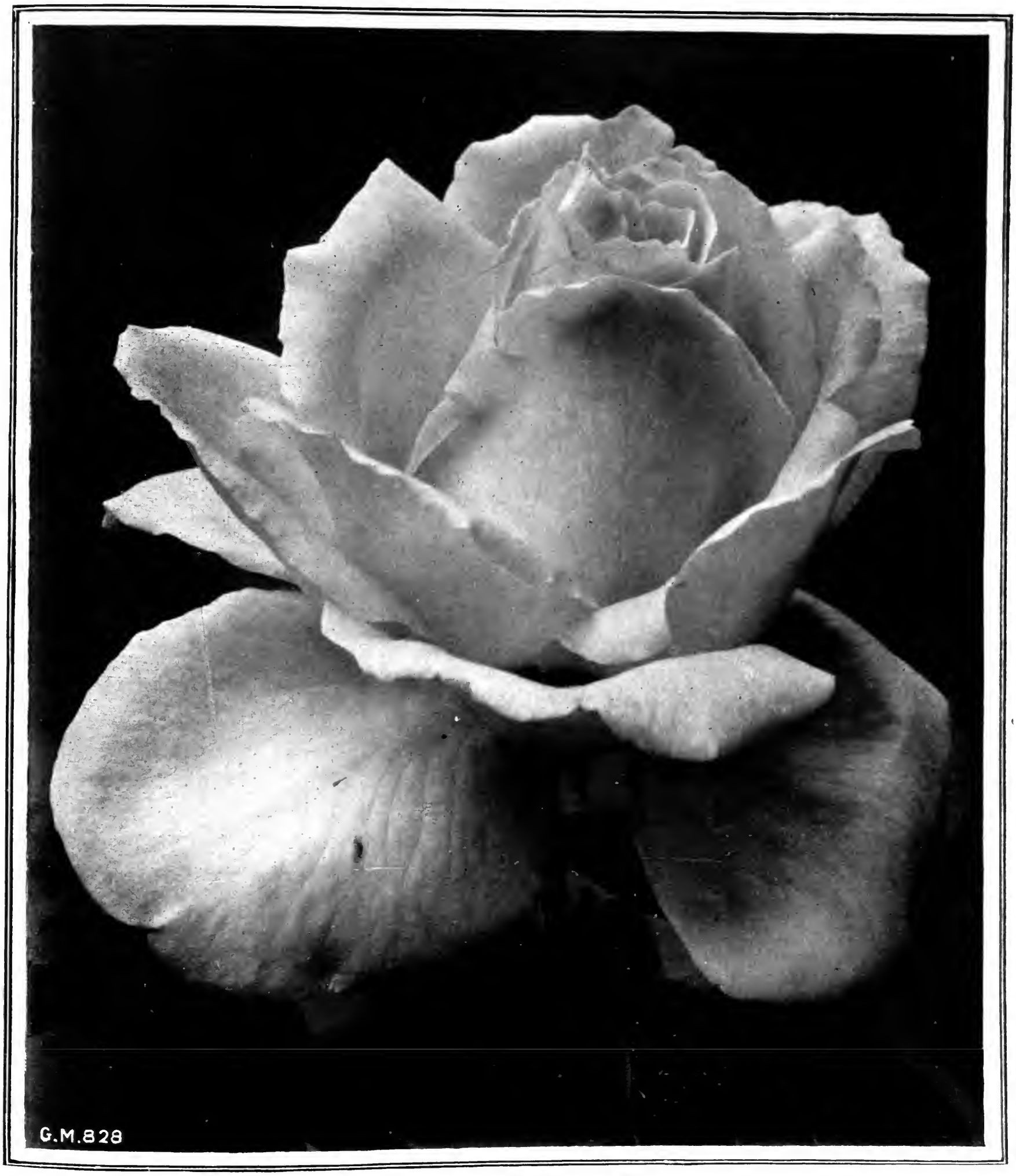
Gold Medal Roses.

The middle of July appears to have been more favourable to raisers for presenting their new varieties to public notice than the first week, for whereas but four roses

were awarded gold medals at the exhibition held in the gardens of the Royal Botanic Garden on July 4, seven received this high distinction at the Gloucester Show held on July 15. Especially conspicuous among the gold medal roses exhibited at Regent's Park was Queen Mary, raised by Messrs. Alex. Dickson and Sons, Newtownards, and unquestionably one of the most distinct and beautiful of the decorative roses of recent introduction. The blooms are above the medium size, fairly full, and the colouring is exquisite, the basal half of the petals being golden-yellow, and the upper half brilliant rose. Mrs. Forde (H.T.), from the same firm, is a pleasing soft yellow flower of high quality. The other two gold medal roses at this show were Brilliant (H.T.) and Mrs. J. Lynas, both of which were raised by Messrs. Hugh Dickson, Lim., Belfast. Brilliant is an important addition to the dark hybrid teas, for the blooms are of large size, with broad petals, and the colour is vivid scarlet-crimson. Mrs. J. Lynas is a fine exhibition rose, the blooms large, deep, and full, and the colour a pleasing pink hue, with a rose shading.

At the Gloucester exhibition four roses submitted by Messrs. S. McGredy and Son, Portadown, received the distinction of a gold medal, and these were Colleen (H.T.), Florence Forrester (H.T.), Iona Herdman (H.T.), and Mrs. F. W. Vanderbilt (H.T.). Colleen is a very beautiful flower, of good depth, with fine petals, and of a bright pink hue. Florence Forrester is a superb white variety that should quickly take a foremost place among the white roses. The blooms are of large size, fine form, and pleasantly fragrant. Iona Herdman may be described as a valuable addition to the decorative roses, being remarkable for its effective colour. In the latter respect it reminds one of Old Gold, but is much more intense. Mrs. F. W. Vanderbilt was first exhibited at the National Rose Society's Metropolitan exhibition in 1912, when it received a silver-gilt medal, and surprised not a few rosarians that it did not receive the higher award. The blooms are rather above the medium size, the petals are yellow suffused with rose-pink, and the centre rich orange-red, this colour extending some distance along the well-marked veins.

Very fine are Countess Clanwilliam (H.T.), Georgeous (H.T.), and Mrs. Archie Gray (H.T.), for which Messrs. Hugh Dickson, Lim., were awarded gold medals at



H.T. ROSE ANNIE CRAWFORD.

Flowers bright pink. A.M., R.H.S., July 29. Mr. R. W. Hammond, Burgess Hill. (See page 806.)

Gloucester, and when distributed they can hardly fail to take a high position among the many beautiful roses that have been raised by the firm. Countess Clanwilliam has the promise of proving a valuable addition to the exhibition H.T.'s; the blooms are of large size and superb form, and the colour cream, delightfuly suffused with pink. Gorgeous (H.T.) is a highly attractive rose, the blooms large, and the colour rich pink with orange suffusion. Mrs. Archie Gray is distinct in character and colour, and decidedly beautiful. The colour is bright lemon, and the flowers have a pronounced fragrance.

G. Amedee Hammond (H.T.) is an important addition to the yellow roses, and should bring fame to Messrs. Alex. Dickson and Sons, with whom it originated.

H.T. ROSE MRS. FORDE.

Flowers reduced, the colour pale yellow. N.R.S. Gold Medal, July 4. Messrs. A. Dickson and Sons, Newtownards. (See page 805.)

The blooms are large, and of fine form, and the colour is golden-yellow in the centre passing to light yellow in the other petals.

Edward Bohane (H.T.), which obtained a gold medal at the National Rose Society's autumn show, is a distinct and handsome variety, vigorous in growth, and free in flowering. The individual blooms are of large size, superb form, and the colour rose-red suffused bright red. Red Letter Day (H.T.) will appeal strongly to those who have a predilection for single roses, being distinct in character, and highly effective. The blooms are rather large, and the petals are of great breadth, and remarkable for their substance; the colour crimson-red. These were raised by Messrs. A. Dickson and Sons. Moonlight (H.T.), the beautiful cluster rose, which has recently been described and illustrated in these pages, was another of the fine roses that received the distinction of a gold medal, and it is interesting as placing the Rev. J. H. Pemberton, Havering-atte-Bower, Romford, in the forefront of raisers.

Edgar M. Burnett, H.T., has the promise of proving a most useful addition to the exhibition varieties of its class, and is one of the most notable roses raised by Messrs. S. McGredy and Son. The flowers are of large size, with stout petals of great breadth, and the colour is a delightful shade of pink. Muriel Dickson, H.T., is a superb variety, belonging to the hybrid briar or Pernetiana race, and merits attention for its attractive colouring, as well as for its fine shape. The blooms are of average size, and have finely-developed petals; the colour brilliant rose-red with a golden hue at the base of the petals. This was raised by Messrs. Hugh Dickson, Lim.

Silver-Gilt Medal Roses.

Eight roses received the distinction of a silver-gilt medal from the National Rose Society, and of these two—Muriel Dickson and Red Letter Day—were given the higher award of a gold medal at the Society's autumn show. The varieties, in addition to the two mentioned, are Mrs. Ambrose Ricardo, H.T., a beautiful exhibition flower, large in size, and globular in form, the colour pale cream, suffused lemon-yellow at the base of the petals, raised by Messrs. S. McGredy and Son; William Cooper, H.T., a finely-formed flower of large size, and of a deep red-rose hue; Mrs. J. W. Parker, H.T., a very beautiful variety with large, deep, elegant flowers of a rich blush colour; and Ulster Gem, a handsome decorative variety, the flowers large, single, and of a bright yellow hue. These have been raised by Messrs. Hugh Dickson, Lim. Mrs. George Norwood, H.T., raised by Mr. A. J. Hicks, Twyford, is a superb exhibition variety, the blooms large, of superb form, and very fragrant, the colour rich rose. Eileen Smiley, H.T., was finely exhibited at Gloucester by Messrs. McGredy and Son, and is a notable addition to the decorative roses; the colour is rich orange. Last, but by no means least, is Conway Jones, H.T., a brilliantly-coloured and splendidly-formed flower, raised by Messrs. Alex. Dickson and Sons, that will not fail to render good service on the exhibition stage.

Award of Merit Roses.

A goodly number of roses received recognition from the Royal Horticultural Society in the course of the past summer. These comprised Ophelia, H.T., one of the beautiful varieties raised by Messrs. William Paul and Son; the flowers are large, the buds long and pointed, and the colour a delightful combination of cream and flesh-pink. Mrs. W. Sargent, H.T., a distinct variety with large cream-white flowers; Mrs. Godfrey Brown, H.T., a charming rose of high quality, the colour flesh-tinted with rose shading on the outer side of the petals; Muriel Dickson, H.T., described under gold medal roses; and Ulster Standard, H.T., an effective single variety with brilliant crimson flowers. These were raised by Messrs. Hugh Dickson, Lim. Annie Crawford, H.P., was unquestionably one of the most noteworthy of the roses submitted to the Royal Horticultural Society, and was so splendidly shown by Mr. W. R. Hammond, of Burgess Hill, as to at once attract attention. The flowers are of the largest size, with great depth and fine petals, and the colour soft clear pink. The variety was raised by Dr. J. Campbell Hall, and can hardly fail to greatly enhance his reputation as a raiser. The remarkably beautiful white hybrid tea, Mrs. Andrew Carnegie, for which the raisers, Messrs. W. Cocker and Sons, Aberdeen, received the National Rose Society's gold medal in 1912, had an award of merit made in its favour at the R.H.S. meeting held on August 26.

We were much impressed by the beautiful yellow decorative rose, Mrs. G. Beckwith, exhibited at the National Rose Society's autumn show by Messrs. Beckwith and Son, Hoddesdon. The flowers are of medium size, full, and of a rich yellow colour, the foliage is good, and the variety should prove of much value for the production of flowers for decorative purposes in a cut state.

G. G.

VARIATION IN OAK LEAVES

To those interested in arboreal "sports," in which the foliage of well-known trees have been greatly varied in form, size, and make, generally by sports or mutation, a visit to the collection of such varieties in the oak, in Kew Gardens, cannot fail to be of interest.

This collection of probably a hundred or more is located near the river bank, and is reached by skirting the gardens directly from the main entrance, and turning to the left when the river comes into view. On either hand then we pass through a double row of oak trees of moderate size, on each of which, when inspected, the foliage will be found to differ, imitating closely in many cases the foliage of quite different species, by being deeply cut, lengthened, or shortened, and otherwise rendered very dissimilar to the ordinary form. Labels are attached to each variety indicating, as a rule, the type of leaf imitated.

C. T. D.

ROSES IN POTS.

Where suitable glass accommodation is available few plants give more satisfaction to the cultivator than roses. But to grow them with any large measure of success houses must be specially devoted to them. A mistake which is often made by the inexperienced is that of growing too many varieties. It is a much better plan to grow three or four well-tried sorts, choosing the colours which are most desirable for decorative purposes.

To be successful with early forcing the roses must be well established in their pots, and the wood be thoroughly ripened before placing them in the forcing house. Such plants should now be in an exposed situation outdoors, where they must remain until the time comes for placing them indoors. This time will, of course, be governed by the date at which flowers are required. Before placing them indoors remove a little of the surface soil, and top-dress with loam, old lime rubble, and bone-meal. In most private establishments no attempt is made to force roses till early spring, when the chances of failure are few, provided their cultural requirements are well attended to.

Pruning pot roses required for very early forcing should not be done until the wood is quite ripe; the growths should then be cut back to three or four eyes. An important point to remember when the roses are in active growth is to remove all the less promising shoots, and especially those which are growing in the centre of the plants. Very little pruning will then be required beyond the shortening back of the young wood.

Air must be very carefully admitted at all times, and unless the conditions outdoors are very favourable the top ventilators only should be used. Mildew is one of the worst enemies, and the grower will be wise to anticipate an attack of this troublesome pest by using flowers of sulphur freely about the house, especially near the hot-water pipes. Grubs also must be sought after, and picked off by hand when found. A mild fumigating with a nicotine compound will keep the plants free from aphis. During fine weather the foliage must be syringed with rain water, the temperature of which must not be lower than that of the house. During the early stages of growth water must be given with great care; later on, when growth and roots are more active, it may be given more liberally, and when the flower buds are forming stimulants must be given. Diluted liquid farmyard manure, sootwater, and guano may be given alternately.

After flowering the requirements of pot roses must be attended to just as assiduously as before, for it is then that the flowering wood for another season is developed. Those which have been forced early should be repotted in spring or early summer, and plunged outdoors, removing all flower buds as they appear. The later plants need not be potted until the autumn. Plants for late spring blooming may be dug up and potted now, plunging the pots in ashes up to the rims. Should very severe weather set in the roots must be covered with short litter, and some dry material be placed over the heads.

The climbing roses need similar treatment to the teas and hybrids in regard to their general cultural requirements. In this case the pruning consists chiefly in shortening hard back two or three of the weakest shoots to encourage strong growths from the base. After flowering the old flowering wood must be cut out to make room for the young shoots. At this stage the plants must be repotted, and plunged outdoors.

Pot roses of great merit are now fairly numerous, but a rigid selection has to be made in most places. Among H.P.'s the best are Captain Hayward, Frau Karl Druschki, Mrs. J. Laing, General Jacqueminot, and Ulrich Brunner. Good H.T.'s are Caroline Testout, Lady Faire, Liberty, Madame Abel Chatenay, Mrs. A. R. Waddell, Mrs. David Jardine, Richmond, Sunburst, Lady Hillingdon, and White Killarney. Of tea-scented roses a few of special value are Bridesmaid, Catherine Mermet, Madame Hoste, Souvenir de Pierre Notting, The Bride, Niphetos, and White Maman Cochet. Mrs. W. H. Cuthush is a capital dwarf polyantha variety for pot culture, and Ellen Poulsen promises well. Where space permits such rambling varieties as Dorothy Perkins, White Dorothy, Hiawatha, American Pillar, Coquette, and Mrs. Flight should be chosen, as they are most useful in bold decorations.

Lockinge Park Gardens. E. Harriss.

H.T. ROSE MRS. GEORGE BECKWITH.

Flowers rich yellow. Raised by M. Pernet-Ducher, and introduced by Messrs. G. Beckwith and Son, Hoddesdon. (See page 803.)

AMONG THE ALPINE FLOWERS.

"O come at last, to whom the spring-tide's hope
Looked for through blossoms, what has thou for me?"

At this season the lover of alpines is as the gleaner, going through the fields to gather up the few fragments left by the hand of the reaper. The rock garden cannot vie with the border in brilliancy and in beauty. Its loveliness is subdued, for its glory is over for the time, and it shrinks into a modest retirement, waiting for the sweet spring, when the alpine flowers seem doubly dear. Yet the true lover of the rock garden seeks to garner some treasures, however few they may be, and he loves to dwell upon their beauties and their virtues.

Zauschneria californica.

Perched on a prominent terrace stands the brilliant Californian zauschneria, or the "humming bird's trumpet," as it is popularly called. A very precious flower it is indeed, as it waves in the autumn winds, and cheers us as we pass it by or linger to look at its bright scarlet, trumpet-shaped blooms. It is a true treasure, which all should own where they can give it plenty of sun, and the light, dry, stony soil it seems to love. Of the various forms in cultivation one should be eschewed by all, save those in the warmer parts. This, which has hairy or pubescent leaves and branches, seldom comes into bloom timeously. The one here is different, and

this season it came into flower before August had entered upon its last week, and it saw September through. It is one of the most precious of autumnal alpines, growing here to a foot high, or a little more, and bearing in wonderful profusion its bright scarlet flowers. It is increased by cuttings, and a good group would be a bright feature in the large rock garden anywhere.

Polygonum vaccinifolium.

Another most valuable autumn rock garden flower is Polygonum vaccinifolium, whose little spikes of pink are so pleasing rising from the carpet of neat, glossy green leaves given by the plant. It is a charming thing for trailing over rockwork, and, when once established in a congenial place, not at all difficult to grow. The saving clause is necessary, however, as it is not too easy to establish, and it is not always that we hit at once on a place this beautiful little knotweed enjoys. Time after time has one lost plants which one thought were going on happily, but it is never wise to give up the attempt to cultivate a good flower because of a failure, or, for that matter, several failures. So it is best to try P. vaccinifolium again and again. One discovers that it does best here on a low part of the rock garden, where its trailing branches can hug the ground and the stones, where the soil is not too dry, and where the rays of the sun do not reach it too long in the day. It is facing north-east here, and is in a moist sandy loam, with a large admixture of sand. Here it has been established for some eight years, and is annually increasing in size and in attraction. Experience teaches that P. vaccinifolium dislikes a draught, and that it may be injured by hard frosts when in a position of this kind.

Colchicum Sibthorpi.

This lovely meadow saffron has been very scarce for a long time, but I am glad to see that it is now once more plentiful, and that it is being offered at a low price for a plant of its kind. It is by far the finest of the chequered meadow saffrons, or colchicums, the handsome flowers being beautifully chequered, chess-board fashion, on a ground hue which is much prettier and more delightful than that of the sister-chequered Colchicum variegatum. I think, however, that C. Sibthorpi is a little more tender than C. variegatum, and that it should be planted six inches deep in a more sheltered place than is required for its less refined and more plentiful sister flower, C. variegatum. These meadow saffrons are fast coming into favour for the rock garden in autumn. Good clumps are of the greatest worth there, and among them none will be more delightful than Sibthorp's meadow saffron.

Plumbago Larpentæ.

It comes hard to part from the above well-known name, not at all difficult to negotiate, and of which the popular name of "Lady Larpent's Leadwort" is such a good translation into our English tongue. But botanists tell us that Ceratostigma plumbaginoides is its proper name, and we who use the simple one are liable to be set down as "unscientific." So be it! We are quite content to lie under the accusation, so long as we can admire our flower and call it by a name which can be repeated by the many. It is a lovely late autumn rock plant indeed. Its exquisite flowers of blue look all the finer when they are associated with the wonderful colouring of the leaves themselves. One cannot hope to give any impression of these dying tints. They must be seen to be realised, but one would commend Lady Larpent's leadwort to the notice of all who cherish the rock garden plants, especially those which come to cheer us as we are passing into the darkness of winter, and which appear to say: "We come to greet you, and to remind you that soon our sisters of the spring will gladden your longing eyes."

Other Flowers.

As we wander round we see many other flowers still—most of them blossoms which have been for long with us, but which are willing to bide awhile.

Here is one of our chief favourites, Androsace lanuginosa, cheery as it was months ago. There, in the moraine, are some pinks which have been blooming away for months. Here, again, on the rockwork are others of the race, bright, though less plentiful than of yore. Stray helianthemums, and especially the double red H. amabile fl. pl., and its golden sport, Jubilee, are bright and useful; some geums yet give their showy blossoms; the campanulas are still in flower, as represented by the garganica varieties; several of the carpathica forms, and a late seedling of C. rotundifolia alpina, with a few more. Of the carpathica forms White Star is unusually fine at present. There are alyssums, erodiums, geraniums, violas, tunicas, Silene Schaftæ, Cyclamen neapolitanum, oxalises, with a few sedums and other flowers. Truly the alpine lover is not yet forlorn because many of his flowers have bid a long farewell. S. Arnott.

NOTES FROM SCOTLAND.

The Past Season.

Not for many years has the country generally been favoured with such a fine season as the present. The western districts in particular, noted for their superabundant rainfall, have special cause for satisfaction. Never were finer displays of autumn flowers seen. In this respect, the early-flowering chrysanthemums have been, and, in many cases, at present date (October 10), still are, very conspicuous, while many autumn-flowering subjects have closed their natural period of bloom and beauty unharmed by frost or other untoward circumstance. What are generally classed as summer bedders, i.e., pelargoniums, calceolarias, and a whole host of others, have revelled in the warm, dry atmosphere that has for long prevailed, and even now present, in many cases, very pleasing pictures of slowly-departing glory, as though reluctant to leave a scene that has been so well suited to them.

In the Glasgow public parks great numbers of the summer and autumn-flowering chrysanthemums, both single and double-flowered varieties, are grown, and, for the most part, rigid selection is carried out among the many, and the best retained. These, planted upon lengthy borders, or in plots, with due regard and forethought as to height and colour effect, have, in most instances, given unbounded satisfaction to all privileged to view them. To hint that this is entirely due to good culture would be misleading, though such is the primary cause, but much must be attributed to the introduction in quite recent years of so many new and beautiful varieties, far surpassing in habit of growth, earliness, and colour those so much in vogue but a decade ago.

Hollyhocks.

This stately flower appears to be again returning to favour, especially for the embellishment of public resorts. Large numbers have this year been in evidence in Camphill Gardens, the splendid adjunct to Queen's Park, Glasgow, and, judging by the still larger number of seedling plants being grown for next year, their culture will be much further extended. These, of course, will not, when in flower, compare very favourably with the splendid named varieties of forty or more years ago, yet vast improvement has of late years been made, and a strain of seedlings may now be obtained that will make a splendid display, single and double flowers, and great variety of colouring being represented.

Pentstemons.

The almost astounding advance and improvement that has been accomplished by raisers in this useful autumn-flowering plant has provided a new feature well in keeping with the shrubbery or wide stretches of greensward. More particularly does this apply to public parks or gardens, where display, as growing, is the main object. It may be remarked that the pentstemon is of little or no use as a cut flower, the spikes, however well they may be grown, lasting but a short time when severed from the plant and placed in water. Varieties are now numerous, and almost any colour or combination can be selected from the trade list of the specialist, according to the requirements or tastes of the grower. Moreover, the flowers withstand adverse weather conditions of wind and rain, also a few degrees of frost, very well, and with the exception of the chrysanthemum, they are sometimes the most conspicuous objects of the parterre late in the season.

I have in mind a rather narrow, semi-circular bed upon a grass-covered slope, with a compact edging of white-flowered heather, and in the centre, throughout its length, well-developed plants of the deep scarlet P. Southgate Gem, which for weeks past have provided a feast of floral beauty, and, even now, though subject to frost on two occasions, they are not without charm and interest. This is one excellent pentstemon of very distinct character, and there are many others obtainable equally free-flowering. The shrubby variety, Newbury Gem, scarlet, with its white and pink forms, is hardy in most districts, and is more useful for vase decoration, to which purpose its slender flower stems and verdant foliage lend themselves.

Cuttings of pentstemons, inserted under cover of a cold frame at this season, quickly strike root in a sandy compost. Protection by mats or other convenient mode of covering in very severe weather is all that will be required to ensure safety until the time for planting out returns.

James Day.

A Beautiful Tamarisk. — Few among our hardy shrubs form such a delightful feature during the latter part of the summer as a tamarisk, which is known by several names. When first especial attention was directed towards it, a dozen years or so ago, the tamarisk in question was known as Tamarix hispida æstivalis. After a time, however, we were assured that this name was not the correct one, which was Tamarix Pallasi rosea, and as such it is given in the Kew Hand List of trees and shrubs. Yet another change is now evidently thought desirable, as it is for the future to be known as Tamarix pentandra—at all events till that is superseded. These continual changes are a regular worry, and lead one to think that our botanical friends do not know their own mind.—K.

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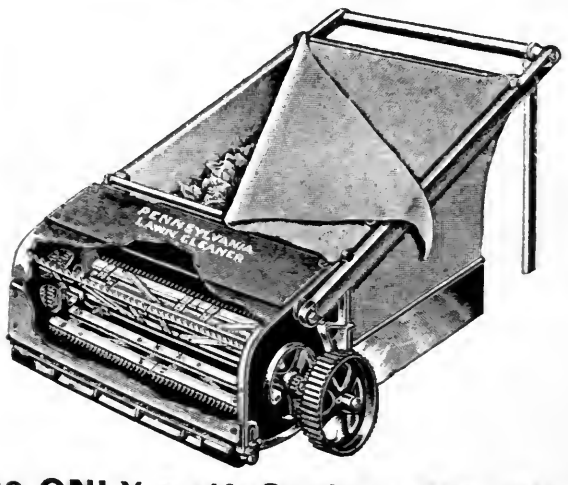

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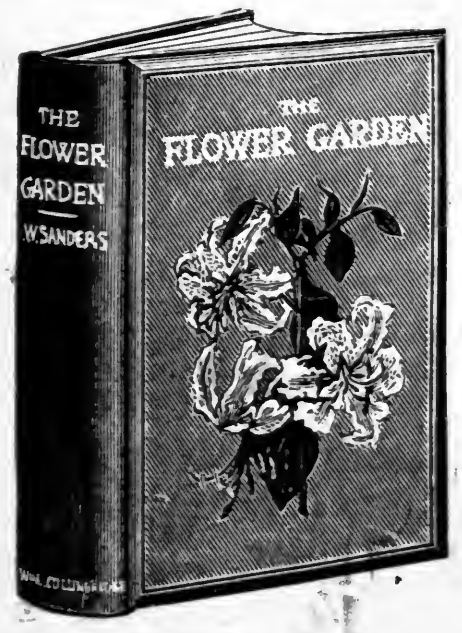

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MICHAELMAS DAISIES AT TAPLOW.

There is a peculiar charm about the flowers that come in autumn, when the shortening days and chilly evenings, the falling leaves, and other familiar signs remind us that summer has passed, and winter is drawing near. The flowers of spring thrill us with the joy of anticipation, whilst the autumn flowers engage us just at the time of shortening days and the dulness associated therewith.

Autumn flowers are by no means lacking in beauty of form of delightful colouring, a fact that is fully demonstrated at Messrs. Barr and Sons' new nurseries at Taplow.

Michaelmas daisies were, at the time of my visit just in the height of their season. An extensive collection is grown, and one realised whilst examining the many varieties how great has been the improvement effected in this family. No longer need we have straggly, untidy plants bearing flowers of indifferent colour, for among the newer varieties we have large-flowered, bright-coloured varieties, and dwarf, compact-growing kinds that produce myriads of tiny starry flowers that glisten like jewels on graceful branching stems, as useful for cutting as they are delightful in the border. The varieties of Aster ericoides and A. vimineus are general favourites, and, indeed, it would be surprising to find a lover of flowers who does not admire the daintiness and charm of these small but wonderfully floriferous types. A. vimineus Delight was one of the first to be noted, the plants forming symmetrical bushes nearly three feet in height, and from the groundline to the extremity of the branching stems there would scarcely be room to place an additional blossom. When first the flowers open they reveal a clear yellow disc, which gradually changes colour until it becomes almost chocolate-brown, old and young flowers combined thus presenting an effective diversity of colour. A. vimineus Lovely is almost a rose-pink, with a suspicion of mauve that is very pretty. This, also, is a very free variety, while Milky Way, growing in a good mass, appeared, as seen from a distance, like a billowy cloud just touching the earth. One might suppose a variety bearing this name would be white, but it is quite pink, and is perfectly charming. Of taller growth, and somewhat different habit is A. vimineus Bianca. The main stems rise to about four or four and a-half feet high, and branching horizontally from the stout main stem are numerous branchlets of considerable length, clothed with regular rows of white, yellow-centred flowers. The plants make a pyramid of flowers, graceful and effective. Somewhat on similar lines is A. vimineus Maidenhood, the flowers of which are large for this section. Bright red is still something of a scarcity in the aster family, but one or two varieties of the Novæ-Angliæ section are of really good colour. Mrs. J. F. Rayner is probably the richest in hue, and my notes record it as being a bold variety with crimson flowers, produced on stiff, erect stems, which are well clothed with the soft, somewhat woolly leaves which are characteristic of this section. A good mass of red is particularly welcome in the garden at this season of the year, and Aster Mrs. J. F. Rayner is therefore to be well recommended.

In the Novi-Belgii section we find a number of the most striking of the lavender and blue shades. The flowers are for the most part fairly large, and the growth is vigorous. Munstead Purple is very rich in colour, and, with its dark foliage and ruddy stems, it stands out well, especially when surrounded with white-flowered varieties or with yellow chrysanthemums. St. Egwin is a most beautiful variety, its dwarf, erect, and sturdy habit, and its clean, fresh-looking pink flowers, produced in large symmetrical heads, are quite distinct from those of other asters, and, as far as I have seen, there are few varieties that surpass it. If, however, I were obliged to make a choice of only one variety of the Novi-Belgii section, Climax would have the preference. This very closely approaches perfection. Its individual flowers are large, beautifully formed, with long, clear-coloured, almost azure-blue flowers with bright yellow disc, and they are produced in such numbers that even a single plant is conspicuous from a considerable distance. To see this fine aster at its best it should be grown on single stems. Each plant should be securely held to a firm but inconspicuous stake, and, if liberal treatment is afforded, the plants will branch out from the main stem in such a manner that when in full bloom they are literally pyramids of blue flowers standing at a height of five feet or so.

Several other excellent varieties were noted at Taplow, some of which are quite new, but mention of them must be somewhat brief. Glory of Colwall, one of Mr. Ballard's new semi-doubles, was flowering freely, as also was Peggy Ballard, a pleasing rosy-lavender flower of large size. Beauty of Colwall, Keston Blue, and a new variety of Coombe Fischacre named Brightness, are all distinct, and worthy of inclusion in the most select collections. Quite an old favourite, but still charming plant, is A. diffusus horizontalis, and for lightness and grace nothing can surpass A. cordifolius Ideal, the best of this section. No difficulty would be experienced in writing a lengthy article on other subjects that were making the nurseries gay, although the month of October was well advanced, and there had been heavy storms that one might have thought would have robbed most flowers of their charm. All that can at the moment be done, however, is to mention some of the plants that were so striking that visitors may well make note of should occasion arise to make a selection of hardy plants for late blooming. Glowing masses of rich orange and scarlet were provided by some of the smaller kniphofias, such as Macowani, Obelisk, Torchlight, and Ophir. Sutherlandia frutescens is a very decorative subject with tubular flowers suggestive of coral, and finely-cut foliage. Several choice varieties of Anemone japonica were very good. Alice, Queen Charlotte, Coronation, and Coupe d'Argent being among the best. Cimicifuga simplex, with its spikes of creamy-white flowers, was very attractive, and the collection of autumn-flowering crocus contained so many lovely little gems that justice could only be done them by writing of their charms at some length.

VISITOR.

APPLE LEAF-SPOT.

According to the "Journal" of the Board of Agriculture, this disease (Sphæropsis malorum, Peck) is the cause of serious injury to the apple, pear, and quince in the United States, where it has been recognised for a considerable time. It has only recently been reported as occurring in this country, although in all probability it has always been present, and has been passed over as being one of the other better-known fungi attacking our fruit trees.

The trunk, branches, leaves, and fruit are attacked. On the trunk and branches the fungus causes a roughening of the bark, either as local patches, or extending for a considerable distance, destroying the bark and exposing the wood. When a branch is girdled, the portion above the wound dies. It also occurs on slender twigs.

The fungus causes a brown rot of the fruit, commencing as a small spot which usually spreads over the whole fruit. The fruit may be attacked while on the tree, but the fungus is most abundant on fallen fruit, where it produces spores in great abundance, which infect the tree the following season. In this country it has so far only been observed on apple and pear, more especially the former, and is most frequent on the leaves and young branches.

On the leaves the first indication of infection is the presence of minute, dark purple spots, which gradually increase in size, usually retaining a more or less circular outline, reaching up to half an inch in diameter. Very frequently neighbouring spots coalesce, forming irregularly-shaped blotches. When old, the blotches are rusty-brown in colour, the central portion often being of a lead colour. Usually only after infected leaves have been lying on the ground for some time, very minute black points, the fruit of the fungus, are scattered over the central portion of the patches. Leaves that are infected fall early in the season, and if this defoliation is continued each season, as is almost certain to be the case unless preventive measures are taken, the trees become injured, and the fruit small and poor in quality.

No very large canker wounds have been observed in this country, but young twigs are attacked, the infected areas being indicated by the bark becoming dry and much cracked, and the epidermis or skin being lifted up and torn into shreds. On such diseased areas the perithecia, or fruit of the fungus, can be seen during the winter months, and it is mainly due to the spores produced on dead twigs that the leaves become infected in the spring. Scott and Rorer, who have investigated this disease in the United States, say that it occurs abundantly on dead twigs and branches in nearly every orchard, producing spores in enormous numbers. This is, perhaps, the most fertile source of infection for both fruit and foliage. In old orchards, particularly where pruning is neglected, the leaf-spot disease is much worse than in young orchards. The leaves of young trees adjacent to an old orchard become more spotted with the disease than those further removed.

These observations clearly indicate that the prompt removal of dead branches and shoots is a matter of primary importance in checking the disease. The fallen diseased fruit should also be collected and destroyed. It is not at all certain that the spores on diseased fruit eaten by pigs or other animals are killed. Numerous spores are also produced on fallen, diseased leaves, a fact that it is well to remember, although it has been stated that the collection of such leaves is impracticable.

However carefully the trees may have been pruned, and fallen diseased material destroyed, many spores are certain to remain on and around the trees. To prevent these from infecting the young leaves the trees should be sprayed with Bordeaux mixture, half strength. A first spraying should be made about a week after the petals have fallen, and a second about a month later. Self-boiled lime-sulphur wash may be used for spraying instead of Bordeaux mixture.

The perithecia are immersed in the substance of the matrix, the minute mouth or opening through which the spores escape just rupturing the epidermis of the leaf, and showing as a black point on the surface. The spores are elliptical, dark coloured, and average 25 × 12μ.

The blotches formed on apple and pear leaves by the scab fungus, Venturia inæqualis, Aderh. (=Fusicladium dendriticum, Fckl.), are readily distinguished from those due to the fungus under consideration, by the ill-defined blotches being blackish or olive in colour, and by the spores not being produced in perithecia.

Gladioli.—In most districts gladioli appear to have been very satisfactory this season, and undoubtedly the fine weather experienced contributed largely to this, the conditions being adverse to the spreading of disease to which the plants are subjected, consequently it was not nearly so prevalent as it has been in some former seasons. The corms should now be lifted and removed to a dry, airy shed; after a short time, when the soil and foliage have become dry, they should be cleaned off, and the bulbs put into bags or boxes and stored away where they will be safe from frost and damp.—T. B. FIELD.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEASONABLE REMARKS.—With shorter days and cooler weather both morning and evening, there is perhaps greater difficulty in maintaining the desired atmospheric conditions than is found in the depth of winter. when the weather outside is more settled and the fluctuation in temperature is not so great as at the present season. I pointed out quite recently that it was not desirable to damp the floors, staging, etc., before the normal temperature in the different departments had been reached. I would now draw attention to the condition of the amosphere outside, which, in the north-eastern counties at any rate, has been practically saturated with moisture for nearly a month. Such conditions, with very little sun and scarcely wind enough to move the foliage on the trees, render very little damping or watering necessary. With a lack of moving air stagnation is possible unless a discreet use is made of the heating apparatus. There is no occasion to use excessive heat, but there should be enough to permit the opening of the ventilators, and so secure a buoyant atmosphere.

TEMPERATURE.—The temperature in the different divisions should now be gradually reduced, so that by the end of the month the usual winter reading may be arrived at with the least possible check. The sun will have sufficient power to raise the temperature very considerably, where the air is clear; this will assist in drying up moisture, and help considerably to mature the growths.

RESTING.—Many of the deciduous orchids will now have matured their growths. Thunias which have shed their leaves should be examined for insect pests, and after these have been removed the old growths may be cut away and the plants placed in a dry, airy position; no water will be necessary until the turn of the days, and the new growths make their appearance. Practically the whole of the dendrobiums will now have reached maturity. Drier and more airy conditions should be afforded, and only sufficient root moisture be given to keep the pseudo-bulbs plump. Plants that have not completed growth should be placed at once under the warmest conditions obtainable to induce them to complete growth as soon as possible.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

POINSETTIAS.—Having completed their growth, these are commencing to develop their bracts, and must be kept in a temperature of 60 to 65 degrees by night, and a little more by day; overhead spraying must cease, and only occasional damping of walls, paths, etc., be given. It should be borne in mind that as the bracts develop the plants are fast approaching a dormant state, and consequently water must be applied with the greatest care, otherwise a loss of foliage is bound to ensue. Manurial applications also must cease. When the bracts have developed, to keep them in good condition as long as possible, the temperature may be reduced to 55 degrees, and the atmosphere be kept practically dry.

EUPHORBIA JACQUINIÆFLORA will require similar conditions and treatment to poinsettias, but, as this plant is slower in developing its racemes of flowers, it will require the higher temperature for a week or two longer.

CENTROPOGON LUCYANUS.—The effect of the beautiful spell of fine autumn weather is most apparent on this subject; this season the plants have made splendid growth, and are now fast developing their flowers. It is not too late to give them a last application of manure, either in liquid form or as a top-dressing, but this should be done at once. We prefer to mix equal parts of an approved fertiliser, finely sifted soil, and soot together, and give as a top-dressing about a dessertspoonful to each plant. Allow plenty of room. Water only when the plants are dry, otherwise they are apt to collapse entirely. A temperature not lower than 65 degrees will suit them best until the flowers are fully developed, when it may be allowed to recede to 60 degrees.

BEGONIA GLOIRE DE SCEAUX.—This beautiful late winter-flowering begonia is now developing apace, and a few plants, given the necessary room for full development, will require a large amount of house-room. At the same time, this is quite necessary, for, if cramped for space, they will become badly drawn, and produce a few flowers only on the top instead of making symmetrical pyramids with beautiful metallic foliage, studded within a few inches of the pot with the lovely pink flowers. We find them flower more freely when grown in 6-inch pots; after these are filled with roots a fortnightly application of soot, fertiliser, and soil, as recommended above for centropogons, is given. A temperature of 60 to 65 degrees by night and slightly higher by day will now suit them, giving, whenever possible, a little ventilation.—H. Prime, Hatfield Gardens.

FRUITS UNDER GLASS.

LATE PEARS AND PLUMS under glass will now be cleared of fruit. The season has been so favourable to the ripening of the wood that the trees should now be removed to the open air. Peaches, plums, pears, etc., which have ripened their wood under glass, will stand any reasonable amount of frost so long as they remain dormant. Place them in a position sheltered if possible from north and east winds; the spaces between the pots should be well packed with fern or litter to keep out frost, and they will then take very little harm through the winter, provided the soil is moist. The worst enemies at this season are birds and worms; the birds can be kept away by means of small-meshed netting, and the site the trees are stood on must be made firm, on ashes, and, as a further protection, a tile or slate should be placed under each pot.

POTTING.—Late trees may still be reduced, as recommended in the calendar of September 27, and repotted into fresh compost. Care should be taken not to force these late-potted trees, but, with careful handling, they will fruit well next season. Any young trees which were lifted last autumn, pinched, and otherwise specially prepared for potting up, may now be taken up and placed in pots from 8 to 10 inches in diameter. All stone fruits and pears like a fairly heavy, calcareous loam, well fortified with burnt earth, old lime rubble, bones, and soot, in preference to much animal manure of any kind. These trees cannot well be made too firm by ramming. The latest trees of Coe's Golden Drop plum should also be taken in hand, the roots being well moistened prior to potting; 12 to 14-inch pots are quite large enough for the ordinary run of trees. Such trees are best put in the open air, and, as they will not be required for forcing, new roots will be active enough by the time they are required.

STRAWBERRIES.—Pay careful attention to the watering of these plants, especially during dry, windy weather, as the pots will now be crowded with roots. If allowed to get dry, no after management can make good the injury done. Keep the pots clear of weeds, and see that the roots do not make their way into the material the pots are standing on. The best place for some time yet is right out in the open; indeed, it is a good plan to place strawberries on a trellis platform until frost and snow come, when they will need to be plunged up to their pot rims in ashes. It is a great mistake to house strawberries too early.

LATE MELONS.—The latest batch should be grown in pots, and, in order to impart as much flavour as possible at this date, a high temperature and fairly dry atmosphere must be maintained; 70 to 73 degrees at night is suitable, and a little ventilation should be given early in the day when the temperature reaches 78 to 80 degrees. Close early, and so secure a temperature of 85 degrees. Caution is also required in watering to avoid cracking in the fruits. Melons will keep sound much longer at this late season when cut than earlier in the season.—F. Jordan, Warter Priory Gardens.

THE FLOWER GARDEN.

HERBACEOUS BORDERS.—Most herbaceous plants have now passed out of flower, and the borders should receive immediate attention. Where plants have become overcrowded or weak, they should be taken up and the ground deeply dug and well manured. The stools of most kinds must be divided before they are planted again, and pieces from quite the outside should be selected for that purpose; this method is the only satisfactory one to adopt when dealing with borders which are in an overgrown or bad state. Where the conditions do not justify such drastic measures, all dead stems, etc., should be cut away, and any strong-growing kinds which are encroaching beyond their limit should be reduced. Make up all weak and vacant places, and afterwards fork in a good dressing of rotten manure between the plants. An effort should be made to have the various subjects correctly named. When wooden labels are used they require renewing frequently; iron or zinc labels with raised letters are to be preferred for the purpose, as they last for years.

LAWNS.—During the past two months grass has made exceptional growth, and consequently lawn mowing has needed constant attention. Should the weather continue mild the grass will still keep growing, but it is not often necessary or advisable to mow after the end of the present month. Worn turf on tennis courts and other playing lawns should be made good, and any uneven parts should also be levelled up; by carrying out such work at this time of the year it has several months in which to settle down before being used next season. Spongy and loose turf will be much improved if frequently swept and well rolled throughout the winter months.

THE ROSE GARDEN.—Roses resemble other deciduous shrubs in being benefited by early planting, and all preparations should be made to forward this operation as much as possible. When contemplating new plantations the ground should be previously deeply trenched and manured, so as to leave it in readiness to receive the plants directly they arrive from the nursery. It is most essential that soil shall be deeply worked for roses, especially if of a cold, retentive nature. It often happens that roses show signs of diminishing vigour after a few seasons; this can usually be accounted for either because the soil has become poor, or because the roots have reached unsuitable subsoil. By lifting such plants and trenching the soil, and adding a liberable quantity of farmyard manure and coarse bonemeal, they will readily respond when replanted.—T. B. Field, Wych Cross Place Gardens.

THE NATIONAL CHRYSANTHEMUM SOCIETY'S
GREAT AUTUMN SHOW
OF
CHRYSANTHEMUMS
will be held at the
CRYSTAL PALACE,
on NOVEMBER 5th, 6th, and 7th, 1913.
Write for Schedule (post free) to the Secretary,
Mr. RICHARD A. WITTY,
72, Savernake Road, Gospel Oak, N.W.
Admission to Palace (including Show), 1s.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

Despite the wet and dismal weather on Tuesday, October 21, there was a first-rate exhibition at the Royal Horticultural Hall, Westminster, and also a capital attendance. Dahlias, chrysanthemums, alpines, shrubs, fruits, and orchids provided the greater part of the display, and the first-named were of great excellence for so late in October. Novelties were not numerous, and no First-class Certificate was awarded, though the Orchid Committee granted six Awards of Merit, and the Floral Committee four.

CHRYSANTHEMUMS.

Mr. H. J. Jones, Ryecroft Nursery, put up a delightful exhibit of chrysanthemums, big blooms and singles being set up charmingly in stands and low bowls. In the back row the big blooms of Bob Pullen, Mrs. G. C. Kelly, Wiseman, Mrs. W. T. Smith, Mrs. J. Surry, Master Rex, and Joan Stratton were associated with tinted chestnut foliage and little sprays of the white Michaelmas daisy named Caterham Gem. This daisy was one of those final touches Mr. H. J. Jones is so fond of putting to his exhibits, and it was greatly admired as such. In the bowls we noted clean, fresh flowers of Sœur Melaine, Patricia, Arthur, Vick, Sonnie, Cranfordia, Mrs. Craigg, Mrs. Dorothy Weedon, and other good decorative and single varieties. Altogether a fine display, finely arranged. A capital group of dwarf-grown chrysanthemums from Messrs. H. B. May and Sons, Edmonton, contained good batches of Cranford Pink, Cranford Yellow, Julian Violet, Champ d'Or, and Cranfordia; heaths, bouvardias, and ferns completed the exhibit.

The chrysanthemums from Messrs. W. Wells and Co., Merstham, were greatly admired. Single, decorative, and big Japanese varieties were all represented. Among big sorts William Vert (A.M.), Mrs. G. Drabble, Mrs. R. Luxford, Queen Mary, and Mrs. David Syme were most conspicuous; while of singles, Caterham Bronze, A. J. Seabrook, Corrie Luxford, Kitty Riches, and Yellow Firebrand were most in evidence. Chrysanthemums were presented largely to view on this occasion. The Misses Price and Fyfe, Grove Park Nursery, Lee, contributed good stands of Rose o' the River, a bright single; the golden Cranfordia, H. W. Thorpe, Le Pactole, etc. From Messrs. J. Peed and Son, West Norwood, came a number of large Japanese blooms set in ferns in front of a background of singles, the latter including Joan Edwards, Queenie Jessop, Hilda Paice, Ceddie Mason, and autumn tints.

Mr. W. J. Godfrey, Exmouth, brought forward a number of large chrysanthemums, and an excellent selection of single and decorative varieties; of the singles Miss Mary Pope, Constance, Captivation, Attraction (fine scarlet, new), Mrs. Gilbert Phear (palest mauve), and the yellow Canary were capital.

DAHLIAS AND ROSES.

The bank of dahlias set up by Messrs. Carter Page and Co., London Wall, suggested early September, and was ample evidence of this kindly autumn; the flowers were clear and bright, and put up in abundance, cactus, collarette, single, pompon, and pæony-flowered sorts being alike well represented. Mr. Jas. B. Riding, Chingford, confined his attention chiefly to pæony-flowered and collarette varieties of dahlias, and of the latter he had a capital collection in a great variety of colouring, the brilliant General de Sonis standing out conspicuously.

Dahlias and hardy flowers shown by Messrs. Thos. S. Ware, Lim., Feltham, made a brave show of colour; the pæony-flowered dahlias were very fine, notably the varieties Mrs. George Gordon, Pennant, Empress, Germania, Flamingo, and Colonel Cody.

Mr. George Prince put up roses almost as gaily as if it were a July day; the flowers were fresh and fragrant, and there were quite good blooms of Hugh Dickson, Mrs. Herbert Stevens, La Tosca, Lyon Rose, Lady Hillingdon, and Frau Karl Druschki. The Rev. J. H. Pemberton, Havering, exhibited his three new roses, Moonlight, Danae, and Daphne; the two former we have very frequently referred to in terms of praise.

CARNATIONS AND GREENHOUSE PLANTS.

A bank of carnations, composed of White Swan and Mrs. Lucy Mackinnon varieties, formed the centre of a large group contributed by Messrs. Wm. Cutbush and Son, Highgate; the flanking portions consisted of Michaelmas daisies, and such carnations as Mrs. L. D. Fullerton, Mdme. Barrato, and Lady Ingestre. In another part of the hall this firm set up some splendid hydrangeas, the heads of René Gaillard being extra fine. Libonia Penrhosiensis was also very well shown, and dwarf roses were quite good.

The carnations from Messrs. Stuart Low and Co., Enfield, were well displayed, and the group included large bouquets and stands of Salmon King, Empire Day, Gorgeous, Salmon Robe, Sunstar, Enchantress, Supreme, and the useful Rosette. Carnations were admirably displayed by Messrs. Allwood Brothers, Wivelsfield, Haywards Heath; among new varieties we made note of Cinderella, Yellow Stone, Fairmount, Enchantress, Supreme, and Wivelsfield White, the latter of fine form and substance.

Some capital carnations, exhibited by Messrs. George Fairbairn and Sons, Botcherby, Carlisle, were of much interest to specialists. One named Cinderella, with scarlet flakes and shading on heliotrope, gained an A.M.; Trafalgar Day, deep scarlet, and Violetta were two other good varieties shown well by the Carlisle firm.

A bank of handsome greenhouse flowering plants from Messrs. Jas. Veitch and Sons, Chelsea, was composed of batches of dwarf chrysanthemums, the yellow Lindenbergia grandiflora, the rich blue Exacum macranthum, and the showy winter-flowering begonias Fascination, Mrs. Heal, Exquisite, Optima, and the wonderfully free-blooming rich carmine-pink Elatior.

Very bright were the pelargoniums staged in large bunches by Mr. A. H. Cole, Swanley, Kent. Messrs. Wills and Seegar, South Kensington, exhibited fine crotons, hydrangeas, Phœnix Roebelini, art bowls—some a very clever imitation of old bronze receptacles—bertolonias, and the pretty Erica gracilis.

HARDY FLOWERS.

A large and very attractive exhibit from Messrs. Dickson and Robinson, Manchester, received and deserved much admiration. This firm does not often come to Westminster, but when it does then a good exhibit is assured. Michaelmas daisies were delightful, and were all represented by single-stemmed plants, lifted, and with the roots bound up in damp canvas. The arrangement of the taller growers over the dwarf ones was capital, and here and there were large stands of decorative, pompon, collarette, and cactus dahlias and chrysanthemums, the latter being also used as a margin. A few particularly graceful small-flowered perennial asters were Virgin Queen, Approval, Maidenhood, Chastity, Delight, and Ringdove. These and other varieties of similar elegance made this display a particularly elegant and pleasing one. Lilium sulphureum, and the beautiful gladioli Afterglow, Peace, and Dawn were well shown by Messrs. Barr and Sons, Covent Garden, with other hardy flowers.

Fragrant violets from Mr. J. J. Kettle, Corfe Mullen, Wimborne, were a centre of interest for ladies, their size, colour, and sweetness attracting general attention. Marie Louise, Mrs. J. J. Kettle, Mrs. J. J. Astor, Kaiser Wilhelm (a very big single), Czar, Admiral Avellon, Princess of Wales, and La France were a few of the best in a first-rate collection. The Wargrave Plant Farm, The Arcade, Liverpool Street, contributed a large selection of early chrysanthemums, and associated them with coloured beech foliage; among lowly hardy plants exhibited by this firm Polygonum vaccinifolium corokia, cotoneaster, and Pratia begoniæfolia with dark purple berries were attractive species.

Gentiana acaulis, Nierembergia rivularis, saxifrages, and the quaint grey-leaved Matthiola fenestralis, with a few dwarf conifers, made up an interesting rock garden exhibit from Mr. Clarence Elliott, Six Hills, Stevenage. Messrs. Whitelegg and Page, Chislehurst, also displayed a little rock garden, and in it they had graceful hardy fuchsias, colchicums, the charming Potentilla Miss Willmott, Cheiranthus alpinus, mimuluses, sedums, and New Zealand veronicas.

TREES AND SHRUBS.

Messrs. J. Cheal and Son, Crawley, provided an interesting exhibit of sprays of trees and shrubs with autumn colouring and autumn berries. Maples, viburnums, oaks, hypericums, rhus, symphoricarpus, azaleas, and crataegus were capital, and a small collection of ceanothuses in full floral beauty added to the attractions of the group. Near by the same firm put up a collection of graceful conifers suitable for garden decoration and a small collection of clipped trees. Colutea cruenta, Desfontainea spinosa, Cytisus capitatus, nerines in variety, and colchicums were a few of the interesting things in a group put up by Mr. G. Reuthe, Keston, Kent.

Mr. L. R. Russell, Richmond, put up a very extensive display of bamboos and tree ivies across the top end of the hall, and brightened up the sombre hues of shrubs with clematis, hydrangeas, ceanothuses, lithospermums, hemamelis, etc.

ORCHIDS.

A fine specimen of Cypripedium picturatum, with five-and-twenty flowers, gained a Cultural Commendation for Mr. White, grower to Sir Trevor Lawrence, Bart., Dorking. Cattleya Empress Frederick var. Avid Clifton, from Pantia Ralli, Esq., of Ashtead Park, gained an A.M.; it is a lovely thing with white sepals and petals, and a gold, white, and soft purple lip. F. Wellesley, Esq., Woking, and C. J. Phillips, Esq., The Glebe, Sevenoaks, each showed several orchids, and the latter gained an A.M. for Cattleya graniris, red-brown and purplish-crimson. H. S. Godson, Esq., West Hill, Putney, showed several sophro-lælia and sophro-cattleya hybrids.

Mr. W. R. Lee, Plumpton Hall, Heywood, brought up a small collection of cypripediums, and his leading sorts were C. Royal Sovereign, C. Pallas Athene, C. Boltoni with four white flowers, and the bold C. Dreadnought, and C. Queen Alexandra (A.M.) Some very choice orchids exhibited by Mr. H. Alexander, orchid grower to Sir George Holford, Westonbirt, Gloucester, were greatly admired. Oncidium varicosum Westonbirt var. had particularly large golden flowers; Cattleya Fabia was good, and so were Lælio-cattleya Neleus, Cypripedium Boltoni, Odontoglossum Vivien, and the lovely Brasso-cattleya Mrs. J. Leemann var. Rajah.

Messrs. Sander and Sons, St. Albans, exhabited Cattleya Mantini in good form, C.

Mrs. Pitt, L.-c. Walter Gott, the charming little Pleione præcox, the strange Dendrobium Cœlogyne, and Cœlogyne fuliginosa maxima. Dendrobium Phalænopsis Schroderianum and Oncidium varicosum were finely shown by Messrs. Stuart Low and Co., Enfield; of the first-named they had a beautiful white form. Cattleya Gaskelliana alba and L.-c. Luminosa were other good things.

Cypripediums in variety, Cattleya Bowringiana, the bright Phaius-cymbidium Chardwarense, and Miltonia cuneata were among the chief orchids shown by Messrs. J. Cypher and Sons, Cheltenham. Messrs. Hassall and Co., Southgate, put up Cattleya Dusseldorfi Undine, varieties of C. labiata, C. aurea, and C. Hardyana.

Messrs. Armstrong and Brown, Tunbridge Wells, contributed Cattleya Acis, C. Venus, and C. Thyone, all yellow-flowered sorts; C. Mantini, Brasso-cattleya Maronæ, Cypripedium Gaston Bulteel, several odontiodes, and Cirrhopetalum fascinator. Sophro-lælio-cattleya Laconia, with deep old rose flowers and a ruby lip, gained an A.M. for Messrs. Charlesworth and Co., Haywards Heath; Cattleya Mantini and Lælio-cattleya Thyone were also finely shown by this firm. Mr. R. G. Thwaites, Streatham, and Messrs. Flory and Black, Longley, Slough, also showed a few orchids.

FRUITS AND VEGETABLES.

Apples were very finely shown by Messrs. Jas. Veitch and Sons, Chelsea, though in other years the fruit from the Longley Nursery has often been of higher colour. In size, cleanness, and other evidences of high culture the collection was excellent. Outstanding varieties among the hundred-and-ten sorts shown were Annie Elizabeth, Bow Hill Pippin, Cox's Pomona, Blenheim Pippin, Bramley's Seedling, Lane's Prince Albert, Blue Pearmain, Gascoyne's Scarlet, Edward VII., Christmas Pearmain, Chas. Ross, Bismarck, Beauty of Stoke, Emperor Alexander, Cox's Orange Pippin, and King of the Pippins. Apples were capitally grown by Messrs. H. Cannell and Sons, Swanley, this firm setting up grand fruits of Hollandbury, Striped Beauty, Lord Derby, Dumelow's Seedling, Peasgood's Nonsuch, Bramley's Seedling, Chelmsford Wonder, etc.

Mrs. Gordon Canning (gardener, Mr. H. Prentice), Hartpury House, Gloucester, presented an interesting collection of cider apples with photographs of trees of these varieties. There was also a collection of culinary and dessert apples and pears, representing about eighty-five varieties, and all the samples were of a high order of merit. Lord Derby, Severn Bank (a local variety), Warner's King, Annie Elizabeth, Hollandbury, Ribston Pippin (fine colour), and Newton Wonder were fine dishes. Four large citrons, some splendid pears, medlers, melons, and Muscat of Alexandria, Alicante, and Mrs. Pince grapes completed a large display from such a distant private garden.

An excellent display of vegetables was made by Messrs. Barr and Sons, Covent Garden, and it was as attractive as excellent. There were two hundred dishes representing about a hundred and fifty varieties, and about fifty kinds, besides splendid samples of all leading kinds, notably of celery, leeks, cauliflowers, and onions; there were aubergines, mushrooms, capsicums, winter radishes, celeriac, herbs, salsify, maize, kohl rabi, and late peas, beans, and marrows.

AWARDS OF MERIT.

To Chrysanthemum Mrs. R. C. Pulling, from Mr. H. J. Jones, Ryecroft Nursery, Lewisham; to Chrysanthemum William Vert, from Messrs. W. Wells and Co., Merstham; to Chrysanthemum Amy Poulton, from Mr. H. Poulton, Ware; to Carnation Cinderella, from Messrs. George Fairbairn and Son, Botcherby, Carlisle; to Cypripedium Queen Alexandra, from Mr. W. R. Lee, Plumpton Hall, Heywood; to Oncidium varicosum Westonbirt var., and to Odontoglossum Vivien, from Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury; to Sophro-lælio-cattleya Laconia, from Messrs. Charlesworth and Co., Haywards Heath; to Cattleya graniris, from Mr. C. J. Phillips, The Glebe, Sevenoaks; and to Cattleya Empress Frederick, from Pantia Ralli, Esq., Ashtead Park, Leatherhead.

MEDALS.

Gold.—To Messrs. Barr and Sons, Covent Garden, for vegetables; to Messrs. James Veitch and Sons, Chelsea, for apples.

Silver-gilt Banksian.—To Mr. H. Prentice, gardener to Mrs. Gordon Canning, Hartpury House, Gloucester, for dessert, culinary, and cider fruits; to Mr. L. R. Russell, Richmond, for shrubs; to Mr. H. J. Jones, Ryecroft Nursery, Lewisham, for chrysanthemums.

Silver Flora.—To Messrs. J. Cheal and Sons, Crawley, for shrubs, etc.; to Messrs. Wm. Cutbush and Son, Highgate, for hardy flowers and greenhouse plants; to Messrs. Dickson and Robinson, Manchester, for Michaelmas daisies, etc.; to Messrs. Stuart Low and Co., Enfield, for carnations; to Messrs. Carter Page and Co., London Wall, for dahlias; to Messrs. Jas. Veitch and Sons, Chelsea, for winter-flowering begonias, etc.; to Messrs. W. Wells and Co., Merstham, for chrysanthemums; and to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids.

Silver Knightian.—To Messrs. H. Cannell and Sons, Eynsford, for hardy fruits.

Silver Banksian.—To Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Mr. Alexander, grower to Sir George Holford, Westonbirt, Tetbury, for orchids; to Mr. W. R. Lee, Plumpton Hall, Heywood, for orchids; to Messrs. Hassall and Co., Southgate, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Allwood Brothers, Haywards Heath, for carnations; to Messrs. H. B. May and Sons, Edmonton, for chrysanthemums, etc.; to Messrs. J. Peed and Sons, West Norwood, for chrysanthemums; to Mr. George Prince, Longworth, for roses; to Mr. J. B. Riding, Chingford, for dahlias; to Messrs. T. S. Ware, Lim., Feltham, for dahlias; and to the Wargrave Hardy Plant Farm, The Arcade, Liverpool Street, E.C., for chrysanthemums and alpines.

Bronze Banksian.—To Messrs. Barr and Sons, Covent Garden, for liliums and gladioli; to Mr. W. J. Godfrey, Exmouth, for chrysanthemums; to Messrs. Wills and Segar, South Kensington, for greenhouse plants.

SCIENTIFIC COMMITTEE.—October 7.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair); Messrs. G. Gordon, H. J. Elwes, W. C. Worsdell, R. Hooper Pearson, E. M. Holmes, J. Fraser, A. Worsley, F. J. Chittenden (hon. secretary), and C. R. Scrase-Dickins (visitor).

CYCAS REVOLUTA.—Mr. E. M. Holmes showed the ripe seed of Cycas revoluta. It had been grown and ripened in England.

UNCOMMON PLANTS.—Mr. H. J. Elwes showed a hippeastrum with green flowers, which, it had been suggested, was a hybrid between hymenocallis and a garden hippeastrum, two genera which have hitherto resisted efforts to cross them. It was, however, evidently Hippeastrum calyptratum, a species remarkable in the genus, not only for the curious growth which obstructs the throat of the perianth, but also from its evergreen habit.

TRICYRTIS STOLONIFERA, a plant which Mr. Elwes has found in bamboo jungles in Formosa, where it reaches a height of about 6in. only, while in England it grows 4ft. tall in gardens, still maintaining its underground creeping habit. Mr. Elwes also showed a lily which he had found growing in Formosa, where it flowered in March, bearing up to as many as forty flowers. It strongly resembled some of the forms of Lilium speciosum.

Mr. A. C. Bartholomew, of Park House, Reading, sent a number of interesting flowers, including Galanthus Olgæ, Gentiana Kurroo, Aspila buphthalmifolia, Solanum sisymbrifolium, Anchusa myosotidifolia, Malvastrum lateritium, and others.

AFRICAN FRUITS, ETC.—Mr. W. C. Worsdell exhibited fruits of a species of Eriodendron with its silky cotton-covered seeds, Areca nuts, and a leaf of mango from Zanzibar covered with scale insects, which he said was the usual condition there.

PELARGONIUM CITRIODORUM.—Mr. J. Fraser showed beautifully dried specimens of Pelargonium citriodorum and other forms from the Wisley collection, and commented upon the origin of these forms, mostly apparently from P. crispum. The results of Mr. Fraser's investigations will be published in the "Journal" of the society.

LINARIA HYBRID.—Mr. E. A. Bowles showed a Linaria which had appeared in his garden, and was possibly a hybrid between L. vulgaris and L. purpurea.

National Sweet Pea Society.

The annual general meeting of this society promised to be a most interesting one, and the members, to the number of nearly a hundred, who gathered at 2.30 p.m. at the Hotel Windsor, Westminster, on Monday, October 20, were not disappointed. Mr. Herbert Smith, chairman of committee, was voted to the chair, in the absence of the president, Sir Daniel Morris.

There were signs of coming excitement as soon as the minutes of the previous annual meeting had been read, when the Chairman pointed out that the recommendation of that meeting to the Committee relative to postal voting was not considered advisable, and if carried out would have been illegal. Captain Ashworth at once rose, and in very strong terms moved a vote of censure upon the Committee in the following terms: "The meeting expresses its regret that the General Committee failed to carry out the recommendation of the late general meeting to take a postal vote of all the members of the society upon modifications of rules that might be brought forward before the next general meeting." Needless to say this was rejected by a large majority, only three voting for it.

ANNUAL REPORT.

The annual report and financial statement for the year were then read by the hon. secretary. In the former it was made clear that climatic conditions were responsible for the failure of trials and outings. The exhibitions in London and Carlisle were both excellent, but the Committee evidently finds provincial shows expensive, and of little value in increasing membership. It was a pleasure to find that the dread question of "streak" disease is kept in mind by the Committee, and the offer of ten guineas and a gold medal to the first person who satisfies the Committee that a cure and preventive of this malady has been found should stimulate investigation. Membership has declined a little, or perhaps it would be better to say that a large number of subscriptions for 1913 remain unpaid. A sympathetic reference to the loss of Mr. Robert Sydenham, thanks to all helpers, and a notification of the London Show on July 16, 1914, and negotiations in progress for a provincial show at Belfast next year, concluded a most interesting and frank report.

Financially the Society had not done quite so well as usual this year. It had a turnover of £874 7s. 4d., but the balance carried forward is £23 8s. 10d, as against the one of £53 11s. 5d. brought forward from 1912. Outstanding subscriptions, Carlisle Show expenses and prizes, and the Viner Testimonial Fund, are answerable for this lessened balance to the good. Printing and stationery, necessarily a large item with a society that issues publications, came little short of £300, while over £50 for postages and telegrams show that the secretarial work is fairly heavy. The income from subscriptions came to £311 6s. 8d., as against £335 19s. 9d. in 1912. Some items of income are a little larger than usual,

and, on the whole, the Society is to be congratulated upon coming through such a busy year so well, for it has £200 on deposit, as well as many valuable effects.

The Chairman moved the adoption of the report and financial statement, and added a few lines to the former to the effect the Committee regretted that, for purely business reasons, Mr. C. H. Curtis was no longer able to continue as hon. secretary to the Society. Mr. Pearce seconded the motion, and it was carried unanimously.

Then followed votes of thanks to the retiring president and chairman, to committees, to treasurer, and to the hon. secretary. Many nice things were said about Mr. Curtis and his work for the Society since he became hon. secretary early in 1906, and to the thanks were added unanimously and with applause an honorarium of 70 guineas and the Gold Medal of the Society. There were expressions of regret that Mr. Curtis could no longer serve as secretary, and he himself pointed out that business matters alone prevented him from continuing to hold the position. The speakers to these various resolutions were Messrs. Gordon, Harrison, Harvey, Leak, Brunton, Bolton, W. P. Wright, Pinches, Want, and S. B. Dicks.

PROPOSED NEW RULES.

All these matters being disposed of, the Chairman, in answer to a question, said that Miss Hemus's proposed new rules should be taken en bloc. Captain Ashworth, on behalf of Miss Hemus, then moved that the proposed rules as circulated to members be adopted in supersession of those already existing. There appeared to be no seconder, and so Mr. H. J. Wright formally seconded the proposal so that it might receive consideration.

Mr. George Gordon, V.M.H., the first chairman and also the first president of the Society, pointed out the ignorance of society management evidenced by the proposals before the meeting. He averred that to block out traders altogether was foolish, as traders were as honest and honourable as other people, and he was especially severe upon proposed Rule 6, i.e., "That the business of the Society shall be conducted by a general committee consisting of the president, vice-president, treasurer, and twelve members. The whole of these must be persons who have never received money by the sale of sweet pea flowers, seeds, or plants, or for writing in connection with sweet peas, and who are not in any employment connected with the horticultural trade." Mr. Gordon expressed a hope that Miss Hemus's proposals would be rejected by an overwhelming majority because, if carried, they would inevitably mean the early end of the Society and its work.

Mr. Walter P. Wright waxed sarcastic, unnecessarily so, we thought, over the proposals. In his opinion the suggestion that subscriptions should be "payable on the anniversary of date of joining" was unworkable. Mr. J. S. Baker, while not approving of the proposals, hoped that those opposing them would do so with dignity. Mr. F. H. Chapman and Mr. G. W. Leak also spoke, and the motion was put, with the result that it was lost by 65 votes to 3.

On the motion of Mr. F. H. Chapman and Mr. T. Stevenson, thanks were accorded Captain Ashworth and Miss Hemus for the trouble they had taken in preparing and submitting proposals for new rules. It was pointed out that such thanks did not carry in any degree an endorsement of the proposals, or acquiescence in the unfortunate terms used concerning the committee when the members of the society were circularised by Miss Hemus.

Mr. S. B. Dicks drew attention to a printer's error in the proposed new rules for the regulation and conduct of the Floral Committee as submitted by Mr. W. P. Wright; he also asserted that these proposals, if adopted, could not become operative until the next annual general meeting, because they provided for nominations to be sent in "at least seven days before the annual general meeting." Mr. Dicks also called for a definition of an amateur, and the Chairman said that hitherto the committee had followed the R.H.S. definition. Mr. W. P. Wright said he was willing that his proposals should come into force at the next annual general meeting, and so eventually it was decided that his proposals should come up for consideration at a special general meeting, and if, or as, adopted, then they should become operative at the annual general meeting in October, 1914. A motion to this effect was carried by 42 against 14.

OFFICERS AND COMMITTEE FOR 1914.

A proposal to hold duplicate trials was defeated by the motion of Mr. F. J. Harrison and Mr. G. W. Leak, i.e., "That no second trials be held south of Burbage in 1914," which was carried unanimously. Mr. S. B. Dicks imported a little humour into these proceedings, and so the meeting was soon in good form for proceeding with the elections.

Mr. Hugh Dickson, of Messrs. Alex. Dickson and Sons, Newtownards and Belfast, was unanimously elected president for 1914; Mr. Edward Sherwood was re-elected hon. treasurer, and Mr. F. W. Harvey appointed chairman of committee for the ensuing year; Messrs. J. Collingridge, V. T. Hill, L. Perkis, Christy, and Bide moving the several resolutions. Mr. Gluyas was re-elected auditor of the Society's accounts.

The election of secretary occupied a good deal of time; there were four nominations, and these were Messrs. A. C. Bartlett, T. A. Weston, H. D. Tigwell, and Harry L. Foster. On the first ballot Mr. Tigwell led, and Messrs. Weston and Foster tied for second place; but, as Mr. Tigwell had not a majority of the votes cast, there was a second ballot, which left Mr. Weston and Mr. Tigwell in competition, and, curiously enough, these two tied with 39 votes each in the final ballot, and the chairman cast his deciding vote in favour of Mr. Tigwell. It was stated that the office would be a salaried one at £50 for the year 1914.

There were several resignations from the General Committee, and a few ineligibles. Those added to make up the thirty-six were Messrs. A. L. F. Cook, E. J. Gee, G. Herbert, J. S. Baker, A. Ireland, N. Thornton, F. C. Beale, C. H. Curtis, and W. H. Holloway; while Messrs. E. Cowdy (Ireland) and W. Cuthbertson (Scotland) were added to the list of corresponding provincial members of committee.

The scrutineers were Messrs. E. G. Quick, W. J. Stevens, and T. A. Weston, and they presently reported that Messrs. Thos. Jones, A. Ireland, T. Stevenson, R. Bolton, C. H. Curtis, Herbert Smith, G. W. Leak, A. Malcolm, and H. J. Wright had been elected by ballot to act as the Floral Committee in 1914.

A vote of thanks to the Chairman concluded the proceedings.

At the commencement of the conference proceedings it was announced that the General Committee had elected Messrs. R. Bolton, C. H. Curtis, H. J. Wright, T. Stevenson, A. Ireland, H. S. Bide, A. Hallam, H. Smith, G. W. Leak, J. S. Brunton, E. W. King, A. G. Stark, V. T. Hill, F. H. Chapman, and H. A. Perkis to act as the Executive Committee during 1914.

DINNER AND CONFERENCE.

About three dozen members dined together at 6 o'clock under the presidency of Mr. Hugh Dickson, who generously provided wines and cigars and cigarettes, and also subsequently provided fumigants for those who attended the conference. The only toasts were the loyal ones, "The Society," and "The New President."

A few minutes after 7 o'clock the President opened the conference proceedings by adverting to previous conferences, and the good they had done. He then called upon Mr. J. S. Brunton, who gave an admirable paper on "The Sweet Pea Industry." Mr. Brunton showed that the industry covered a wide field, and ranged from the raiser and grower down to the vase manufacturer, and the purveyors of special manures, flower pots, insecticides, etc. California, he said, produced about 665 tons of seeds per year, and one firm alone there had handled 134 tons of sweet peas. Germany and Holland chiefly provided seeds of grandiflora varieties. In 1903 one could purchase 1,200 seeds for 2s. 6d.; in 1913, 240 seeds for the same sum; the difference being due to the lower seed production of waved varieties. He referred to the great development of the cut flower trade in sweet peas in this country, both in the open and under glass, and stated that one firm alone had this year grown 25,000 disbudded plants, and for a long period cut 2,000 bunches of first-class flowers daily. £104 were realised in one week for 7,554 bunches of 12 spikes each of first-class flowers, and £94 for 19,792 bunches of ordinary blooms, and a larger number of spikes per bunches. The Edinburgh markets disposed of about £1,500 of sweet pea flowers in a season.

A firm near London made a speciality of sweet pea seedlings in pots, and used from 6 to 7 cwt. of seeds and 250,000 pots. In these and many other ways Mr. Brunton gave a most interesting and entertaining account of the industry.

A capital discussion followed, and, as a result, Mr. Brunton's remarks were amplified, but not one of his facts was questioned. Messrs. C. H. Curtis, H. Smith, V. T. Hill, T. Stevenson, T. A. Weston, G. Burt, A. Ireland, G. Drayson, T. W. Harvey, G. W. Leak, and Christy, took part in the proceedings, which were throughout carried on with great spirit. Mr. Ireland's advice as how best to secure a good crop of seeds will be long remembered. It was, "Pray, pray; but with a hoe in your hand." The desire that more attention should be paid to sweet peas for garden decoration was voiced in no uncertain manner, and made a considerable impression.

Mr. J. S. Brunton was heartily thanked for his lecture, and he in turned moved a vote of thanks to the President, which was accorded with great cordiality. And so ended a strenuous day and a somewhat critical one in the history of the Sweet Pea Society. We thoroughly endorse the closing sentence of the committee's report, i.e., "Hearty co-operation alone is needed to make the future of the Society as successful as its past.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
1913. October 12 to October 18.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 12—Sunday	7 18	53	52	66	40
,, 13—Monday	4 38	46	46	64	41
,, 1 —Tuesday	1 6	54	53	61	45
,, 15—Wednesday	4 54	54	52	58	52
,, 16—Thursday	5 0	51	50	63	49
,, 17—Friday	7 18	48	48	61	36
,, 18—Saturday	6 54	48	48	62	36
Means ..	(total) 37 6	50	49	62	43

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
1913. October 12 to October 18.	ins.	deg.	deg.	deg.	deg.
Oct. 12—Sunday	—	53	55	56	31
,, 13—Monday	—	53	55	56	34
,, 14 Tuesday	·09	53	55	56	35
,, 15—Wednesday	—	54	55	55	43
,, 16—Thursday	—	54	55	55	47
,, 17 -Friday	—	53	55	55	30
,, 18 Saturday	—	52	54	55	27
Means ...	(total) ·09	53	55	55	35

ANSWERS TO CORRESPONDENTS.

SYMPHORICARPUS WITH COLOURED BERRIES.—E. A. S., Grantham: Your excellent illustration of the new Snowberry in the issue of October 11 leads me to ask whether any hardy members of the genus symphoricarpus has coloured berries. I shall be greatly obliged if you will answer this question as early as possible.—So far as we are aware, there is no symphoricarpus in cultivation with coloured berries. S. orbicularis, also known as S. vulgaris, bears the popular name of Coral Berry, but it has white fruits. Of this species there is a very pretty yellow variegated form named folius variegatis.

MARGUERITE MARILLAT PEAR. — R. T. H., Cobham: Please tell me whether Marguerite Marillat pear is a good variety to plant in a comparatively small garden. I have noticed this pear is frequently referred to in your pages in reports of exhibitions, and I believe the fruits attain a large size under high cultivation, but I fully understand that this does not necessarily mean the pear is a first-rate one for a small garden where only a few varieties can be accommodated.—This fine pear is a capital one for a small garden, as it crops freely and regularly; indeed, unless it is well fed, and some parts of the tree are occasionally pruned hard back to secure new and strong growths, this variety will crop so heavily that ere long the trees fail from exhaustion. It is a large September pear, of good flavour, and its season may be prolonged by picking some fruits early and placing them in a warm room, and by carefully storing the others; but it is in no sense a good keeping pear. Marguerite Marillat was raised about 1874 by a French nurseryman, near Lyons.

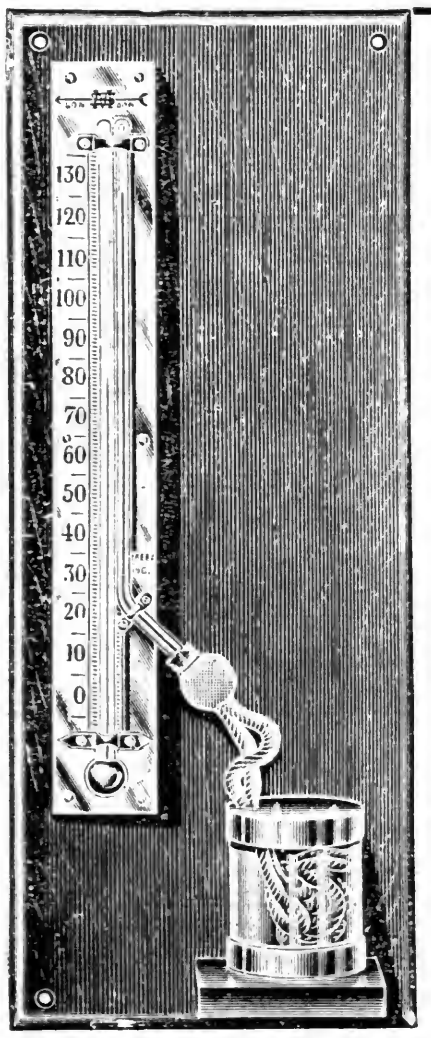
PROPAGATION OF NUTTALLIA CERASIFERA.—E. G., Cardiff: I have a good plant of Nuttallia cerasifera, and shall be glad if you will kindly tell me how best to propagate it.—The Californian Nuttallia cerasifera may be raised from imported seeds, or from cuttings of half-ripe growth inserted in sandy soil under a bell-glass or hand-light. Another method, and a good one, is that of carefully removing and transplanting sucker growths. Layering in autumn is also a good plan, and one we specially recommend you to try; choose one or two of the lower branches, and layer them in sandy soil.

EPIPHYTE AND PARASITE. — J. G., Carlisle: Please tell me the difference between an epiphyte and a parasite in the plant world.—An epiphyte is a plant which grows upon another plant, but does not draw its sustenance from the plant it grows upon. A very large number of orchids are epiphytes, as they grow upon tree stems and anchor themselves by gripping the bark with their roots. A parasite grows both on and in the plant which carries it, and draws all or part of its food supply therefrom. Two common instances of British plant parasites are to be found in the Dodder and the Mistletoe, but many fungi are also parasites.

STORING POTATOES IN CLAMPS. — F. S. L., Penrith: I have a larger quantity of potatoes than I can conveniently store in cellars, therefore I propose to clamp them. I have seen potatoes and swedes clamped in fields, and so have a general idea of the plan of procedure; but I should be glad if you will say what is the best method to follow. Select a site well-drained, and raised a little above the surrounding level, either naturally or artificially. On this place a thick layer of straw, and cover the estimated length and width. On the straw place the potatoes carefully, rejecting all that are damaged or in the slightest degree diseased, and building the rest up into the form of an inverted V. A little freshly-slaked lime strewn among the layers as the work proceeds has a sweetening influence, and is especially useful in a season when disease is prevalent. When all the potatoes are in position, cover them with a good layer of long straw, and then let the clamp remain for ten days or a fortnight, so that the steam caused by heating may escape. Meanwhile place a few planks over the straw to keep it safe from winds. When "heating," or "sweating," is finished, see that the potatoes are well covered with straw, and arrange so that a few good tufts of straw stand well above the ridge line, to act as ventilators after soiling. Cover the potatoes all over with about a foot of soil, made quite firm, and smooth on the outside. In very cold districts a further covering of mats or bracken may be necessary during especially severe weather.

SPAWNING A MUSHROOM BED. — T. D. C., Epworth: Kindly tell me at what temperature a mushroom bed should be spawned, how large the pieces of spawn should be when inserted, how deep they should be placed, and how far apart.—After a mushroom bed has been thoroughly well made up its temperature will rise for several days, and the cultivator must be on the watch for a decline in temperature. As soon as the declining temperature reaches 75 degrees at three inches below the surface, the bricks of spawn should be broken into about eight pieces, and such pieces should be inserted three inches deep and nine inches apart all over the surface of the bed. Casing or covering the mushroom bed should not take place until about a week after spawning.

DILL.—J. W. G., Rokeby: I have been asked to grow dill for use in the kitchen. I believe it is to be used for flavouring soups, but I have no knowledge whatever of the plant, and have never met with it in any garden in which I have been employed. Kindly tell me what dill is, and how it can be grown.—Dill is an annual herb now rarely asked for by cooks. It is quite easily grown in ordinary garden soil if seeds



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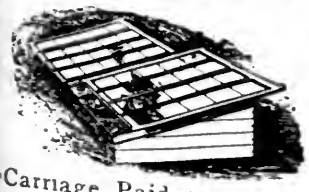

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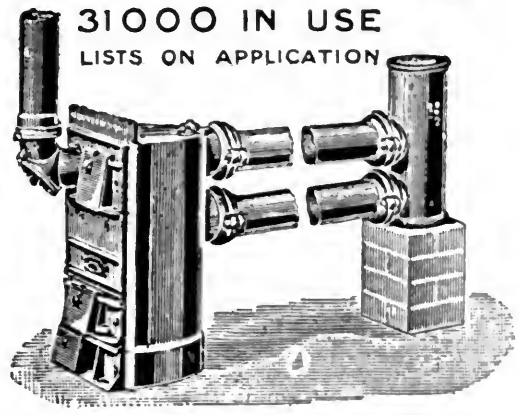

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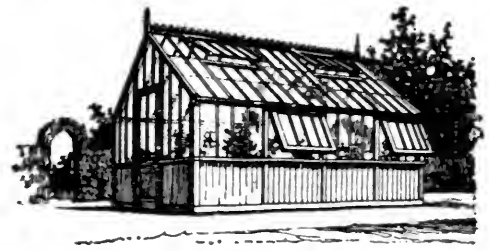

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are sown thinly, in April, in shallow drills drawn a foot apart. Hoeing, watering, and subsequently thinning the seedlings to 9in. apart, will be all the attention needed. The leafage may be used green, or the plants may be pulled up when growth is finished, dried head downwards in an airy shed, and stored in bags until needed. Dill is the popular name of Anethum graveolens. If the herb is required as soon as possible in a green state, then sow a few seeds at intervals, in pots, and keep the plants in a warm greenhouse.

FERNS FOR AN OLD WALL.—R. L. B., Ruabon: I am proposing to utilise an old low wall for the purpose of a wall garden, and have a fairly good stock of small-growing and suitable plants for the work, with the exception of ferns. My better-half would like me to plant some ferns in the semi-shaded part of the wall, but as I am an amateur who has only taken up gardening as a hobby in recent years I am at a loss to know the best ferns for the situation at command. Your help will greatly oblige.—Suitable ferns for planting in old walls are Asplenium adiantum-nigrum, A. fontanum, A. germanicum, A. lanceolatum, A. ruta-muraria, A. trichomanes, and A. viride, Ceterach officinarum, and both Polypodium vulgare and Scolopendrium vulgare and their varieties. In favoured districts, and in a moist, shaded position, the graceful little Cystopteris fragilis is worth a trial, but it would be useless to plant it in a dry, sunny place. Similarly, in a warm, moist, shady spot, the beautiful Adiantum capillus-veneris would be available, but for the present you had better not include these two last-named species, merely bearing them in mind for future trial.

NAMES OF PLANTS.

J. S., Louth.—Euonymus europæus.

R. F., Taunton.—1, Melianthus major; 2, Aralia chinensis.

E. O. G., Chesham.—1, Sedum spectabile; 2, Aster diffusus horizontalis.

A. C. C., Uppingham.—1, Solidago rigida; 2, Odontoglossum crispum, poor form.

M. W., Bath.—1, Lonicera japonica aureo-reticulata; 2, probably Amelanchier canadensis.

F. L. D., Melton Mowbray.—1, Fraxinus ornus; 2, Helianthemum vulgare; 3, Verbena venosa.

C. T., Sidmouth.—1, Skimmia japonica; 2, Pittosporum Tobira; 3, Choisya ternata; 4, send when in flower; 5, Aster Tradescanti.

B. S. W., Caversham.—1, Erica gracilis; 2, Saxifraga oppositifolia; 3, S. Geum; 4, Leiophyllum buxifolium; 5, Arbutus Unedo.

NAMES OF FRUITS.

V. S., Brecon.—Alfriston.

S. S., Lewes.—1, Grenadier; 2, Cox's Orange Pippin.

T. O. B., Northallerton.—1, Pott's Seedling; 2, Mère de Ménage; 3, Lord Derby.

A. M., Bideford.—1, Newton Wonder, a fine fruit; 2, Washington; 3, Gascoyne's Scarlet.

E. P. G., Leicester.—1, Warner's King; 2, Stirling Castle; 3, Claygate Pearmain; 4, Cox's Pomona.

L. T. H., Chislehurst. — 1, Bismarck; 2, Hibston Pippin; 3, Dutch Mignonne; 4, Peasgood's Nonsuch.

H. N., Fareham.—1, Golden Noble; 2, fine fruit; 2, Washington; 3, Gascoyne's 4, probably a Chaumontel.

M. C. P., Streatley.—1, Bramley's Seedling; 2, Emperor Alexander; 3, not in character, probably Lady Henniker; 4, a small King of the Pippins; 5, Gravenstein; 6, Lane's Prince Albert.

GARDENING ENGAGEMENT.

In a recent issue we published a portrait of Mr. James Jeffrey, gardener at St. Mary's Isle, Kirkcudbright, and in the accompanying note it was mentioned that one of his sons, Mr. James Jeffrey, jun., was gardener to the Earl of Ancaster, at Drummond Castle, Perthshire. We now understand that Mr. Jeffrey, jun., has been appointed gardener to the Earl of Lonsdale, at Lowther Castle, Westmorland, one of the most important gardening appointments in the country. Mr. Jeffrey succeeds Mr. F. Clarke, who has been in charge at Lowther Castle for a long time, and who has done so much to render it one of the finest of the gardens in the North. He takes up his duties in December, we understand.

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, October 27.—National Chrysanthemum Society; Floral Committee, at Essex Hall, Strand, at 3 o'clock; Executive Committee, at Carr's Restaurant, at 7 p.m.

TUESDAY, October 28.—Southampton Chrysanthemum Show; two days.

WEDNESDAY, October 29.—Kent County Chrysanthemum Society; two days.

Croydon Chrysanthemum Show; two days.

THURSDAY, October 30.—Torquay Chrysanthemum Show.

Elstree Horticultural Society; Lecture by Mr. George Gordon, V.M.H., on "Garden Roses," 7.45 p.m.

Maidenhead Chrysanthemum Show.

Weston-super-Mare Chrysanthemum Show.

FRIDAY, October 31.—Enfield Highway Chrysanthemum Society.

SATURDAY, November 1.—French Horticultural Society of London.

CATALOGUES RECEIVED.

S. MILLER, NEWPORT, ISLE OF WIGHT.—Mr. Miller offers sweet pea seeds in a quite novel fashion; by means of a grading machine he has produced three grades of seeds, i.e., largest and finest, medium, and smallest. An interesting list.

GEORGE BUNYARD AND CO., LIM., MAIDSTONE.—This catalogue of fruit trees and roses contains such admirable descriptions, historical notes, selections of fruits, and "monthly reminders," that it deserves a place on every gardener's bookshelf. The same firm sends a catalogue of hardy flowers and aquatics.

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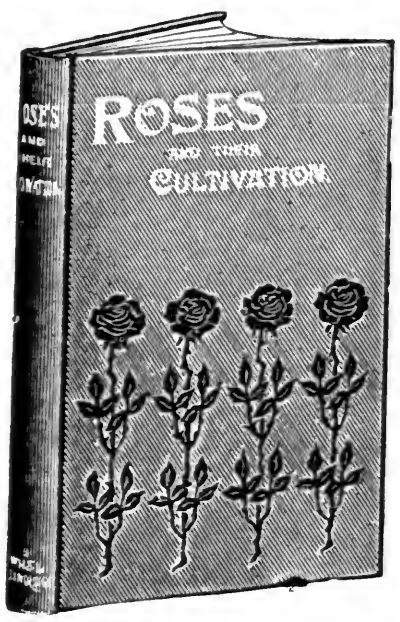

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VOL. LVI.—No. 3,131. SATURDAY, NOVEMBER 1, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Spore Pods.

Undoubtedly one of the most interesting objects in connection with ferns is the sporangium or receptacle in which the spores are contained. In flowering plants, as we know, the vessels containing the seeds vary immensely in their construction, and are replete with all sorts of contrivances to scatter the seeds when they are ripe; while in some cases, as, for example, the dandelion, among many others, no containing vessel proper appears, but the seeds are inserted into a disc, after the manner of pins in a pincushion, and are eventually liberated by the wind acting upon the feathery attachments destined to carry the seeds far and wide at the proper time. In the case of the ferns, on the other hand, however greatly they may vary in other respects, the spore capsule is, as a rule, of one particular type, and among our native ferns, with the exception of the Adders-tongue, Moonwort, and Royal Fern, they are practically all alike. The popular notion is that the fine dust, usually brown, which is seen in patches dots or lines on the backs of the fronds is the spores themselves, but this is by no means the case. Fine as it is, it consists of nearly round or oval pods or sporangia, attached by short stalks to the veins of the frond, and, small as these are, each contains a considerable number of spores—some scores, in fact. This, of course, means that the number of spores is far larger than that of the pods themselves, though these may number thousands, and even hundreds of thousands, on a fair-sized, fertile frond. These pods or sporangia are little marvels of contrivance despite their minuteness. Under a microscope they are seen to consist of an oval receptacle, of, as a rule, a lucent brown colour. They are borne singly on a ribbed stalk, and the ribbing continues forming a projecting ridge from the point of attachment right over the top of the capsule and halfway down the other side, giving it somewhat the appearance of a fireman's helmet. It is this ribbed ridge which, when the spores are ripe and ready for scattering, begins to contract in length. It thus exercises a greater and greater strain upon the capsule, until at last a rupture occurs at the point where the ridge ends—i.e., halfway down the front, so to speak, of the helmet. The split so caused gradually widens, and the top half gradually lifts and bends backwards. At first this occurs slowly, but when the pod is split nearly in two, and gaping widely, the top half quite suddenly springs backwards, and in so doing jerks the contained spores far and wide in all directions, like a shrapnel shell. Anyone possessing a microscope of moderate power can easily watch and verify this performance by scraping off a few of the dust-like pods on to a glass slip, and inspecting them in a warm room, so as to hasten the drying, which brings about the shrinkage in question. At first the little heap is quite quiescent, but in a minute or two a sort of twitching sets in, marking the time of the initial split. The twitching increases, until the whole mass is on the move, and then suddenly, and quite unexpectedly to the novice, the mass will fly asunder, leaving gaps on the clear glass, into which gaps, as the capsules around follow such rapidly, there will be noted a little hailstorm of the spores themselves falling, with the accompaniment of the burst and now empty capsules, which are themselves jerked in all directions by the force of their own explosion. Such an experiment should, of course, be made fairly early in the season, before the capsules have already exploded, but as these ripen at different times, it is usually easy to obtain the necessary material at any time in the later growing season. To those who sow spores, this little experiment teaches a valuable lesson regarding the necessity of thin sowing, since it becomes quite clear how numerous the spores are; and that, as each one will require a space as large as a herring-scale for proper development of the prothallus, which precedes the fern proper, thick sowing must handicap this terribly by the resulting overcrowding.

MR. HUGH DICKSON,
President of the National Sweet Pea Society for 1913-14.

Mr. Hugh Dickson.—One of the most popular as well as one of the keenest of men in the seed and bulb trade, it is fitting that Mr. Hugh Dickson should have been chosen to be the President of the National Sweet Pea Society for the year ensuing. A great lover of sweet peas, he has, however, little sentiment concerning them, and his own novelties, as well as the novelties of others, have to give way promptly when a better variety of the same class appears. Although a son of Mr. George Dickson, and therefore a member of the firm of Messrs. Alex. Dickson and Sons, Newtownards, co. Down, Ireland, Mr. Hugh Dickson takes practically no part whatever in this firm's great business as rosarians. For many years he has devoted his abundant energy, splendid business ability, a fine memory, and his native Irish wit also, to the organisation of the firm's seed and bulb department, with headquarters at Royal Avenue, Belfast. In a very wonderful way he has made this department his life's work, and it is now regarded as one of the best-managed businesses of its kind in the United Kingdom. Mr. Hugh Dickson travels frequently in Great Britain and Ireland, and on the Continent, keeping a close watch upon the seed crops grown for him. He has also visited America, and adapted the brisk methods of the United States to British needs and ways. In business he is a man of few

words, but his words are weighty ones; in public life he does not shine because he hates the lime-light, and it was only after some pressure from his personal, trade, and amateur friends, that he accepted nomination for the N.S.P.'s presidency; in private life he is one of the kindest, jolliest, and most generous of men, and those who can count him as one of their friends feel they are thereby honoured. Mr. Hugh Dickson has a peculiarly intimate knowledge of bulbs, and has done much to foster the industry of bulb culture in Ireland, particularly in connection with late-flowering tulips. We wish Mr. Hugh Dickson every success in his presidential year.

Mr. J. Gurney Fowler, treasurer of the Royal Horticultural Society, and chairman of the R.H.S. Orchid Committee, has now removed from The Glebelands, South Woodford, to his new residence, Braekenhurst, at Pembury, near Tunbridge Wells. The new orchid houses are now ready, and will soon receive the famous Glebelands collection. We understand that Mr. Fowler has also built a house specially for the cultivation of sweet peas under glass.

A 75-Guinea Cup for Fragrant Roses.—Messrs. Clay and Son have presented to the Council of the Royal Horticultural Society a silver-gilt cup, of the value of £75, for annual competition (open to all) at the Holland House Show, its object being to endeavour to obtain a new race of roses of both good form and colour, but, "above all else, possessing the true old genuine rose scent, such as may be found in the old Cabbage or Provence rose, in General Jacqueminot, Marie Baumann, Duke of Wellington, General McArthur, etc." The distinct scent, known as "tea rose," is not, for the purpose of this competition, to be accounted as the "true rose scent." Not more than three different varieties may be shown by any one competitor, but at least three, and not more than six, cut blooms of each variety must be staged. For five consecutive years Messrs. Clay and Son will also present a smaller commemorative cup, which the Council will give to the winner of the challenge cup, when, at the end of the 12 months, it shall have been returned safely and in good condition. The winner of one year may not win again the next year, but only in alternate years. In any year the awarding of the cup may be withheld if the Council are of opinion that there is no exhibit worthy of it.

Edinburgh Royal Botanic Garden Guild. — The annual general meeting of this newly-formed guild will be held at the Royal British Hotel, Princes Street, on Friday, November 14, at 6.45 p.m., followed by a dinner at 7.15 p.m., with Mr. W. W. Smith, M.A., Assistant Keeper, in the chair. It is hoped by the executive that as many past members as possible will endeavour to be present, this being the first dinner held under the auspices of the guild.

The King's Contribution to the People's Palace Show.—In July last his Majesty entertained the People's Palace Horticultural Society at Windsor, and he has shown such interest in the working of the society that he sent an exhibit of fruit and flowers to the Chrysanthemum Show, held at the People's Palace, Mile End Road, Stepney, this week. Under the secretaryship of the Messrs. West, father and son, this society does excellent work, and its meetings, held on Saturday evenings, are largely attended. Last Saturday, when Mr. C. H. Curtis gave a lecture on "Bulbs," the large audience was composed of many grades of society, from the humblest of East-end artisans, to shopkeepers, merchants, busy City men, and clergymen, and there were a number of ladies present.

"**Botanical Magazine.**" — The plants figured in the current issue of this publication comprise Rhododendron hæmatocheilum, a Chinese species, bearing medium-sized flowers, deep red in process of development, and bright carmine when fully expanded. Nautilocalyx pallidus, a distinct species, a native of Peru, and thriving under warm greenhouse treatment; the flowers are creamy-white with purple streaks on the exterior of the tube. Schizophragma hydrangeoides is a climbing shrub, of Japanese origin, with cream-coloured flowers, that "bears the name which is familiar in English gardens, where it has for a couple of generations been erroneously applied to Hydrangea petiolaris, Sieb. and Znec, another and an allied Japanese shrub." The species is a comparatively recent introduction to British gardens, and first flowered in the gardens of Grayswood, Haslemere. Streptocarpus cyaneus, a beautiful species, closely allied to the well-known S. Rexi. The species is a native of Swaziland, and the flowers of the seedlings raised at Kew range from pale lavender to rose-mauve. Also Stanhopea grandiflora, which is re-referred to elsewhere.

Chrysanthemums at Essex Hall. — The members of the National Chrysanthemum Society's Floral Committee had a busy time at Essex Hall, Strand, W.C., on Monday last, as no fewer than thirty-five varieties of the Autumn Queen were brought up for judgment, ten being Japanese and twenty-five single varieties. The committee granted eight First-Class Certificates and five Commendations.

Trees for Dublin Streets.—No small interest attaches to the notification that Messrs. Sheppard and Son, landscape gardeners, of Dublin, have secured the contract for planting trees on the South Circular Road, in the Irish Capital. Archbishop Walsh pointed the way some time ago, when, after taking up residence at Drumeondra, he improved the adjacent public road by planting plane trees on the sloping banks. The municipal authorities followed up this good work by planting trees in neighbouring thoroughfares, and now the South Circular Road is to be planted. Further, it is believed that trees will soon be planted in the artisan district, notably in Ross Road, Bride Street, and Nicholas Street. It is with great pleasure we learn of this progressive spirit in a city which has long been renowned, both horticulturally and botanically.

York Gala, 1914.—Our York friends take time by the forelock, and their schedule of prizes to be offered at the gala on June 17, 18, and 19 is already to hand. The classes are as skilfully arranged as ever, and prizes are offered on a very liberal basis. We notice that Lord Deramore, the President, will give the first prize of £10 in a new class for a group of tuberons begonias, arranged on a space of 100 square feet. Other new and important features are classes for a group of rhododendrons in bloom, 200 square feet allowed; the best pair of hanging baskets, 24 inches in diameter; a circular, oval, or diamond-shaped group of bedding plants, 150 square feet, to be arranged in the centre of the tent; a semi-circular or corner group of bedding plants; and a trade class for eighteen bunches of sweet peas. In the already famous hardy plant and water garden class we find that no digging will be permitted, and exhibitors must arrange for a natural effect upon the ground level. In most of the group classes, there is a specification to the effect that the groups must front all ways, and suggested designs for the exhibits will be sent to exhibitors immediately their entry is received. Prospective competitors should at once apply for a copy of this new schedule to Mr. Fred Arey, Davyhall Chambers, Davygate, York.

The Crystal Palace. — The purchase of the Crystal Palace and grounds for the public use is proving a difficult undertaking. The Camberwell Borough Council decided a few days ago to contribute £600 towards the purchase money, instead of £15,000. Penge District Council, which promised £20,000, have withdrawn that offer, and agreed to contribute £5,000.

Exeter Guildhall and the Gardeners.—For twenty-one years the members of the Devon and Exeter Gardeners' Association have held their meetings in the Guildhall of the county capital, as a result of the kindness of succeeding mayors. Now, however, they have had to seek new quarters at the Oddfellows' Hall, Catherine Street, because the present mayor has decided that the Guildhall is the property of the City, and was intended for meetings of great public interest. We, in our simplicity, have always considered that agriculture and horticulture were of great public interest; and greater than we have proved that these crafts and sciences are of fundamental interest to the nation. We believe the Exeter Society will flourish in its new quarters, and be a power for good long after the present mayor has passed on.

Nomenclature of Stanhopea grandiflora.—The figure of Stanhopea grandiflora, and the accompanying letterpress, which appears in the current issue of the "Botanical Magazine," are of much interest as illustrative of some of the difficulties of the nomenclature of plants. Stanhopea grandiflora is one of the earliest known species of the genus, and was originally described and figured by Humboldt and Bonpland in 1805, as Epidendrum grandiflorum. Subsequently it was transferred by Kunth to Anguloa, and later it was referred to its true genus as S. grandiflora by Reichenbach. In the meantime Lindley applied the name S. grandiflora to a quite different plant, now regarded as a form of the earlier S. eburnea, Lindl., and Reichenbach reduced to the true S. grandiflora the Mexican species S. Buchepalus Lindl., and added to it, as a variety, the Panama species S. Jenischiana, Kramer. Later Lindley transferred the synonyms from the Eenador species to S. insignis, Frost, and thereby further increased the difficulties associated with the nomenclature of the species. We are further informed that the late Mr. Consul Lehmann during a visit to Cuenca, was able to collect there further material of S. grandiflora, which enabled Mr. Rolfe, in the "Orchid Review," to disentangle the history of the species.

More Scottish Botanists Needed.—Professor G. F. Scott Elliot, who is delivering a course of lectures before the Royal Technical College Botanical Society at Glasgow, is reported to have stated that "Botany was intended to benefit, not a particular coterie of students, but the whole civilised world. Scotland would require shortly clear-headed and plain-speaking botanists more urgently than at any other period, and as many as could be produced."

KENT COMMERCIAL FRUIT SHOW.

The third annual show of the Association of Kent Fruit Growers was held in the Corn Exchange, Maidstone, on Tuesday and Wednesday, October 28 and 29, and it was successful and very encouraging. As an exhibition, it differed widely from those of the usual horticultural societies, there being no attempt at artistic effect or decorative arrangement. The whole energies of the society are devoted to plain utility and stern commercial requirements. Thus the receptacles used were plain deal boxes of uniform size, lined with blue paper, and careful and sensible packing was estimated as a most important feature. Spectacularly the show would have been wonderfully attractive had the fruit been set up on dishes or baskets with decorations of flowers and foliage; but that is not the purpose of the Kent growers, and the animated conversation between exhibitors and judges turned on the respective merits of the various styles of packing demonstrated. The show afforded interesting and valuable evidence of the strides made in British fruit culture.

All through the fruit was of splendid quality, and it was apparent to all that our growers are realising the importance of careful grading, packing, and system, as well as good cultivation, of the most useful and prolific varieties. The association is doing good work, and we watch its progress with much gratification, since it is of direct benefit to what is now an important industry that will undoubtedly increase in extent and value to the community.

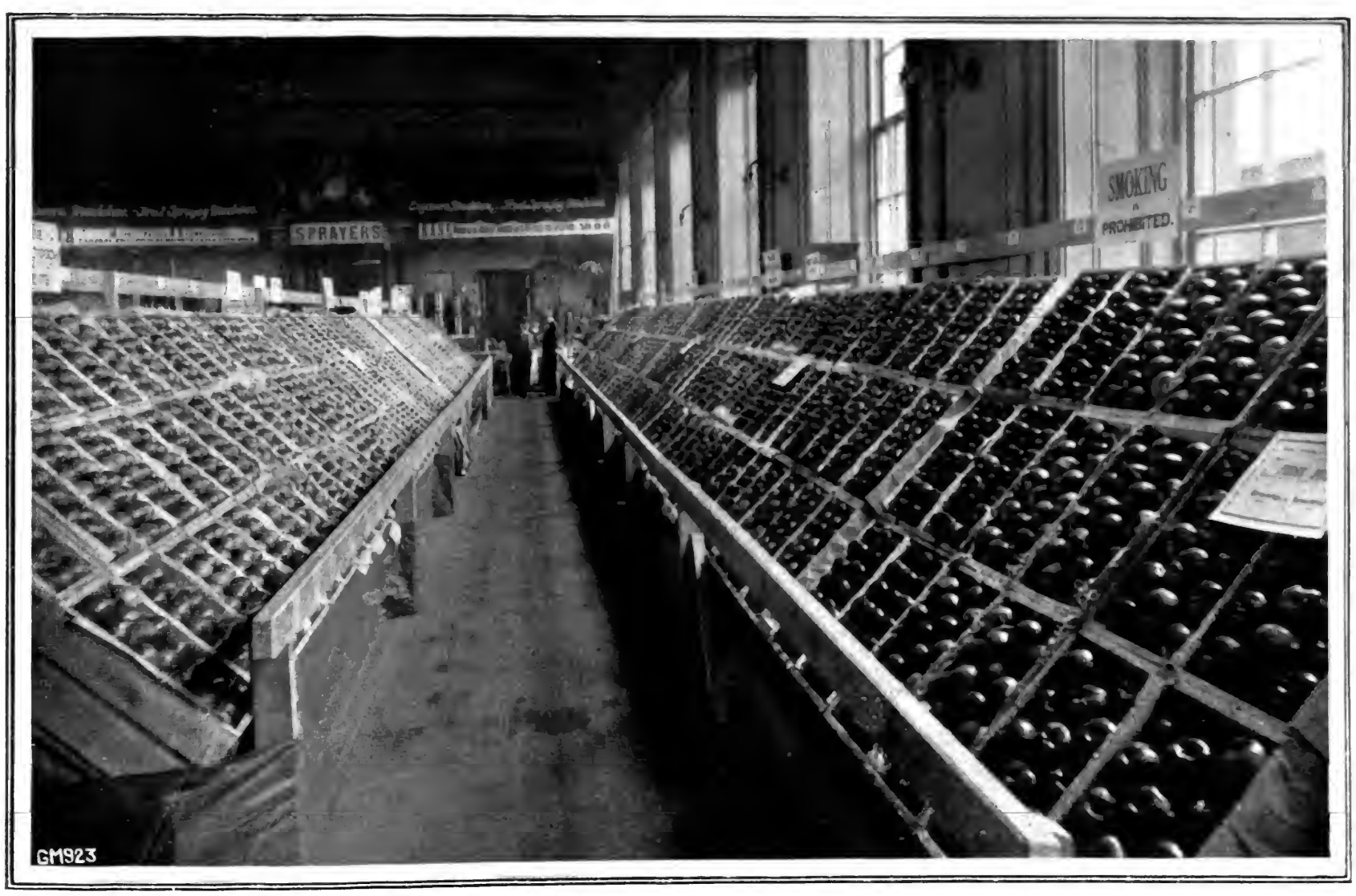
The schedule opened with a class for six boxes of Bramley's Seedling, and, as showing the high esteem in which this apple is held by commercial growers, it is worthy of note that no less than forty entries were forthcoming. The first prize was secured by Mr. S. Skelton, West Farleigh, Maidstone, whose apples were of great size, even, and well finished. The method of packing was what is technically termed "one-two-flat." This is done by placing a row of apples on either side of the box, with one fruit in the centre between two couples. The boxes contained three layers with fourteen fruits each, the approximate weight per box being forty pounds. Mr. G. E. Champion, Linton, Maidstone, came second, showing fruit of the scarlet form of Bramley's, which were more attractive in appearance than the green fruits. They were not, however, so large, there being twenty-one fruits in a layer. They were "square" packed, a method which admits of closer packing, but entails more risk of damage by bruising than the diagonal method. W. W. Hubble, Esq., Hunton, Maidstone, secured third prize. The boxes in this case appeared to be rather too full, albeit a slight bulge on the lid is an advantage rather than otherwise. Mr. O. Ellis, Bramley, Surrey came fourth. It must be added that many exhibits of superb quality had to go cardless, so keen was the competition in this remarkable class.

Six boxes of Newton Wonder, another very popular apple, made an excellent class of twenty-six entries, and throughout the whole number the quality and colour of the fruit merited high praise. F. Smith, Esq., Loddington, Maidstone, secured the leading award, and it would be difficult to find a finer lot of fruit carrying such rich colour, and capitally packed in two-two check pattern. The apples are in this style of packing arranged in twos alternately to left and right of the box, the cheek of the apple being exposed to view. Mr. A. Miskin, Chart Sutton, Maidstone, came second with a very nice lot of fruit packed in same style as the first prize exhibit. Mr. A. J. Carter, Billingshurst, Sussex, took third prize, his fruit being extraordinarily deep crimson in colour, but not over-large. Fourth prize was secured by S. Skelton, Esq., for a nice, serviceable lot of fruit, packed square-check pattern.

Lane's Prince Albert mustered twenty-nine entries, and, whilst quality was of a high standard, it was remarkable how widely the variety differed in colour and form in exhibits from various localities. A. Miskin, Esq., Chart Sutton, secured first prize, and his fruits were certainly a beautiful lot. They were square-cheeked packed, and, although this method shows off the apples to best advantage, there was a good deal of comment on the part of growers to the effect that the system makes bruising unavoidable. S. Smith, Esq., Barming, Maidstone, took second place, his fruit being of fair size, beautifully even, and packed eye upwards two-two pattern. Third prize went to E. B. Burns, Esq., East Farleigh, Maidstone, who had typical fruit packed two-three check pattern. A. J. Carter, Esq., Billingshurst, Sussex, showed bright red, showy fruits, scarcely recognisable as Prince Albert, but nevertheless an exhibit of high quality, fourth prize being awarded.

Blenheim Orange, still a grand and indispensable apple, did not form so large a class as might have been expected, but the nineteen entries staged were splendid examples, and were a centre of attraction to visitors. Messrs. Gaskain and Whiting, Dargate, Faversham, took first prize with a grand half-dozen boxes, every fruit being of large size, beautifully modelled, and rich in colour. The system of packing was square-check, but even if that should be criticised the quality of the fruit was beyond reproach. Second prize was secured by Messrs. W. Skinner and Sons, Boughton, Monchelsea, their fruits being large but not so even. W. W. Hubble, Esq., came third with a good exhibit packed three-four check.

Some immense fruits were shown in the class for six boxes of Lord Derby, an apple excellent for cooking, and remarkable for its size, but not at all a pretty one. Messrs. Gaskain and Whiting were again the success-



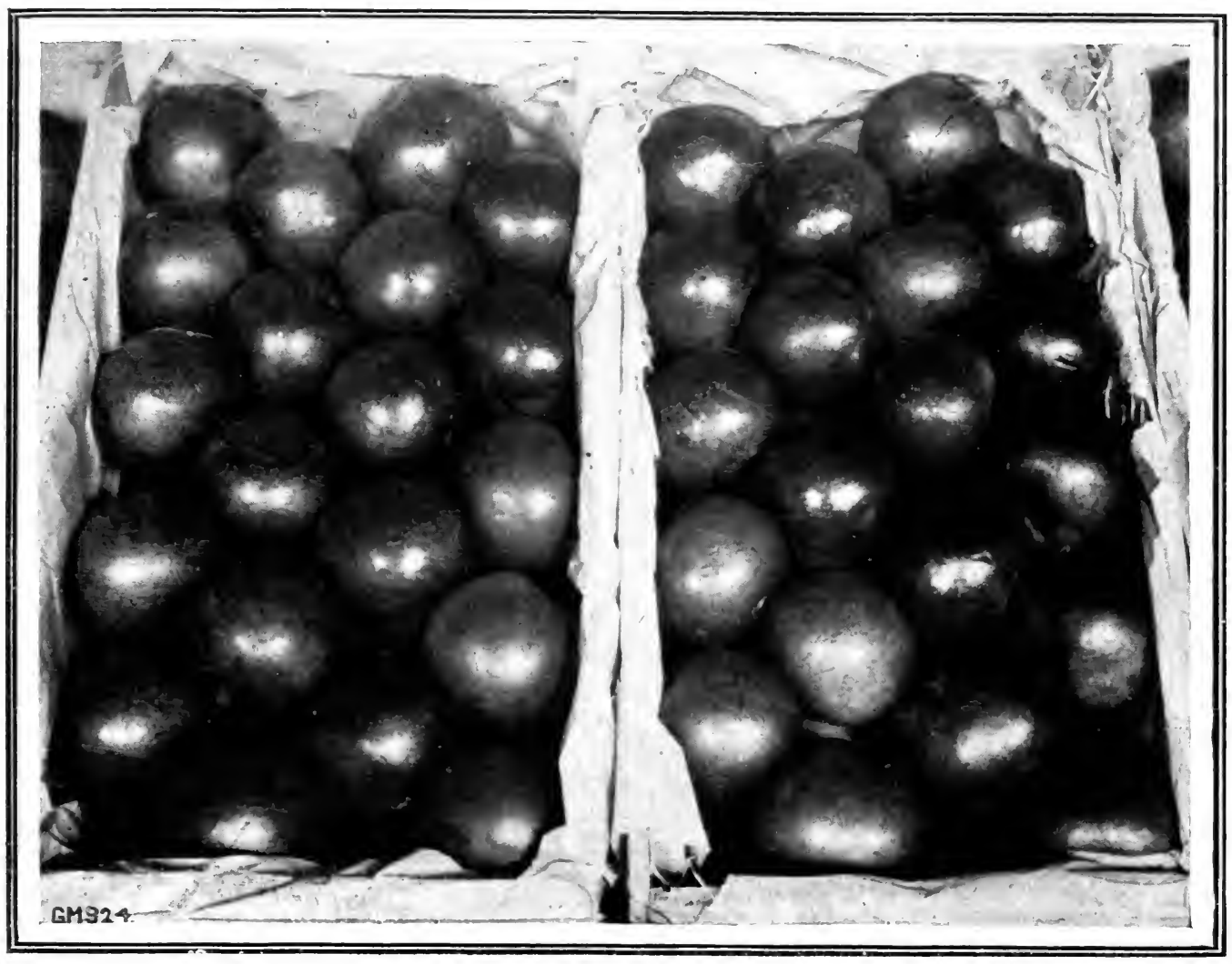
KENT COMMERCIAL FRUIT SHOW.

View showing Bramley's Seedling Apples; first prize exhibit on the extreme right.

ful exhibitors, their fruit being so large that only three dozen were required to fill each box. A. Miskin, Esq., was second prize-winner with a fine sample, and another exhibit by the same gentleman would have received third prize but for a rule prohibiting two prizes in a class going to one exhibitor. Messrs. G. Mount and Sons, Lim., Bekesbourne, Canterbury, received fourth prize with remarkably bright-coloured fruit of good weight.

The bright colour and pleasing appearance of the Worcester Pearmains attracted all but the regular growers who are familiar with this very pretty apple. That the variety is not quite so good as it looks may be gathered from the fact that only about a dozen exhibitors staged in the three boxes class. S. Smith, Esq., was first prize-winner; Messrs. G. Mount and Sons, Lim., and Messrs. Wakeley Bros., Lim., Rainham, Kent, taking second and third prizes in the order named. The apples from the last-named were very highly coloured.

Allington Pippin had a class for three boxes, and some twenty-six entries were staged. Some of the fruits were of wonderful size, and, in our opinion, much larger than is desirable. The first prize was awarded to H. M. Cobb, Esq., Higham, Rochester, who had large, but very even and pleasing coloured fruits. They were square-check packed, and were so well graded that every apple fitted exactly its position. Colonel J. T. Honeyball, Teynham, Sittingbourne, was second prize-winner, his fruit being very typical of the variety, and well packed on two-three pattern. The third prize exhibit, from H. G. Kleinwort, Esq., Boughton, Monchelsea, was not at all characteristic of the variety, although the small, smooth, yellow fruits were pretty and inviting. Seventeen entries of Cox's Orange Pippin (three boxes) did not form so fine a class as that of last year, but the first prize and champion cup exhibit, shown by Messrs. Gaskain and Whiting, was exceptionally good. Second prize went to W. D. English, Esq., Rochester, who showed beautiful, even fruit; third prize going to G. Hilder, Esq., Rolvenden, Tenterden.



KENT COMMERCIAL FRUIT SHOW.

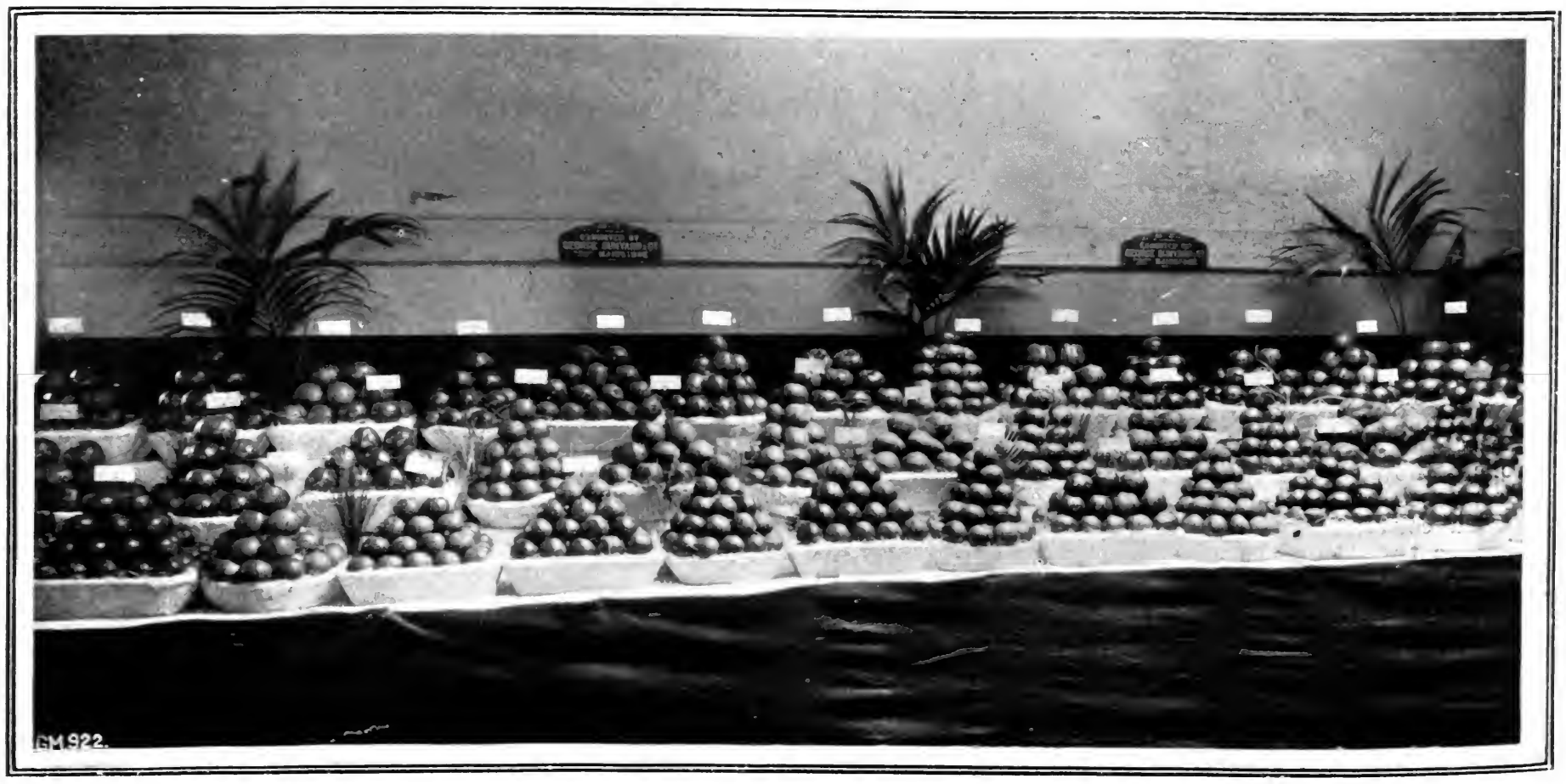
First prize six boxes of Newton Wonder apples, showing style of packing adopted.

Three boxes of any dessert apple not specially provided for brought several exhibits of King of the Pippins, and a few of Charles Ross, King's Acre Pippin, and Beaumann's Red Winter Reinette. The last-named variety, shown by A. Miskin, Esq., secured first prize, and the fruits were a very creditable lot; second prize went to Messrs. Gaskain and Whiting, and Mr. A. J. Carter, Billinghurst, Maidstone, secured third prize for beautiful examples of King of the Pippins.

There were good entries for any unclassified culinary variety, Messrs. Gaskain and Whiting taking the leading award, and reserve for championship, with three boxes of Annie Elizabeth, very much resembling Newton Wonder in appearance. The examples shown were grand specimens. Quite a number of classes were provided for growers in Kent, and there were also classes for the best packed boxes, and for varieties raised within recent years; but the most important matter for us to record is that the show proved that British growers can grow and despatch to all parts of the Kingdom, as well as abroad, fruit of unsurpassable quality.

More characteristic of the usual horticultural shows were the exhibits staged by Messrs. G. Bunyard and Co., Lim., Maidstone, and Messrs. Seabrook and Sons, Chelmsford. The former had a long table on which dishes and baskets of picked fruits were shown in quantity. About 76 sorts of apples were shown, and every one was a variety of distinct merit, well worth attention. It it not necessary to single out special sorts for mention, but it must be said that every dish and basket was filled with splendid fruit; and, so far as arrangement is concerned, those who staged merit our congratulations. On Messrs. Seabrook's stand there were pyramids of The Queen, Bismarck, Royal Jubilee, Lane's Prince Albert, and other culinary varieties, as well as the more popular of the dessert apples. It was a most interesting and educative exhibit.

(Continued on page 832.)



KENT COMMERCIAL FRUIT SHOW.

Portion of the fine exhibit staged by Messrs. George Bunyard and Co., Maidstone.

SOME OF THE NEWER FRUITS.

Although several new varieties of apples and other kinds of fruit are annually placed before the Royal Horticultural Society's Fruit Committee, it is only those possessing some special merit that receive notice, and before an award is given the trees, in full fruit, have to be inspected by some of the members of that body and reported upon at one of the meetings. But no matter how good any of these new fruits may be, several years must elapse ere a good stock is worked up and grown into large fruiting trees, and this is probably why, to a great extent, we hear so little of some that have received awards during the past few seasons; but as time goes along these will no doubt, become as popular, if not more so, than many which have been in cultivation for many years.

Dessert Apples.

Going back so far as 1897 we have the variety James Grieve, which, at that date, received an Award of Merit. It is a very good apple, possessing excellent flavour and a very pleasing appearance, and it fruits well. I feel certain this variety will gradually make headway among our best dessert kinds, and, at some future time, be extensively grown and very highly appreciated. It is in season in September and October, and will keep later if well stored.

Lord Hindlip is a very good apple, and received a First Class Certificate in 1896. It is an Herefordshire apple, and well deserves a good position. I think it will soon be grown extensively for supplying dessert fruits after Christmas and onwards. Allington Pippin, introduced by Messrs. G. Bunyard and Co. in 1896, is so well known as not to need special comment from me, further than to say it is a good cropper. The fruits when ripe have a very pleasing appearance. The flesh is crisp, sweet, and nicely flavoured. Sometimes, on young, vigorous trees, the fruits are apt to grow a little above the average dessert size; but on older trees this is not the case.

Charles Ross is the result of a cross between Peasgood's Nonsuch and Cox's Orange Pippin. The fruits, when not too large, are very pleasing to the eye, taking rather more after Peasgood's than Cox's. It is a good bearer, and the fruits are good to eat; in fact, many prefer this to others with firmer flesh. It was raised about 1899, and, if my memory serves me right, a dish of fruits was exhibited at the Crystal Palace by the raiser in that year, and a very beautiful dish it was.

William Crump is a variety I have not yet grown myself, but the dishes of fruits that have come under my notice have been very handsome samples—nicely coloured, well flavoured, and not too large.

Ellison's Orange was raised near Lincoln by the late Rev. C. Ellison, and in 1911 received an Award of Merit. In 1912 a dish of eight fruits was shown at the great Autumn Fruit Show in a class for early dessert kinds not named in the schedule, and received the first prize, and as there were thirty exhibitors in this class it speaks well for the future of this apple. With me it crops heavily, both on espaliers and the bush form, and I hope to increase our stock next spring by grafting it on less useful kinds.

Christmas Pearmain is a most prolific apple. The fruits are somewhat conical, with a bright crimson cheek on the sunny side. The flesh is rather brisk or subacid, and firm. Although in flavour it is not equal to some other apples it is quite passable when fully ripe. It was introduced by Messrs. Bunyard in 1895.

May Queen crops A1 here, and the fruits put on a splendid colour. The flesh is firm, crisp, and sweet; in fact, I consider this is worthy of being more extensively planted both as a bush and standard. I have had good fruits keep till April, and sometimes later. I believe the variety was raised by Mr. W. Crump, but of that I am not quite sure; but whoever raised it deserves credit, for it is a very good apple.

Hitchin Pippin, introduced a few years since, is a good dessert apple in the way of King of the Pippins, which it rather too closely resembles. Maidstone Favourite, which received an A.M. from the Royal Horticultural Society on August 26, is an early dessert apple of much merit, the fruits being of rather large size, of fine form, and attractively coloured, and rich in flavour. This variety was raised by Messrs. G. Bunyard and Co., and is likely to prove one of the best of the many fine plants they have introduced. Crawley Beauty, which was raised by Messrs. J.

APPLE CRAWLEY BEAUTY.

A valuable late-keeping apple, suitable for culinary purposes and dessert, and handsome in appearance; raised by Messrs. J. Cheal and Sons, Crawley. A.M., R.H.S.

Cheal and Son, and received an A.M. from the Royal Horticultural Society a short time since, is a handsome apple of high quality, suitable both for cooking and dessert. The Guelph, which also received an A.M. at a recent meeting of the R.H.S., when shown by Mr. W. Pope, is useful both for culinary purposes and dessert, and the fruits are not less remarkable for their attractive appearance than for their high quality.

Cooking Apples.

Among cooking apples one of the best introductions in recent years is Newton Wonder. The fruits keep well, and the tree is most prolific as a standard. I have a tree, planted about ten years ago, and it rarely ever misses a crop; this year I have never seen such a splendid crop of good-sized fruits, the branches being completely roped from bottom to top. The Rev. W. Wilks and S. T. Wright, both of which have been introduced by Messrs. J. Veitch and Sons, are two new culinary varieties of great promise, and worthy of trial.

Pears.

Conference pear was introduced by the Messrs. Rivers in 1894, and, I consider, one of the very best of somewhat recent introductions. The pink flesh, melting and sweet, is all that can be desired. I have it growing as cordons and it seldom misses a crop; in fact, it is most free, and should be tried by all those who care for good pears. Charles Ernest will become very popular and somewhat extensively grown for supplying fruits in November and December. Michaelmas is a most delicious pear, greatly resembling Winter Nelis, but rather larger and earlier than that variety. It is a good bearer, and keeps longer than some of the varieties ripening at the same time.

Those who like a large-sized pear early cannot do better than plant Marguerite Marillat. It ripens in September, and the tree bears well. Although introduced in 1874 this has only recently become a favourite, and there is still room for more trees of it, especially in small gardens.

Santa Claus is a variety I have not yet grown, but one most highly spoken of by those who have it. Only recently I was asked by a first-class fruit grower if I had Santa Claus, and was told I ought to secure it at once.

Plums and Damsons.

New plums are of rare occurrence since the Messrs. Rivers sent out Monarch, Primate, President, and others. Among damsons I find Bradley's King one of the best, and that old variety, Farleigh Prolific, is a good cropper, but a new kind of very promising size and appearance, and one that should be given a good trial, is the Merryweather. The fruits are considerably larger than those of most other damsons, and they have a good flavour.

Soft Fruits.

Among the very best of recently-raised strawberries we have Laxton's Latest. The fruits are large, and the plants keep on fruiting for several days after others that begin to ripen about the same time have finished. Utility is a better-flavoured variety than most, the fruit is firmer, and the flavour good. We are increasing our stock of this. King George, quite a new variety, from the Laxton Brothers, is said to be earlier than the well-known Royal Sovereign, and better flavoured and brighter. If this is so, then we have here a splendid variety, and one that will quickly find a place in every garden.

Among autumn raspberries, Alexandra, raised by Mr. W. Allan, of Gunton Park, is, so far as my experience goes, the best. This season the young canes are literally crowded with finely-flavoured berries.

The loganberry is already popular, and those who prefer a black fruit of this kind will find the lowberry excellent.

H. MARKHAM.

Wrotham Park Gardens.

BLACK CURRANT MITE.

I fear that I have not anything very fresh to say upon the subject of the black currant mite, and at this busy season one has not much time for writing, and one's energies do not rise to any flights of fancy, so I shall confine myself to a relation of bare facts.

Perhaps it will be best to say how I become acquainted with the pest in the first instance. It was on this wise. When the Boskoop Giant currant first came out I was anxious to secure some trees, and wrote to a friend in Holland asking him to get some for me direct from the raiser so as to ensure having the right thing. My friend kindly made a journey to Boskoop, and arranged for some trees to be sent to me. These duly arrived, and were planted out—some for cuttings and some to fruit. In course of time these latter carried some fine fruit, with which I was much pleased, but in the autumn my foreman pointed out that the buds upon them were very abnormal in size. We had not previously seen these "big buds," but could not fail to recognise them as the work of the mite. Not only the new currants, but rows and rows of other kinds alongside were very badly affected, and, doubtless to a less degree, pretty well the whole of the stock.

This was bad enough, but the most annoying thing was that after writing to the Press, and saying this was the result of planting the far-famed mite-resisting Boskoop Giant, and slanging it for all I was worth, an expert from Boskoop came over, and made a journey to Lowdham, and at once declared that I was not growing Boskoop Giant at all, but Goliath or Victoria!

The question was now what to do. We sprayed the trees at intervals of about eight days from May to July with the ordinary quassia and soft-soap mixture, and found, in the next autumn, that the attack was greatly reduced, and the spraying had warded off all aphis, with the result that we had one of the finest blocks of black currants ever seen, and the admiration of all visitors. But, alas! the trees were not free from mite. Then I read the reports of Professor E. W. Collinge and others, from which I learned that the mites begin to emerge from the buds, not, as I supposed, late in April or early in May, but in March, and that they are ready to make an entry into the new buds at the very first possible moment. Acting upon this we started spraying early the next year, and smothered the poor defenceless mites, which were naked to the world, with soft soap; we kept up the spraying until June, the weather being favourable, and in the autumn, after careful search, we found somewhere in the teens of big buds in the whole of several large flats. Upon this I felt that I was justified in writing to the gardening Press, which I did in 1904.

Since that date I have, in company with inspectors from the Board of Agriculture, made careful search through flats of black currants so sprayed, and including quarters of Victoria (the most favourable variety for mite to attack), without being able to discover a trace of big bud. The inspectors did not quite believe in the efficacy of the remedy; possibly, like many of the general public, they thought it too cheap (it would be more valuable if sold at 3s. 6d. a pint), but I put this simple question to them: "Here you have a stock of currants which (speaking then) six years ago were infested with mite; now you cannot find a trace, yet these trees are propagated from tainted stock—and how have they become clean if the spraying has not done it?"

Since then several large growers have told the same tale, but there are, it must be confessed, difficulties in the way. First, the weather. You cannot spray when it rains, and the rain often does away with the benefit of a spraying. If you cannot, or will not, spray regularly you may destroy thousands or millions of mites, and still leave enough to stock a plantation. If you examine one big bud under the microscope you will think it contains enough mites to soon populate an acre of plants. That is the first difficulty, and the next is that when you have done everything you may get a fresh invasion from some neglected garden in the neighbourhood. If you examine the mites under a powerful lens you will see them sticking up on end and waving about, as if seeking to wrap themselves round something, and they are doubtless carried from one place to another by bees or other insects which visit the bushes.

As already stated, a few years ago we had not seen this pest. Now I find it from the English Channel to Northumberland; and in old gardens in which there has not been a fresh tree planted for ten years there are worthless old bushes covered with big bud. Some people say that certain varieties are immune. If so, I have yet to meet with them, but certainly some varieties resist the pest better than others. I cannot, however, see how it is possible to get rid of mite whilst most people look upon it as one of the things which cannot be helped—a sort of "act of God," as the law has it, and sit with folded hands. I think we must now class this infliction, with American blight (woolly aphis) and American gooseberry mildew, as things which can certainly be checked, and temporarily cured, but from which it will be difficult, nay, impossible, to guard against a fresh outbreak.

One word in conclusion. Don't attempt to rid your trees of mite by spraying unless you mean to stick to it and see the job through. So many people say they have tried it without success, and will afterwards admit that two or three sprayings were the extent of the trial. Even in high quarters results have been given upon the most slender evidence as to the spraying, and, even if one does one's best, a plantation may not be quite cured in one season. But persevere. The second season should free you, and you will be amply repaid by the clean, healthy growth of your vigorous trees. Needless to say that a large plantation will need the best of sprayers, and sufficient force to cope with the work quickly, so as to render the cultivator as independent of the weather as may be, and if you are not in a very isolated spot you will do well to keep up occasional sprayings in subsequent years as a preventive measure.

A. H. PEARSON.

Lowdham.

FASHION IN GARDEN FORMING.

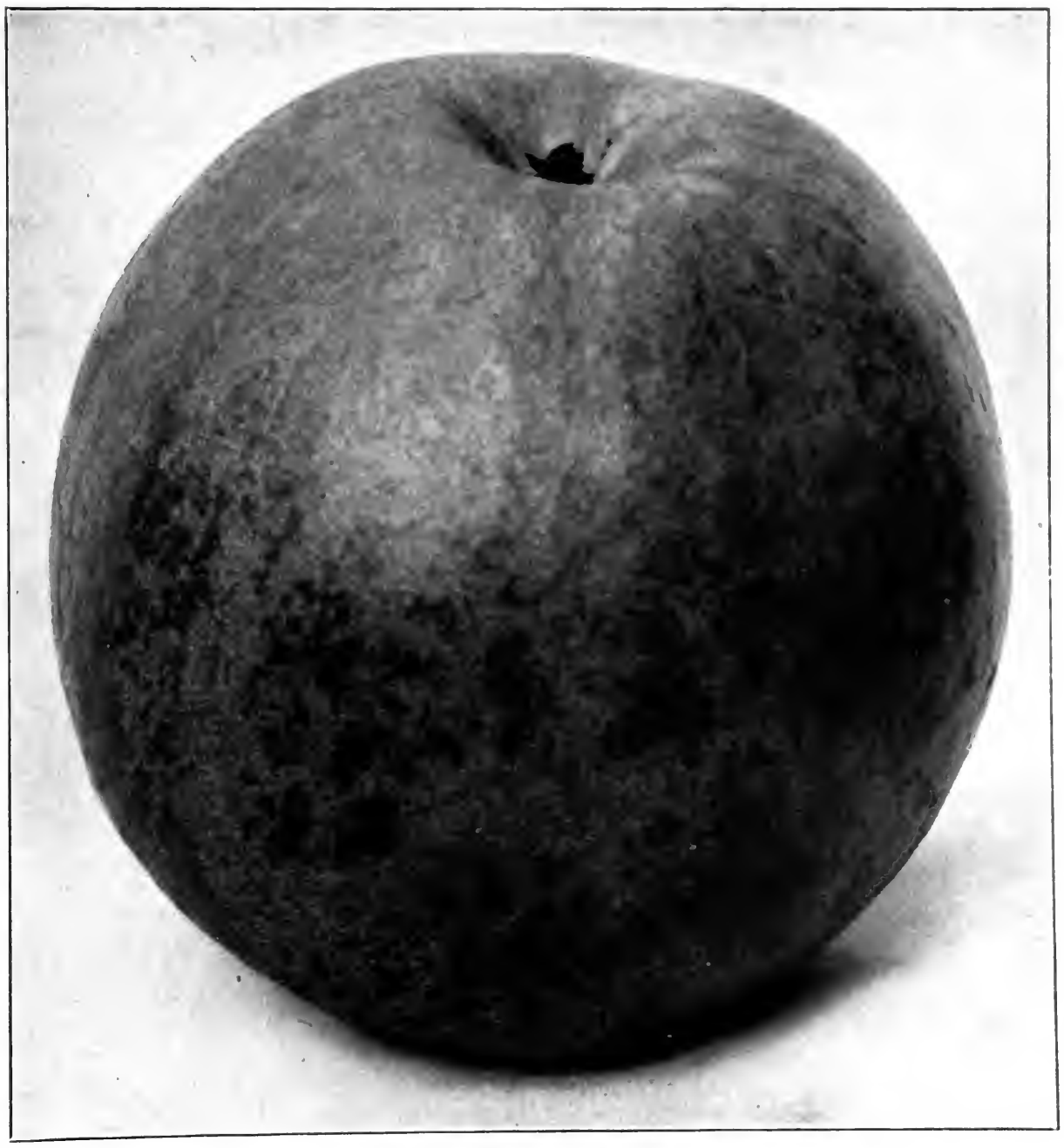
Theoretically a garden is formed when it is first laid out in paths, lawns, and walks, shrubberies, beds, and borders, but actually the forming goes on year after year, season after season. Not a plant can be added that does not materially change the character of the immediate neighbourhood, the lavish reproductions of Nature even speedily alter the face of the pleasure-grounds unless they are prevented or restricted.

Each summer season some difference in fashion affects our gardens just as surely as they influence our choice of clothes. Art has a great deal to do with gardening; it has been said lately that futurist and post-impressionist painters have helped to create the prevailing craze for vivid hues, and combinations of those in feminine attire, and that fashionable gardens are to exhibit correspondingly gorgeous contrasts. Probably flower-beds look more brilliant than of old, because colour-massing, the employment of but one or two hues, has taken the place of the antique practice of colour-dotting, the spreading out of patches of pretty tints over a large space. Fifty bushes of Madame Levavasseur, the dwarf crimson polyantha rose, for example, will give a show that could not be expected from fifty mixed polyantha roses; a couple of dozen orange-vermilion geraniums in a bed, with but an edge of snowy sweet alyssum, will long have a place in a memory that would not retain any impression of a bed made up, as beds used to be, of rings of scarlet, white, and salmon geraniums, with surrounding belt of gold calceolaria and blue lobelia. Renunciation is the road to more complete gain, just as specialising is the secret of most successes. By giving up five out of seven hues we extract infinitely more value from the two accepted.

Self beds are a notable fashion this year in several famous gardens. The object aimed at is the matching of a carpet or edging flower to the other kinds used, with such accuracy that, from a moderate distance, the eye will not perceive the slightest difference. Extra floriferous plants, too, will chiefly be made use of, those that clothe their foliage in blossoms. The fibrous-rooted begonias are admirable examples, so too are lobelias, the modern dwarf delphiniums that are treated as annuals, many varieties of the aster, sweet alyssum, violas, nemesia, annual candytuft, dwarf, erect eschscholtzias, Tom Thumb coreopsises, dwarf clarkias, godetias, and nasturtiums, and the showy silenes. Displays of carmine and royal blue are popular, for these hues in unison produce the effect of either strong violet or red-purple, according to the quantity of the carmine or the blue bloom. Salmon and orange are freely associated, one favourite idea being salmon clarkias from which rise at intervals by orange African marigolds of the most giant type. Rose-pink, of the shade of the cabbage rose, is accompanied by the gold of the bedding pansy or dwarf yellow nasturtium.

There are seen, however innumerable beds in softest pastel shades; where the grounds are of sufficient dimensions these are welcome as rest to the eye that has feasted on riotous splendours, but it is essential to their appreciation that they are so far from gay beds as not to be eclipsed by them. Other combinations of colour are china-blue with mauve, blush with silver-grey, bronze with the pale brown of some violas, Humea elegans, and one dwarf nasturtium. The azure-blue of nemophila is used with the dull pink of the viola William Niel.

Yet another feature of floral fashion is the present demand for plants of profuse but minute blossoms, that would have been reckoned insignificant by our ancestors. Probably the miniature lilac Ionopsidium acaule started the appeal two years ago; it was given as much praise as a stately dahlia or delphinium can receive; whole columns were printed upon its fairly-like charm. Now we have many rivals, gypsophilas of dwarf as well as tall habit, from the six-inch muralis to the three-feet G. acutifolia, Isatis glauca, or Woad, a three-feet plant smothered in fragile-looking yellow florescence; Tunica saxifraga, eight inches, pink and white; Artemisia gracilis, a tall, feathery foliage subject that buds out in fluffy gold bloom at every shoot; and the twelve-inch white gypsophila, resembling Asperula hexaphylla, in addition to the multiflorus section of Michaelmas daisies, the plume-forming Bocconia cordata, astilbes, amaranthus, and celosias.



APPLE THE GUELPH.

A handsome and productive apple of high quality. A.M., R.H.S., September. Mr. W. Pope, Newbury.

The newest way of growing sweet peas is by placing single plants against bamboos at half-yard intervals, and carpeting between with alyssums or violas. It is considered that a mixed bed, with a different colour to each stick, has a charming effect, and serves to show off the distinctions between varieties.

Lastly, taste is beginning to tire of arches and pergolas. The latest fashion for growing climbing roses and clematises is up larch poles, set at irregular intervals in a large group on a lawn, or out of a gravel square. The branches are crossed and re-crossed in imitation of the way in which Nature forms copses and thickets, a semi-roofing being thus gained to shelter chairs. The same scheme could be carried out in a summer with canary creeper and other tropæolums, and Convolvulus major. M. H.

CISTUSES.

The following three species of cistus are desirable where the shrubbery borders are spacious.

C. monspeliensis.

This is an upright-growing plant with twiggy growths, in general habit not so robust as most of the other species mentioned. The leaves are narrowly lanceolate, the flowers, which are very freely produced, being white, about an inch across, borne in clusters of five to ten or more. The average height of the plants is about two feet.

C. purpureus.

A bush of the true purple-flowered rock rose in full flower at the foot of a sunny south wall is worth going a long way to see. Unfortunately, it is rare, no doubt because it is rather more tender than some of the species, growing two feet to four feet high, the leaves oblong-lanceolate, the flowers two inches to three inches across, rich reddish-purple in colour, with the familiar yellow centre, and velvety-maroon blotches. The true C. purpureus is very rare, one or other of the varieties of C. villosus often being grown as C. purpureus.

C. villosus.

This is the commonest of the pink or rose-coloured cistuses grown in gardens, and is very variable. C. creticus and C. undulatus are both varieties of it. It forms a compact bush, with greyish, hairy leaves, and rosy-purple flowers about two inches in diameter. The species and its varieties produce seeds very freely. A. O.

ADVANTAGES OF ORCHARD HOUSES.

Much might be written and said with reference to the aid well-equipped orchard houses are able to render in the maintenance of supplies of choice fruits during the greater part of the year, but there is no occasion in these pages to do otherwise than briefly touch upon this point. We have, on more than one occasion, within a comparatively short period, set forth at some length the advantages of having one or two structures in the garden for the cultivation of fruit trees in pots; and last winter we were fortunate in being able to arrange with Mr. James Hudson, V.M.H., to write a series of articles on the fruits specially adapted to orchard-house culture. As Mr. Hudson is a past master in the art of growing fruit trees in pots, his contributions received widespread attention, and greatly stimulated the interest in this phase of fruit production

We now refer to the matter for the purpose of presenting our readers with an object-lesson that is unquestionably of great practical importance. This year plums, more especially the choice varieties, have been so scarce that even those who have trees trained to walls have had a difficulty in maintaining moderate supplies either for dessert or kitchen use. Pears very closely approached a complete failure, and it must have been very disheartening, both to owners of gardens and those responsible for their management, to have scores of admirably-managed trees without a fruit upon them, or so few fruits as to be hardly worthy of notice.

Whereas out of doors hundreds of plum and pear trees have been barren, there has been no shortage of orchard-house fruits. In gardens where fruits are grown in pots the crops have, as usual, been heavy, and of high quality, and in nurseries also the pot trees have been an interesting and profitable feature. We have only to refer to the magnificent collections of fruit trees that have of late been exhibited by the leading nurserymen at the Royal Horticultural Hall to remind many of our readers of the great excellence of the crop. For the purpose of enabling those of our readers who had no opportunity of seeing the fruit trees shown at Westminster, we illustrate two trees which are fair examples of the whole. One is a tree of that excellent early dessert plum, Early Transparent Gage, which must have furnished three or four dishes of finely-developed fruit, and the other that useful autumn pear, Souvenir du Congrès, which had about eighteen large fruits. Both trees were excellent examples of successful culture, and were exhibited with a large number of trees, all more or less good, by Messrs. J. Veitch and Sons, at one of the late summer shows held by the Royal Horticultural Society.

PLUM EARLY TRANSPARENT GAGE.

A heavily-fruited tree of this useful dessert plum, showing its value for orchard house culture.

THE BEST TWELVE EXHIBITION FRUITS.

During the months of August and September, from a large establishment where fruit is a speciality and there are crops under glass, it should not be difficult to stage at the leading exhibitions a collection of twelve kinds of fruits, and these of superior varieties.

It is very strange that in some collections we find so many inferior varieties. By inferior I mean grapes like Gros Maroc, Alicante, or Gros Guillaume; Emperor Alexander or Gascoigne's Scarlet apple. No one will admit that these possess really high flavour, and yet we often see them included in collections of dessert fruits. The apples have certainly only a bright exterior to recommend them. In the case of the grapes it is astonishing how exhibitors cling to these inferior varieties when the more desirable sorts can be quite as easily grown. How can either of the grapes named be compared to Black Hamburgh in August, Madresfield Court or Muscat Hamburgh in September?

Gardeners, as a rule, confess to a weakness for variety in grapes as in all other fruits, and in vegetables and flowers, but unfortunately it is at the expense of quality in far too many instances. I cannot understand why, instead of so much variety, double or treble the number of vines of a superior variety are not planted in preference to one or two canes, each of a considerable number of varieties, none of which are indifferent in quality.

As a guide to the inexperienced I purpose giving a selection of the best twelve fruits suitable for exhibition during the two months mentioned and the varieties best adapted to such a purpose, bearing in mind only those that possess merit beyond appearance.

For exhibition purposes black and white grapes are regarded as distinct kinds of fruit. In addition to these I name pine-apples, peaches, nectarines, melons, figs, plums, pears, cherries, apples, and apricots or strawberries. This is giving a choice of thirteen kinds, without having recourse to currants, gooseberries, raspberries, or nuts, none of which score many points in competition.

For use in August the following varieties would be unsurpassable if presented in the best condition each is capable of.

Black Hamburgh I regard as the finest black grape during the month of August. This variety has a flavour all its own when presented at its best. Bunches 3lb. to 4lb. in weight, evenly-shouldered, furnished

with large even-sized berries that have a distinctly hammered appearane, are quite black, and covered with dense bloom. If all these attributes are present no one could suggest a more perfect specimen of a black grape.

Muscat of Alexandria is far ahead of all other white grapes at that season of the year. The bunches should be 3lb. to 4lb. in weight, evenly shouldered, tapering, and regularly furnished with large, even-sized, oval-shaped berries of that rich amber tint which is so pleasing in this grape. Of pineapples no variety equals a regularly ripened fruit of Queen in point of quality. Smooth Cayenne is larger and more handsome.

Of peaches, Royal George and Bellegarde are quite the best, both for appearance and high quality, and although Alexandra Noblesse may possess enticing flavour, it is short of the rich colour the two former varieties have in combination with their own rich flavour. In nectarines, Pineapple and Elruge are desirable having a distinct type of flavour, but both are good and reliable in growth and bearing qualities.

Melons are numerous, but in spite of its age and the immense number of new introductions, Hero of Lockinge is still difficult to excel in appearance and flavour. Sutton's A.1, if a scarlet-fleshed variety is required, is desirable. No fig can yet equal Brown Turkey in point of quality, although Negro Largo may be larger. In plums we have abundant choice, but Golden Gage and Jefferson are well flavoured. Pears are well represented by Doyenne du Comice and Louise Bonne de Jersey. Among apples no variety is needed but Cox's Orange Pippin, because no other can equal it in flavour. Varieties like Charles Ross and Gascoigne's Scarlet are quite out of the running.

Cherries are best represented by Black Circassian (commonly known as Tartarian) or Knight's Early Black. Of apricots, Moorpark still leads the way. Strawberries in August are not easy of production, but Waterloo is the most reliable for that period.

For exhibition in September some slight alteration will be required in some few varieties. In Black grapes, Madresfield Court or Muscat Hamburgh should be substituted, as it is not an easy matter to preserve the colour of Black Hamburgh in September; and, besides, these are at their best flavour in September. Of all grapes perhaps Muscat Hamburgh is the more difficult to grow in a general way. The bunches do not come so shapely, nor do the berries "set" so freely, but of all high-flavoured grapes this is undoubtedly the best.

Violette Hâtive and Stirling Castle peaches should be grown to take the place of Royal George and Bellegarde, as these cannot always be had in September. Pitmaston Orange nectarine may perhaps take the place of Pineapple for September use, as it keeps fresh longer without the skin shrivelling.

In pears Marguerite Marillat will take the place of Louise Bonne de Jersey, but for Doyenne du Comice there is no substitute. In apples Cox's Orange Pippin still holds the first place, and no other is required. Givon's Late Prolific is an excellent late strawberry, and for September use should be encouraged. The latter should take the place of apricots, and, failing these, autumn-fruiting raspberries must be substituted. Of these latter Alexandra and Hailsham are fine varieties, and so is November Abundance. Among cherries Morello is quite the best for extreme late use.

E. Molyneux.

Swanmore Park.

PROMOTING THE FERTILITY OF FRUIT TREES.

In the general routine of a garden the periodical root pruning of fruit trees is an important item, especially where satisfactory crops of fruit have to be maintained from trees that have their branches shortened. Experience teaches me that it is better to copy and help Nature than to create distortions, but this is not always possible when dealing with fruit trees on walls, espaliers, or those grown as pyramids and bushes by the sides of walks. In their case it is necessary to use the knife to keep them within bounds, and in doing this the balance between the root and branch is upset.

The result of this condition of things is invariably strong, succulent, unfruitful wood, provided the soil in which the trees are growing is at all fertile. Another cause of this succulent growth is annual digging of the ground occupied by the roots of the trees, the fibrous, mineral-absorbing, fruit-producing roots being thereby destroyed, thus forcing the tree to seek its sustenance from a less favourable stratum. These conditions, too, no doubt, tend to foster canker in the stems and branches, for when the soft, badly-ripened wood experiences a severe winter the tissues

PEAR SOUVENIR DU CONGRÈS.

An excellent autumn dessert pear of much value for orchard house culture.

are injured, and decay, in the form of canker, not infrequently sets in.

To avoid all the evils of this kind, keeping the trees strong and vigorous, and always in a fruiting condition, should be the aim of every grower. The evil of rank growth is sometimes aggravated by inclement weather destroying all the bloom. Trees, therefore, without a crop of fruit to develop and perfect, especially if growing in a soil rich in organic matter, quickly run to soft wood when thus unbridled. It is with trees of this description that root pruning becomes imperative if they are once more to be brought back to fruitfulness.

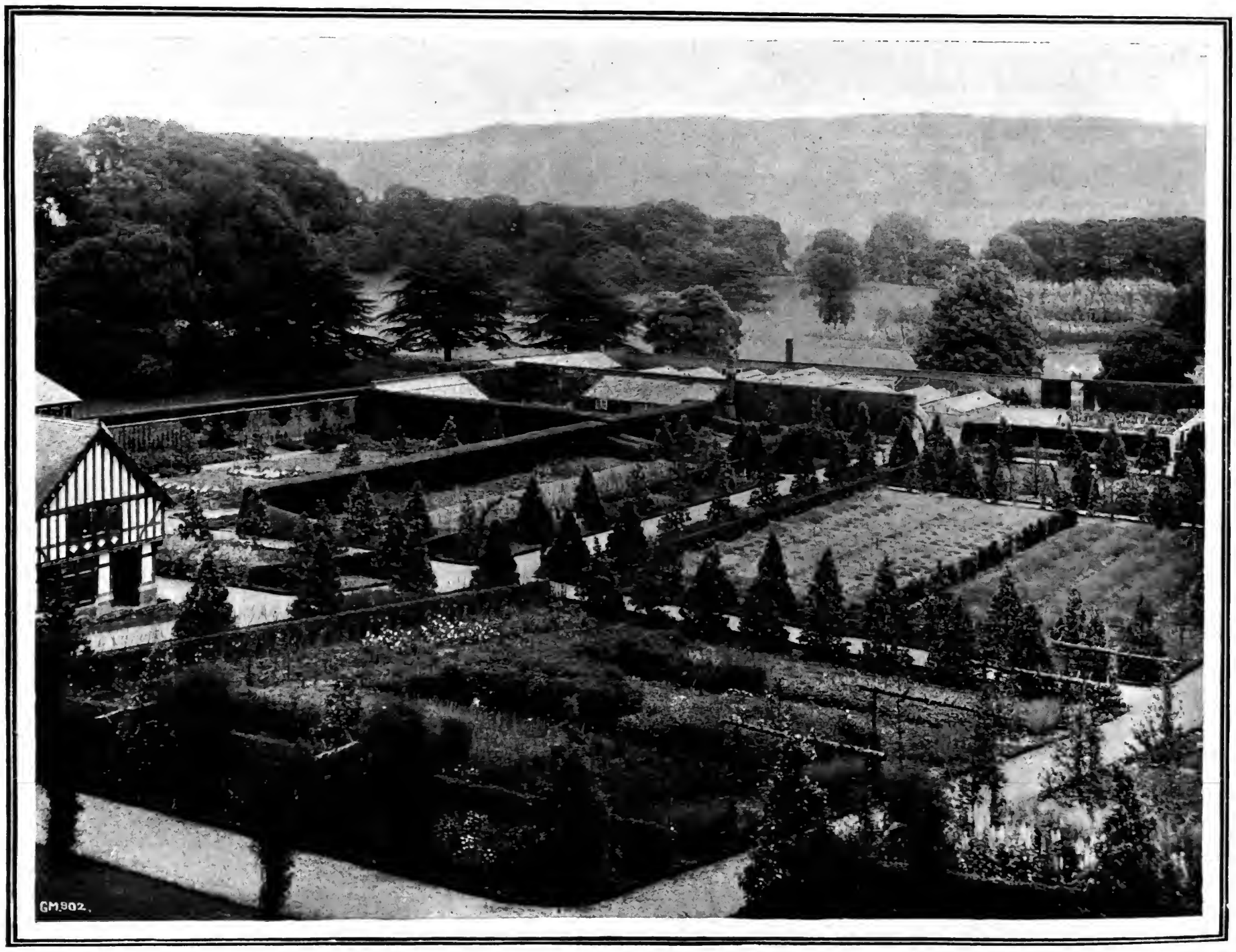
The operation of root pruning is both a check and a stimulus to the trees, as it is the means of cutting off, to a certain extent, the supply of nitrogenous food, and creating fibrous roots, which increases the trees' ability to obtain a larger supply of mineral matter. Knowing this, our method of root pruning is to work round a tree at a certain radius from its stem, according to its size, but, as a rule, from two and a-half to five feet, with a trench two feet wide, and work down the same depth. In the process all the roots of a fleshy nature met with are cut, and all the fibrous ones that can be saved are retained. In most instances it is advisable to get right under the tree from one side to cut away any tap roots.

At this stage much can be done to ensure a plentiful display of fruit buds twelve months hence, i.e., by providing an ample supply of fruit-producing plant food constituents within the reach of the young rootlets that will be formed the following year. The best fertiliser for this purpose is finely-ground bonemeal, or equal quantities of bonemeal and superphosphate. In returning the soil to the trench either of these (or, if the soil is heavy and rich in humus, basic slag) should be mixed with it. The quantity, provided there is plenty, does not matter, as these valuable plant foods do not go to waste, but remain till taken up by the roots. Where there is a deficiency of lime in the soil there should be a surface dressing of from four to eight ounces to the square yard of slaked lime in March. In cases where the potash is limited in the soil two ounces of kainit to the square yard at the time the lime is applied will have beneficial effects.

HIBERNIA.

PYRAMIDAL FRUIT TREES AT POWIS CASTLE.

The illustration of the kitchen garden at Powis Castle that we have the pleasure of giving herewith is of much interest as evidence of the success achieved at this famous Welsh seat in the cultivation of pyramidal fruit trees. It is of interest also as a proof that the importance of fully exposing all parts of the trees to both solar light and a free circulation of air is recognised as essential to the production of abundant crops of finely-flavoured fruits. At the present time the pyramidal style of training is not regarded with so much favour as it was by the past generation of fruit growers. Yet one cannot repress a feeling of admiration for the skill of those by whom these trees were planted, and have been brought to their present high degree of development. Shapely trees of pyramidal form, such as those at Powis Castle, have lost some degree of their popularity owing to the style of training necessitating severe pruning, which is not conducive to abundant fruit production. Much, of course, depends upon whether the trees have the advantage of skilful management or otherwise, for skill of the highest class is of greater importance in the case of trees that have to be severely pruned to maintain them of the desired form than when the trees can be allowed to grow more or less naturally. The gardens at Powis Castle have been under the management of gardeners of the highest eminence, and, as the result, the formally-trained pyramids, while a constant source of attraction, have yielded an abundance of fruit of the highest quality. Special attention may with advantage be directed to the fact that the trees are arranged far enough apart to enable them to be fully exposed to the rays of the sun on all sides, and to allow the air to circulate freely through and around them. It will be noticed also that the spaces between them are kept free from vegetation of all kinds, thus rendering it possible to maintain the surface soil in a loose state, so important as an aid in the prevention of an excessive rate of evaporation. In addition to the advantage of being able to use the hoe freely, the cultivator is able to readily apply rich top-dressings as may be considered desirable.



PYRAMIDAL FRUIT TREES IN THE KITCHEN GARDEN AT POWIS CASTLE.

Acalpha hispida.—Grown for winter effect, the acalphas are now developing their tassels, and water must not be allowed to come into contact with the latter, or they will quickly damp; at the same time, the atmosphere must not be allowed to remain dry, or an attack of red spider may be expected. A careful lookout should be kept for this pest, and also for white scale, and should either be detected careful sponging with an insecticide should be resorted to.—H. PRIME.

CORDON APPLE TREES.

There are benefits to be derived from training the apple upon the cordon principle that cannot be claimed for any other method, and the greatest is that it permits a larger number of trees to grow upon a restricted space than by any other system. This is especially helpful to owners of small gardens, as, apart from other gains, it allows them to cultivate a greater number of varieties, and, in this way, provided they select suitable ones, secure a longer succession of fruit they they otherwise could do. This mode of training is also simple, can therefore be easily understood, and involves no difficulties in pruning; moreover, the trees commence to crop at a comparatively early stage, and, under painstaking management, they are distinctly prolific, and produce fruit of excellent quality.

Training.

In training cordons there are different modes adopted, each suitable for some special purpose. The most simple form—the single cordon, for instance—is the most suitable one to be grown horizontally, and is in some cases made use of in this way by being planted and trained to wires, placed near the ground, by the sides of kitchen garden walks, to which it affords a pleasing and profitable margin. It can be most profitably utilised, however, if the trees are planted against walls, buildings, trellises, rails, etc., and in these positions it can be trained vertically or obliquely. For positions of this kind that are low, or only moderate in height, the oblique system is preferable, as it permits the trees to attain a greater length than does the vertical method. It is also claimed for this form that the trees' vigour is more generally equalised than is the case with upright trees, which have a tendency to become weak in growth near their base as compared with the tops.

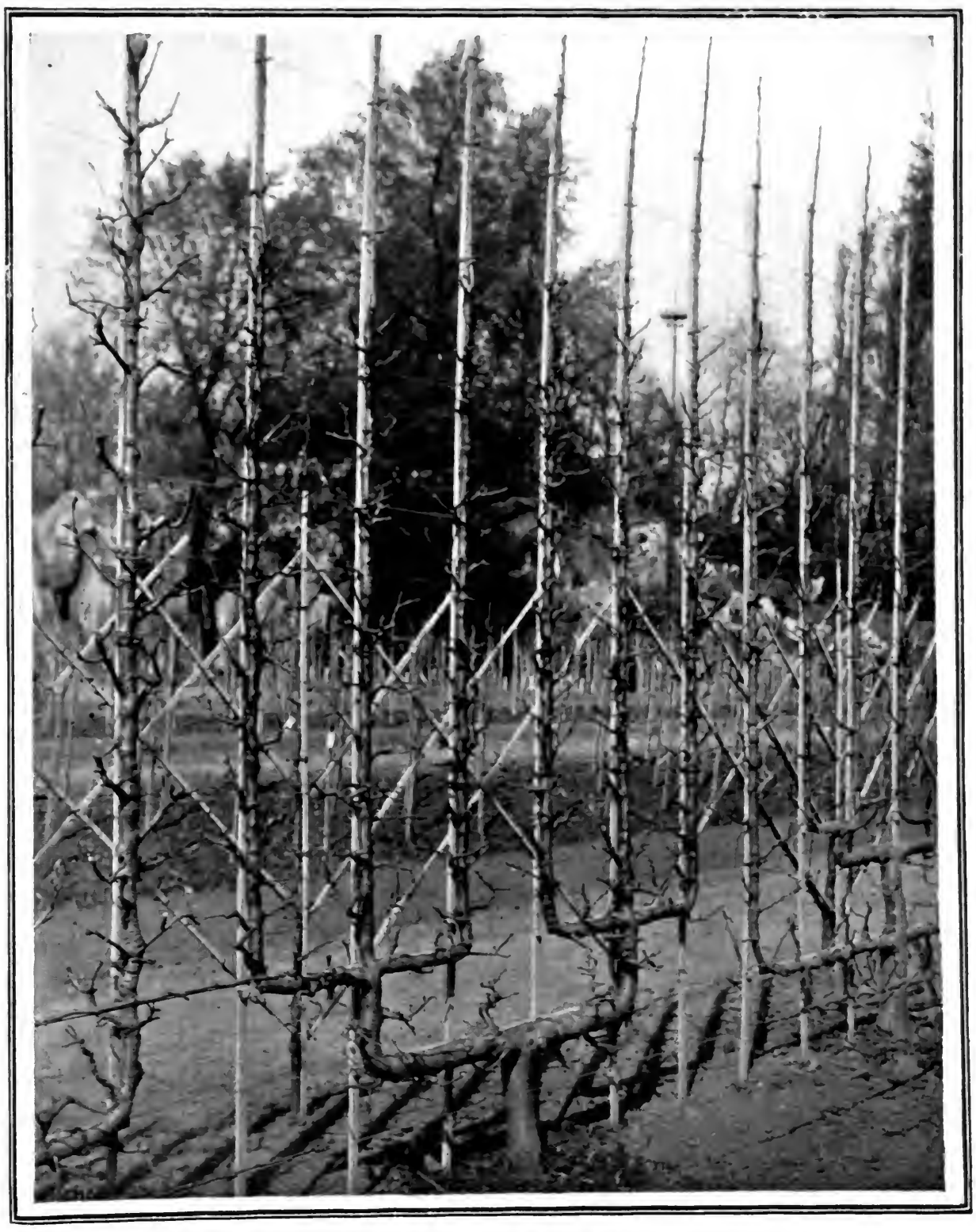
The double cordon, and those with still more branches, are best trained vertically. Apart, however, from the obvious difference in management during their early stages of development, they require similar treatment to the vertical single cordon. Yet, owing to the difference referred to, they require more time to cover a given space and to become fruitful than do the single cordons.

Planting.

When preparing for planting, the land, if it is necessary, must be drained, and in any case it should be trenched two feet in depth. If this can be done at a sufficient length of time previous to the planting season for it to become settled, an advantage will have been gained. The method of trenching adopted should depend upon the nature of the soil. Should this be of an equally good character throughout, the bottom should be brought to the surface, but otherwise it should be merely well broken up, though in any case the surface should be made fine and even to receive the trees. Early in November is the best season in which to plant; and a time when the soil is in a fit condition, i.e., sufficiently dry to crumble, should be chosen for the operation.

The trees selected should be worked upon the paradise stock, as their growth is more suitable than in the case of those upon the free stock. The distance from each other at which the trees are planted must, of course, be governed according to their description; for instance, single vertical cordons should be placed at least one foot apart, while those of other forms should be so arranged that their branches are also this space from each other; and each, if placed against a wall, should have its base two inches removed from it. Each summer stopping, pruning, and training of shoots, the winter pruning, and, in some cases, root pruning; and although these operations are comparatively simple, it is nevertheless essential that the practitioner understands the characteristics of the various forms of growths, for the fruit-bearing powers of trees, especially of those that have their growths so severely restricted as the cordon has, depends to a considerable degree upon the way in which pruning is carried out.

The requirements of the trees with regard to stimulants, such as mulching, manuring, and watering, must also be closely attended to, as the health of the trees and the quality of the fruits in a great measure depends upon this. Another matter of importance is that of keeping the trees clean and free from insect, fungoid, and other enemies.



CORDON APPLE TREES WITH SEVERAL BRANCHES.
Trained in the form commonly known as the gridiron.

tree, before being planted, should have all broken and jagged ends of roots cleanly cut off, the cuts being made from the under sides. Their roots must be carefully spread, have fine particles of soil worked amongst them, and be firmly embedded at a depth of about three inches. If the natural soil is unfavourable to plant in, much benefit will result from the use of a specially-prepared compost. These operations should be completed by mulching with partially-decayed stable manure.

Subsequent General Management.

To describe this in detail would fill too much space, but the chief operations may be briefly referred to. They consist of the

Suitable Trees for Planting.

Though any variety of apple can be cultivated, with more or less success, upon the cordon principle, strong growers that produce large, untidy spurs are not so suitable as those of neat habit, that naturally form spurs close together, and selections of varieties of this description can be made from the dessert and culinary sections. Trees prepared for planting can be obtained from any nursery in which fruit trees are made a speciality.

Thos. Coomber, V.M.H.
The Hendre Gardens.

CHERRIES FOR GARDENS.

Medium light soils, containing sand and a little lime or chalk, are best suited to cherry culture. The trees can be grown very successfully in many open gardens, but, generally speaking, they are more easily protected when trained on walls. As a rule, the amateur grower will discover the greatest amount of utility in the Morello cherry. This seems to thrive in almost any soil and situation, but a fairly warm spot and a light sandy soil is best. It succeeds equally well as a standard, bush, pyramid, or espalier, and quite small trees in a young state will fruit abundantly, the fruit being particularly adaptable to preserving, bottling, or for ordinary cooking purposes.

For ordinary garden culture, however, there are, of course, other kinds, besides the Morello, that suit the amateur and professional grower quite well. In a moderate-sized garden, for instance, Early Rivers, a magnificent black fruiting variety, with large glossy fruit, borne in clusters of ten or twelve, is an admirable cherry for dessert purposes, as also is Black Tartarian, which does best against an east wall. As a bush or pyramid tree, against an east wall, Archduke does very well indeed, especially in a chalky soil; in fact, all the Duke cherries are most suited for chalky soils. There is also May Duke, a large red cherry, with an agreeably acid flavour; Elton, with a large mottled fruit; Bigarreau Napoleon, which succeeds best against an east wall or as a standard; and Kentish, a medium-sized cherry for culinary use, juicy, and acid in flavour.

New varieties of cherries are raised from stones, the seedlings being transplanted out in nursery rows in the autumn of the second year. Standard trees and strong-growing kinds like Bigarreau are commonly propagated by means of grafting on stocks raised from the gean, or wild black cherry; or, in the case of dwarf trees and such kinds as May Duke, Morello, etc., on stocks raised from Cerasus Mahaleb. Scions for grafting cherries must be taken early, in February, if possible, and heeled in in a cool spot until required in March.

Symmetrical training is quite easily accomplished in the case of cherry trees. At the outset young trees are best allowed to make one year's growth, after which they need to be cut back twelve or fifteen inches towards a bud or "eye" pointing in an outward direction. Two shoots should be encouraged from each branch. Wall trees should always be trained fan fashion, while bush trees must be kept open, and the branches well exposed to light and air. The cherry certainly does not lend itself to knife pruning like other stone fruits, and the only time when the trees need attention in this direction is when they are young. Sometimes a strong woody growth is developed in the first year, but this can be checked by lifting and transplanting in the autumn, after first shortening any strong-growing roots which would be responsible for this over-luxuriant growth. In the case of a standard tree, at any rate, the knife must not be used at all after the first year's training and shaping, although, of course, the dead wood must be thinned out and cross-growing branches kept in order. For wall-trained trees a system of summer pruning or disbudding is best adopted, which consists in shortening the current season's shoots to within two buds of the base, and pinching out the growing points on the laterals or wood growths of young trees so as to form fruit buds.

In the case of the Morello cherry, it is to be noted that here the fruit is borne on the wood of the preceding year's growth, hence the weakest shoots, and some of the old wood should be cut away every year so as to prevent overcrowding. This variety grows very successfully against a north wall. Of course, the great point to bear in mind in pruning cherries is that wood buds must always be left wherever extension branches are required. As a rule, however, it is best to rely upon disbudding in spring rather than knife pruning in winter. Perhaps the best way of checking the too exuberant growth of young trees, which may be developing an excessive amount of stout shoots, is to carefully lift and transplant them.

Frequently the grower is troubled with "gumming" in cherries, which, as a rule, is directly attributable to a too free use of the pruning knife in winter. It may be obviated by keeping the roots of the tree close to the surface; these are naturally surface travellers, and so this treatment will promote the growth of short natural spurs, which will tend to encourage the formation of a healthy tree. Of course, the best way to avoid gumming in any variety is to attempt as little winter pruning as possible, this, if necessary, being always reserved until the time when the trees are in full leaf.

J. C. Newsham.

Old Basing.

SOIL PREPARATION FOR FRUIT TREE PLANTING.

After many years' experience in hardy fruit culture, I am the more convinced that many failures occur owing to faulty methods of preparing the soil before planting. Too many people shirk the trouble and expense of thorough preparation; they are content to prepare a station for each tree, and promise to extend that preparation when the roots of the trees have fully occupied the first prepared site. I have seen so much of the evil results of such half-measure methods that I cannIot recommend them, because I am positive the future welfare of the trees is jeopardised, except, of course, in the hands of a few exceptional growers.

I remember an instance of bad preparation in an orchard of some six acres, some thirty-five years ago. The soil was a good loam, overlying clay that badly needed draining. For each tree a station some 6ft. in diameter was prepared. The trees were planted in good soil, and grew away vigorously for a time until the roots reached the limit of the prepared site; then they received a check, as every station became a receptacle for surplus water, and the trees quickly presented a sorry sight.

A new gardener was appointed; he saw the plight of the trees, and correctly divined the cause. He first drained the whole plot, and trenched it 3ft. deep, replanting every tree as the work proceeded. The result was magical; the trees are to-day perfect specimens of what an orchard tree should be, and they are not sprayed, beyond an occasional washing with an alkali mixture for the removal of moss and lichen—which, by the way, does not flourish there now owing to the more favourable rooting conditions. The trees never seem seriously troubled with insect pests; and it is safe to say that the orchard in question is one of the best in the country. It is not an unusual thing to gather from twenty-five to thirty bushels of apples from one of the trees. The varieties are also of the best.

From this it will be readily assumed that I advocate deep trenching when dealing with soil of a heavy, retentive character, not actually clay but a near approach to it, which, below the eighteen inches of loam on the surface, has a hard pan of subsoil thickly studded with flint stones. These flints, if allowed to remain in the soil after being loosened, obviate the necessity of artificial draining, and therefore are a distinct advantage, not only in saving expense, but in assisting in the aeration of the soil.

There are two methods of trenching the soil; one is that of burying the surface soil at the bottom, and bringing the bottom to the top. If soil so treated could be trenched again within two years, then I agree with the plan, or if the surface can be covered over six inches thick with any lightening material, like road-side refuse, then I say this method of trenching is desirable. The second plan is to keep the surface soil in the same relative position by having two trenches open at the same time, and thoroughly breaking up the bottom of every trench to admit of the quick percolation of surplus water. If the soil is poorly drained, the roots quickly become unhealthy, encouraging canker, and reducing the vigour of the trees. As a result the leaves in their weakened state quickly fall a prey to insect pests, especially greenfly, which does untold damage by preventing the swelling of the fruit, and retarding the development of fruit buds for the next year's crop.

Trenching should be done fully a month before planting, to allow the soil to settle down. If the whole plot, large or small, is to be wholly planted with apples, pears, plums, etc., with bush fruits and strawberries between, then I recommend a dressing of farmyard manure at the rate of twenty-five tons to the acre, this to be added to the top spit of soil Placed at a greater depth manure only encourages the trees to root deeply, and that is not desirable, for the closer to the surface the roots can be kept the better, for they obtain much benefit from sunheat, thus inducing the trees to make desirable growth, which matures gradually as it proceeds. When planting in such soil, the trees benefit considerably by the addition of some light material about the roots, especially wood ashes or decayed leaves.

In the case of sandy loam, all that is needed is to deeply dig the soil, adding half-decayed manure in moderate quantity at planting time. Generally trees grow freely in such soil, without the aid of manure, until they are bearing full crops of fruit, when they need assistance.

When preparing to remove wall trees that are worn out, it is wise to remove the whole of the soil (if the new trees are to occupy the same site) for a distance of 6ft., filling in the space with soil from a part of the garden that has not previously grown fruit trees. Correct the drainage where necessary, and add a prepared compost for the roots, with a small quantity of half-rotted manure.

Freshly-cut turf is quite a desirable ingredient to employ when planting fruit trees, and, if the opportunity occurs, a quantity should be prepared and cut ready for mixing with old lime rubble, especially for peach and nectarine trees. Any extra attention of this character that can be given to fruit trees at planting time will result in successful growth the first year, which should be the foundation for future success.

E. M.

Clematis Jackmani.—It is an open question how many varieties of clematis have been put into commerce since this was distributed now many years ago, but it is not yet superseded—in fact, it must still be regarded as one of the best of all clematises. What is more, it seems to be less affected by disease than many others, and fine examples may often be seen among very uncongenial surroundings even in towns.—W.

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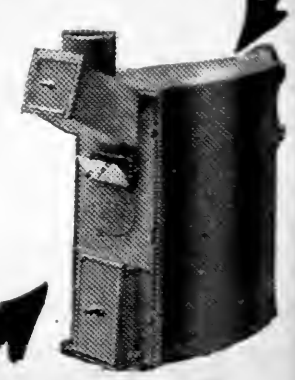

AUTUMN-FRUITING RASPBERRIES.

In a paper read before the Fellows of the Royal Horticultural Society in the autumn of 1903 on the autumn-fruiting raspberries (and strawberries), I said: "These fruits, so well known and so much appreciated in the summer season, have not, until within the past year or two, been duly recognised for regular supplies in the autumn. My object in detailing our mode of procedure at Gunnersbury is to encourage and extend their cultivation for autumnal supplies."

Their Utility.

These remarks, made ten years ago, I again repeat as an introduction to what is now recorded of our present system of cultivation. True, one does now find more of these fruits in private gardens than in 1903, but the increase has not been commensurate with the merits of the autumn-fruiting raspberries. We find these (and the strawberries, both the alpines and the perpetuals) to be much in request both for dessert and for various confections. They are used now (October 15) almost every day in both ways. For breakfast they are always found welcome; also for teas, and even for the dessert on the dinner table. The quality of the fruit is better, on the whole, than with the summer-fruiting kinds. Then the flavour is oftentimes too sweet; now it is sweet also, but with a sparkling acidity and freshness combined.

This season we have been picking since the first few days in September, and now we are picking more than at any previous date. (Six punnets are now being gathered for confections for one special occasion; this we shall frequently repeat.)

Lately we have, in common with other districts, had heavy downpours of rain, and in such quantities and duration as would, to some extent, damage the summer crops by reason of the humidity in the atmosphere. Not so, however, with the autumn crop to anything like the same extent. One might reasonably assume that the opposite effect would be the result, but it is not so. I consider that we gather quite as great a weight of fruit from our autumn crop as from our summer crop. The former crop continues right through September and October, and even into November when the weather is favourable. We have most to dread from the "London special," as the fog does more harm than an early frost; and when very severe, like it was last autumn, the foliage curls up, and the crop suffers as a consequence. In the country, however, this would not obtain. There the autumn raspberry may be grown, and that most successfully, wherever the summer kinds succeed well.

I strongly advise that more attention be paid to this crop. To say that the room cannot be afforded will scarcely hold good, for even a couple of rows will give a good return. This season, as a case in point, when we have not any too many of our usual choice dessert fruits for the table, these raspberries come in to fill a gap in "the nick of time," so to speak, whilst in the kitchen they are simply invaluable, and highly appreciated, so I am told.

Cultivation.

Cultivation does not in any material degree differ from that given to the summer-fruiting varieties. Where one will thrive there the other will succeed equally well. Our autumnals are grown now, as in 1903, on the same quarters. The soil has a tendency to be heavy just in this spot, yet it suits this fruit admirably. Every four or five years we lift at least half of the quarter, and thoroughly trench the ground fully three feet deep, and then replant from the same stock. In doing this we select the best canes, planting three or four in a clump at from two feet to three feet apart, with, in our case, as we are short of room to some extent, a distance of five feet between the rows. Another foot for the taller varieties would be better.

I prefer to do the replanting in the spring, when the canes are first pruned down to the ground, with only a few eyes left to each cane. During the latter part of the month of February, or early in March, we find a good time; later even than this will suffice. The first thing to do is to sort the canes as they are lifted, and lay all of them in by their heels, planting the most promising on the same ground again, or on fresh ground if needs be. The weaker stock will be useful as a reserve, should such be required.

When not transplanting I like to have the ground forked over lightly soon after pruning. Supposing a good dressing of farmyard or stable manure be applied when the ground is trenched for planting, then the following spring I would apply a fair proportion of an artificial compound—one that is suited to fruit production rather than to exuberant growth. The ground should be kept well stirred through the season, and if it be a hot, dry summer (as in 1911), a light mulching is most desirable.

I do not make it a practice to thin the growths, or to tie them up in any way, until the first week in August. By that time the growths of one row touch those of the next. At the time mentioned a few upright stakes are fixed, say, at ten feet apart. To these a transverse stake, or bamboo, is fixed, at from three to four feet from the ground. Then all the shoots that are showing for flower at the terminals are slung up to the cross stake, not in anywise tightly. Raffia does for this very well. All the shoots that do not show flower by that time are thinned out, only sufficient being left to make out the line, if needs be. By the end of the month (August) upright stakes, four inches by three inches, are driven in, and upon the tops of these, say, at six feet, cords are stretched as a support to the nets, which are then strained as tightly as it is safe to do so, and completely over the quarter and down the sides, so as to keep all birds out. For this protection I much prefer one-inch mesh light netting to any other, made, of course, on the square mesh, so as to cover in an equal manner. This is infinitely better, in my opinion, than any form of galvanised wire netting that can be selected. I have noted that after an early morning frost the raspberries under the netting have been safe, when outside the vegetation around has been white.

When the fruit has all been gathered the nets are, as a matter of course, taken off when quite dry; and there is nothing more to be done until pruning in the following spring, save keeping the ground clean of weeds.

Autumn-bearing raspberries are sometimes termed "perpetual," but this, in my experience, is quite a misnomer. One (summer sorts) bears on the old, or ripened wood, and the other (autumn sorts) upon the terminals of the green wood. To attempt a crop on both old and green growths is but to fail, under average conditions. There is one most commendable feature about the autumn raspberry, i.e., a good crop of fruit can be taken the same year as they are planted, and in less than seven months from planting. This should be noted by cultivators.

Jas. Hudson, V.M.H.

Gunnersbury House Gardens.

[When visiting the Gunnersbury House Gardens a few weeks since we were so much impressed by the remarkably fine crops of the autumn-fruiting raspberries, that we asked Mr. Hudson to give a sketch of the method by which he obtains such splendid varieties. This he readily consented to do, and we much appreciate his kindness.—Ed. "G.M."]

(To be continued.)

AN AVENUE OF SINGLE CORDON APPLE TREES.
In the kitchen garden with border of mauve aubrietias.

Sedum spectabile atropur. pureum.—Admirers of the Japanese Sedum spectabile, and they are numerous, would do well to obtain the variety atropurpureum where it is not already in their collection. It is a counterpart of the type except in the rich colour of its blossoms, which are conspicuous for a considerable distance.—S. W.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

DENDROBIUM PHALÆNOPSIS. — In private gardens where cut flowers are in demand for decorative purposes during the months of October, November, and December, Dendrobium Phalænopsis is one of the most serviceable orchids for this purpose. During late years this has been imported almost annually in large quantities, and plants have been procurable at a modest outlay, either through the importers or at the sale rooms. Those requiring this dendrobium in quantity should purchase imported plants. Not only is there a great amount of interest in first flowering imported plants, but, what is more important, such plants retain their native vigour, and flowers are not only produced from the growth developed, but many spikes proceed from the old pseudo-bulbs. There is also considerable variety, varying from pure white to rich purple colouring.

IN OR NEAR TOWNS.—I wish to warn all gardeners and amateurs against growing D. Phalænopsis in the immediate neighbourhood of London and other large towns where fogs are frequent in the autumn and winter. The least fog is sufficient to destroy all expanded flowers, and it is difficult to induce the flower buds of any of the plants to expand after the second week in October in fog-affected areas. With a pure atmosphere these disadvantages are not felt, and the plants are quite easy to grow.

GENERAL TREATMENT.—The treatment this dendrobium requires can usually be provided in the plant stove. Pots or shallow pans suffice, with very little potting compost about the roots. We find the plants do best when suspended near the roof glass. They commence to make their growth about the months of April and May, and potting is best attended to when the new growths first make their appearance. For potting compost use two parts fibrous peat, to one of sphagnum, with sufficient broken charcoal and sand added to render it porous. Make the material firm about the roots and base of the plants. From the time growth commences, until the spikes are cut or pass out of flower, the plants must have liberal treatment. During the summer they may be freely syringed overhead whenever the outside conditions permit. During their dormant season they must not be permitted to become unduly dry for any lengthened period. When the flowers have expanded they should be placed in a position where they do not get wet, and if they can be removed to a slightly drier atmosphere they last in perfection for several weeks.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

PERPETUAL - FLOWERING CARNATIONS.—The watering of these will require more than ordinary care during the next two or three months, and, although they will not require so much moisture at the roots as in the summer, they must not become too dry. Keep the flower buds and young growths neatly tied to the stakes, and let them have all the light possible. Should the glass outside become dirty through fogs, lose no time in cleaning it, as this would quickly cause the plants to become weak. Give plenty of fresh air during favourable weather, but avoid cold draughts. A minimum temperature of 45 or 50 degrees will suit them during the winter. Recently-rooted plants should be kept growing near the glass in a light structure. Shift them when the pots are full of roots, and attend to stopping and tying. Use artificial heat sparingly at all times. If not already done the young plants of Malmaisons must be shifted into 6-inch pots. Pot them firmly, using a compost of fibrous loam, naturally decayed leaf-soil, finely crushed brick-rubble, and coarse sand. Keep rather close until they have settled in the new soil, and give water with great care all through the winter months.

FREESIAS.—The earliest batch of these useful plants may now be given a slightly higher temperature. See that they are securely and neatly staked, and keep them growing quite near to the glass. As the pots become filled with roots a little stimulant may be afforded, increasing this in strength when the flower buds begin to develop. Attend to the staking of the later plants.

GENERAL WORK.—Cannas must now be induced to rest by gradually withholding water. When the foliage begins to die down the plants may be laid on their sides beneath a stage in a cool house, or packed closely together in a frostproof shed. Fuchsias may also be induced to rest by treating them similarly. Cinerarias should be placed in a cool house now, giving them a position near the glass. Place them, if possible, on a cool base of ashes or gravel. Use fire-heat only to keep them safe from frost, and give air abundantly on all favourable occasions. Keep a sharp look-out for the leaf grub; hand-picking is the surest way of eradicating this pest. Lightly fumigate the house at fortnightly intervals to keep the plants free from aphis. The blinds may now be removed from most of the houses and stored away in a dry place. See that they are quite dry before taking them down, and mark those which are unfit for another season.—E. HARRISS, Lockinge Gardens.

HARDY FRUITS.

GATHERING AND STORING.—By this date the greater part of our apples and pears will have been gathered from the trees, and carefully stored, with the exception of a few of the very latest kinds. Yorkshire Greening, Wellington, and Sturmer Pippin all keep much the best when left on the trees till very late. Keep the fruit room sweet and well ventilated; if a free circulation of air can be secured and the temperature kept somewhat dry and even, a superior flavour will result. Examine the fruits at intervals, remove any that have commenced to decay, but do not handle the fruits more than is possible. With us apples have this season coloured up well and grown to a good size. Pears should be kept in a slightly drier and warmer place than apples if good fruits are to be expected after Christmas. One of the best pears grown here to ripen at Christmas and in January is Nouvelle Fulvie, raised by M. Gregoire Nélis, of Joidoigne, Belgium, about the year 1854; and Josephine de Malines. The latter, in some seasons, keeps well till February.

PEACHES AND NECTARINES. — Any necessary root-lifting and pruning should be pushed forward, so that the roots may take to the fresh soil by the end of the season. I have lifted trees bodily early in October with every success, and also in March, but the latter date only in cases where it was really necessary, as the trees do not break away so freely or fruit well the first season after the operation. Young trees growing strongly should receive attention at once; take out a trench at a reasonable distance from the stem and deep enough to get well beneath the roots, then gradually work toward the tree and lift the roots entirely. Any damaged tips should be cut, the soil put into good order, and the roots replanted. If the borders were well prepared at the time of planting new soil need not be added, save a few shovelfuls of a moderately fine compost to shake well among the roots. For older trees soil should be renewed to give them a good chance to grow and fruit freely for many years to come. Peach trees crowded with useless wood will be all the better if somewhat thinned so as to allow the remaining shoots all the light possible. This mostly applies to trees that have not received the right attention during the growing season. Do not plant too many varieties that ripen about the same time, but endeavour, as far as is possible, to select the best kinds to keep up an unbroken supply for some weeks. In the north and more unfavourable parts late kinds must not be planted, as they rarely ripen satisfactorily in the open.

CUTTINGS of gooseberries and black and red currants may be prepared and planted for supplying plants to fill up gaps. In all gardens a few should be propagated annually of the most approved varieties, as they will take up very little space for the first season, and later on prove exceptionally useful. See that the cuttings rest firmly on a sandy base, and make them firm. Any trees to be planted should receive prompt attention.—H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

ASPARAGUS.—The permanent beds will now require attention; cut down the old growths close to the soil, clear the ground of all weeds and rubbish, and apply a thorough dressing of half-decayed farmyard manure. Soils deficient in potash will be materially improved by a good dressing of kainit, and this should be applied at the rate of 4 or 5oz. per square yard, previous to putting on the manure. The alley-ways should be marked out and the trimmings spread over the manure, making all tidy for the winter. Preparations for forcing will have to be considered where early asparagus is in demand. Though it can be brought forward quite easily under various conditions where heat can be employed, one of the most satisfactory methods is that of starting it on a mild hotbed made up in a deep pit, where, if required, artificial heat can be made use of during severe weather. When lifting roots do not expose them to the air longer than is absolutely necessary; take up and replant with the greatest possible speed. It is well to bear in mind that the quality is much improved when the asparagus is grown as near the glass as possible, therefore the beds should be made up accordingly. A thin layer of soil should first be spread over the hotbed material; on this place the roots, packing them as closely as possible. Cover the crowns with three or four inches of fine soil, and thoroughly water in with tepid water; if a moist atmosphere is maintained the new growths will soon appear. Fresh batches should be introduced according to requirements.

MUSHROOMS.—Beds which were spawned about six weeks ago are showing "buttons," and from now onwards will need to be examined frequently. If the heat of the mushroom house can be maintained at 60 degrees the litter can be removed. If the surface soil becomes dry, apply water at 80 degrees. The atmosphere of the house should be kept reasonably moist by damping the walls and paths; where successional beds are made up at regular intervals, the heat and moisture arising from them will render the atmosphere most suitable for the bearing beds. Prepare materials for forming other beds.

HERBS.—Some roots of tarragon and mint should be potted or boxed for forcing purposes and stood in cold frames for the present. A bed of chevril should be grown on a border and protected by hand-lights, or have a garden frame placed over it.—W. MESSENGER, Woolverstone Park Gardens.

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EXHIBITIONS AND MEETINGS.

Ghent Autumn Show.

The last show of horticultural produce in connection with the Great International Exhibition was opened on Saturday last. The weather was fine, and there was an immense crowd of visitors waiting for the opening of the doors.

The judging was completed by midday, and at the luncheon offered to the jurors M. Alexis Callier presided, being supported by M. Ph. de Vilmorin, M. Helleputte, the Belgian Minister of Agriculture, and all the officials and members of the jury, many of whom had come from afar to fulfil their duties. France was particularly well represented, both in jurors and exhibitors. England was, on the contrary, rather poorly represented, there being only two jurors and three exhibitors.

CHRYSANTHEMUMS.

By far the most important exhibit in plants was that sent from Paris by the well-known firm of Messrs. Vilmorin, Andrieux, and Co. On a grass lawn of considerable extent there were cut out three large beds filled with bush-trained plants in this firm's usual style. At intervals were pyramids and trained specimens, the most curious being the Japanese square-shaped pyramids in which the flowers are trained in straight rows. The best blooms in the others comprised Miss Alice Byron, Alice Lemon, Vivi and Morel, Mrs. J. Neil, C. H. Totty, Rose Queen, Fron-Frou, Kara Dow, Safrano, and many novelties of the firm's raising. This group was in every respect one of the most important features of the show.

Novelties were not numerous or exceptional. M. Remy, successor to Calvat, sent about a score of varieties, set up in vases in fives. M. Herand also had a small collection. Mr. Thomas Stevenson, gardener to E. Mocatta, Esq., staged a superb lot of Japanese and single chrysanthemums of the highest order of merit, and was awarded the highest prize in his class by acclamation, with felicitations of the jury, who recommended an augmentation of the prize officially offered. At intervals there were huge stands containing massive bunches of colossal blooms alternating with vases of singles, the whole display most artistically lightened with maidenhair ferns, autumn foliage, and greenery. Specially fine were the blooms comprising eighteen grand Lady Talbots, Queen Mary, Hon. Mrs. Lopes, Alice Finch, Frank Payne, Alice Lemon, Mrs. G. Lloyd Wigg, Algernon Davis, Pockett's Crimson, and Bob Pulling. In all about 100 blooms in 36 varieties. The singles were fine, quite a revelation to many of the visitors, who had never seen anything of the like before. We noted Miss Mabel Booth, Celia, Ben MaChree, Mrs. Garnar, Cardinal (new), Portia, etc. Alongside Mr. Stevenson's fine group was one from Messrs. Wells and Co., of Merstham. They, too, set up a most artistic group of beautiful flowers in the Japanese and single section. Ferns and autumn foliage were also freely employed in this exhibit, making an effect quite different from most of the French and Belgian exhibits, which had a flattened appearance, much resembling the azalea displays in the spring show. Messrs. Wells had a fine novelty, Wm. Vert, a crimson Japanese of large size, that made a most effective show. There were also Mrs. Gilbert Drabble, Queen Mary, Mrs. Keith, Sunford, Mrs. R. Susford, Mme. Morel de Westgaver, Rose Queen, etc. Singles included Mensa, Elfrida, Celia, Altrincham Yellow, Sylvia Slade, Addie Mason, White Swan, and numerous others. They also staged a collection of carnations.

There was an excellent display by M. Firmis de Smet, a huge semi-circular group on one side of the hall exactly opposite a similar one from Mme. Morel de Westgaver. The former was awarded a Gold Medal value 250 francs, the latter a work of art. The lady's group had the finer flowers, and the depth of the group was considerable. We noted Wm. Turner, Mrs. J. Wells, Mrs. R. Susford, Mr. W. Mease, O. H. Broomhead, Tokio, Reginald Vallis, Vicar of Bray, Mrs. Coombs, Mm. Gustave Henry, but there were probably hundreds of other varieties, many of which were purely of foreign origin.

Messrs. Rivoire and Sons, of Lyons, sent a mixed collection of chrysanthemums and dahlias. From the same city M. André Charmet sent chrysanthemums and carnations. Other exhibitors whose plants and blooms must be passed over for want of space included Messrs. J. Chevalier, August Cornelis, Mme. Felix Burnaerts (a really nice group of good standard varieties), Victor Verellin and Sons, Robert Vandevelde (some good plants, each carrying six to eight blooms), Ad. de Schriver, Ed. Adam, and Leopold Burger, who put up a collection of the Caprice family.

A noble lot of fifty cut blooms of Mrs. Gilbert Drabble was staged by M. Pierre Degoes. The Van Houtte Establishment also showed a collection of dwarf plants in pots, bearing medium sized blooms in great variety; among them were Wm. Duckham, Wilfred Godfrey, Solange, Mary Mason, Excelda, etc. A curious group of about 400 cut blooms arranged in long lines was shown by M. Jules Collette, the variety being Alice Lemon.

The Society of Horticulture at Lille showed a large group of single blooms mingled with cocos, and edged with Asparagus plumosus. Nice flowers here were Sapho, Mary Mason, La Gracieuse, Mme. P. Radaelli, F. S. Vallis, Valerie Greenham, Mary Inglis, etc. A rather good exhibit of blooms, all of show quality, was put up by M. Paul Féron—Wm. Turner, Splendour, Mrs. R. Luxford, Mrs. D. Syme were among the best. Mme. Morel de Westgaver had some freely-flowered decorative Japanese in bush plants. A very large, flat group, containing many varieties, came from Messrs. Louis Sels and Co. A French firm, Messrs. Dubuis-on-Foubert, sent a fine lot of big Japanese; Thomas Lunt, F. S. Vallis, Wm. Turner, Reg. Vallis, Alec Payne, Mrs. Gilbert Drabble, Colonel Linel were only a few of the most attractive.

ORCHIDS.

Orchids formed quite an important part of the show, and some of the exhibits were of great extent. We can only mention a few of the leading exhibitors by name, such as Messrs. Sander, of Bruges, Jules Hye de Crom, Ch. Diebrich, Chas. Vuylsteke, Charlesworth and Co., Dr. G. Ballion, Emile Praet, René Behiels, Maurice Verdonck, Jean Van de Putte and Co., Th. Pauwels (a huge display), Firmin Lambeau, to all of whom prizes were awarded.

Other flowers were not staged in much variety. We noted lilacs by M. H. Graindorge, hydrangeas by Mr. Schatteman; a pretty exhibit in the floral decorations came from M. Van Houtte, wreaths of orchids, and chrysanthemums. Messrs. Cayeux and Leclerc showed cactus dahlias.

FRUIT AND VEGETABLES.

Fruit was largely shown by Mr. Nombloi-Bruneau, apples and pears, a substantial addition to the show. The Syndicat des Viticulteurs staged grapes, a nice lot, in pairs of bunches; we noted Gros Colmar, Gros Maroc, Gros d'Ore, Black Alicante, Muscat d'Alexandrie, Frankenthal, etc.

The P.L.M. Railway Company also had a collective group of fruit in baskets and semi-circular pyramids. M. Chevillot staged grapes; M. Victor Citelli, fruit.

Vegetables occupied a large portion of the space, and some of them were remarkable for the variety of the collections. Special mention should be made of the one staged by Messrs. Vilmorin, Andrieux, and Co., which was quite on a par with most of those we have seen at other Continental shows. The Vinderhoute Society of Gardeners, the P.L.M. Raily. Company (a collective group), the Syndicat des Agriculteurs Maraichers d'Avignon, and also of Aramon, were well represented in the vegetable section. Some came also from the Vilvorde Horticultural School, and elsewhere.

There were many other smaller exhibits of vegetables and of fruits. At the time of posting our report the official prize list had not been printed, and the awards, mostly medals, were, therefore, not obtainable.

Hereford Fruit and Chrysanthemum Society.

OCTOBER 22 and 23.

The annual show of this society was held in the Shire Hall, Hereford. Apples had fifty-five classes devoted to them, and formed the chief attraction, being staged in excellent condition, though there was a deficiency of colour as compared with some years. Vegetables, farm roots, grain, and hops were also largely shown, and made interesting features. Only six classes were provided for the chrysanthemums, but these, being vase classes, together with trade floral exhibits, gave colour, and thus improved the general effect. The familiar and kindly face of the late Mr. R. M. Whiting, of Oredenhill, was sadly missed, a fact that was feelingly alluded to at the luncheon by Mr. Powell, in proposing a vote of condolence to Mrs. Whiting, her sons and daughters. The late Mr. Whiting will be remembered as a successful exhibitor of hardy fruit at the leading shows.

APPLES.

In the class for a collection occupying 75 square feet, Mr. C. W. Powell, Warham Court, was the only exhibitor, but deservedly secured the first prize with a fine collection of large, clean fruit of leading varieties. For a collection in 40 square feet there were three lots staged. Mr. R. Stephens, gardener to Captain Clive, Whitfield, securing the lead with a meritorious exhibit, which included fine examples of Mère de Ménage, Gascoign's Seedling, Loddington Seedling, Blenheim Pippin, Warner's King, Striped Beaufin, Peasgood's Nonsuch, Bramley's Seedling, Hawthornden, Golden Noble, September Beauty, Adam's Pearmain, and Ribston, Allington, and Cox's

Orange Pippins; Mr. S. Stenhford, gardener to Mrs. Hill, Moreton Court, was a good second with a well-arranged collection of leading varieties. Five fine sets of twelve dishes of culinary varieties were arranged; Mr. Barker, gardener to F. Boddington, Esq., Burghill, was placed first with very large, clean examples of Bismark, Warner's King, Stirling Castle, Bramley's Seedling, Beauty of Kent, Lady Henniker, Golden Noble, Annie Elizabeth, Lane's Prince Albert, Golden Spire, Blenheim Pippin, and Newton Wonder; Mr. Kelly, gardener to Messrs. Getthing and Newton, Glewston Court, Ross, was a capital second with an almost equally good set, amongst which Emperor Alexander, Newton Wonder, Bramley's Seedling, Hambling's Seedling, and Cox's Pomona were noted. For eight dishes dessert varieties there were four competitors, each of which staged first-rate produce. Here again Mr. Barker took leading honours with excellent dishes of Ribston, Cox's Orange, and King of the Pippins, Adam's Pearmain, Court Pendu Plat, Worcester Pearmain, Charles Ross, and Rival; Mr. Kelly was again a close second.

There was strong competition in the single dish classes, and in these many of the best examples of the several kinds were found. Mr. Kelly took the lead for Blenheim Pippin, Bramley's Seedling, and Lane's Prince Albert; Captain Cox, Ashe Leigh, Ross, for Cox's Orange Pippin, Gascoign's Seedling, Newton Wonder, and King of the Pippins; Mr. Maiston, for Wellington; Mrs. Hill, for Peasgood's Nonsuch; Mr. Caddick, for Annie Elizabeth; Mr. Powell, for Lord Derby, Rival, and with May Queen for any new variety; Mr. J. Riley, for Allington Pippin; and Mr. Liddle, gardener to Sir J. Cotterell, for Warner's King. Mr. Kelly led with Stirling Castle for any early or midseason culinary variety; and Mr. A. G. Bunney with Mère de Ménage for any late culinary variety.

AMATEURS AND TENANT FARMERS.

In the class for eight culinary and four dessert varieties of apples, three capital sets were staged, Mr. Liddle securing the chief honour with fine, clean dishes of Striped Beaufin, Warner's King, Lord Derby, The Queen, Newton Wonder, Mère de Ménage, Blenheim Orange, Adam's Pearmain, Ribston Pippin, King of the Pippins, etc.; Mr. Bott, Breinton, was a close second with Stirling Castle, Annie Elizabeth, etc. Mr. Powell was the only exhibitor of six dishes, selected from sixteen specially named varieties, and he took the first prize with excellent fruits of Lord Hindlip, Rival, King Edward VII., King's Acre, Bountiful, Charles Ross, and James Grieve.

The three following classes were devoted to varieties suitable for market purposes. For eighteen dishes, twelve culinary, six dessert, there were three competitors, Mr. Kelly taking chief honours with fine examples of Beauty of Kent, Bramley's Seedling, Stirling Castle, Newton Wonder, Lane's Prince Albert, Cox's Orange Pippin, Charles Ross, Blenheim Orange, etc.; Mr. Bott second. Eight dishes of culinary varieties found Mr. Kelly again first with capital examples of Newton Wonder, Warner's King, Stirling Castle, Lane's Prince Albert, Peasgood's Annie Elizabeth, Cox's Pomona, and Bramley's Seedling; Mr. Powell was second with an almost equal production. For eight dishes of dessert varieties, chief honours were again secured by Mr. Kelly with a beautiful set of Rival, Charles Ross, Adam's Pearmain, Wealthy, Worcester Pearmain, Blenheim Orange, and King and Cox's Orange Pippins. Mr. Bott was placed second.

BOXES PACKED FOR MARKET.

Five classes were provided in this section, and the fruit in each box exhibited was firmly and otherwise well packed, though in some cases it was of better quality or better graded than in others. Each box was 28lbs. in weight. Captain Cox was placed first amongst five competitors with Newton Wonder; Mr. Kelly first amongst four competitors for Lane's Prince Albert; Captain Cox first for Cox's Orange Pippin; Mr. Kelly first for Bramley's Seedling; and Mr. Powell first for Blenheim Orange.

CHAMPION CLASSES.

Captain Cox was first for the best dish of dessert apples in the show with large, clean, and highly-coloured fruit of Cox's Orange Pippin; Mr. Liddle first for a dish of culinary apples, with perfect examples of Warner's King; Mr. Hallett, gardener to Mrs. Abbott, first for dessert pears, with a splendid dish of Marie Louise; and Mr. Sykes, gardener to Colonel Henry, Haffield, first for grapes, with a large, perfectly-finished bunch of Gros Maroc.

PEARS.

These were not staged in quantity, though the quality in most instances was decidedly good. There were two collections of twelve dishes, Mr. Parrott, gardener to A. W. Foster, Esq., Brockhampton Court, Ross, taking a decided lead with splendid dishes of Marie Louise, Emile d'Heyst, Doyenne du Comice, Pitmaston Duchess, Marie Louise d'Uccle, Easter Beurre, Durondeau, Glou Morceau, Beurre Bosc, Beurre Alexandre Lucas, Beurre Rance, and Beurre Superfin; the Rev. G. H. Devonport, Foxley, was the other exhibitor in this class. Many fine examples were found in the single dish classes.

COLLECTIONS OF FRUIT AND GRAPES.

Three collections of six dishes of dessert fruits were staged, Mr. Sykes being first with excellent Gros Maroc and fair Muscat of Alexandria grapes, very good Cox's Orange Pippin apples, and Pitmaston Duchess pears, a fine Royal Jubilee melon, and Brown Turkey figs; Mr. Liddle, who followed, had as his best dishes Doyenne du Comice pears, Cox's Orange Pippin apples, and Coe's Golden Drop plums.

Gros Colmar grapes were shown in good condition both by Mr. Liddle, who took the lead, and Mr. Tomeley, gardener to General Clive, who came second. With any other black variety, Mrs. Woodhouse was placed first with large, handsome bunches of Alicante; and Mr. Sykes second with Mrs. Pince. For white varieties there were four lots of Muscat of Alexandria staged, the best coming from Mr. Liddle, who had tapering, long, somewhat thin clusters, beautifully coloured, and with large berries.

TRADE EXHIBITS.

These were not numerous. The King's Acre Nurseries, Lim., staged about 100 dishes of excellent apples and pears, with a background of well-cropped fruit trees in pots. Mr. Wilson, Commercial Street, Hereford, put up a large exhibit of floral designs and plants; and Messrs. Young and Co., Cheltenham, had a fine display of carnations of leading varieties.

TABLE DECORATIONS.

Six tables were arranged, and that from Mrs. W. Spencer, Goodrich, who took chief honours, wis very tastefully executed, with a single bronze chrysanthemum as her chief subject, relieved with Asparagus plumosus, and a small-leaved smilax; Mrs. Offler was a good second, with Mary Richard chrysanthemum as her principal subject.

Royal Scottish Arboricultural Society.

ABERDEEN BRANCH.

The quarterly meeting of this society was held in the Marischal College, Aberdeen University. Mr. A. Forbes Irvine, of Drum, Aberdeenshire, presided over a large and representative assembly of landowners, factors, and foresters. After a number of new members had been admitted, the Chairman intimated that the subject for discussion at the meeting was "A Comparison of Home and Foreign Timber"—a very important one for all members of the branch.

Mr. Sydney J. Gammell, of Drumtochty and Countesswells, in opening the discussion, said it was really the users of timber who decided to what purposes foreign and home timber should be put. They had in this country examples of most of the trees grown in Continental countries as exotics, and some from foreign countries, and the distinctions which were drawn between the foreign classes of timber as it came into the market were not always an advantage to the timber grown in this country. They had to look into that question and see whether the criticisms were justified, and whether they could remove the difficulties which people asserted were present in the supply of home-grown timber. They should also endeavour to concentrate their energies on growing the species best suited for commercial uses, so as to provide a large supply. The most valuable structural timber was redwood. A good many people in this country did not appreciate that redwood was nothing more or less than Scottish pine. As regarded that class of timber, Scottish pine was fully equal to the best class of pine that could be imported. Its inherent qualities were strength, durability, and workableness, and in some parts of Scotland the timber grown could beat that from any other place. Other countries might grow straighter and longer timber, but he doubted if anything better could be produced as regarded quality than that on Deeside, say, at Ballochbuie. Although they had excellent specimens of timber in Scotland, when it came to commercial timber they could not compete with the foreign product. Home-grown timber was often seldom matured, soft at the heart, was knotty, and contained a good deal more sap than that of other countries.

The white wood in trade was the common spruce, the quality of which was not equal to the foreign timber. Sylvicultural methods of cultivating the spruce had been very much neglected in this country. Many people of high distinction maintained that the spruce could be planted almost anywhere in this country, and that it would succeed owing to the dampness of the climate. It would be a great help if experiments in timber growing were undertaken in the near future, and it would be better for those who used it. Good spruces could be grown in Scotland, and, he believed, would be very suitable for the pulp-making trade. With regard to prices, the price given for the home product was not by any means equal to that given for foreign timber. This might be due to quality, steadiness of supply, and the haphazard way in which the home supplies were sent to the market. For certain purposes he believed the quality of the home supplies was fully equal to that of foreign growth, and it was the duty of a society such as theirs to see that the quality of the home product was not prejudiced in the matter of price when compared with anything which came from another country.

Sir John Fleming, of Dalmuinzie, chief partner in the firm of a large timber business in Aberdeen and Dundee, remarked that in the early sixties wood merchants did a considerable trade in home products, and to-day he would much prefer to have timber from Scotland than from foreign lands. He contended that architects were the sole arbiters as to the kind of timber used in the construction of buildings, and said they required to be educated as to the advantages of the home material. At present the supply of home timber could not compete with that from abroad, but he believed that in the course of a couple of centuries of systematic sylviculture it would be possible to have a home supply that would do so. Sap was the bane of the home-grown fir. The nearer the trees were to the North Pole the less became the sap; and in the neighbourhood of the White Sea the trees had barely any sap at all. A quantity of seed from that district might be planted in Scotland, and the results noted. It was for the new Forestry Department in Scotland to reach the bottom of such matters, and they should start at once with a better system of afforestation. There were no finer hardwoods than the English oak, the elm, and the Scottish ash;

but it was quite impossible to obtain them in large quantities. Under proper conditions, and given good time, there was no reason why a large portion of the woods in this country should not supply timber for house building and house furnishing. Before that day came, however, there must be development on proper scientific lines.

Mr. Clark, forester to the Earl of Aberdeen on the Haddo House Estates, remarked that in Aberdeenshire there were specimens of the Scotch fir, the spruce, and the larch, as good as would ever be grown. He believed if the railway rates for timber transport were reduced that it would help the production of home timber. Mr. C. S. France, retired forester, Aberdeen, thought there was nothing to compare with the Scotch pine, and criticised the methods of planting in the past. Mr. John Rule, forester, Huntly, remarked that foreign timber was superior when a good length was required. If the home product was used there was much waste in cutting it up. Mr. Gammell, replying to the discussion, said there was nothing more foolish than the way in which Scotch pines had been planted broadcast throughout the country.

The Chairman, at the close of the discussion, said he thought they would be satisfied that the small quantity of the home product was a disadvantage when competing against foreign timber. If proprietors wanted commercial timber, then they would have to work on commercial lines; if they wanted cover for game, then let them have it.

A vote of thanks to the chairman, proposed by Sir John Fleming, brought the proceedings to a close.

Croydon Chrysanthemum Show.

This society is fortunate in being able to hold its show in the Central Baths Hall, Croydon, where there is ample room for exhibits and visitors, and where abundance of top light and high sidelight enables everyone to see the flowers at their best. In the old days the society had very poor accommodation, and often had to arrange exhibits in a series of rooms; the new order is distinctly the better.

The exhibition was a first-rate one, and competition throughout was keen; the flowers were of good size, fresh, and bright, and, as these were all staged in vases, the effect of the whole display was excellent. Fruit was well shown, and there were some fine vegetables, though this latter section of the show was not up to the usual standard. Groups and plants, too, are deserving of praise, and a few non-competitive groups lent additional interest.

CUT FLOWERS.

The competition for the Borough Challenge Cup is always fairly keen. The specification is eighteen blooms, distinct, staged in six big vases. There were seven competitors, so this class alone made a good show. The cup was won by Mr. A. Smith, gardener to Mdme. Shunder, Convent Gardens, Roehampton, whose fresh blooms were of good size and of fine colour, the best varieties being Mrs. A. T. Miller, Bryant's Beauty, Lady Talbot, Bob Pulling, Frances Row, Reg. Vallis, J. Surry, Eclipse, and F. J. Mar. Second prize fell to Messrs. Jas. Stredwick and Son, Silverhill Park, St. Leonards; and third to Mr. R. Warner, gardener to Mrs. Krauss, Ewell Grove, Ewell.

Mr. A. Smith (who, by the way, had a breakdown on his way to the show, and consequently had to stage his flowers very hurriedly) also secured first prize for ten Japanese blooms, in two or more vases, and here he had fine examples of Lady Talbot, Reg. Vallis, Master David, White Queen, Mrs. G. Lloyd Wigg, and Master James. There were five competitors, and the other prizes went to Mr. J. S. Kelly, gardener to H.R.H. the Duchess of Albany, Claremont, Esher; and Mr. C. Fox, Linden Gardens, Tunbridge Wells.

Ten incurved blooms, in vases, brought out five competitors, and premier place was filled by Mr. T. Finch, gardener to G. H. Fisher, Esq., Downs View, Kenley, who set up capital specimens of Clara Wells, Mrs. G. Denyer, and Buttercup; Mr. A. G. Osmond, gardener to C. H. Wells, Esq., Springfields, Avenue Road, South Norwood, second with William Biddle and C. H. Curtis; Mr. G. Fisher, gardener to C. Lazenby, Esq., Oakfield Gardens, South Eden Park, Beckenham, third, with C. H. Curtis and Buttercup.

The local cup, presented by Mr. and Mrs. Allen, for the best fifteen Japanese blooms, in vases, fell to Mr. H. Green, gardener to A. McAlister, Esq., 28, Park Hill Rise, for excellent blooms of Rose Pockett, R. W. Witty, W. Mease, Coronation, F. Green, etc.; Mr. R. Gladwell, a good second; and Mr. T. Finch third; six competitors. Mr. Green is a new competitor; last year Mr. Gladwell was the winner. Out of eight competitors, Mr. L. Gooch, gardener to Wickham Jones, Esq., Frocester, South Norwood, was placed first for ten Japanese blooms, and he showed Master James and Mrs. G. Drabble in fine style; Mr. E. A. Kembry, gardener to J. Tidy, Esq., Park House, South Norwood, second; and Mr. A. G. Osmond, gardener to C. H. Wells, Esq., Springfield, South Norwood, third.

In the local amateurs' division, great interest centres in the competition for the Epps Challenge Cup, value fifteen guineas; ten Japanese blooms, in two vases, are required. There were six competitors, and the fortunate one was Mr. F. M. Parris, 56, Selsdon Road, Croydon, who scored with fresh examples of Master David, Mrs. G. Drabble, and Mrs. C. Penford; Mr. F. Oldham, 48, Cannington Road, Croydon, second; and Mr. W. Philpot, 57, Church Street, Croydon, third. In the same section Mr. Louis White, Braemar Avenue, Thornton Heath, came first for five Japanese blooms; and Mr. C. C. Hunt, Stroud Road, Woodside, South Norwood, led for five incurved blooms with Romance.

Single chrysanthemums are always very well shown at Croydon, and on this occasion there were four competitors in the open class for three vases of these flowers. Mr. T. Fisher was an easy first with splendid disbudded flowers of Mensa, Bronze Pagram, and Merstham Gem, etc.; Mr. W. R. Warner, gardener to Mrs. Krauss, Ewell, second; and Mr. T. Finch third.

Mr. Howarth was a capital first for three vases of mixed single blooms, with suitable foliage; Mr. T. Finch second; and Mr. A. Martin, Shirley Lodge, Shirley, third; the five competitors made up a goodly display. Mr. A. Head, gardener to Mrs. Fisher Watson, Lancing House, Coombe Road led for one vase of single flowers in a class where there were over a dozen entries.

FRUITS AND VEGETABLES.

Apples were splendidly staged, the competition being very keen throughout. In the open class for nine dishes, six culinary and three dessert, Mr. J. S. Kelly was first prize-winner with highly-coloured, clean, weighty examples of Gloria Mundi, Peasgood's Nonsuch, Hawthornden, Cox's Pomona Annie Elizabeth, Gascoyne's Scarlet, King of the Pippins, Allington Pippin, and Cox's Orange Pippin, the latter a grand dish. Mr. A. Smith, Roehampton, came second, and Mr. G. Martin, gardener to J. R. Brougham, Esq., Bridge House, Wallington, third. There were seven entries. In the open class for six dishes of pears, Mr. Kelly was again first with Pitmaston Duchess, Triomphe de Jodoigne, Fondante de Thirriott, Beurre Alexander Lucas, Beurre Diel, and Doyenne du Comice; Mr. Lintott second, and Mr. W. R. Warner third.

In the local classes, Mr. A. Jeal, gardener to N. Waterall, Esq., Waddon Lodge, Waddon, led for three dishes of dessert apples among seven competitors; and Mr. G. Maslin scored for three dishes of culinary apples with first-rate Bramley's Seedling, Warner's King, and Peasgood's Nonsuch, among six competitors. For three dishes of pears Mr. R. Gladwell, gardener to A. Gosheron, Esq., South Norwood, was first.

Mr. Lintott was the only exhibitor of black grapes (Alicante), and Mr. W. Colyer the only exhibitor of white grapes (Muscat of Alexandria); the former was awarded a first, and the latter a second prize.

Vegetables were scarcely so fine as usual at Croydon, nor so numerous as on many previous occasions, and the falling off is due to the dry weather acting on the light soil in so many parts of the Croydon district. For a collection of six kinds, Mr. A. Jeal was first with celery, cauliflowers, tomatoes, potatoes, sprouts, and leeks in good form; Mr. T. Finch second, and Mr. E. Puxted, gardener to H. E. Alder, Esq., Bromley Hillside, Croydon, third.

For nine kinds of vegetables, Mr. W. Lintott proved the most successful competitor, and he staged celery, fine parsnips, self-protecting broccoli, leeks, carrots, Ailsa Craig onions, Factor potatoes, and Brussels sprouts; Mr. Jeal second.

GROUPS OF PLANTS.

Five competitors came forward in the class for a group of chrysanthemums, and each had to stage on the tiered sides of the Baths Hall. From a spectacular point of view this arrangement was a good one, but it did not permit of close inspection of the flowers. Mr. W. Howarth was first, and he had easily the best flowers, though the colouring of the varieties was dull; Mr. W. Colyer second; and Mr. A. Edgerton, gardener to W. Valder, Esq., Beechwood, Cosham Park Avenue, third; each with bright displays.

The groups of miscellaneous plants were poor; Mr. T. H. West, gardener to H. R. Dickenson, Esq., Rydal Mount, Croham Park Avenue, was first prizewinner; and Mr. Puxted second; but in each case the exhibitor seemed to have been bothered by the tiered staging on which the plants had to be arranged.

Of winter-flowering begonias there was but one exhibitor, and Mr. G. Fisher was deservedly awarded first prize for his fine half-dozen specimens of B. Gloire de Lorraine, all shapely and freely-flowered. Mr. W. Lintott, gardener to Sir Walpole Greenwell, Bart., Marden Park, Caterham, came first for nine table plants, and staged some particularly elegant and highly-coloured crotons; Mr. T. Colyer, gardener to A. H. Allen, Esq., Wandle Court, Beddington, third.

Mr. T. Finch was awarded a first prize for three pots of single-flowering chrysanthemums; he was the only competitor, and showed freely-flowered specimens of Miss M. Pope, Caterham Bronze, and Mary Richardson.

FLORAL DECORATION.

The best table decoration was one of rose-pink and lilac chrysanthemums, pompon, and quilled varieties, prettily associated with slender sprays of coloured berberis, maple, and spiræa foliage, and a few oak and croton leaves—a very distinct design, and well worthy of the leading award. It was arranged by Mrs. A. Robinson, Norhyrst, Carshalton; Miss Bashfield second with golden and bronze flowers; and Mrs. Hyem, The Fourth House, Banstead Road, Carshalton, third, with single flowers.

A charming basket of yellow, single, and incurved, and crimson decorative chrysanthemums, associated with red oak and croton foliage, secured for Mrs. A. Robinson, Norhyrst, Carshalton, the premier award in the basket class; Miss Marsh, Holmsdale Road, South Norwood, second, with a rather heavy arrangement; and Miss Bashford, Barrow Hedges Farm, Carshalton, third.

NON-COMPETITIVE.

Messrs. W. Wells and Co., Merstham, displayed a considerable number of new chrysanthemums, and among these their Daily Mail and William Vert, already described in these columns, were outstanding Japanese sorts. Margaret Sargent, a soft, golden-yellow sport from Meusa, was a splendid new

single. Messrs. W. Cutbush and Son, Highgate, brought a display of perpetual carnations, greenhouse plants, and dahlias. Messrs. H. Cannell and Sons, Eynsford, were represented by a splendid lot of apples, large and bright fruits, admirably set up.

Mr. Thos. Butcher, The Nurseries, South Norwood, decorated the platform with chrysanthemums and palms, and filled a table with bold and striking floral designs, a golden harp of chrysanthemums being a special feature. Messrs. J. Cheal and Sons, Crawley, contributed a small collection of apples, and Dr. Jackson put up seventy dishes of culinary and dessert apples, all grown in his garden at Torridge, Brigstock Road, Thornton Heath, which was once an old gravel pit.

Horticultural Club.

On Tuesday, the 21st instant, this club opened its winter series of dinners at the Hotel Windsor, Mr. A. Worsley taking the chair, and some sixty members and guests being present. As usual, after the dinner a lecture was given, and on this occasion an exceptionally interesting one was delivered by Professor W. B. Bottomley, B.A., on "The Effect of Soluble Humates on Nitrogen Fixation and Plant Growth," illustrated by numerous lantern slides and living plants showing the good effect of manuring with peat treated with bacterial infusions, as described by the lecturer.

Samples of the raw peat in a normal brown, flaky, hard condition, and of the prepared material as a very dark, almost black, substance, of a very soft and loose, fibry character, were exhibited, together with various infusions containing the active bacterial principles with which it is permeated. This prepared material, when combined with ordinary soil, undoubtedly produces potent stimulative effect upon root and foliage production, as was exemplified by a large number of trial plants, such as fuchsias, hippeastrums, radishes, geraniums, tomatoes, ferns, and other plants. The plants were, in many instances, three or four times the size of those grown in non-fertilised soil after being selected at the outset as of as exactly equal size and constitution as could be chosen.

A number of these trials were made at Kew under the supervision and actual personal selection and cultivation of Mr. W. Watson, the Curator, who was present, and testified to this effect. As the tendency of manures to stimulate root and foliar growth is generally associated with a comparative diminution in the inflorescence, it is noteworthy that in these instances, where flowering plants were employed, they all flowered profusely. In the subsequent discussion, in which Messrs. W. Watson, A. Worsley, Dr. Voelcker, Prof. Keeble, and others took part, the evidence produced by Prof. Bottomley of the stimulative effect of his material was fully accepted, but it was pointed out and recognised by Prof. Bottomley himself that it still remained an entirely open question as to how this came about, and what was really the actual stimulating factor, since as yet we were but on the edge of a vast field of research, to which the facts ascertained were merely pointers. The question of cost, for instance, when put for comparison between the cost of farmyard manures or artificial ones, could not, as Prof. Bottomley allowed, be as yet determined.

Laboratory experiments with plants in pots might be very convincing as regards principles, but the position was very different when it became agriculturally a question of large acreages subjected to the normal climatical conditions, and with possibly great variation in the constituents and conditions of the soil. To the horticulturist, on the other hand, it was recognised that great benefit might be afforded in the near future, especially as the whole of the cultural tests illustrated on the screen and by the actual living plants shown, had been the outcome of only eight weeks' culture in ordinary greenhouses. Professor Keeble pointed out in particular how complex were the chemical and mechanical factors in the problem of ascertaining the actual causes of the results obtained, and challenged the accuracy of the term "nitrogen fixation" as being the determined cause of the robust growth. He, however, as did the meeting generally, fully recognised the great value of Prof. Bottomley's work, and a very hearty vote of thanks was accorded him for his exposition of the results.

North of Scotland Horticultural Association.

The usual monthly meeting of the members of this association was held in the Botany Classroom, Aberdeen University Buildings. There was a good attendance, and Mr. Lockart, president, occupied the chair. In the course of an interesting address, the President outlined the work devolving upon each member in the endeavour to make the meetings of the association instructive and educative, and to create an interest in all branches of horticulture. He called on every member who had it within his power to contribute his quota towards making the meetings as useful and instructive as possible. Mr. C. S. France, Aberdeen, then gave a much-enjoyed description of the visit of the members of the association to Aberlour Orphanage and Gardens, Dufftown, in the month of August last.

Mr. P. Innes, assistant gardener, Dunecht House, Aberdeenshire, Lord Cowdray's Scottish seat, then read a paper on "Vegetable Culture," in which were given the results of practical experience in growing the various kinds of vegetables which can be successfully cultivated in the North of Scotland. Mr. William Smith, gardener to Lord Sempill, Fintray House, Aberdeenshire, showed a collection of dahlias, the finely-developed blooms being greatly admired. Mr. William Ironside, gardener to Sir David Stewart, Banchory House, Aberdeen, exhibited a fine collection of onions and carrots, for which he was awarded a Horticultural Certificate. He had also a fine specimen artemisia, for which he was given an Award of Merit. Mr. W. Henderson, Aberdeen, showed a greatly admired collection of begonia blooms. The usual votes of thanks brought to a close a very pleasant and instructive evening.

Croydon Gardeners' Society.

At this society's fortnightly meeting held on Tuesday last an interesting lecture was given by Mr. M .E. Mills, Coombe House Gardens, and Mr. T. Ray Willis, St. Augustine's Avenue, the title of the lecture beiug "Hardy Orchids for the Flower Garden." The subject of hardy orchids appealed to Mr. Willis, who is an amateur of repute in this district, and in his gardens he has taken up the cultivation of about ten of the species, and some twenty varieties, and it was to these he confined his lecture, which, with the help of Mr. Mills, enabled the members to acquire considerable knowledge of the subject. To attempt to naturalise these plants one has to study position and soils for their well-being. Mr. Willis, in making up his orchid bed, has chosen the north end of his garden, under the shade of a standard laburnum, lilacs, and double cherries. As a surface covering to the soil he grows the golden-leaved creeping jenny, saxifragas, violas, and wild strawberry. This covering is a protection in the winter, and helps to check evaporation in the hot, dry mouths of the summer. The soil is made up principally of loam, with the addition of leaf-mould and peat for some, and, generally speaking, chalk or limestone abounding throughout. The cultivator must be guided by the kinds he is growing as regards the exact soil to use, and for those plants that require lime a small boulder should be placed near the roots, placing this as naturally as can be to add to the charm of the garden. When planting the tubers these should not be placed at a greater depth than three to four inches, and around the roots sprinkle coarse sand.

A very detailed description was gives of the different kinds and varieties enumerated; this included the formation of the flower, colour, character of foliage and root, locality where usually found, perfume, and the necessary soil to grow in. Mr. Willis was also able to give records of the time of flowering, and the heights attained.

The audience were thoroughly interested in the lecture, and conveyed the heartiest thanks to the lecturers at the termination of their discourse.

Exhibits of fruit, vegetables, and flowers were well shown by Messrs. Doddridge, E. Mann, T. H. West, G. Cole, O. Jeal, and Playford, and a vote of thanks was accorded them.

Broughty Ferry Horticultural Association.

The ordinary monthly meeting was held on the 21st inst., the President, Mr. James Bethel, being in the chair. Mr. James Staward, St. Fort Gardens, Newport, was the lecturer, and had for his subject, "Growing Tree Carnations." In dealing exhaustively with the subject, the lecturer demonstrated his enthusiasm and practical ability, and many helpful hints were gleaned by the very large audience, which were attracted by the popularity of the subject and form of the lecturer. A lengthy and somewhat animated discussion followed, after which the lecturer was highly complimented on his practical demonstration of facts.

The monthly prize was awarded to Mr. George Masson, Aystree Gardens, who showed a very fine specimen Begonia Gloire de Lorraine. The only other exhibit was that from the lecturer, consisting of cut blooms of tree carnations and neat, well-grown specimens growing in 2½in., 4in., and 5in. pots.

Kent Commercial Fruit Show.

(Continued from page 818.)

SUNDRIES.

The exhibits of machinery, implements, and chemical preparations of direct importance to fruit-growers were numerous, and of varied character. Local firms came out in force, and several of the best known manufacturers from a distance had also made special endeavour to bring before the notice of fruit-growers the spraying machines, fluids, grease bands, and fertilisers, which they prepare on scientific lines for the use of the farmer and gardener. The Four Oaks Spraying Machine Company, Sutton Coldfield, had a double range of sprayers, pumps, and nozzles, which they claim will meet every requirement, and certainly some of their devices are capable of some remarkable things in the way of distributing chemical mixtures over the surface of large or small fruit trees. Large machines suitable for either fruit farmers or hop growers were shown by Messrs. W. Weeks and Son, Lim., Maidstone, who also had the "Digit" grading apparatus, an implement that is capable of sorting fruits in six different sizes. This machine we described fully in our report of last year's show. Messrs. Voss and Co., Millwall, London, E., showed spray fluids, winter washes, and other chemical preparations of great utility; and Mr. M. Herrod, Wisbech, showed a variety of his remedies and preventatives for diseases and fungoid pests.

Messrs. E. A. White, Lim., Paddock Wood, Kent, showed "Abol" syringes and spraying machines, and the "Abol" fruit wash, which has proved itself equal to combating the psylla and other pests that affect fruits in the early spring. Their stand was made attractive by a display of fruit grown on the Paddock Wood Farms that had been assisted in development by the "Abol" specialities. Messrs. Drake and Fletcher, Maidstone, were large exhibitors of spraying machines, and also had a very useful-looking grading machine for apples, potatoes, and other products of garden and farm. Messrs. Haynes Bros., Lim., Maidstone, specialised in packing presses, tools, and syringes, their hydronettes being useful, fine-rosed syringes fixable to a barrel of prepared fluid.

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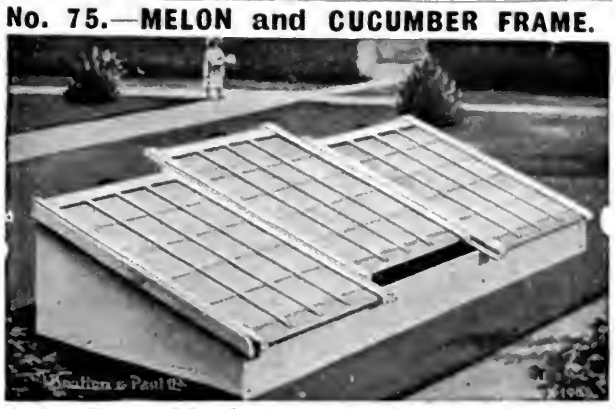

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ANSWERS TO CORRESPONDENTS.

BORAX AS A MANURE. — Hibernia writes: "I would like to add to your reply to 'A. M. B., Wavertree,' re borax, that the sodium-loving plants are the ones that will derive the most benefit from a dressing of it as a manure. It is a compound, and in the following proportions: Sodium, 2; boron, 4; oxygen, 7. Boron is of no use to plants, but sodium is valuable as a food to carrots, parsnips, asparagus, and all seaside subjects. As chemicals are powerful agents where affinity is strong, it is always best to err on the safe side by giving rather less than more of them at a dressing. This is specially desirable where the young rootlets are near the surface of the ground, and are likely to get the chemicals in a crude state. I have found that 1½oz. of chemicals to the square yard is the maximum quantity to apply in cases of that kind. When the roots are some distance under the surface the chemicals have an opportunity of changing their character in passing through the soil and becoming less caustic in their properties, and a strong dose will have no bad effect.

RUST ON ROSE LEAVES.—A. J. A., Chardwar: I am enclosing rose leaves for your inspection. Can you tell me the cause of the injury, and means to combat the disease? Our soil is rather heavy, and wet during the winter months.—The roses are suffering from an attack of rose rust (Phragmidium subcorticatum), a fungus that is frequently found on wild as well as on cultivated roses. This fungus is a very difficult one to eradicate because it produces three different kinds of fruits. The two summer forms appear in summer and follow each other, and in these cases evidence of the disease is found on the orange-coloured and powdery patches upon wood and leaves. These coloured patches are generally small, but sometimes several of them run together and so cover a large portion of a leaflet. When the wood is attacked the patches may be an inch long, and they frequently distort the growth, and after the disappearance of the rust it is no uncommon thing to find the affected portion become an open cankerous wound, which not only reduces the vitality of the plant, but opens the door to all sorts of fungus diseases. In the autumn the third form of fruiting occurs, and takes the form of tiny black points adhering to the underside of the leaves. In the specimens sent the leaflets are all freely studded with these black points, which are really clusters of microscopic winter spores. Such spores remain on the decaying foliage all the winter, and in spring they produce secondary spores, which attack the new growths and foliage, and so carry on the disease. It is a matter of the first importance that all fading and falling leaves should be gathered and burned, and infected leaves on the bushes should be removed and burned. The thoroughness with which this work is carried out will largely determine the amount of disease that will appear next spring and summer. It should be added that the black clusters of winter spores are not produced on the wood, only on the leaves. When the foliage is expanding next spring spray the bushes with a solution of sulphide of potassium.

MILDEW ON CHRYSANTHEMUMS.—G. M. K., Ilfracombe: I am sending a few chrysanthemum leaves infected with a mildew-like fungus. Please say how best to get rid of the trouble on plants under glass.—Chrysanthemum mildew (Oidium chrysanthemi) sometimes causes a great deal of harm to chrysanthemums crowded together under glass, as it attacks both leaves and flowers. If there is room to do so, and the weather is fine, spray with a solution of sulphide of potassium; otherwise dust all the foliage freely with flowers of sulphur. By means of the heating apparatus and ventilators secure as dry and airy an atmosphere as possible.

CLUB-ROOT DISEASE IN BRUSSELS SPROUTS.—F. M. P., Pinner: I had a very fine bed of Brussels sprouts, but since the beginning of August they have steadily gone off. I find, on examination, that the plants are club-rooted. Can you, through your valuable paper, give me the cause of, and also the remedy for, this disease?—Club-root disease is one of the most disgusting as well as one of the most destructive of diseases which attack garden and field crops. The roots of affected plants become swollen, warted, and clubbed, and presently decay and emit a most offensive odour. The cabbage family suffers most from the attacks of this fungus, but other families of the Order cruciferæ are not exempt from its evil influence. The scientific name of the fungus is Plasmodiophora brassicæ, and other popular titles, beside that of club-root, are Aubury and finger-and-toe. Where the disease has occurred no brassica crop should be planted or sown upon the same site for a year or two, and every care must be taken that when the infected soil is being cultivated none of it is carried to other parts of the garden on boots, wheels, tools, etc. Quick lime well worked into the soil at the rate of 75 bushels per acre will destroy the fungus germs in the soil, and it has been stated that 35 bushels per acre will arrest the disease in its early stages. In gardens a common plan is to use fresh gas-lime, from the gas works; spread it freely on the infected plot, break it down finely, and thoroughly mix it with the soil as the work of digging or trenching proceeds. Land so treated should be left rough for the rest of the winter, as gas-lime will kill all vegetation it comes in contact with, hence the need for care if fruit trees or other plants surround the plot. A point to be remembered is that every plant infected with club-root should be pulled up and burned at once, and on no account be left to rot, thrown on the rubbish heap, or fed to pigs, or the plague will be spread far and wide. Put fresh lime into each hole as plants are withdrawn, and, finally, when the crop has been cleared, deal with the land as suggested.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

C. F. G., Watford.—1, Arbutus Unedo; 2, Iris stylosa; 3, Schizostylis coccinea.

M. E. R., Sidcup.—1, Fittonia argyroneura Pearcei; 2, Dracæna Sanderiana; 3, Saintpaulia ionantha.

T. C. H., Canterbury.—1, Hypericum calycinum; 2, Euonymus europæus; 3, Plumbago rosea; 4, Epipendrum vitellinum majus.

F. C. F., Towcester.—1, Abies Nordmanniana; 2, Ardisia crenulata; 3, Euphorbia splendens; 4, Calanthe Veitchi; 5, Hibiscus Cooperi.

D. B., Dydale. — The Miltonia flower represents a very fine form of M. candida, with the lip coloured instead of white; M. candida varies a little in colour, but we have never before seen a variety with such a pronounced violet-purple lip. The cœlogyne we do not recognise, but it is closely allied to C. fuliginosa.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

M., Broome.—1, not recognised, probably a local variety; 2, Queen.

T. C. H., Sheffield.—1, Beurre Diel; 2, probably Beurre Clairgeau; 3, Golden Noble.

B. H. A., Ruabon.—1, Emperor Alexander; 2, Chelmsford Wonder; 3, Warner's King.

W. J. W., Ledbury. — 1, Alfriston; 2, Lane's Prince Albert; 3, Mabbott's Pearmain; 4, Gravenstein.

F. C. F., Towcester.—1, Egremont Russet; 2, Tyler's Kernel; 3, Bismarck; 4, Warner's King; 5, Ribston Pippin.

E. G., Hertford.—1, Blenheim Pippin; 2, Yellow Ingestre; 3, Bramley's Seedling; 4, Dumelow's Seedling; 5, not recognised; 6, Pitmaston Duchess.

OBITUARY.

MR. JOHN BURR.

Intimation has just been received in Aberdeenshire, of which county he was a native, of the death of Mr. John Burr, a well-known citizen of San Fernando, California. Mr. Burr was born at the Schoolhouse, Lethenty, Fyvie, Aberdeenshire, his father being for long schoolmaster of the parish. Receiving a capital education, Mr. Burr chose for his calling that of gardener, and served his apprenticeship at Duff House, Banffshire, then owned by the late Duke of Fife, but which, along with its fine demesne, was handed over a few years ago by his Grace to the towns of Banff and Macduff as a public gift to the communities. Thereafter he pursued his avocation in England for some time, and then emigrated to America. There for some years he worked as a landscape gardener, and in 1884 he purchased a large ranch in Tulare County, where he raised vines and wheat. Three years later he went to San Fernando, and acquired a large amount of land, amounting to hundreds of acres, which, assisted by his sons, he laid out as a fruit farm. He also retained a large interest in orange groves in Tulare County. A keen business man, Mr. Burr was of an energetic and resolute nature, which did much to account for his rise to a position of affluence and repute in his adopted country. He took a great interest in public affairs, and was for four years Sheriff of Los Angeles County. Four years ago Mr. Burr paid a visit to his native land, where he spent a long holiday renewing the friendships of his earlier years. On returning to California, he had the misfortune to receive serious injuries as the result of being thrown from his motor car. Mr. Burr never recovered from the effects of his accident. He was 64 years of age.

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SCHOOL GARDENING.

By Laurence B. Hyde, B.A. (Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London, E.C.) Price 1s. net.

The remarkable extension of school gardening in Great Britain within recent years has given rise to a strong demand for information on the best methods of cultivating gardens associated with school work, and on the means by which a knowledge of the gardening art can be readily imparted to children attending elementary and other schools. This demand has resulted in the publication of a considerable number of handbooks of a somewhat variable character. In come cases the writers have shown a full acquaintance with educational methods, but have lacked the practical knowledge of gardening so essential to success. On the other hand, the authors have in several instances evinced a good knowledge of the practice of horticulture, and a weakness in dealing with educational methods. In the handbook now before us, which has been prepared under the supervision of Mr. T. W. Sanders, F.L.S., the cultural and educational aspects are equally balanced, and show that the author is fully acquainted with the best methods of procedure in the cropping and general management of school gardens, and possesses in a marked degree the ability of imparting knowledge to children.

The book may well be described as an all-round guide to its subject, and the author has, by means of clear text and helpful diagrams, described the various aspects of practical work connected with a school garden in such a manner as to enable the pupil to readily understand them. A concise calendar of work for each month of the year is given, and there is also a series of typical questions for the use of teachers, and these two features can hardly fail to prove of much value to them. The section devoted to the cultivation of annuals, bulbs, and other flowering and ornamental plants in the house will be found of much value to both pupils and teachers. The book is admirably produced, inexpensive, and so brightly and clearly written, and so sound in every particular, that we have no hesitation in recommending it as a valuable aid in teaching the practice and principles of gardening to children.

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

TUESDAY, November 4.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Formal Garden Design" by Mr. Edward White; Scientific Committee at 4 o'clock.
West of England Chrysanthemum Show; two days.
National Amateur Gardeners' Association.
Scottish Horticultural Association.
Plymouth Chrysanthemum Show; two days.
Leicester Chrysanthemum Show; two days.
WEDNESDAY, November 5.—National Chrysanthemum Society's Exhibition at the Crystal Palace; three days.
Putney and Wandsworth Chrysanthemum Show; two days.
Bath Chrysanthemum Show; two days.
Wargrave Chrysanthemum Show.
THURSDAY, November 6.—Colchester Autumn Show.
Forest Gate Chrysanthemum Show; three days.
Devon and Exeter Chrysanthemum Show; two days.
Cambridge Autumn Show.
Linnean Society meets.
Bury St. Edmund's Chrysanthemum Show.
Coventry Chrysanthemum Show.
FRIDAY, November 7.—Altrincham Chrysanthemum Show; two days.
Windsor Chrysanthemum Show.
SATURDAY, November 8.—Horsforth Chrysanthemum Show.
Formby Chrysanthemum Show.

CATALOGUES RECEIVED.

AMOS PERRY, HARDY PLANT FARM, ENFIELD.—The trade list issued by this firm should be in the hands of all who retail hardy plants.

ELISHA J. HICKS, HURST, TWYFORD, BERKS.—A boldly-printed descriptive catalogue of roses, and guide to cultivation. Mr. Hicks' successes in 1913 make a lengthy list.

WM. CUTBUSH AND SONS, HIGHGATE AND BARNET.—This firm cultivates roses on a large scale at the Barnet nurseries, and the catalogue of those flowers, now issued, is a most interesting one and admirably arranged.

LAXTON BROTHERS, BEDFORD.—A catalogue of fruit trees and roses, and one that is particularly interesting because of the new fruits listed and described; these include two new apples, a peach, two plums, a red currant, and an autumn-fruiting raspberry.

THE PENNICK CO., DELGANY, NEAR DUBLIN.—This closely-printed catalogue lists a very great variety of flowering shrubs, forest and fruit trees, and alpine and herbaceous plants, and it is interspersed throughout with apt quotations from well-known writers.

ARTHUR R. BROWN, LIM., WYCHALL NURSERIES, KING'S NORTON.—"Carnation Brown" is quite right in calling his new issue a "Catalogue de Luxe of Carnations and Roses." Thoroughly well got-up, the catalogue proves vastly interesting and informative, as it contains much that is of value to exhibitors and to the ordinary grower, while in addition to excellent descriptions there are beautiful coloured plates of Becky Sharp, My Fancy, Wyatt, and a houseful of carnations in bloom.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

DATE. 1913. OCTOBER 19 TO OCTOBER 25.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 19—Sunday	4 48	55	52	60	44
,, 20—Monday	1 0	59	56	62	54
,, 21—Tuesday	—	51	51	53	51
,, 22—Wednesday	7 6	48	46	57	42
,, 23—Thursday	—	40	40	50	35
,, 24—Friday	4 42	43	43	55	37
,, 25—Saturday	3 30	38	38	61	35
Means	(total) 21 6	48	47	57	43

DATE. 1913. OCTOBER 19 TO OCTOBER 25.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Oct. 19—Sunday	—	53	54	55	32
,, 20—Monday	0·42	54	54	55	46
,, 21 Tuesday	0·16	55	55	55	49
,, 22—Wednesday	—	53	54	55	38
,, 23—Thursday	—	51	54	55	28
,, 24 Friday	—	50	53	54	27
,, 25 - Saturday	—	49	52	54	28
Means ...	(total) ·58	52	54	55	35

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VOL. YVI.—No. 3,132. SATURDAY, NOVEMBER 8, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Glory of Autumn.

Although the autumnal hues of the leafage of the many beautiful deciduous trees and shrubs that contribute to the interest and charm of the garden and park have been less brilliant this season than in some previous years that are readily recalled to mind, they have been, and in some cases still are, so rich and beautiful as to fully justify their designation as the "glory of autumn." Just now, in gardens that are large enough to afford space for the adequate representation of a considerable proportion of the choicer kinds, the colour effects produced by the varied leaf tints are still of great beauty—so beautiful indeed as to surprise not a few of those who have failed to devote a proper share of attention to this important aspect of arborescent and ligneous vegetation. In such gardens where the selection has been made by those who are fully acquainted with the leaf colourings, as well as with the stature and form of the kinds most valuable in the creation of park and garden scenery, we shall see great masses of foliage ranging in colour from, on the one hand, the palest yellow to the richest gold, and on the other from light red and bronze to the most brilliant scarlet and the deepest crimson. Not alone are the leaves in their diversity of colouring used by Nature in the creation of autumn pictures so distinct from those painted by the hand of man, and, moreover, so wondrously beautiful as to fill the mind with feelings of the highest admiration. There are a considerable number of trees and shrubs that have barks not less valuable in garden scenery than are the leaves of many of the choicest kinds, some of the most noteworthy of these being found among the dogwoods and the willows. We were reminded the other day of the plenitude and the immense value of the trees and shrubs remarkable for the autumnal hues of their leaves and bark when enjoying a leisurely walk through the pleasure grounds of Aldenham House, the residence of the Hon. Vicary Gibbs, which are quite unique, both as regards their area and the remarkable representation of arborescent and ligneous vegetation within their boundaries. Well might it have been said, as one enjoyed the series of charming colour schemes of the autumn:

"A thousand tints,
Which Flora, dressed in all her pride of bloom
Could scarcely equal, decorates the grove."

MR. COURTENEY PAGE.

In these famous gardens, not only are kinds, well-nigh innumerable, planted singly or in groups, and allowed to grow more or less naturally, but some of the more distinct are arranged in masses and grown under what is popularly known as the "cutting down system." This system is very simple and, briefly stated, consists in cutting the growths back at the winter pruning to within a few inches of the surface of the soil and allowing the resulting shoots to grow unchecked during the following summer. Under this course of procedure the growth is strong, the leaves attain a large size, and the colouring is remarkable for its intensity. The large masses of the golden form of the Canadian poplar that are so conspicuous in the grounds throughout the summer and autumn may be mentioned as a striking proof of the fine effects that may be obtained in the latter season by means of the cutting-down process. In the earlier stages of development the ample leafage charms by its softness of colour; when the growth approaches completeness the rich golden hue contributes much to the effect of the scene of which the groups form a part by the striking contrast of colour it affords. It is, however, as the season of the fall of the leaf approaches that we have the most conclusive proof of the value of the golden Canadian poplar in garden scenery, for then the characteristic colouring is so highly developed that the large leaves assume so bright a hue as to shine like burnished gold under the influence of the subdued rays of the autumnal sun. In the Aldenham House Gardens full advantage is taken of the aid the hardy herbaceous plants are able to render in the production of autumn effects, and stems and leaves that assume more or less attractive hues on the completion of their functions are allowed to remain until they decay, instead of being cleared away in "tidying-up," in accordance with orthodox practice. A considerable number of kinds are most useful, more especially a considerable proportion of the flags and reeds that are generally planted on the margins of ponds, lakes, and other areas of ornamental water in the garden. These contribute liberally to the russets and browns so pleasing in association with both rich green and brightly-variegated leafage. Ornamental water forms, as is well known to many of our readers, an important feature of the gardens referred to, and the masses of leaves in their various shades of brown afford a series of most pleasing contrasts, and fully justify the departure from the practice which has so long obtained. The more liberal planting of trees and shrubs that, by reason of the attractiveness of leaf colouring in autumn, are able to contribute liberally to the charm of the garden at a decidedly dull period of the year, can be all the more strongly recommended from the fact that they rank high among the kinds that are deservedly held in high estimation for the beauty of their leaves or

flowers during the spring and summer months. This is necessarily a point of considerable importance, and not less interesting to many readers will be the intimation that the best of them may be obtained at the prices which govern the sale of nursery stock of an ordinary character. It would be interesting and useful to pass under review the finest of the trees and shrubs that have leafage which takes on effective colouring in the autumn, but it would require more space than can now be spared. We cannot, indeed, attempt to do more than suggest a few kinds that are of special value. From those which have leaves that change to some shade of red we would advise our readers to select Acers circinatum, Ginnala, Henryi, rubrum eriocarpum, and palmatum—the last-named in variety. Berberis Thunbergi has scarlet leaves, and is unsurpassed by other small-growing shrubs, and is only rivalled by some of the Ghent azaleas, Cratægus punctata and pruniflora, Liquidamber styraciflua, pyrus in great variety; Parrotia jacquemontana, Quercus coccinea, Rhus cotinus, R. typhina, and R. typhina lacinata, one of the most elegant of the trees of small growth. Several of the ornamental vines are unsurpassed in colouring, especially good being Vitis armata, V. Coignetiæ, and V .Henryi. The trees that assume a yellow hue include the horse-chestnut, Acer pseudo-platanus, Cerasus padus bracteosa, Cratægus coccinea maxima, C. pentagyna, Ginkro biloba, Liriodendrons chinensis and tulipiferum, Pavia flavia, Populus canadensis aurea and Spiræa opulifolia. There are several kinds well worth planting for the distinct colours of their bark, but the most useful of all are the dogwoods, such as Cornus alba, C. alba Späthi, and the willows, Salix glauca, S. purpurea, and S. vitellina, and they should have first attention from the planter.

Mr. Courteney Page, whose home is at Earlsdoms, Ridgeway, Enfield, has acquired a considerable reputation as an amateur rosarian who does the whole of the work in connection with his roses from A to Z, and from January to December. He plants and buds his own stocks, and all the flowers he has exhibited are from plants so raised by him. Mr. Courteney Page is a very keen amateur gardener, but during the past five and twenty years he has devoted attention chiefly to roses, and has achieved a large measure of success in his hobby. Plenty of people are willing to win cups and other prizes, but few are ready to devote their time and ability to the work of the society which provides the prizes. In this connection Mr. Courteney Page sets a good example, for he is a member of the Council of the National Rose Society, and is a hard-working member of the Exhibitions Committee and the General Purposes Committee of that ever-extending and otherwise flourishing association of rose growers, and takes an active part in its work.

Dahlia Trials at Duffryn, 1914.—The trial of dahlias, from a garden decorative point of view, carried out this year in the gardens of Reginald Cory, Esq., at Duffryn, has proved a genuine success, and in consideration of this, and desiring to still further encourage raisers to devote particular attention to producing varieties best adapted to garden decoration, Mr. Cory felt the desirability of holding a further trial next year, and, after putting his views before the Council of the Royal Horticultural Society and the National Dahlia Society, and being assured of their willingness to co-operate with him, as they did this year, he has decided to hold a trial in 1914 of seedlings not in commerce, and any varieties offered for the first time in 1914. These will be grown, and judged, and reported on in exactly the same way, and, as far as possible, by the same individuals as in 1913. Three plants of each variety should be sent, carriage paid, to Reginald Cory, Esq., Duffryn, near Cardiff, if sent by post; or labelled per G.W.R. to Ely Station, near Cardiff, if sent by rail. For various considerations it has been decided that only rooted cuttings must be sent; and those who intend participating in the trials are particularly requested to send them as early as possible in the year, in order that they may be grown on to the best advantage before planting out. Mr. Cory kindly offers a £5 5s. cup to be awarded for the most meritorious plant in the trials, and the Council of the Royal Horticultural Society will give any other award they think fit.

Variability and Sportiveness of Lilium Leafage.—From Hillside, Ricketts Hill, Tatsfield, Surrey, Mr. J. Sidney Martin writes: "It would be interesting to know from Mr. C. R. Scarse Dickins whether every bulbil taken from the sportive lilium had grown to leafage or not. It would be natural to expect that some would have kept true to the other part of the plant. I do not know Lilium Sargentiæ or Lilium myrcophyllum, but should think it likely that the sport leaves were the smaller ones. However, the size of the sport leaves might serve Mr. Scarse Dickins as a guide in coming to some conclusion as to its cause. If the leaf be smaller he might look for a decreased energy or sap flow at the roots of the parent sportive plant; or if larger leaves increase of energy. For not only will leaves of plants vary by every adjustment, but a plant is capable of giving the flower of that variety which preceded it. This I have proved."

Public Park for Boquhan, Stirling.—Mr. Stephen Mitchell, of Boquhan, Kippen, has presented a pretty park to the inhabitants of Kippen, and great gratification is expressed by them at the announcement, which was made the other day. The park is very conveniently situated, and adds another to the several handsome benefactions made by Mr. Mitchell to the people of Kippen.

Two-days' Rose Show at Saltaire.—It was announced at the annual dinner of the Saltaire, Shipley, and District Rose Society, that the committee was proposing to hold a two-day rose show at Saltaire in 1914. No dates have been given. It has often been stated that a rose show is not worth looking at on the second day, therefore the Saltaire Society's experiment will be looked forward to with great interest.

Proliferous and Seedless Pears.—Mr. A. E. Bunyard sent to the recent meeting of the R.H.S. Scientific Committee a pear, evidently from a summer flower, from the apex of which a stem proceeded, bearing in its turn an apical fruit. Mr. F. J. Chittenden also showed somewhat similar fruits from Wisley, in one case bearing three buds at the distal end. Mr. Chittenden remarked that many, but not all, pears produced from summer flowers, which were particularly numerous in the past season, were seedless, and showed examples in support of his statements. He had found, too, that the fruits borne when foreign pollen was prevented from reaching the stigmas were as a rule seedless, and in a few cases, when the seeds had begun to form, they had reached but a small size, and were infertile. He showed fruits of the variety Conference, and these, like Durondeau and Hacon's Incomparable, were quite seedless and had no developed core.

A Great Scheme to Beautify Paris.—Beautiful though it is, Paris lags behind several other great cities, London and Berlin, for instance, in the matter of the size and number of her public parks and open spaces. To rectify this, Mons. Delanney, Prefect of the Seine, has put forward a remarkable scheme, which, in brief, means the removal of large blocks of houses from the St. Lazare Station, the Halles, and in many neighbouring streets, so as to provide open spaces in these central quarters. But drastic as this proposal is, the rest of the scheme is even more interesting, and consists of providing a chain of avenues and pleasure grounds round the city, following the lines of the twenty forts, and linking these together. As many of these forts are as large as a good-sized park, this scheme is both bold and splendid. It is stated that such a scheme, carried to completion, would enrich Paris and its suburbs to the extent of about 17,000 acres, and the gay city would then possess 5 per cent. more open space than our own Metropolitan county. If the scheme is carried into effect, Paris would become the finest garden city in the world.

Kniphofia multiflora, a native of Natal, is a particularly late-flowering species, and, therefore, rarely does itself justice in this country except in very favoured localities. At Kew it is frequently spoiled by the frosts and rains of autumn, but this year it has been favoured, and there are sixty spikes in a round bed in front of the Orchid Houses. The whole inflorescence rises from three feet to five and a-half feet, and the spike proper ranges from fifteen to twenty inches in length. Kniphofia multiflora is not so showy as K. Tysoni, K. John Benary, and other gorgeous kinds, but it is very distinct and interesting. The small, crowded flowers are white, tinted pale green, and the prominent filaments are white, tipped with yellow anthers. Such an opportunity of seeing this rare kniphofia in good condition is seldom afforded in the Metropolitan district.

Alterations in the Rock Garden, Kew.—Advantage is being taken of the present open weather to proceed speedily with the work of alteration and renovation in the Rock Garden at Kew. Certain sections have been dealt with in recent years, and the plants have shown their appreciation of the new conditions. Work has now begun on the section from the path leading to the orchid houses, along to the end of the Rock Garden, on the right-hand side, going southwards. The slopes will be very easy, thus providing wider and larger spaces for plant colonies than a steeper design would permit. In one place, however, there will be a greater elevation than previously, consisting of two eminences, with an intervening valley. This arrangement will afford varying degrees of light and shelter suited to various subjects.

Southampton Royal Horticultural Society. — The exhibitions arranged by this society for 1914 are as follows: Rose Show, July 1, at South Stoneham Park; Summer Show, including carnations, July 21 and 22, at Royal Pier; Autumn Show, November 1, 3, and 4.

NATIONAL CHRYSANTHEMUM SOCIETY'S EXHIBITION.

The exhibition of chrysanthemums held by the National Chrysanthemum Society at the Crystal Palace, on Guy Fawkes and following days, was scarcely so extensive as some of its predecessors, so far as the competitive classes were concerned, but the show, as a whole, was well up to the average in extent and quality. In the larger classes there was a good competition, but there seemed to be a falling off in the amateurs' section. The decorative classes were well filled, and the vases of blooms were excellent.

MR. NORMAN DAVIS' GOLD MEDAL CHRYSANTHEMUMS AT THE CRYSTAL PALACE.

Awarded the N.C.S. Gold Medal and the Special Gold Medal offered by Messrs. Clay and Son, Stratford, for the best non-competitive display in the exhibition.

The attendance was larger than usual on the first day; no fewer than sixty-four novelties were placed before the Floral Committee, and nine First-Class Certificates and three Commendations were granted.

GREAT VASE CLASS.

The first prize of £9 for the best dozen vases of Japanese blooms, three blooms in a vase, was won by Mr. A. Chandler, gardener to Arthur James, Esq., Coton House, Rugby, with capital flowers of Thos. Lunt, Alice Lemon, His Majesty, Mrs. G. Drabble, Eclipse, Lady Talbot, Reg. Vallis, W. Turner, Marie Louise, Frances Jolliffe, Mrs. Gee, and F. S. Vallis, the latter very fine. Second prize fell to Mr. H. R. Farmer, gardener to the Marquis of Bute, Cardiff Castle, Cardiff, whose best flowers were F. S. Vallis, Miss A. C. Roope, Wm. Turner, W. Mease, and Lady Talbot; Mr. Thos. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone, third. There were five entries, so the class itself made a good display.

Mr. H. R. Farmer annexed the chief award for a dozen vases of incurved blooms, representing as many varieties, three blooms of each; his varieties were G. F. Evans, G. W. Matthews, Madame G. Denyer, F. Trestrian, Romance, Pantia Ralli, May Phillips, Mrs. J. Hygate, Le Peyron, Clara Wells, Mrs. P. N. Wiseman, and Embleme Poitevine; second award fell to Mr. G. Hunt, Ashtead Park Gardens, Epsom; and third to Mr. T. J. Broom, gardener to Miss Langworthy, Gay's House, Holyport.

HOLMES MEMORIAL CUP CLASSES.

The Holmes Memorial Cup for the best forty-eight Japanese blooms was won by Mr. A. Chandler, Coton House Gardens, Rugby, with a good stand that was scarcely up to Mr. Chandler's best efforts; the best flowers were of His Majesty, Mrs. Drabble, Hon. Mrs. Lopes, H. E. Converse, Mary Farsworth, Rose Queen, F. S. Vallis, Queen Mary, Bob Pulling, Kara Dow, Frances Jolliffe, and Lady Talbot. Mr. Thos. Stevenson, Woburn Place Gardens, a close second with a very bright-coloured and even set; and Mr. G. Hunt, gardener to Pantia Ralli, Esq., Ashtead Park, Epsom, third.

There were four competitors for the Holmes Memorial Challenge Cup for thirty-six incurved blooms, on boards, and here Mr. Hunt came first, and showed, among others, big specimens of Mrs. P. N. Wiseman, Clara Wells, Lady Isabel, Edwin Thorp, Embleme Poitevine, Mrs. H. J. Jones, Le Peyron, C. H. Curtis, Souv. de Wm. Clibran, Fred. Palmer, and Calypso; Mr. H. R. Farmer was a good second, and Mr. T. J. Broom third.

JAPANESE BLOOMS.

Mr. H. C. Gardner, Ruxley Lodge, Claygate, won Sir Albert Rollit's prize for the best twenty-four Japanese blooms, distinct, with a very even set of good flowers of Kara Dow, Alice Lemon, Frances Joliffe, Amber Queen, December Gold, W. Turner, F. S. Vallis, and His Majesty. There were nine competitors, and second prize fell to Mr. Thomas Beeson, gardener to W. Newton Mappin, Esq., Headley Park, Epsom, who had a wonderful Bob Pulling; third to Mr. J. Simon, gardener to W. W. Mann, Esq., Ravenswood, Bexley; and fourth to Mr. Thomas Stevenson.

The best dozen Japanese blooms, arranged with foliage and plants, were from Mr. G. Mileham, gardener to A. T. Miller, Esq., Emlyn House, Leatherhead; and second award fell to Mr. A. Winter, gardener to E. Mainwaring, Esq., Elm Lodge, College Road, Dulwich. Mr. Sargent, gardener to G. L. Wigg, Esq., Rockshaw, Merstham, scored in the class for one bloom of either Queen Mary, W. Turner, or Mrs. Drabble, and did so with Queen Mary, which was also the variety that won second place for Mr. H. C. Gardner.

Mr. Farmer was first for a vase of three white Japanese blooms with William Turner in fine form; Mr. H. C. Gardner, gardener to Lord Foley, Ruxley Lodge, Claygate, second; and Mr. P. Ladds, Swanley Junction, third. In the yellow class Mr. H. Woolman, Sandy Hill Nursery, Shirley, Birmingham, scored a first with Miss A. C. Roope; Mr. H. R. Farmer second with Lady Talbot; and

Mr. H. C. Gardner third with F. S. Vallis. Mr. Gardner led in the "any other colour" class with three grand flowers of His Majesty; Mr. H. R. Farmer second with Mrs. A. E. Tickle; and Mr. Woolman third with His Majesty.

Messrs. Cragg, Harrison, and Cragg, Heston, annexed first prize for a dozen market bunches of disbudded flowers, twelve blooms to a bunch; their varieties were Miss O. Dumsday, Freda Bedford, Mrs. W. A. Read, Yellow Moneymaker, Hortus Tolousanus, Batchelor's White, Crimson King, J. W. Stevens, Black Prince, Romance, Bronze McNeice, and Mrs. Buckler; a capital display.

INCURVED, SINGLE, AND OTHER VARIETIES.

Mr. T. G. Bealing, Bassett, Southampton, led for six incurved blooms, one variety, with enormous examples of Clara Wells; Mr. G. Mileham, gardener to A. T. Miller, Esq., Emlyn House, Leatherhead, second, with Buttercup; and Mr. Farmer third with Clara Wells; six entries. Mr. H. R. Farmer was a good first for a dozen incurved blooms, and was followed in order by Mr. G. Hunt and Mr. T. J. Broom.

The best table of single varieties was one arranged by Mr. Philip Ladds, Swanley Junction; the flowers were splendid, fresh, and on stout stems, but it was a great pity Mr. Ladds did not label the varieties; Mr. W. Heath, gardener to Sir Samuel Gooch, Bart., Hylands Park, Chelmsford, a good second; and Mr. H. Lloyd, gardener to Capt. C. Wiener, Ewell Castle, Ewell, third. There were seven entries in this class, and in each competitor had to fill a table 8ft. by 3ft. The class was a most successful one. C. E. Shea, Esq., offered a silver rose bowl as first prize in this class.

A superb set of eight vases of single varieties won Messrs. Cragg, Harrison, and Cragg's prize quite easily for Mr. E. Mills, gardener to Frank Lloyd, Esq., Coombe House, Croydon; he had wonderful examples of Mensa, Yellow Pagram, Sandown Radiance, Caledonia, White Pagram, and Bronze Pagram; there was only one prize offered, but there were seven competitors.

Five pairs of bunches of pompon varieties formed a pretty class, and Mr. F. Fitzwater, gardener to C. Urban, Esq., Bushey Lodge, Teddington, was placed first; Mr. G. Bowyer, gardener to P. Dawson, Esq., Maybourne. Laurie Park, Sydenham, second; and Mr. A. R. Robertson, gardener to F. J. Yarrow, Esq., St. John's Wood, N.W., third.

Mr Fitzwater was easily first for six vases of pompons, and he showed beautiful rounded blooms of well-known varieties; Mr. J. W. Hussey, Bouverie House, Exeter, second; and Mr. T. J. Broom third. For anemone pompons the awards fell to Mr. Fitzwater and Mr. T. J. Broom respectively. For large anemones Mr. T. J. Broom scored with big examples of Mdme. C. Lebosqz, Mrs. Heneage, Miss A. Lowe, Mrs. H. Claud, Marguerite, Soleville, and Mrs. Shimmings; Mr. E. Libbeter, gardener to Dr. Codd, Holmwood Lodge, Bromley, Kent, second; and Mr. W. Passey, gardener to C. Douglas Clarke, Esq., Achray, Shortlands, third.

GROUPS.

There were two exhibitors in the class for a floral display arranged on a circular space of 200 square feet; the best was an effective effort on the part of Mr. R. B. Leech, gardener to J. C. Eno, Esq., Woodhall, Dulwich. There was a large triangular, table-topped mirror in the middle of the group. On top of this were baskets and vases of single blooms, surmounted by a palm. Mr. Leech arranged this fine exhibit so that it was really three groups, each having a mirror background. Crimson and golden Japanese, decorative and single chrysanthemums were freely used with crotons, palms, and ferns in two of the sections; while in the other rosy lilac, blush, and white varieties were used to produce a distinct effect. Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham, came second with an excellent but more formal group.

AFFILIATED SOCIETIES.

The affiliated societies' class was this year for a dozen bunches of cut chrysanthemums, and the premier award fell to the Finchley Chrysanthemum Society, which put up capital pompon, anemone, single, Japanese, and incurved varieties, but, forgetting the educational value of such an exhibit, omitted to label the varieties.

DECORATIVE CLASSES.

First prize for a dinner table decoration of chrysanthemums was awarded to Mrs. W. C. Roelink, 94, Markhouse Avenue, Walthamstow, for a bright combination of yellow and light orange flowers associated with croton foliage and light sprays of asparagus; the upper part of the design was very weak. There were nine entries, and second prize went to Mr. A. W. Trossell, gardener to H. Attenborough, Esq., The Avenue, Beckenham, for a rich design in orange, bronze, and yellow flowers; Mr. T. W. Stevens, gardener to W. A. Stone, Esq., Donnington, Sydenham, third. In the other class for a table decoration, yellow and bronze flowers excluded, Mr. R. F. Felton, Hanover Square, led with rather large and heavy blooms of green, red, and lilac varieties, very deftly arranged, and with tiny silvery baskets of blooms depending from the centrepiece; Mrs. A. R. Bide, Highlands, Farnham, second; and Mrs. A. Robinson, Norhyrst, Carshalton, third.

Mrs. A. Robinson scored for a basket of chrysanthemums with bronze and yellow flowers associated with berberis, oak, and spiræa sprays; Mrs. Duquesnoy, Thornton Heath, second, with rosy and lilac flowers; Mrs. A. Brill, Southdown Avenue, Brighton, third; six entries.

There were no fewer than ten competitors in the class for a vase of single chrysanthemums, and here Mr. D. B. Crane, Highgate (whose vase we illustrate), was first with a bold, large, and beautiful arrangement of white, yellow, and crimson flowers, very cleverly grouped with asparagus sprays and croton leaves; Mr. Thomas Stevenson was a close second, and Mr. W. Dennis, Wood Hall Gardens, Dulwich, third.

AMATEURS.

In the amateurs' classes there were many excellent exhibits. Mr. T. W. Stevens, gardener to W. H. Stone, Esq., Laurie Park, Sydenham, scored for a dozen Japanese blooms; and Mr. Dyer, gardener to E. Wood, Esq., The Tyrol, Upper Norwood, scored for a dozen incurved blooms. Mr. Loo Thomson, Ailsa Craig, Formby, led the way for six bunches of singles with first-rate flowers of Yellow Pagram, Edith Pagram, Sussex Yellow, Ideality, etc.

In a second class for a dozen Japanese blooms Mr. W. Gooding, Four Elms, Edenbridge, was a capital first; Mr. A. F. Tofield, Chandlersford, second; and Mr. W. F. Bennett, Westcliff-on-Sea, third. Mr. Tofield was first also for another dozen incurved blooms, and Mr. J. Vanstone, Hollymead, Tulse Hill, scored for six Japanese blooms with capital flowers.

Mr. W. Passey, Shortlands, led for a vase of five Japanese blooms, with fine flowers of Reginald Vallis, Mr. T. W. Stevens coming second with Mrs. E. A. Tickle.

(Continued on page 851.)

A BEAUTIFUL VASE OF SINGLE CHRYSANTHEMUMS.

Arranged by Mr. D. B. Crane, Highgate, and awarded first prize, in keen competition, at the Crystal Palace.

NEW PLANTS AND FLOWERS.

CATTLEYA GRANIRIS.

A very distinct hybrid derived from C. granulosa and C. Iris. It has the erect growth of its parents, and, as shown, carried a pair of flowers. The broad petals and narrower sepals are light bronze, suffused with orange, while the wide open lip is soft purplish-crimson. A.M., R.H.S., October 21. C. J. Phillips, Esq., The Glebe, Sevenoaks.

CATTLEYA EMPRESS FREDERICK VAR. AVID CLIFTON.

A particularly beautiful form of the lovely hybrid between C. Mossiæ and C. Dowiana aurea. The large flower is white with a broad lip, coloured white, gold, and soft purple. A.M., R.H.S., October 21. Pantia Ralli, Esq., Ashstead Park, Leatherhead.

SOPHRO-LÆLIA CATTLEYA LACONIA.

A sturdy-growing little plant, which carried three fair sized blooms. The sepals and petals are deep reddish old rose, and the somewhat small lip is rich ruby-purple. The parents of this hybrid are Lælia-cattleya callistoglossa and Sophro-lælia heatonense. A.M., R.H.S., October 21. Messrs. Charlesworth and Co., Haywards Heath.

ONCIDIUM VARICOSUM WESTONBIRT VAR.

This very beautiful variety of a well-known and popular orchid is a particularly large one, and the wide lip is wholly of a bright, light shade of yellow, without the red-brown spots sometimes seen at the base of the lip. A.M., R.H.S., October 21. Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury.

ODONTOGLOSSUM VIVIEN.

Very much like a fine O. crispum, this hybrid of unrecorded parentage belongs probably to the eximium group. The large flowers are finely formed, white, with a tinge of purple here and there. On the petals there is a central red-purple area and a few spots and blotches of a similar colour occur on the sepals. A.M., R.H.S., October 21. Sir George Holford, Westonbirt, Tetbury.

CYPRIPEDIUM QUEEN ALEXANDRA.

This is a very large-flowered hybrid, and its parents were stated to be C. Lathamianum and C. Charlesworthi. Of fine form and substance as well as of fine size, the flower is most effective. Dorsal-sepal white with a bright purple base; petals tawny-green lined with purple, and lip of similar colour. A.M., R.H.S., October 21. W. R. Lee, Esq., Plumpton Hall, Heywood.

CARNATION CINDERELLA.

A distinct and beautiful perpetual-flowering variety. The flowers are large, the petals well developed without being too densely packed, smooth-edged, and of a heliotrope or blue-mauve shade, with splashes and flakes of bright red showing conspicuously. Slightly fragrant and with a first-rate calyx and stem, this should prove a popular variety. A.M., R.H.S., October 21. Messrs. George Fairbairn and Sons, Botcherby, Carlisle.

CHRYSANTHEMUMS.

Mrs. R. C. Pulling. — An easily-grown, large-flowering, incurved Japanese variety. The blooms are rounded and of fine substance, composed of curling as well as incurving florets. The colour is bright yellow, with a tinge of green. A.M., R.H.S., October 21. Messrs. H. J. Jones, Lim., Ryecroft Nursery, Lewisham.

Rosamund.—A very large and handsome Japanese variety with broad, reflexing florets that incurve a little at the tips. The colour is a rich and bright shade of old rose with a silvery-buff reverse. Section II., sub-section 1, a. F.C.C., N.C.S., October 27. Mr. Norman Davis, Framfield, Sussex.

Mabel.—A beautiful single variety of excellent shape, the regular, broad florets recurving a little at the tips. The colour is deep rose-red or rosy-amaranth, with a narrow white zone round the dull yellow disc. Commendation, N.C.S., October 27. Mr. G. Mileham, Emlyn Gardens, Leatherhead.

T. Barnes. — A fine decorative single variety, with stout stems. The flowers are large, and there are several rows of florets, the inner row a trifle shorter than the rest. The colour is a splendid shade of bright ruby, and there is a very narrow white zone round the neat yellow disc. Section V., sub-section 2, a. F.C.C., N.C.S., October 27. Mr. G. Mileham, Emlyn Gardens, Leatherhead.

Irene Clark.—A large-flowered single with slender but fairly stiff stems. The broad florets reflex a little at the tips, and are regularly arranged to form a shapely bloom. Colour, rich canary-yellow. Section V., sub-section 2, a. Commendation, October 27. Mr. G. Mileham, Emlyn Gardens, Leatherhead.

Orlando.—A capital large-flowered single variety, with medium sized florets, very closely arranged, and forming a very substantial bloom, borne on stiff stems above excellent leafage. Colour, rich canary-yellow. Section V., sub-section 2. a. F.C.C., N.C.S. Messrs. Cragg, Harrison, and Cragg, Heston, Hounslow.

Max.—A most attractive single, with very large flowers and fine stems and foliage. It has several rows of florets, but in colour is very near Merstham Jewel, the shade being described as bright golden bronze, with yellow zone and tips. Section V., sub-section 2, a. F.C.C., N.C.S., October 27. Messrs. Cragg, Harrison, and Cragg, Heston, Hounslow.

Jessica.—A real beauty. A very large single variety, with blooms fully six inches across without any trace of coarseness or lack of substance. There are three rows of florets, and these stand clear of each other at the tips. The colour, a rich shade of bright chestnut, with a narrow golden zone round the disc, and yellow tips. Section V., sub-section 2. a. F.C.C., N.C.S., October 27. Messrs. Cragg, Harrison, and Cragg, Heston, Hounslow.

W. Fawcett.—A lovely single of fair size, and a very free grower. It has good stems and foliage. The flowers are shapely and elegant, and the colour is buff-apricot, a

CARNATION CINDERELLA.

Flowers large, colour bright heliotrope, flaked with bright red. A.M., R.H.S., October 21. Messrs. G. Fairbairn and Sons, Botcherby, Carlisle.

distinct and new shade. Section V., sub-section 2, a. Commendation, N.C.S., October 27. Mr. L. Lawrence, Shoreham, near Sevenoaks.

L. Lawrence.—A big and very substantial single Japanese variety—with several rows of broad florets that are of the most brilliant blood-red colour imaginable, and particularly effective under artificial light. Section V., sub-section 2, a. F.C.C., N.C.S., October 27. Mr. L. Lawrence, Shoreham, near Sevenoaks.

The Daily Mail.—A very fine, large, high-centred Japanese variety of elegant form. The narrow florets curl and incurve loosely, and make up a bloom of considerable refinement, and one that will attract the attention of exhibitors. If name counts for anything, this variety should have a big circulation. Section II., sub-section 1, a. F.C.C., N.C.S., October 27. Messrs. W. Wells and Co., Merstham.

Calgary.—A showy, large-flowered, single variety, with regularly arranged, broad florets. The colour is crimson-bronze with a golden zone round the disc. Section V., sub-section 2, a. Commendation, October 27. Mr. Philip Ladds, Swanley Junction.

Miss Doris Hilder.—A dainty single variety that just comes within the large-flowered section. It has slender, stiff stems, that carry the flower erect. Colour, rich rosy-magenta. Section II., sub-section 2, a. Commendation, N.C.S., October 27. Mr. H. Hogbin, Sevenoaks.

Mrs. C. Farrar.—A beautiful solidly-built Japanese variety of considerable depth. It is of good shape, and the flattish florets droop gracefully. The whole of the centre of the flower is yellow, but the outer drooping florets are bright bronzy-buff. Section II., sub-section 1, a. F.C.C., N.C.S., October 13. Mr. G. Mileham, Emlyn Gardens, Leatherhead.

William Vert.—This is a very handsome, large Japanese variety, not so deep as some of the finest exhibition sorts, but of superb colour, with well-arranged spreading florets of a brilliant crimson shade, with golden reverse. With its fine stem and foliage, and sturdy appearance, this should become a favourite. Section II., sub-section 1, a. F.C.C., N.C.S., October 13. Messrs. W. Wells and Co., Merstham.

Connie Ingram. — A handsome single variety, with flowers 4½in. across on stiff, sturdy stems. The colour is rich crimson-red, with a narrow zone of yellow round the yellow disc. Section V., sub-section 2, a. F.C.C., N.C.S., October 13. Mr. Philip Ladds, Swanley Junction.

White Beauty.—One of the prettiest of pure white single chrysanthemums, and one that produces its blooms in natural, spreading, bouquet-like sprays of particularly elegant formation. For the garden or for market this should be a favourite, as it has good form as well as other good qualities. Section V., sub-section 1, b. F.C.C., N.C.S., October 13. Mr. P. Ladds, Swanley Junction.

T. Ward.—A beautiful free-flowering white variety, the flowers full, with narrow florets pleasingly and not too formally arranged. A lovely variety for cut flowers, as it has good stem and foliage, firm blooms, and pure whiteness. One plant shown carried twenty-six good flowers. Section II., 1, b. Market Commendation, 79 points out of 100. Mr. T. Ward, Bishop's Stortford.

Salvias. — When the autumn salvias have passed out of flower cut them back to the extent of half their growth, place them in a cool house, and give water sparingly. The beautiful blue S. Pitcheri, which flowers during the latter part of October and the beginning of November, is splendid for associating with chrysanthemums, and should be largely grown for this purpose. This species may be wintered in a cold frame with a little protection. Salvia Heri, which flowers during the dull winter months, is another useful subject for the conservatory. It must now have plenty of water at the roots, supplementing this occasionally with manure water.—E. Harriss.

YUCCAS.

These noble plants, with their distinct foliage and tall spires of ivory-white bells, are of inestimable value in the garden, since they combine hardiness with sub-tropical effect, and, when once planted, increase in dimensions and beauty from year to year.

Where sufficient space is available yuccas are never out of place, and are useful for a variety of sites. Perhaps they never create such a striking picture as when forming a large group on the grass, backed by evergreens. The numerous heads of varying size, composed of sword-shaped, spike-pointed leaves, some standing six feet above the ground level, and others resting their blades upon the grass, are picturesque in their outlines at all seasons of the year, and become particularly attractive when, in the autumn, a dozen or more tall flower spikes tower aloft above the strong, grey-green foliage. As a break in a long herbaceous border yuccas are valuable, a group of three or more plants coming well forward in the border giving a sense of informality by arresting the eye travelling down the long line of flowers with the relief of noble leafage.

As single plants on a lawn yuccas are decorative, and as the centre of a bed a plant forms an effective foil to the flat brilliancy of zonal pelargoniums and tuberous begonias. Yuccas look well in the rock garden, and make a telling contrast to the dwarf subjects with which such a site is for the most part filled; in fact, it may be said that well-developed specimens of these hardy plants are, whatever may be their surroundings, as worthy of admiration as any tender sub-tropical subject that can only be removed from a glass-house to the open garden for a few months in the summer. There are many species of yucca, but for all practical purposes the following four will suffice for garden decoration.

Yucca gloriosa.

This is a fine species, sometimes attaining a height of ten feet. Its tall and imposing flower spike is composed of many hundreds of pendant, ivory-white blossoms very closely set, which form a solid spire of flower. Its leaves are rigid, wide, and are terminated by a sharp spike.

Though handsome as a single plant, it is seen at its best when a dozen or more are planted in an informal group, each plant being distant about five feet from its nearest neighbour. When these have grown to a flowering size they form an exceedingly handsome feature in the landscape, and eventually grow into an impenetrable mass, with branching stems and cheveaux-de-frise of sword leaves, from which, in the flowering season, numerous tall bloom-spikes arise.

Y. pendula.

This is perhaps the most beautiful of all the yuccas, its curving leaves giving the plant a very graceful appearance. It is considered by some authorities merely a form of Y. gloriosa, but differs considerably from that species, for, in addition to its arching foliage being totally distinct from the stiff leaves of the latter, the individual flowers are far more sparingly set on the spikes. It is almost as robust a grower of Y. gloriosa, and may be similarly treated when selecting sites. It is sometimes known as Y. recurva.

Y. filamentosa.

This is a dwarfer species, seldom exceeding five feet in height. Its specific name is due to the thread-like filaments that hang from the edges of the sharply-pointed leaves, which together have earned for it the title of Adam's needle. It is a very free bloomer, and generally flowers annually, and, being of less vigorous growth, is suitable for quite narrow borders and for positions where the two already-mentioned species would be inadmissible on account of their size. This, and the next-named species, are yuccas for small gardens.

Y. flaccida.

This is, by some, thought to be a variety of the last-named, but it differs from it in that the older leaves are abruptly bent so that they appear almost broken. It is also somewhat dwarfer, rarely exceeding four feet in height. The flower panicles of the two latter species are more branching than those of Y. gloriosa and Y. pendula. All the four named here are natives of North America.

Wyndham Fitzherbert.

Kingswear.

LEAVES AND HUMUS.

Humus is decayed vegetation of any kind. It is Nature's restorative for hungry or impoverished soil. It enriches the earth, makes growth possible, and generally improves the condition of the ground. But how much of this valuable material is yearly wasted! Too often it is carted right away from the very garden which it would benefit. Sometimes it is burned; this is a moderately good practice if the resulting ashes are wanted, and wisely used.

A better plan is to dig a large hole (a hole is less unsightly than a raised heap) in an out-of-the-way corner of the garden, into which all refuse can be thrown. A prepared hole has also an advantage over a fire, as the smoke nuisance is reduced to nil, and this is no small blessing in some well-appointed gardens. Worn-out flower stems, faded flowers, weeds, roots, stalks, haulms of peas and beans, and cut grass will all make splendid material, when thoroughly decayed, for returning to the soil. Roots should be chopped through with the spade, and flower stalks, etc., cut into short lengths, to aid decomposition. Give the heap an occasional turn over during the year, and dust the top with soot or lime to prevent insects collecting and prevent the escape of any possible unpleasant odour.

When sufficiently rotted this decayed vegetation should be used like ordinary manure during digging or trenching. The latter operation will, in particular, swallow up the less decayed and more unwieldly material at the bottom of a good trench.

It will be wise not to throw into the hole any actually diseased material, such as "streaked" sweet-pea growths, club-rooted cabbage stalks, or tainted potato haulm. Such stuff should always be burned.

A word about fallen leaves. From these our leaf-mould is made. Preference is always given to oak, beech, or elm leaves where choice can be exercised, but any leaves collected and left to decay will make a really valuable compost for helping us in the production of our garden crops—whether out of doors or indoors. The best way to aid their final decay is to put them in a hole, as suggested, for the herbaceous and vegetable refuse. If some soot is mixed with them grubs will be killed and the leaf-mould enriched. The hole should be cleared out each autumn before any fresh leaves are put in, and the material stored in some convenient corner. C. Turner.

Ken View Gardens, Highgate.

JULY-FLOWERING LILIUMS.

(Concluded from page 780.)

L. pardalinum.

This is the tallest-growing of the Californian lilies, and one of the easiest to accommodate in our gardens, as it will grow and thrive in most soils. A considerable proportion of leaf-mould and coarse sand should be added to heavy loam and clayey soils previous to planting the bulbs. Light, sandy soil is improved for the culture of this lily by mixing in some old decayed manure and leaf-mould. Its tall, vigorous growth in peaty soils, when planted among rhododendrons, is familiar to many. Plenty of moisture at the roots is desirable in summer, but waterlogged ground should be avoided, as in this the bulbs will decay in winter. When planting, entirely surround the bulbs with coarse sand, and mulch liberally with half-decayed leaf-mould in June each year to keep the surface soil cool and moist. L. pardalinum has rhizomatous bulbs, which increase rapidly in good soils and favourable positions. Being a stem-rooting lily, plant the bulbs at least 6in. deep.

One could fill a column writing of the various positions in which this Californian lily may be effectively planted in the flower garden, pleasure grounds, shrubbery borders, and woodland. A group or two should find a place in the herbaceous and mixed borders, but for massing the association of trees and shrubs is desirable. A border with a western aspect, having a background of trees and tall shrubs, is one of the best positions for cultivating and effectively massing the pardalinum, or Panther Lily. Shrubs sheltering the lower part of the stems from 2ft. to 3ft. high are very desirable, nothing apparently doing more harm to this lily than the fierce rays of the sun scorching the stems and drying up the ground about the plants. In open brakes in the woodland the use of this lily is only limited by the extent of the domain and the number of bulbs available for planting. Replanting is not often necessary; but in time, perhaps, after growing in one position from five to seven years, the bulbs become very crowded, the flowering stems decrease in height, and the number of flowers on a stem are appreciably less. Then lifting and replanting is desirable, working in at the same time plenty of new soil.

L. pardalinum grows to a height of 6ft. to 8ft., sometimes more. It belongs to the Martagon group of lilies, having the familiar whorls of leaves on the stems, and the reflexed flowers, borne twelve to twenty or more on a stem. The bright orange-red blossoms are freely spotted with reddish-maroon. From the typical species numerous forms are in cultivation, with a considerable range of varying shades between yellow and scarlet, due, no doubt, to the ease with which L. pardalinum can be raised from seeds. The following are distinct:

Var. californicum, not so tall in growth as the type, might be described as a bi-color flower, the centre of the flower being orange, and the reflexed segments scarlet.

Var. Michanxi, later in flowering than the type, and more red in the blooms.

Var. angustifolium, a free-flowering variety of moderate height, with narrow leaves.

Var. Roezli, a dwarf form, with the leaves scattered more or less over the stem, and not in distinct whorls.

Burbank's Hybrid is a free-flowering lily raised by Mr. Luther Burbank, the parentage being L. pardalinum x L. Humboldti. The plants grow 4ft. to 6ft. high, and have orange and yellow or orange and crimson, prettily-spotted, recurving flowers.

L. concolor.

This is a charming little Chinese lily, with slender stems, 12in. to 18in. high, crowned with several upright, starry, scarlet flowers, with dark red spots. A group along the front of a border is pretty, but happier surroundings are a number of bulbs planted 4in. to 5in. deep in a pocket in the rock garden. The soil should be light and sandy, but the position not too dry, as moisture at the roots is very desirable during the growing season—early summer. The variety Coridion has deep yellow flowers, spotted dark red.

L. philadelphicum.

This is another lily, with upright, cup-shaped flowers, generally two to five on a

CATTLEYA GRANIRIS.

Petals and sepals light bronze, suffused with orange, lip purple-crimson. A.M., R.H.S., October 21. C. J. Phillips, Esq., The Glebe, Sevenoaks.

stem, and growing from 1ft. to 2ft. high. The flowers are orange-red, spotted black. A native of North America, L. philadelphicum thrives in a cool, well-drained, peaty soil, and should be planted 4in. deep among dwarf shrubs, above which the flowers may enjoy the sunshine.

L. Grayi.

A native of North Carolina, this lily might very well be described as a small-flowered red L. canadense. The average height is from 2½ft. to 3ft., but in this respect it varies considerably. The small funnel-shaped flowers are dark, rich red, freely spotted with purple. Plant the bulbs 3in. to 4in. deep among peat-loving shrubs, or in a bed consisting largely of flaky leaf-mould.

L. Washingtonianum.

A lovely lily from California that is seldom met with flowering in British gardens. This is to be regretted, for the slender stems, 3ft. or more in height, are very attractive, laden with white flowers tinged with lilac. In the variety purpureum the flowers change with age to a deep purple, the plant also being a better doer. Another variety, rubescens, has plum-coloured blooms. In all three forms the flowers are fragrant, and the petals very much reflexed. Plant the bulbs at least 6in. deep on a partially-shaded border.

L. canadense.

As the name suggests, this is a North American lily. Growing 3ft. to 4ft. or more in height, the tall, slender stems bearing the bell-shaped flowers are very graceful. The colour of the flowers varies considerably, from yellow to orange-red. The typical plant is considered to be the one with orange-yellow flowers, spotted with reddish-black. The golden-yellow form is known as flavum, and an orange-red variety as rubrum. The best position for L. canadense is in a bed of peat-loving shrubs. The bulbs are rhizomatous, and may be planted 4in. to 6in. deep.

L. chalcedonicum.

This is the old scarlet Turk's Cap of the cottage garden. It is, unfortunately, not so often met with in a flourishing condition as formerly. L. chalcedonicum thrives in the usual soil found in a good herbaceous border, and when flowering freely should not be disturbed. Plant the bulbs 3in. to 4in. deep. Growing 2ft. to 3ft. in height, each stem carries from four to eight waxy-scarlet flowers. Several groups of this lily, consisting of eight or ten bulbs, may be made a very effective feature of the herbaceous or mixed border. A. Osborn.

Cleansing Fruit Houses.—The work of pruning and cleansing in fruit houses must now be carried out in all except the late houses. A clean start is absolutely necessary to success, and the work cannot be too carefully performed. Red spider and mealy bug are the worst pests. I do not like extraordinary mixtures of clay, tar, etc., but prefer a soapy insecticide or Gishurst compound. Repeated washings are necessary for these pests, and the cleansing of the vines is not the most difficult part, as mealy bug gets into the wall crevices, trellises, and other places where they are most difficult to dislodge. When all cleansing has been properly performed, a persevering man, with a small brush and some methylated spirits, giving daily attention in the spring when the vines break, and afterwards, will keep all clean.—F. Jordan, Warter Priory Gardens.

VIOLAS, OR TUFTED PANSIES.

The article by Mr. Smith on "Tufted Pansies" in the "G.M." of October 11 puts the case of the viola in a most interesting manner. Without in any way going over the same ground, I wish to supplement his notes with a few of my own. Violas are deservedly popular, and the list given of some of the florists' varieties includes many general favourites.

Leaving these, I want to call attention to some lesser-known violas, which are invaluable for garden decoration. These will be found to stand the drought of summer and the keen frosts of winter much better than the race of florists' varieties. Of their parentage I need only say that in the majority the influence of the hardy Grecian Viola gracilis is fully apparent.

The underground creeping stems, the dwarf close habit, the wonderful profusion of blossom, the greenness of the tufts throughout winter, and the ability to withstand both heat and cold, gives the new race an opportunity to gain a great popularity in English gardens. Not only are they splendid for rock gardening, but also for spring bedding and border planting, and wherever violas or pansies can be used these novelties are certain of success.

Grandeur, a rich dark blue, with just a few pencillings of black, is very noteworthy. The near varieties to this are Undine, a clear soft blue; Gold Eye, a medium blue, with a gold eye; and Superba, a glorious purplish-violet, while the former, named after the writer of these notes, is remarkable for its violet hue and its conspicuous white eye. These are all ideal bedding varieties.

Snowdrift should prove valuable for massing, or as a carpet to bulbous plants. It is white, save for the dark-blue centre blotches, and the most continuous-flowering viola I know. Inspiration, the stock of which is in the hands of a well-known hardy plantsman, provides one of those haunting shades of blue which defy description. Poised upon long, stiff stems, and possessing a golden eye, this glorious little viola should prove a great attraction to the flower lover. The yellows, Golden Wave, Golden Fleece, Aurea, and Marjorie, are each finding a big circle of admirers. The first-named is probably the most fragrant of all hybrid violas, and makes a glowing mass. Golden Fleece is smaller, almost a typical yellow Gracilis, identical in growth and form. Marjorie is a primrose-yellow, gracilis, and one of the daintiest flowers imaginable; while Aurea is a neat dwarf form, with soft refined blossoms of great beauty.

Red Wing, a brilliant ruby-hued miniature viola, gives a fine touch of colouring, and others on the same lines, though somewhat larger, are St. Vincent, Ruby Drift, and the small-flowered Rubella.

Gondolier furnishes a distinct type of dwarf neat habit. This variety carries blossoms of a sulphur shade, deepening to gold at the centre. In Iris and Lady Grace we have two little gems in silvery-mauve and violet. These are delightful, and hold their blososms splendidly, while Elsa, a near companion form, carries smaller blossoms of ruby-purple and palest mauve over a groundwork of dwarf foliage.

Other varieties might readily be noted, but I bring these to the notice of garden lovers in order that they may be more widely utilised. As many of these are readily obtainable from hardy plant specialists, and the few others will probably soon follow them into general cultivation, there is no good reason why some should not be given a trial by viola lovers as a preliminary to larger plantings later.

P. S. Hayward.

AUTUMN-FRUITING RASPBERRIES.

(Concluded from page 827.)

Varieties.

We grow, at the present time, three varieties only, and these serve our purpose well, viz.:—

The Hailsham. — This is a strong grower (five feet) with us, and a most abundant cropper, too. The individual fruits are large, and of a good colour. It makes a fine dish for the dessert. The fruits are round and solid, otherwise firm. Its constitution is somewhat remarkable. I have taken up young suckers in the spring from between the rows with some roots attached, and replanted them; these have grown away and produced a few fruits the same season. It was raised at Hailsham, in Sussex, by a Mr. Dann, and was put into commerce by Mr. William Knight, of the same town, a few years back.

The Alexandra.—This is proving itself to be an excellent variety, and not quite so tall in growth as the preceding. It has also the reputation of being of first-class flavour. The fruits are large, deep-red in colour, and of conical form. It was raised and first distributed by Mr. William Allen, of Gunton Park Gardens.

Merveille Rouge (syn., Belle de Fontenay).—This variety is the dwarfest of the trio, and, in my opinion, it is the best for a limited space or a small garden. It fruits abundantly, though some of the fruits may be small. The colour is dark purple, and somewhat round in shape. It also crops very late in the autumn with us at Gunnersbury.

I have tried the autumnal yellow varieties, but have not found them to be satisfactory. Mr. S. T. Wright, of the R.H.S. Gardens at Wisley, informs me that the best six in the trials there have proved to be Surpasse, Merveille Rouge, Perpetual de Serriere, Everbearing, Feldbrunner, Surprise d'Automne, Surprise Fastolf, and Merveille Rouge.

Further Notes.

In a well-known and well-kept garden, not many miles from Paris, I saw, on one occasion, in October, a very fine crop of a strong-growing variety. This crop was covered over by a temporary shelter, with glass as a lean-to, with the back boarded up. Such a crop would, without doubt, last well into November.

We have now grown these autumn-fruiting raspberries at Gunnersbury for seventeen years, and all that time upon the same plot of ground. In conclusion, I recommend their culture with every confidence, especially in the southern counties of England.

Jas. Hudson, V.M.H.

Gunnersbury House Gardens.

Garden Pests.—An invaluable handbook is "Garden Foes," which gives a descriptive account of the various Pests and Diseases affecting indoor and outdoor crops, and the most up-to-date remedies for their prevention and eradication. The volume is well illustrated, and can be obtained for 2s. 10d., post free, from Gardeners' Magazine Office.

LATE DESSERT PEARS.

There is much diversity of opinion as to the best soil for pears. Some tell us that a light, warm soil, resting on sand or gravel, is essential to fine fruit; others say that a deep, rich loam is preferable; while others point to those fine old trees that are to be found in some of the orchards in the western counties that have attained such dimensions while growing in blue clay. There is not a doubt that both soil and situation have much to do with the quality of fruit and the growth of the trees. Those fine old pear trees in the West are only once removed from the wild type; they are natives, and, therefore, quite distinct from those tender kinds brought from warmer climes. Pears grafted on the quince come into bearing sooner, and ripen their fruit earlier, than those grafted on the pear stock. I have had trees of the same variety growing side by side grafted on the two kinds of stocks, and one would ripen its fruit fully three weeks earlier than the other. Trees growing on a warm, sandy soil produce finer and better-flavoured fruit than those growing on a cold clay.

Gathering.

All late pears should be allowed to hang on the trees as long as possible, as they will then ripen at a much later period, and be of far finer flavour than when gathered before they part freely from the stem. As an instance of this, I have sold such varieties as Beurre Diel, Hacon's Incomparable, Van Mons, Leon Le Clerc, and Doyenne du Comice at from 6s. to 8s. per dozen at Christmas time, whereas had the fruit not been allowed to hang until late it would have ripened before that period, and in all probability not have realised so much money. In some seasons pears ripen very peculiarly, but this is due to the supplies of water they receive during July and August. If the weather during those two months is showery, or wet enough to keep the soil moist, the fruits do not ripen so quickly, and will hang long on the trees. This being so, it is advisable to mulch the trees, and afterwards give them liberal supplies of water to keep the roots moist. If this be done thoroughly those that are classed to ripen in November may be kept good for a month longer, and the later kinds in like proportion.

There is often not sufficient attention paid to gathering the fruit. Not only are some kinds ready to gather sooner than others, but the fruits on the same tree are not all fit to gather at once; this being so, it is advisable to examine the trees two or three times, taking only those that part freely from the shoots. Then again, the rough way some men handle the fruit is sufficient to account for it not keeping sound for any length of time.

I was in an orchard the other day where some men were gathering pears. There were several tons of one variety nearly ripe. These were pulled from the trees and thrown into rough wicker baskets as though they were so many stones; they were then turned out of these baskets into hampers, so that by the time they reached the market half of them would be so bruised as to be almost worthless. One cannot be surprised at their realising not more than £4 per ton, whereas had they been carefully gathered and graded they would, in all probability, have sold for not less than double that figure, as they would have made a fine sample. One cannot be too careful in handling fruit of any kind, more especially that which has to be stored for some time. The fruits should always be gathered when dry, or, if not perfectly so, should be allowed to remain in an airy shed for a time until all moisture has evaporated before being taken to the fruit room.

Fruit Room.

A word or two about the fruit room may not be out of place. I have seen fruit stored in all sorts of places, from damp cellars to heated structures elaborately fitted up, but have never seen it keep so well as in a room of uniform temperature. Such a place need not be a costly affair, but it is essential that it be free from damp, as a superabundance of moisture about the fruit is sure to cause rotting; at the same time a heated structure should be avoided. A thatched building is preferable to one either tiled or slated, and if the thatch be of sufficient thickness it will exclude the frost. If the sides are of wood, that, too, should be covered with thatch to maintain an even temperature. The room should be provided with an inner and outer door, the outer one being closed before the other is opened, in order to prevent a too sudden change of temperature. I have often seen the fruits in fruit rooms as wet as though they had been taken out of water, this being caused by a too sudden change in the temperature. Sometimes, after a spell of cold weather, we have a sudden change, and, forgetful of the harm they are doing, people will put open the ventilators of the fruit room, forgetting that the temperature there is much lower than the outside air. This causes condensation, which it is most difficult to expel except by fire heat, and this is not advisable to use as it has a tendency to extract moisture from the fruits and they mature sooner than required.

Varieties.

In order to assist late pears to attain their full flavour they ought to be taken out of the fruit room to a warmer place for a few days to ripen. By adopting this method the supplies will be considerably prolonged, as it is not necessary to remove more than are needed for a short supply. There are many good-flavoured pears in use during January and onward to March, but as they are not exhibition varieties they are not well known, because they rarely come prominently before the public. These varieties should be known to all gardeners who are called upon to keep up a supply of dessert pears. In Glou Morceau we have a large variety, which, when well grown, has a rich, delicious flavour. When fully ripe the skin is a greenish-yellow on the shaded side, while that exposed to the sun is sometimes covered with russety spots. This variety is particularly valuable as it remains in good condition for some time after it is fully ripe. Le Lecteur is a large variety of recent introduction, with pale yellow or greenish skin. When well grown it is a handsome fruit, and, like the above-named, has soft melting flesh of excellent flavour, especially when grown against a south wall. Huyshe's Victoria, though not a large pear, will grow to rather more than the medium size. The skin, when ripe, is yellowish, though often freckled and veined with russet to such an extent as to almost hide the yellow. This is a first-rate pear of excellent flavour when grown against an east wall and allowed to hang as long as possible. Beurre de Jonghe, a rather long, russety-looking pear, is of first-rate quality when grown on a warm, sandy soil, but should be allowed to hang as long as possible to attain its full flavour, otherwise it is apt to be gritty. Beurre Bachelier is a large pear, and its skin, when ripe, is covered with russety spots. Flesh, soft and melting.

Beurre Sterckmans is pale green on the shaded side, while on the exposed side it is often dull red. It is a very handsome pear, and of first-rate quality. Forelle is one of the most handsome pears grown, and, though not an exhibition variety, is without doubt one of the best-flavoured kinds in cultivation. The skin is smooth, and, on the shaded side, a fine lemon colour, while on the side fully exposed to the sun (when grown on a south wall) it is crimson, often strewn with very dark crimson spots, suggesting a fine-coloured trout, hence its name of trout pear. Unlike many others, this will keep in good condition for some time after it is fully ripe. To obtain good-sized fruits thinning should be done early. Winter Nelis is a grand winter pear of medium size, with a russety skin. It is one that requires very careful handling as the flesh is soft long before the fruits are fully ripe. Easter Beurre when well grown, is highly-flavoured but the skin is so hard that fruits are apt to crack unless the trees are in a flourishing condition. A warm, light soil suits it best.

Jean de Witte is rather below the medium size, having a bright yellow skin on the shaded side, while the exposed side is often covered with russet. Flesh is soft and finely grained; after the stamp of Le Lecteur. The tree is an abundant cropper, even in unfavourable seasons, and must, therefore, be thinned early if we would have the fruit of fair size. Josephine de Malines is a pear of great excellence; skin yellowish on the shaded side, and often tinged with red on the sunny side. Like many other small varieties, this is an abundant cropper, and, therefore, needs to be thinned early, so that the fruits may attain a fair size. Bergamotte d'Esperen is not by any means a pear that attracts, but when well grown, and the fruit properly ripened, it is excellent. The tree is usually a prolific bearer, and often requires severe thinning. Ne Plus Meuris is another small variety that requires to be well known to be thoroughly appreciated. It has a rough russety skin, but the flesh is soft and melting. Olivier de Serres, though not large, the fruit is usually rather above medium size, and has a russety-looking skin. It is highly flavoured, and sweet. Nouvelle Fulvie is large; skin yellow, thickly spotted with russet. This is an excellent late pear, and is usually most prolific. Passe Crassane is a medium-sized well-flavoured variety that is much improved by being grown against a south-west wall in a rich light soil. Beurre Rance is without doubt a fine late pear, and though in some places it will do well in the open, the quality is usually much improved if trees are grown against a wall.

With so long a list of varieties to choose from there should be no difficulty in keeping up a supply of late pears, provided the soil and situation are favourable, and a suitable structure is provided for keeping them in.

H. C. Prinsep.

PEGGING DOWN ROSES.

The pegging-down system of rose culture has much to recommend it for gardens in which it is desired to grow the strong-growing varieties in beds, whether in association with those of dwarf growth or occupying isolated positions in the garden. By no other method can such strong growers as Frau Karl Druschki, Gloire de Dijon, Hugh Dickson, and William Allen Richardson be successfully utilised in the furnishing of beds, and it is surprising the pegging-down system should not have been taken more fully advantage of. The system is the best for both small and large gardens when it is desired to cultivate varieties of robust habit in beds, but it possesses exceptional value for gardens when the area is such as to admit of the arrangement of roses in bold masses.

The pegging-down system differs chiefly from the orthodox method of procedure in the management of dwarf-growing varieties by the utilisation of practically all the strong growths of the previous season for flower-production. At the winter pruning of the varieties of dwarf or moderate growth the shoots of the previous year are cut back to within from three to nine inches of the base, according to their habit. Were the long, stout rods of the strong growers to be cut back in a similar manner they would produce numerous other strong growths, and but few flowers. With a view to obviate an excess of growth, and ensure a plentiful production of flowers, a quite different course of procedure is followed at the winter or, to be more exact, the spring pruning. First of all the old wood that produced flowers in the year previous is removed by cutting it away within a few inches of the base. The next step is to cut the weakly shoots back close to their base, and to shorten the strong, rod-like growths by taking six, nine, or twelve inches off the top. The length taken off is determined by the degree of ripeness of the wood, the object being to remove as much of the rods as is soft, or insufficiently mature, and, therefore, likely to die back early in the season. The pruning having been completed, the rods are brought down to a more or less horizontal position and made secure with the aid of stout pegs, standing from eight to twelve inches above the surface, or pieces of wood of a similar length, and strands of stout raffia or tar-twine.

Thus trained the greater proportion of the buds, if not all, start into growth, and flowers are borne throughout the whole length of the shoots, and produce a surprisingly beautiful effect. If the varieties are perpetual-flowering, and these only should be planted, there will be a continuous succession of flowers throughout the season. New growths will rise during the summer, and these should be allowed to grow unchecked unless they are overcrowded. They may be thinned by the removal of a few of the weakest. At the winter pruning the old wood will be cut away, and the young rods trained horizontally, in accordance with the advice given above.

A few of the best roses for this system of culture are Climbing Lady Ashtown, Frau Karl Druschki, Gloire de Dijon, Gruss an Teplitz, Hugh Dickson, J. B. Clark, Lady Waterlow, Madame Jules Gravereaux, and William Allen Richardson. An illustration is given of the last-named variety, and this is of interest as evidence of the beautiful effects that may be obtained in the garden by means of the pegging-down system. G.

A SUCCESSFUL EXAMPLE OF THE PEGGING DOWN SYSTEM OF ROSE CULTURE AT KEW.
The variety is William Allen Richardson, which produces its rich orange-yellow flowers freely and continuously throughout the summer.

APHIDES ON ROSES.

I have noticed more than ever during the past season how great are the depredations committed by green-fly on roses, especially those of the climbing section. So badly were roses affected that not only was the flower crop ruined but the plants did not make their usual vigorous growth, which is all against satisfactory results next year.

Climbing roses need quite different treatment to the ordinary teas or hybrid teas, because the amount of growth made one season governs the quantity of blossom the next year. In the case of dwarf varieties, the bulk of the shoots are pruned off, and the flower crop is provided by current season's growth.

In a recent leading article in the "G.M." stress was laid upon the way climbing roses were provided with water at their roots, and it was suggested that where watering was efficiently done the plants were not badly attacked by aphides. With this I fully agree.

I cannot arrive at any other conclusion

than this, namely, that the failure on the part of the climbing roses to provide a full crop of flowers during the past season was due mainly to neglect in checking the spread of the aphides early in the year, and so the pest crippled the growth of the plants for the whole season. This year I saw many climbing roses infested with aphides that were sapping the life of the plant, and not a single remedy to check the progress of the fly had been attempted, on the weak plea that there was a bad attack and there was no use troubling further. My experience is that if the climbing roses are thoroughly syringed with an efficient insecticide directly the first aphides are seen, and again as a preventive in ten days' time, they are kept quite clean for a considerable period, growth makes progress, and the flower buds develop fully.

There are many insecticides now available, but the one that I have found most efficient is known as Katakilla, at the rate of two ounces of the powder to three gallons of soft cold water. I dissolve the powder in a little water, and then add the full quantity, keeping the whole well stirred, and applying it with an ordinary fine-nozzled syringe, thoroughly wetting the stems and foliage. This spraying is done in the evening, as then the liquid dries very slowly, and is, as a consequence, more deadly in its effects on the pests.

I give my plants a thorough washing with clean water the following morning, to cleanse the foliage of dead insects. I may add that this preparation leaves no sediment on the leaves. E. Molyneux,

Bishops Waltham.

FRAGRANCE IN THE GARDEN.

Few will quarrel with the assertion that fragrance in the garden is not so well arranged for as in the old days, when various herbs, most of them with fragrant leafage, were considered as essential—as much for their sweetness as their economic value. In common fairness, however, it must be allowed that this matter of fragrance in the garden is again receiving attention: in one direction it finds expression in an outcry against the multiplication of scentless roses, sweet peas, and carnations, and in another direction we find sites in well-ordered gardens devoted to hardy plants that yield sweet perfume through leaves or flowers, but especially through the former.

With his usual originality, Sir Frank Crisp, Bart., has a sun-dial garden, which is also "a garden of sweet scents and savours," at Friar Park, Henley. Here, in quaint box-edged beds and beside paved pathways, old-fashioned herbs are associated with the best of modern fragrant plants. Lavenders, thymes, sages, mints, rue, borage, bergamot, sweet cicely, marjoram, and many another plant that found favour with the housewife and the housekeeper a few generations ago, find a suitable home, and there are artemisias, pinks and carnations, mimuluses and santolinas, woodruff and violets, phlòxes and gum cistus, sweet briars and honeysuckles, and many another herb or shrub to add their charm of form and colour to that of sweetness. The knowledge that some plants and flowers diffuse their fragrance more readily in the evening than at any other time of the day is also made good use of, and should be borne in mind by every planter who walks in the garden at the cool of the evening. Alas! too many gardens now-a-days lack "sweet savour," therefore, at this season of the year, when alterations and new plantings are being carried out, the illustration of the fragrant garden at Friar Park may be left to point its own moral, "with all thy getting, get sweetness." C. H. C.

THE GARDEN OF FRAGRANCE AT FRIAR PARK, HENLEY.

The residence of Sir Frank Crisp, Bart.

PINUS ARMANDI.

In general appearance this Chinese species bears a striking resemblance to the Blue Pine of the Himalaya, Pinus excelsa, and the Hickory Pine of Mexico, P. Ayacahuite. But a close inspection will show that it is quite distinct from either species, both by reason of the curious kink at the base of each leaf, and by its shorter, wider, and blunter cones. Belonging to the five-leaved section of the genus, it promises to become quite as useful for decorative purposes as either of the better-known species, although the largest trees in this country are barely more than eighteen feet high. These are growing in the Arboretum at Kew, and were raised from seeds collected by Professor A. Henry, at Mengtze, in Yunnan, about 1877. They coned for the first time twelve years later, but so far no fertile seeds have been produced.

In its native habitat it attains a height of 60ft., and is described as having smooth, greenish bark. The branchlets are smooth and glabrous, or sparingly clothed when young with small hairs. The leaves are slender, glaucous, and four to six inches long, while the cones also are four to six inches long. W. D.

GOOSEBERRIES.

The gooseberry is one of the hardiest of our cultivated fruits; in fact, it succeeds better, and can be grown in many instances to a higher degree of perfection, in the midlands and the north, than in the warmer southern parts of these isles. The simplicity of culture, together with a prolific habit and usefulness, accounts for its popularity. As dessert fruits, the best-flavoured varieties are greatly appreciated, even by those who can command a supply of the more highly-classed fruits. Gooseberries are valued when preserved, either in a ripe or green state. In their latter condition they are especially useful for tarts and for other cooking purposes, and in this way afford a supply of fresh fruit at a season when there is a scarcity of other kinds.

Situations of Plantations.

It is advisable, owing to the varied effects climate has upon the gooseberry, to be careful in the selection of favourable situations for plantations. In southern districts, especially upon light soils, and in hot, dry seasons, plants placed in very sunny positions suffer considerably, and their crops when ripe are, as regards flavour, of inferior quality. In such cases, therefore, a cool and, if possible, a semi-shaded situation should be found. In northern, and consequently cooler localities, open quarters fully exposed to the sun are perfectly satisfactory.

I well recollect the heavy crops of fine fruit produced at Crimonmogate, Aberdeenshire, upon bushes planted in the most sunny positions, by the sides of the kitchen garden walks, and the excellence of the flavour of such varieties as Red Aston (Warrington), Glenton Green, and Ironmonger. The fact that "the berry" succeeds so well in this, probably one of the coldest parts of Scotland, is a sufficient proof, if proof was wanted, of its hardiness. Cordons of all descriptions, or fan-trained plants, succeed admirably when planted against trellises or walls, and when suitable varieties occupy positions against walls having a northern aspect the fruit can be preserved in good condition until quite late in the season.

Planting.

Light or thin soils are unsuitable, as the gooseberry is shallow-rooting, and readily suffers in dry weather if planted in them. A fairly deep, sound loam is the best soil to plant in, and this should be prepared by first being bastard trenched, and then by having a good dressing of farmyard manure dug into the top spit. Planting is best done at the beginning of November, and in forming bush plantations the rows should run north and south, and the bushes be placed at least 5ft. asunder each way. Cordons when planted in the open should be provided with trellises or fences running north and south, parallel to each other, and six feet apart. In all cases the work should be completed by mulching the surface with half-decayed stable manure.

Pruning and Training.

In order to secure well-formed, prolific bushes, an intelligent and painstaking system of pruning and training must be followed, and though this is a simple matter, it is quite a common thing to find, in this respect, badly-managed plantations. When commencing with newly-planted young bushes, their growths should be cut back to within about eight inches of their base early in February. This will promote the production of an ample supply of young shoots to form the foundations of perfect bushes. In June the surplus growths over and above those selected to remain should be cut away, and careful attention should be given to avoid the common mistake of crowding the bushes with wood; the shoots left should point outwards, and not cross each other. The after treatment will consist in stopping the lateral shoots back in June to about three inches, and in winter cutting them back to two buds, and shortening leading growths to the desired length. Some varieties produce fruit more freely upon young wood than upon spurs, and in pruning this should be borne in mind, while in all cases young wood should be introduced to take the place of declining branches.

Cordons are usually trained vertically, and may consist of one or more stems as desired. Those with five stems, placed at ten inches apart, are of convenient proportions, and even when planted together, as cordons invariably are, their roots are afforded sufficient space to ramify without detrimentally encroaching upon each other. This system of training is very simple, and the pruning of fully-developed plants merely consists in shortening the lateral growths in summer, and spurring them back in winter. Upright-growing varieties are the most suitable for this mode of culture.

Varieties.

Only those who have seen gooseberries in the plantations of specialists, or have seen such collections of varieties as those that have from time to time been staged at Vincent Square, can realise the large number of varieties there are under cultivation, and few of us have had cultural experience of more than a very small percentage of them.

For ordinary purposes a comparatively small selection suffices, and the following are twelve good useful gooseberries: Red Warrington, Glenton Green, Whinham's Industry, Whitesmith, Keepsake, Crown Bob, Langley Beauty, Langley Gage, Ironmonger, Red Champagne, Green Gascoigne, and Leveller.

T. COOMBER.

The Hendre Gardens.

VERONICA SPECIOSA.

Visitors to the Royal Horticultural Hall during the autumn months have usually a good opportunity of observing the value of the different varieties of Veronica speciosa available for greenhouse decoration at this season. Messrs. H. B. May and Sons have for many years made a speciality of the culture of these beautiful flowering shrubs, and have brought together an extensive collection, whose flowers range from white to deep crimson and purple. The plants exhibited are neat little bushes, in the regulation 48-size cut, or one five inches in diameter. A few standards are, however, grown, as there is at the present time a considerable demand for standards of all kinds of different subjects.

If the dwarf plants are shifted on into larger pots good-sized bushes may be had if desired. Apart from the beauty of their blossoms, a valuable feature connected with these veronicas is that they are of easy propagation and culture, as cuttings of the young, growing shoots strike root without any difficulty if kept in a close frame, and the young plants so obtained will grow away freely afterwards. They should be stopped once or twice in order to ensure bushy specimens. In the milder parts of the country, especially in proximity to the sea, these veronicas are quite hardy, and they then form a beautiful race of evergreen flowering shrubs.

W. T.

SHRUBS AND TREES FOR SEASIDE GARDENS.

A gardener who has followed his profession in inland districts would be likely to make mistakes if he moved to a seaside garden and commenced the work of planting trees and shrubs there. Even persons very experienced in the matter of seaside gardens often err. Subjects that thrive in inland districts would, in many instances, soon become sorry-looking things in a garden exposed to storms from sea, accompanied, as they often are, by salt spray.

I have seen the young shoots of all hedges gated sorts in the inner lines; berberis in variety, the tree box, veronicas, and sweet bay and tamarisk.

The following trees are suitable for forming a high shelter: The silver fir, Thujopsis dolobrata; evergreen oak, sycamore, the Lombardy and white poplars, elm, elder, laburnum, Cupressus macrocarpa lutea, and the Mountain Ash. Where a high, thick shelter is required, a judicious selection of trees and shrubs must be made. It is a mistake to plant too closely, as strength of individual tree or shrub cannot thus be and trees, that were directly exposed, for a distance of many miles along the coast, and for nearly a mile inland, quite browned and shrivelled up, like the leaves of tea ready for use, after an exceptionally severe storm from the sea, and such storms frequently occur. Some of the pines were not much affected.

Trees and shrubs for shelter must be the first consideration on the part of the gardener. Nearly all used will, in time, become seared on the seaward side; but this cannot be helped, and it must be endured for the sake of having other subjects inside preserved in good condition. For a low shelter the following shrubs may be planted, namely: Evergreen privet; Aucuba japonica—this shrub does well in a heavy soil and in draughty places; escallonias; the Common Holly on the extreme boundary, and the broad-leaved and varie- obtained. If each one has ample room to develop in, a substantial wind-break will result.

The soil, even if it be of a very sandy nature, should be rather deeply trenched. Furthermore, plenty of rotted manure should be put in at the time of planting. It may be thought by some persons that a rich rooting medium would cause a too luxuriant growth, and that the tender shoots so made would suffer from the strong gales. A very rich rooting medium is not desirable certainly, but a really good one is needed. When the trees and shrubs are planted in poor soil, few roots are made, and then they are soon blown over, and become permanently one-sided. Good soil is soon filled with healthy roots, and these roots support the tree very firmly, the lower branches grow strongly, and all this conduces to the effectiveness of the shelter necessary for the protection of the choice subjects in the garden.

Some very choice shrubs and flowering trees may be grown near the seaside, where it is possible to protect them to a great extent from strong winds. I only need mention the lovely Choisya ternata, with its fragrant white flowers.

Many years ago I had some valuable experience in a garden overlooking Morecambe Bay. A very long hedge of laurestinus, growing above a low stone wall, was unsatisfactory. Immediately in front of it we fixed a band of half-inch wire-netting. In a very short time this simple wind-break proved most effective, the plants made rapid growth, and the blanks in the hedge soon filled up.

GEO. GARNER.

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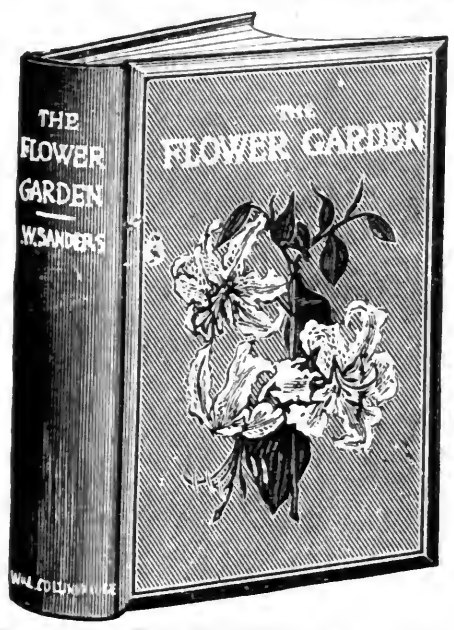

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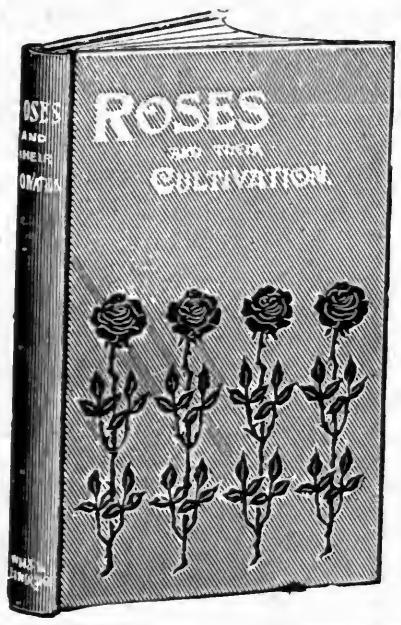

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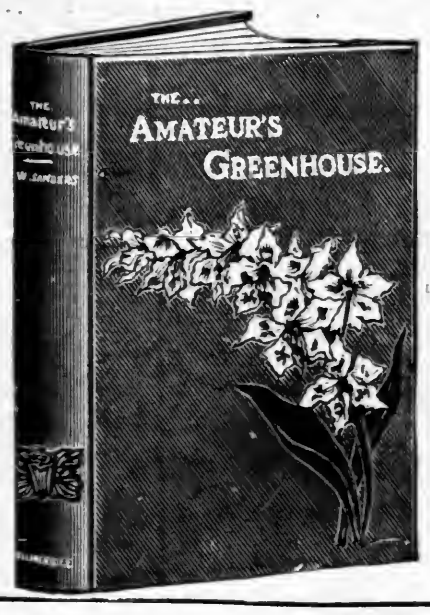

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WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEASONABLE NOTES.—In the neighbourhood of London and other large towns, where fogs are so detrimental to plant life in general, I have found that the only means of minimising the disastrous effects of such atmospheric conditions is to keep the plants and the atmosphere as dry as possible, and allow the temperature to fall a few degrees below the usual figure. All ventilators and doors should be kept closed during fog, and everything, such as covering any opening at the base of the door with a wet mat, and packing loose joints in woodwork, etc., should be done to keep the fog out and minimise its effects. It will generally be found that the flowers show little injury until the fogs have lifted and brighter conditions prevail. It is also curious that cut flowers in use for house decorations do not suffer to the same extent as those on the plants, especially so where the flowers have been cut a few days before the fogs began. No orchids withstand the injurious effects of fog more succesfully than cypripediums.

THE ROOF GLASS.—In all foggy and smoky areas there is a considerable deposit on the glass roof during winter, and it is desirable that this obstruction of light should be regularly washed away.

TEMPERATURE AND WATERING. — With the rapid shortening of the days the temperature in practically all the divisions may be lowered to the winter reading. With favourable conditions and a clear outside atmosphere, there will be considerable fluctuation during the middle of the day, but this may be counteracted by a discreet use of the lower ventilators. A slight warmth in the hot-water pipes is desirable, so that the air admitted may become warmed before reaching the plants. The water in the rain-water tanks, after heavy rains or sleet showers, will be found considerably colder than the temperature of the house. It is desirable, therefore, before watering to warm the water a degree or two higher than the reading in the house. This may be considered a fad, but I am convinced that many of the more tender orchids suffer very considerably from the use of cold water.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

IXORAS.—Plants that have flowered may, from now until required for starting next season, be kept in a light position in the intermediate house, first removing all flower spikes and any weakly or superfluous growths, so that the remainder may be thoroughly ripened. Young plants from cuttings inserted last spring will be carrying from three to five good flower trusses each; keep them on the shelf or in a fairly dry position near the glass, and, if necessary, carefully sponge the foliage.

ACOKANTHERA SPECTABILIS. — This stove flowering plant has much the appearance of an ixora. Its flowers, appearing in spring and early summer, are white, beautifully scented, produced in profusion on well-grown plants. It may be propagated by means of cuttings of the young wood obtained after flowering, or by sowing seeds in early spring. A most suitable compost consists of two parts loam, one each leaf-mould and peat, and a fair addition of sand. Having nearly completed their growths, the plants may be kept at the cool end of the stove where they will not require much water during the winter months. Young plants should be kept growing in a warm position.

BOUGAINVILLEAS.—By this time bougainvilleas should be in a fairly well ripened condition, and may be rested in a warm greenhouse until starting time in spring. The same remarks will apply to Clerodendron Thomsonæ.

CALLICARPA PURPUREA.—This will now be set with berries which are fast assuming their purple shade. It is very useful as a decorative subject, grown either in pots or baskets. Attention with regard to staking and tying will be necessary to ensure a shapely appearance. Every care should be taken to keep the plants in good condition as long as possible, water being supplied with great care.

STORING SOIL, ETC.—With the approach of winter potting operations have practically ceased for this year. To ensure a supply of compost in good condition early in the New Year it will be well to place in the dry a quantity of loam which has been cut and stacked out of doors during the past summer. Clean oak and beech leaves gathered last year will now be in the form of leaf-mould, and should be brought under cover. —H. PRIME, Hatfield Gardens.

FRUITS UNDER GLASS.

PINEAPPLES.—The weather of late has kept mild and open, and late-fruiting plants have been materially helped by the sunshine, the atmosphere being kept moist by the use of the syringe and damping down. The earliest stock plants intended to make a little growth before they throw up may be kept more freely supplied with atmospheric moisture by damping the walls, etc. Rest must, however, be secured by allowing the temperature to fall a little, according to the weather. A general reduction all round in heat and moisture will now be necessary. Provided the tan, or leaves, are mounded up round the pots to keep the roots equally moist, these plants will require little or no water, but excessive drought must be guarded against; 60 degrees at night and 70 degrees by day, with 70 to 75 degrees as a fair bottom heat, will keep everything safe at this season.

LATE MUSCAT GRAPES.—These will now be fully ripe and well coloured, and care must be taken that they are not overdone with fire-heat, neither must they be allowed to suffer from damp. A gentle warmth in the pipes, with a moderate circulation of air on fine days, will generally keep the berries fresh and plump. A temperature of about 50 degrees at night will be suitable; but much depends upon the structures and the surroundings.

LATER GRAPES.—Keep the pipes in the late houses sufficiently warm to maintain a steady circulation of fresh air, and at all times avoid sudden falls of temperature. If watering is necessary, choose a fine bright morning, with fair warmth in the pipes, and a good circulation of free air. Thin-skinned grapes will now keep quite as well, and possibly better, in the grape room than upon the vines, and by clearing the houses the vines are given a rest before being pruned. If the grape room has not been cleansed, no time should be lost in getting it put in order by lime-washing, and otherwise making it sweet and clean.

STARTING VINES.—Such varieties as Lady Downes keep so well that hard forcing is now rarely needed, and the best method of procuring very early supplies of grapes without weakening the permanent vines is by the use of pot vines, provided these are ripe and well rooted. Successful forcing depends more upon the preparation of the vines than upon any detailed operations afterwards. Pot vines that are well rooted, and that have had a good rest, may be started this month with every chance of success. Having been shortened back some weeks ago to their proper length, there should be no danger of bleeding; but to make sure, a touch of styptic should be given. Where they can be plunged in a bed of leaves with a little short horse litter added, with a bottom-heat of 70 to 75 degrees, so much the better. Tepid water also plays an important part at this season. If the buds are prominent and likely to respond to mild treatment the temperature may range from 48 to 53 degrees at first, with the usual rise during day. Permanent vines with inside borders answer to similar treatment, but the roots must be well moistened with water at a temperature of about 85 degrees when started.—F. JORDAN, Warter Priory Gardens.

THE FLOWER GARDEN.

MICHAELMAS DAISIES.—Among autumn-flowering plants Michaelmas daisies have pre-eminence for their free-flowering and decorative qualities, and their diversity of habit makes them a very interesting group, which is being added to annually by new varieties of merit. Perhaps the greatest break away from the ordinary character was the raising of a variety with flowers of double form, named Beauty of Colwall; but, unfortunately, it has this season been somewhat disappointing, showing a tendency to come single. The Michaelmas daisy is one of the most long-suffering of plants, and also one which responds most readily to good cultivation. It is used in various ways, and is very adaptable. Here good clumps of the Amellus varieties, placed towards the front of the border, are very effective, and many of the Novi-Belgii varieties afford us splendid subjects for the back, and of these the variety Climax is one of the best. The other types are no less attractive than those mentioned, and should be represented in all borders where an autumn display is desired. The stronger-growing varieties are often used successfully in the semi-wild garden, but perhaps under no conditions are they seen to a better advantage than when a good collection has a site to itself. But, in whatever manner they are used, the cultural requirements amount practically to the same. Some growers adopt the method of rooting young plants in the spring, and planting them out singly, two to three feet apart each way. The practice is a good one when well developed sprays are required for exhibition and other purposes, but, as a general rule, they are grown in clumps. With the exception of some of the Amellus type, most varieties spread freely and soon become overcrowded; to avoid this I advocate lifting the clumps at least every second season, and reducing them proportionally to the vigour of the variety before replanting. The present time is most suitable for undertaking such work and for the opportunity it offers of enabling the ground to be deeply dug and manured.

CHRYSANTHEMUMS.—This season has been an exceptional one for outdoor chrysanthemums. As the plants pass out of flower cut back the tops to within a foot of the ground, and afterwards lift the stools and place them closely together in a cold frame, covering the roots with leaf-soil; they are then safe from all risk of loss through the winter, as in some districts none but the hardiest varieties can be relied on to stand in the open ground. This procedure also ensures an abundance of cuttings for propagating early in the New Year.

PLANTING.—Every effort should be made to complete all planting connected with spring bedding by the middle of the month, and it is always advisable at this season, when we expect but few drying days, to plant up the ground directly it has been prepared, as then the soil is in a better working condition than if left to get wet again before planting. The same remarks apply to planting bulbs, as, under natural conditions, their roots would at this season be very active, and this convinces us of the importance of bringing the work to a finish as early as possible.—T. B. FIELD, Wych Cross Place Gardens.

EXHIBITIONS AND MEETINGS.

Southampton.

OCTOBER 28 and 29.

The annual autumn show, held in the Coliseum, was a great success, and though the entries were fewer than in some years the exhibits were of average quality. Japanese and single-flowered varieties were at their best, and trade exhibits were numerous and interesting.

PLANTS.

For five plants suitable for conservatory decoration, distinct, each to carry not less than five blooms, two competed, and Mr. F. G. Bealing, The Nurseries, Bassett, Southampton, was easily first with plants more remarkable for the good quality of the flowers than their number; varieties like Frances Joliffe, Mrs. R. Luxford, Mrs. Miller, and F. S. Vallis, each carried six to eight specimen blooms and good foliage; Mr. C. Hosey, gardener to J. C. E. D'Esterre, Esq., Southampton, second.

Single-flowered varieties were not numerous; Mr. Allan Cooper, 115, Hill Lane, Southampton, was first with really good plants; and Mr. Bealing second. Naturally-grown bush plants were a fine feature of the show. Mr. Hosey, with 4-feet diameter plants of Yellow Cap, White Cap, and Pink Cap, grandly flowered, came first; Mr. Bealing third; second prize withheld.

Amateurs staged really fine plants of Japanese varieties, and Mr. Allan H. Hill, London Road, Southampton, was a creditable first prize-winner.

CUT BLOOMS.

The leading class was for eight Japanese, distinct, three blooms of each, in vases. Four competed, and Mr. W. Baxter, gardener to Captain Dalgety, Lockerly Hall, Romsey, was an easy first, with full, richly-coloured, fresh examples of Master James, Lady Talbot, F. S. Vallis, W. Turner, D. B. Crane, Eclipse, Frances Joliffe, and Mrs. T. Stevenson. Mr. Bealing was second with smaller flowers; and Mr. Hosey third.

For any two varieties other than white, three of each, four competed, and Mr. Baxter led with grandly-developed blooms of F. S. Vallis and Mrs. H. Luxford; Messrs. Bealing and Hosey followed in the order here given. For two varieties of any white-flowered Japanese, three blooms of each, there were but three entrants. Mr. Hosey won the premier place with W. Turner and Mrs. Marsham; Mr. Bealing second.

A class was provided for six blooms of two incurved, and two of any other decorative variety, distinct, excepting singles, in vases. Mr. Bealing won easily with handsome, well-arranged blooms of Mrs. H. Luxford, H. W. Thorpe, and Clara Wells; Mr. T. Hall, gardener to Ellen Lady Swaythling, South Stoneham House, second. For four vases of decorative varieties, distinct, not less than three blooms to a spray, singles excluded, Mr. G. Ellwood, gardener to W. H. Myers, Esq., Swanmore House, Bishop's Waltham, was easily first, with huge sheaves of Kathleen Thompson, Yellow Source d'Or, Caprice du Printemps, and Mrs Marsham; Mr. Bealing second.

Single varieties disbudded and not disbudded were numerous and good. In the former section Mr. Bealing had the best set of six varieties amongst four entrants, with grandly-developed specimens of Mensa, Yellow Pagram, J. B. Lowe, G. Trowers, Merstham Gem, and Ellen Neville; Mr. C. Hooney, gardener to J. T. Rayner, Esq., Boscombe, a good second. Mr. Hall claimed the premier award in the latter division with well-developed blooms of such desirable varieties as Mary Richardson and Ceddie Mason. Messrs. Bealing and Cooper second and third in the order given.

Amateurs made a fine display. Mr. A. H. Hill won for twelve Japanese, in four varieties, and his King George, Rose Pockett, and J. H. Silsbury were very good.

In the open class for twenty-four Japanese, on boards, not less than sixteen varieties, or more than two of any one variety, there were but three entries, Mr. Baxter being easily first with almost perfect blooms of F. S. Vallis, Eclipse, F. Jolliffe, Mrs. R. Luxford, Lady Talbot, and Master James; Mr. Bealing second with much smaller specimens; Mr. Hall third. Twelve Japanese, distinct, were only shown by two exhibitors; Mr. Hosey first; Mr. A. F. Tofield, Holmesdale, Chandlers Ford, second. Twelve incurved varieties, distinct, were poorly shown in the open classes, but in the amateurs' division they were of a superior order. Mr. A. H. Hill staged a remarkable dozen, such varieties as Romance, C. H. Curtis, W. J. Higgs, Emblème Poitevine, Clara Wells, and C. E. Harrison being noticeable as the best in the first prize stand; Mr. Tofield second with less refined blooms.

The premier award for the best incurved bloom in the show was granted to a huge specimen of Miss Cora Stoop. The premier Japanese bloom in the open classes was a grandly-developed specimen of F. S. Vallis in Mr. Baxter's stand. Mr. Tofield secured a like award in the amateur section with W. Turner.

Tables of cut chrysanthemums, with autumn foliage, were interesting, Mrs. Bealing winning with bronze flowers and suitable foliage.

Baskets of autumn foliage, berries, etc., were attractive, and Mrs. Ladhams, Shirley, won the premier position with Oak, Berberis, Guelder Rose, etc., all harmoniously arranged.

FRUITS AND VEGETABLES.

Fruits were not numerous, but of good quality. For two bunches of black grapes, Mr. G. Ellwood led with Mrs. Pince; Mr. Hall following with the same variety. In the class for Alicante, Mr. G. Ellwood again secured the leading position, as he did for one bunch of any black variety. Mr. Baxter showed the best two bunches of white grapes, handsome examples of Muscat of Alexandria; Mr. Ellwood following with the same variety.

For four varieties of dessert apples, the Locksheath Nursery Company, Locksheath, were first with handsome examples of Cox's Orange Pippin, Gravenstein, Allington Pippin, and Cornish Aromatic; Mr. Ellwood second. Mr. Hall won for four dishes of kitchen varieties with huge specimens of Peasgood's Nonsuch, Warner's King, and Mère de Ménage; Mr. Ellwood second.

Vegetables were a strong feature. Messrs. Toogood and Sons offered prizes for six dishes, distinct. Ten competed, and Mr. Ellwood was easily first with grandly developed leeks, celery, onions, tomatoes, and potatoes; Mr. H. Keep, Aldermaston, Reading, second. In a stiff competition Mr. Ellwood also won first place in the classes provided by Messrs. Sutton and Sons and Messrs. Carter and Co., with similar produce.

NON-COMPETITIVE.

Trade exhibits were numerous. Messrs. Sutton and Sons, Reading, staged eighty dishes of high-class vegetables (Gold Medal). Messrs. Toogood and Sons, Southampton, also displayed vegetables of a high-class character (Gold Medal). Messrs. Rogers and Sons, Bassett Nurseries, Southampton, had an attractive collection of roses and apples (Gold Medal). Mr. E. Wills, Winchester Road Nurseries, Southampton, had a remarkable exhibit of floral designs, along with a choice assortment of well-grown market plants (Gold Medal).

Messrs. W. Wells and Co., Merstham, Surrey, displayed chrysanthemums of a high order of merit, and conspicuous in this group was the new "Daily Mail" variety, a yellow Japanese; single-flowered varieties also were well represented (Gold Medal). Mr. E. J. Wootton, Fair Oak, Eastleigh, had an interesting collection of carnations and violets (Silver Medal). Mr. C. Dymott, Freemantle Nurseries, Southampton, arranged an attractive group of well-grown dwarf chrysanthemums (Silver-gilt Medal). Messrs. Jarman and Co., Chard, had dahlias, roses, and apples; and Messrs. B. Ladhams and Sons, Shirley, Southampton, arranged an attractive exhibit of herbaceous plants, alpines, roses, etc.

Bournemouth.

OCTOBER 28 and 29.

On the above dates the Bournemouth Horticultural Society held its annual autumn exhibition in the Westover Skating Rink, one of the largest halls in the country, and this was well filled with magnificent exhibits and formed an ideal place for such a display. The groups and cut blooms, the fruit (especially the grapes), and vegetables in the competitive section, and the groups shown by Messrs. G. Watts and Sons, Lim., Messrs. John Waterer and Sons, Messrs. Stuart Low and Co., and Messrs. J. Carter and Co., of Raynes Park, in the non-competitive section, were the outstanding features of the show.

GROUPS.

In the class for a group of miscellaneous plants and cut flowers, Mr. Usher, gardener to Sir Randolph Baker, Bart., Ranston, Blandford, was the winner. Very fine crotons with some orchids and palms were used to great advantage, but the poinsettias at the crown rather hid the palm, and gave a heavy appearance. Messrs. G. Watts and Sons, Lim., Palace Nurseries, Bournemouth, were second with a lovely group, in which every plant was neatly arranged. Mr. J. Stevenson, Wimborne, won third position with a charming group, in which autumn tints blended harmoniously. The challenge cup also went to Mr. Usher. Mr. Pearce, gardener to Mrs. Ormond, Bournemouth, won first prize and cup in the class for a group of Japanese and single-flowered chrysanthemums.

CUT BLOOMS.

Mr. J. H. Tooley, gardener to Mr. Andrews, Winchcombe, won the first prize of £5 with a lovely stand of Japanese cut blooms; Master James, Queen Mary, His Majesty, Alice Lemon, Francis Jolliffe, Kara Dow, Lady Talbot, and Mrs. Lopes were the best flowers—a very even stand of clear colours. The second place was secured by Mr. Usher, who had Bob Pulling, F. S. Vallis, Mrs. A. E. Roope, Mr. Turner, and D. B. Crane in grand condition. Mr. B. Dacre, gardener to Mr. W. Dickinson, Taunton, was a close third, and Pockett's Crimson and Master James were fine blooms in this stand.

In the class for twelve Japanese incurved blooms, Mr. Usher was the winner, and he had fine examples of W. Turner, E. Davis, H. E. Converse, Mrs. R. Pulling (almost green), and Mrs. A. E. Roope; second and third honours went to Mr. Dacre and Mr. Tooley in the order named.

The blooms in vases made an imposing display. For nine Japanese, distinct varieties, three blooms in each vase, Mr. H. Woollman, Shirley, Birmingham, was well first; he had Alice Lemon, C. H. Gotty (grand), Mrs. A. T. Miller, Lady Crisp, Miss Gladys Herbert, Thos. Lunt, Lady Talbot, Kara Dow, and Mrs. Lloyd Wigg, in splendid condition. Mr. J. Stevenson was a good second, and third honours went to Mr. Tooley. In the class for two vases, nine blooms in each, two varieties, Mr. E. G. Cox, gardener to Mrs.

Duberley, Bournemouth, was first, and won the handsome cup which was offered in this class. Mr. Kitcher, gardener to Major Wyndham Pain, Christchurch, was placed second.

Mr. Galpin, gardener to Mrs. Telfer, had the best six vases, distinct, three blooms in a vase. He also won in the class for one vase of Japanese, yellow; Mr. Cox winning in the other class for six Japanese, white. Mr. Honey, gardener to Mr. J. G. Rayner, had a grand lot of singles, winning in the class for six vases; Mr. Barge, gardener to the Rev. C. H. Burrows, being successful in another class for singles.

FRUIT AND VEGETABLES.

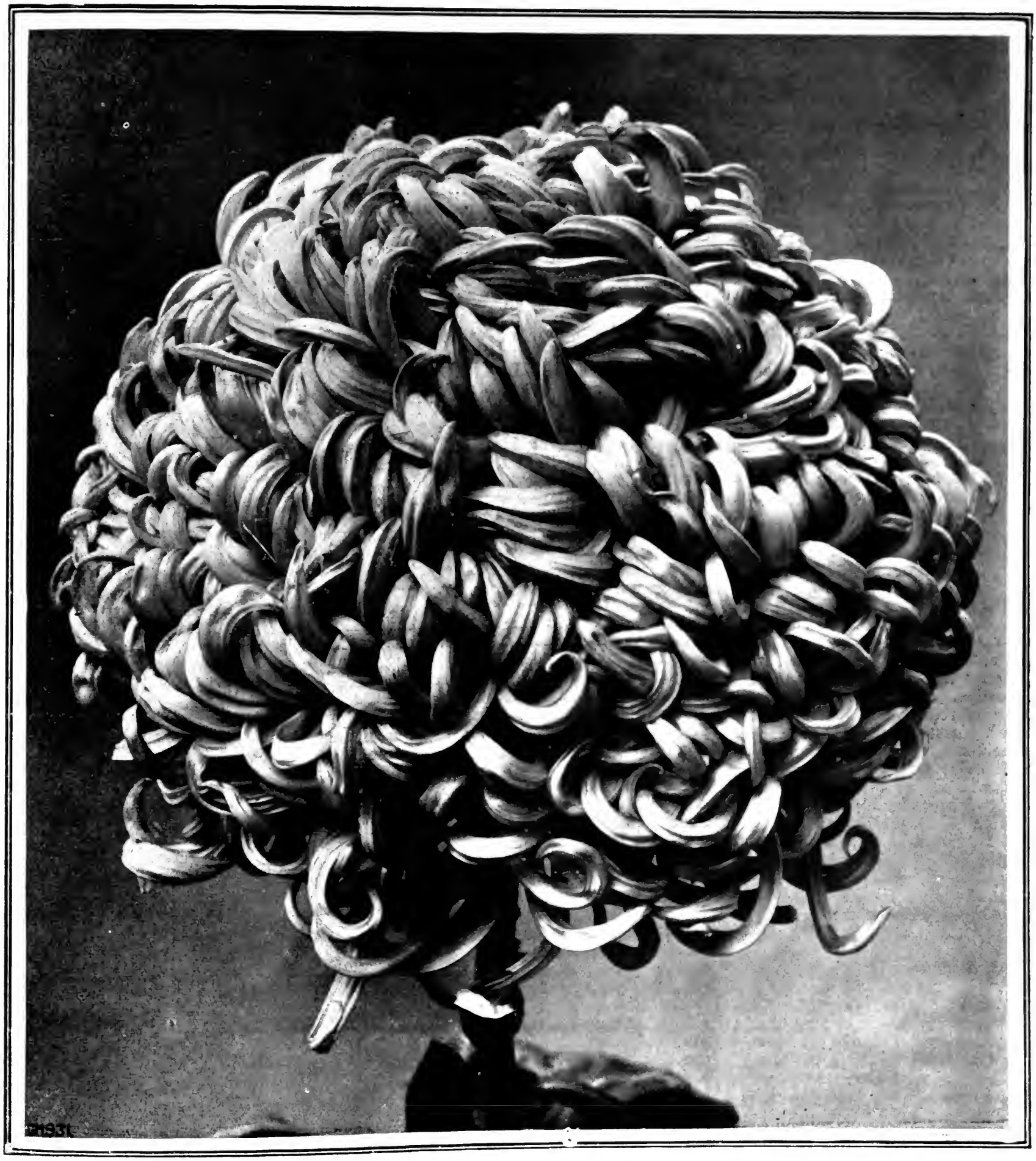
Forty-five bunches of grapes were staged, the quality of the Muscats being very high. Mr. Hall, gardener to Major Chichester, Romsey; Mr. Hill, gardener to Mrs. Banks, Wimborne; Mr. Tooley, and Mr. Barrett, gardener to Mr. H. May, Bournemouth, were the principal winners. Messrs. Copp, Dacre, Hill, Cape, and Usher were the chief prize-winners in the apple and pear classes. The last-named won in the classes for collections of vegetables, the prizes being offered by Messrs. Sutton and Sons, Messrs. Webb and Sons, and Messrs. Toogood and Sons.

Royal Horticultural Society.

Despite the fog that hugged London like a wet blanket on Tuesday morning last, there was another capital show at the Royal Horticultural Hall, and, as the day wore on and the sun dispersed the fog, the attendance became so large as to render an inspection of the exhibits difficult. Chrysanthemums and orchids, vegetables and fruits were the outstanding features, but dahlias were still in evidence, and carnations were excellent.

CHRYSANTHEMUMS.

Chrysanthemums were a great feature of



CHRYSANTHEMUM DAILY MAIL.

Colour soft yellow. F.C.C., N.C.S., October 27. A.M., R.H.S., November 4. Messrs. W. Wells and Co.

OTHER FLOWERS AND PLANTS.

Zonal pelargoniums made a brilliant display. Mr. Heath, gardener to Mr. G. G. Russell, won with a grandly-grown collection, and he now has eight successive wins in this class, but he was closely followed by Mr. Webb, gardener to Doctor Ramsay, Mr. Weaver being third.

Mr. Short, gardener to Mrs. Watkins, Parkstone, won the cup offered in the class for a group of begonias and other winter-flowering plants.

NON-COMPETITIVE.

Gold Medals.—Messrs. G. Watts and Sons, for hardy plants, chrysanthemums, and floral designs; Messrs. Stuart Low and Co., Enfield, for orchids and carnations; Messrs. John Waterer and Sons, Bagshot, for hardy plants, shrubs, and climbers; Messrs. James Carter and Co., Raynes Park, for vegetables.

Silver Medals.—Mr. J. J. Kettle, Corfe Mullen, for violets; Mr. R. Chamberlain, for floral designs; and Messrs. Toogood and Sons, Southampton, for vegetables.

the display. A large sloping bank just inside the entrance doors, set up by Mesrs. Jas. Veitch and Sons, Chelsea, was a great attraction. It consisted wholly of pot plants, and chiefly of dwarf, bushy specimens in 48-sized pots, each carrying from a dozen to a score of good-sized blooms—just the stuff for home or conservatory decoration. Caprice du Printemps and its varietal forms, known for the sake of brevity as Red Cap, Purple Cap, White Cap, and Yellow Cap, were those most in evidence, but Kathleen Thompson, Joan

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Horton Park, Bradford. **H. SPENCER**, Hon. Sec.

THE HULL AND EAST RIDING CHRYSANTHEMUM SOCIETY.

The 22nd Show of the above Society will be held in THE CITY HALL, HULL, on WEDNESDAY and THURSDAY, November 19th and 20th.

£200 PRIZES; entries close November 12th.

Send for Schedules to—

H. HARLAND, Hon. Sec.,
Manor Street, Hull.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

Edwards, Primrose Girl, and Master Rex were equally good; at the back were fine big blooms of Mrs. H. J. Jones, Mrs. A. T. Miller, and other Japanese varieties. In another part of the hall the Chelsea firm presented a large group of such fine winter-flowering begonias as Agatha, Winter Cheer, Emita (very brilliant), Winter Perfection, Fascination, Mrs. Heal, Exquisite, Optima (very bright), and Elatior.

A great feature of the meeting was the "Jones' Avenue" of chrysanthemums. Messrs. H. J. Jones, Ryecroft, Lewisham, filled both sides of one long gangway, and were deservedly awarded a gold medal for an unique and glorious display. Against a white paper background, Mr. Jones arranged splendid stands of fine flowers of high-class Japanese varieties, with low bowls of single and decorative varieties in the foreground. Autumn foliage was associated with the blooms. A few of the outstanding large-flowered sorts on view were Bob Pulling, the biggest flower; Mrs. R. C. Pulling, Mr. H. J. Jones, Mrs. Howard Kinsey, Mrs. E. Tickle, Mrs. F. W. Smith, Mary Hollert, Jones Stratton, His Majesty, Elsie Davis, J. Surrey, and Lord Airlie; the best singles were Hector Menzies, Mrs. Harry Wood, Mrs. Herbert Weller, Miss Dorothy Weedon, Florrie King, and Arthur. A most comprehensive exhibit, including representatives of all sections from the tiniest pompons to the biggest Japanese varieties.

The Messrs. Price and Fyfe, Grove Park Nursery, Lee, put up a very bright lot of chrysanthemums, associating the flowers pleasingly with autumn-tinted foliage. Messrs. Whitelegg and Page, Chislehurst, presented an imposing exhibit of single and decorative chrysanthemums, and set up bold masses of Mrs. Leonard Harrison, Miss M. Bower, F. Andrews, Master Arthur Chapman, Cannell's Crimson, and other fine single varieties.

Messrs. W. J. Godfrey and Son, Exmouth, displayed chrysanthemums, and made a feature of their single varieties Devonshire Lass, pink; Miss Margaret Gidley, orange-buff; Mollie Godfrey, deep rose; and Excelsior, orange. Messrs. Reamsbotham and Co., Geashill, King's Co., Ireland, showed pompon and decorative chrysanthemums. Messrs. W. Wells and Co. made a bold display of chrysanthemums, and secured awards of merit for The Daily Mail and Madame Theresa Morel, Japanese varieties; Golden Mensa, a fine yellow single; and for the vivid scarlet perpetual carnation named Champion.

HARDY PLANTS AND DAHLIAS.

Messrs. J. Cheal and Sons, Crawley, brought up an interesting collection of cut sprays of ornamental trees and shrubs, selected chiefly for their autumn effects; acers, azaleas, rhus, thorns, spiræas, plums, and beeches were well represented, while veronicas, ceanothuses, heaths, and Daboccia polifolia were flowering subjects; a really good display of dahlias, including the pink Crawley Star, was remarkable for such a late date. Messrs. Pipers, Bayswater and Barnes, filled a corner of the hall with pæony-flowered dahlias set up boldly on tall stands; the flowers showed the effects of the weather, but were nevertheless remarkable for November 4, King Leopold, Ryton Roy, Romolo Piazzani, Cæsar, and Geisha being especially fresh and clean.

The Wargrave Hardy Plant Farm, Lim., The Arcade, Liverpool Street, presented a little rock garden, furnished with diminutive conifers and colonies of Mazus rugosus, Linaria cymbalaria globosa, Plumbago Larpentæ, Polygonum vaccinifolium, P. capitatum, and the white-berried Margyricarpus setosus. Mr. G. Reuthe Keston, had many interesting hardy plants on view, notably Aster Tradescanti, Desfontainia spinosa, autumn crocuses, colchicums, Nerine flexuosa, alba, N. Mrs. Gunther, and Schizostylis coccinea.

Messrs. R. Wallace and Co., Colchester, showed fruiting branches of Decaisnea Forgeti, with their long, bean-like, fleshy, bright purple fruits; and also submitted Iris Vartani White Pearl (A.M.), a very beautiful dwarf iris. Messrs. Barrie and Brown, King William Street, London Bridge, showed berried shrubs, chief interest centring in the pernettyas and Gaultheria purcumbens. Mr. Du Cane Godman, South Lodge, Horsham, exhibited Kniphofia multiflora, a white, late-flowering species referred to elsewhere in this issue.

Mr. Clarence Elliott, Stevenage, showed small conifers suitable for the rock garden and colonies of saxifrages, sedums, plumbago, and gentians. Messrs. Thos. S. Ware contributed a quite brilliant lot of dahlias, Schizostylis coccinea, Kniphofia Modesta, a slender-spiked, white-flowered species, and selections of alpines. Messrs. Thompson and Charman, Adelphi, W.C., presented alpine plants in great variety.

Mr. G. Prince, Longworth, was the only exhibitor of roses, and his little group was greatly admired, as the flowers were both fresh and fragrant.

GREENHOUSE PLANTS AND CARNATIONS.

Messrs. W. Cutbush and Son, Highgate, showed their carnations on a table, and, in addition to well-known sorts, set up the bright purple Madame Barrain, the red-flaked Mrs. Tatten, Mrs. W. Aster, buff and scarlet, and Mrs. L. D. Fullerton, heliotrope and red. Winter-flowering begonias from the same firm filled a long table. Heaths, solanums, dwarf, bushy chrysanthemums in small pots, winter-flowering begonias, the lovely Selaginellas cæsia, and ferns made up an interesting display from Messrs. H. B. May and Sons, Edmonton.

Mr. S. Mortimer, Farnham, exhibited carnations and a batch of the perpetual stock All-the-Year-Round, a fragrant white variety. Mr. L. R. Russell, Richmond, made up a really first-rate display of ornamental stove foliage plants. Crotons, dracænas, marantas, palms, alocasias, ficus, and aralias were freely staged in great variety.

Messrs. Allwood Brothers, Haywards Heath, put up stands of beautiful flowering perpetual carnations, and were particularly successful with their blooms of Mary Allwood, perpetual Malmaisons, Cinderella, Mandarin, Enchantress Supreme, and Wivelsfield White. Gorgeous (A.M.), a new cerise-scarlet perpetual carnation, broad-petalled and full, was finely shown by Messrs. Stuart Low and Co., Enfield, with other varieties of this section.

Messrs. Wills and Seegar, Onslow Terrace, Kensington, exhibited fine specimens of Begonia Gloire de Lorraine in ornamental tubs and vases.

ORCHIDS.

A handsome group of orchids from Messrs. Charlesworth and Co., Haywards Heath, was a fine feature, and it contained Epidendrum vitellinum majus, fine odontiodas, ondontoglossums, cypripediums, Cattleya Tityus, very fine, C. Fabia, and C. Fabia alba, C. Enid, C. Venus, and other useful late-flowering orchids. Oncidia Cooksonæ, a fine form, was sent by Mr. C. J. Phillips, Sevenoaks, and Mr. Hunter, gardener to the Duke of Marlborough, Blenheim, brought up several good things, notably Lælia-cattleya Olenus Blenheim var. (A.M.), rich crimson-purple, with royal purple lip.

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, had finely-grown specimens of Cœlogyne fimbriata, Cattleya Fabia, and Sigmatostylax radicans, and gained two cultural commendations. Messrs. Flory and Black, Slough, and Messrs. Waters Butler, Edgbaston, Birmingham, each showed a few orchids. R. G. Thwaites, Esq., Streatham, brought the dainty white cattleya hybrid and some odontiodas. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), submitted Cypripedium Olympus (A.M.), a very bold form with a wide, white green-based dorsal sepal; Odontioda Latona Westonbirt var., and Odontoglossum crispum xanthotes Westonbirt var. (A.M.), white with golden spots.

Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, showed a dozen and a-half flowering plants of Cattleya Portia cærulea, the blue tinted hybrid obtained by crossing C. Bowringiana violacea and C. labiata cærulea; the two parents were also represented, and added to the interest of the group. A pleasing group of orchids from Messrs. Armstrong and Brown, Tunbridge Wells, contained good examples of Cattleya Bowringiana, C. Mantini, C. Fabia, C. Armstrongæ, C. Mrs. Pitt, Brasso-cattleya Maronæ, Lælio-cattleya Berthe Fournie, and numerous cypripediums, odontoglossums, and odontiodas.

The orchids from Mesrs. Sander and Sons, St. Albans, included Cattleya Hardyana, C. Sylvia, C. Fabia, Cypripedium insigne Harefield Hall, Cymbidium erythrostylum, Brasso-cattleya Mrs. Leemann, Cirrhopetalum Rothschildianum, and the deep-hued Odontioda Charlesworthi, The Comet. Orchids were well shown by Messrs. Stuart Low and Co., Enfield, and the group included Phalænopsis Rimestadiana, Vanda cærulea in some quantity, Oncidium varicosum, Cattleya Fabia, C. labiata, and the lovely Brasso-cattleya Leeanæ.

Messrs. Hassall and Co., Southgate, showed the pretty Cypripedium Niobe, Cattleya aurea, the lovely white-petalled C. Sylvia, C. Pittæ, and other good things. From Messrs. J. and A. McBean, Cooksbridge, came many good things, including Cymbidium Doris and the beautiful gold and mauve Cattleya Andriana McBeans var. (A.M.). Messrs. J. Cypher and Sons, Cheltenham, brought up some interesting cypripediums, Cattleya Pittæ, C. labiata, C. Bowringiana, and C. Minneia.

VEGETABLES AND FRUIT.

A splendid exhibit of seventy-two baskets of finely-selected potatoes was made by Messrs. Dobbie and Co., Edinburgh. In all there were about forty varieties. In the matter of display this was a particularly handsome exhibit, and in the matter of cultivation the potatoes were first class. Such varieties as Dobbie's Prolific, Great Scott, Burhouse Beauty, a white, pebble-shaped variety to be sent out in 1914; The Favourite, Midlothian Early, The Chapman, Windsor Castle, The Factor, British Queen, Conquest, King Edward VII., Erin's Queen, and Sutton's Abundance were specimens of what high-class potatoes should be. The unwashed tubers attracted quite as much attention as the carefully-cleaned ones.

A grand lot of finely-coloured apples, shown by Messrs. W. Seabrook and Sons, Chelmsford, was greatly admired. Mr. Paskett, gardener to E. J. Johnstone, Esq., Burrs Wood, Groombridge, submitted about sixty dishes of well-coloured apples, including the leading dessert and culinary varieties. Mr. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, sent about thirty-six dishes of pears, which included excellent examples of Easter Beurre, Pitmaston Duchess, Catillac, Durondeau, Beurre Hardy, etc.

AWARDS OF MERIT.

No First Class Certificate was granted on this occasion.

Award of Merit.—To Chrysanthemum Daily Mail, Golden Mensa, Madame Theresa Morel, and Carnation Champion, from Messrs. W. Wells and Co., Merstham; to Chrysanthemum Pink Pearl, from Messrs. H. J. Jones, Lewisham; to Carnation Gorgeous, from Messrs. Stuart Low and Co., Enfield; to Iris Vartani White Pearl, from Messrs. R. Wallace and Co., Colchester; to Cypripedium Olympus, and to Odontoglossum crispum xanthotes Westonbirt variety, from Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury; to Cympedium Stella, from Messrs. Sander and Sons, St. Albans; to Lælio-cattleya Olenus Blenheim var., from the Duke of Marlborough (gardener, Mr. Hunter), Blenheim; to Sophro-lælio-cattleya Niobe, from Messrs. Charlesworth and Co., Haywards Heath; to Cattleya Andriana, McBean's var., from Messrs. J. and A. McBean, Cooksbridge.

MEDALS.

Gold.—To Messrs. Dobbie and Co., Edinburgh, for potatoes; to Messrs. H. J. Jones, Ryecroft, Lewisham, for chrysanthemums.

Silver-gilt Flora.—To Messrs. Jas. Veitch and Sons, Chelsea, for begonias and chrysanthemums; to Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver Flora.—To Messrs. W. Cutbush and Son, Highgate, for begonias and carnations; to Messrs. Price and Fyfe, Lee, for chrysanthemums; to Mr. L. R. Russell, Richmond, for stove plants; to Messrs. Thos. S. Ware, Feltham, for dahlias and alpines; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids.

Silver Knightian.—To Mr. Paskett, gardener to E. J. Johnstone, Esq., Groombridge, for hardy fruits; to Mesrs. W. Seabrook and Sons, Chelmsford, for apples.

Silver Banksian.—To Messrs. J. Cheal and Sons, Crawley, for autumn foliage and dahlias; to Messrs. H. B. May and Sons, Edmonton, for greenhouse plants; Messrs. Sander and Sons, St. Albans, for orchids; Sir Jeremiah Colman, Bart. (gardener, Mr. J. Collier), Gatton Park, Reigate.

Bronze Banksian. — To Messrs. Allwood Brothers, Haywards Heath, for carnations; to Messrs. Stuart Low and Co., Enfield, for carnations; to Messrs. Pipers, Bayswater and Barnes, for dahlias; to Mr. G. Reuthe, Keston, for hardy plants; to the Wargrave Hardy Plant Farm, Lim., The Arcade, Liverpool Street, E.C., for alpines, etc.; to Mr. George Prince, Longworth, for roses; to Messrs. J. Cypher and Sons, Cheltenham, for orchids.

Bronze Flora.—To Messrs. W. Cutbush and Sons, for begonias and carnations.

SCIENTIFIC COMMITTTEE.—October 21.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Messrs W E. Ledger, A. Worsley, W. C. Worsdell, J. Fraser, W. Hales, F. J. Chittenden (hon. secretary), and R. Farrer (visitor).

PELARGONIUM HYBRIDS — Mr. J. Fraser continued his observations upon the origin of the garden varieties of scented-leaved pelargoniums, dealing mainly with the varieties of P. citriodorum nearly allied to P. crispum. His full report will appear in the "Journal" of the society.

PHASEOLUS CARACALLA. — Mr. Chittenden showed the flowers of this curious East Indian plant, with their curled keels looking very like snails, so that the plant has been called the Snail flower. The specimens came from Hampton Court, where the plant was introduced in 1690.

LOBELIA HYBRIDS. — Mr. Arkwright sent specimens of a hybrid between Lobelia cardinalis and L. syphilitica. The plants, which were tall, varied in the colours of their flowers and in the shades of their foliage. They gave promise of developing into handsome garden plants, though the colours were a little dingy at present. This may have been due, in part at least, to the late season of their flowering, and to the fact that they had been brought on in a greenhouse. The name L. × Arkwrighti was proposed for them.

Torquay Chrysanthemum Show.

The Torquay District Gardeners' Association held their annual show in the large hall of the Bath Saloons at Torquay on October 30. The weather was unfortunately wet, and the attendance was therefore somewhat meagre, but the exhibits were of high order of merit, many of the plants and flowers shown being particularly fine, while the entries left little to be desired.

For a group of single chrysanthemums the first prize and the National Chrysanthemum Society's certificate was won by Colonel Cary. In the class for twenty-four Japanese cut blooms, Mr. W. J. Godfrey, of Exmouth, obtained the premier award with a splendid collection of blooms, and his Lady Talbot was awarded the National Society's medal for the best bloom in the show. Other fine blooms in the stand were F. S. Vallis, Eclipse, F. Rowe, and J. Lock. For twelve Japanese distinct, in vases, the premier award was made in favour of Mr. R. S. Dugdale, whose Lady Talbot, Mrs. H. Stevens, W. Turner, and F. Joliffe were excellent. For eighteen Japanese, Colonel Cary was first with F. Chandler, Mrs. R. Luxford, Thorp's Beauty, A. T. Miller, and R. B. Crane, very good. For six Japanese, Mrs. Cogan was first with Hon. Mrs. Lopes, Mrs. Peed, and Mrs. Joliffe, very fine. For twelve Japanese, Colonel Cary was first, and also six Japanese, yellow, Colonel Cary first, with F. S. Vallis; six Japanese, white, Mrs. Cogan, first; for six Japanese, any one variety, Colonel Cary first; for six vases of single chrysanthemums, six varieties, Mr. W. F. Baynes first; vase of cut chrysanthemums, double, Mr. F. Perret first; vase of cut chrysanthemums, single, Mr. W. F. Baynes first; basket of wild flowers, with foliage and berries, Mr. F. Perret first.

In competition for the prizes for three trained chrysanthemums, single, Colonel Cary first, the same exhibitor being first also for three trained chrysanthemums, double. These were exceptionally fine plants. For six table plants, flowering, Dr. Leon was first with beautiful examples, and in the class for six table plants, foliage, Colonel Cary occupied the first place. Mrs. Cogan obtained premier honours for six winter-blooming begonias. For three solanums, Mr. S. T. Gitsham was first.

Nurserymen's exhibits added much to the attractions of the show. The Devon Rosery, Torquay, had an attractive stand, with numbers of fine chrysanthemums, Erica melanthera, E. nivalis, E. gracilis, Lilium longifolium, Begonia Gloire de Lorraine, Ceanothus Gloire de Versailles, Rose Jessie, Rose Orleans, Allamanda Hendersoni, and some wonderfully good apples, amongst which Blenheim Pippin, Bramley's Seedling, Bismarck, Golden Noble, Warner's King, and Sandringham were especially fine. Messrs. R. Veitch and Son, Exeter, showed a very interesting collection of plants, winter-flowering carnations being well represented by Brightness, Benora, Orpheus, Mrs. T. M. Crook, My Favourite, Mrs. C. Page, Princess Juliana, Mrs. C. F. Raphael, Sunstar, Cinnabar, La Mode, British Triumph, Mrs. Greswolde Williams, Lady Meyer, and Baroness de Brienen. Violets were well shown, and included Kaiser Wilhelm, St Helena, Luxonne, Noelie, Admiral Avellan, California, Baroness Rothschild, and Comte de Brazza. Other plants included Cyrtanthus hybrida, Nerine Bowdeni, N. Exonia, Clematis Nellie Moser, and Gloriosa superba. Mr. W. B. Smale, Torquay, exhibited Erica hyemalis, Datura suaveolens, Acalypha Sanderi, Salvia fulgens, Rhodochiton volubile, Cyclamen, and a collection of cactus dahlias, amongst which were Snowdon, Excelsior, Fairy, Victorian, Ariel, Devonshire Maid, and Major Hobbs.

National Chrysanthemum Society.

(Continued from page 838.)

Mr. A. Dyer, gardener to E. Wood, Esq., Upper Norwood, showed the finest vase of decorative chrysanthemums, and he was also a good first for a vase of single flowers, besides scoring for six blooms of one incurved variety with Clara Wells.

In other classes the leading competitors were Mr. W. Gooding, Mr. Tofield, Mr. Campkin, Southend-on-Sea; Mr. E. A. Foster, Shrewsbury Lane, Woolwich; and Mr. Loo Thomson.

FRUIT.

In the fruit classes Mr. A. Jefferies, gardener to J. Balfour, Esq., Moor Hall, Harlow, led for black grapes with three fine bunches of Appley Towers; Mr. W. Howe, gardener to Lady Tate, Streatham Hill, second; and Mr. E. C. Wickens, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill third. Mr. Wickens was first in the class for Gros Colmar grapes. Mr. Jefferies

By Special Appointment to His Majesty the King.

MESSRS. JAMES VEITCH & SONS, LTD.

Royal Exotic Nursery, CHELSEA.

Beg to announce that they are still carrying on every branch of their NURSERY BUSINESS for the supply of plants, trees, shrubs, vines, and fruit trees, etc., at their Chelsea, Coombe Wood, Langley, and Feltham Nurseries. An inspection is invited.

led also for white grapes with long bunches of Muscat of Alexandria; Mr. J. Simon, Ravenswood, Bexley, second; and Mr. Wickens, third.

The leading prizewinners in the apple classes were Mr. James Whittle, gardener to Colonel Borton, Cheveney, Hunton, Maidstone; Mr. A. Basile, Woburn Park Gardens, Weybridge; and Mr. W. Lintott, Morden Park Gardens, Caterham.

NON-COMPETITIVE.

Messrs. W. Wells and Co., Merstham, surpassed themselves on this occasion by filling a space 72ft. long by about 10ft. with all sorts of chrysanthemums. They had representatives of practically all sections of chrysanthemums, and set up altogether about seventy varieties of singles, about sixty of Japanese, a dozen incurved, and a few pompons. The group was high pitched, and at the back, with palms and scarlet oak foliage, were tall stands of Japanese and incurved blooms. The centre of the display consisted of over seventy enormous blooms of the big white Japanese variety named Queen Mary. Another splendid feature was a huge basket filled about 8ft. high with splendid flowers of the new light yellow Japanese variety, Daily Mail; there were thirty glorious flowers, associated with sprays of scarlet oak. As a contrast, a vase of the tiny yellow pompon, named Baby, with blooms barely half an inch across, was set below the Daily Mail flowers, many of which were 8½ inches across. Other fine Japanese varieties in the display were Mrs. R. Luxford, Kara Dow, the crimson William Vert, H. E. Converse, Mrs. G. W. C. Drexel, and Madame Th. Morel. The best of the singles, presented in large bouquets, were Golden Mensa, Ivor Guest, Miss Kathleen Wells, Caledonia, Eric Wild, Pictor, Feltham Crimson, and Juno. The grouping was bold, and most effective, and ferns were freely used to finish off one of the biggest and finest efforts ever made by this firm.

Mr. Norman Davis, Framfield, Sussex, displayed chrysanthemums finely, as usual, in a large and very artistic display in front of the Royal Box. The graceful outline of the exhibit and the effective and tasteful grouping of the flowers were particularly pleasing. Tall stands of large Japanese and single flowers were raised in front of palms, and in the foreground big vases and bowls of blooms were grouped with crotons, ferns, and small palms. The outstanding single varieties were Mensa, the light yellow Mrs. Loo Thomson, Sussex Yellow, Isobel Felton, and W. Buckingham. The finest Japanese varieties were Col. G. Dixon, a grand new ruby-crimson, Rosamund, Mrs. Drabble, H. E. Converse, Mrs. H. J. Jones, His Majesty, Dandy, D. B. Crane, and Mrs. Will Denis. Of the fine yellow incurved variety named Romance there were superb blooms in big vases. A splendid exhibit that enhanced the Framfield reputation.

A splendid group of chrysanthemums was arranged on table staging in front of the orchestra by Messrs. H. J. Jones, Ryecroft Nursery, Lewisham; the flowers were fine and fresh and presented in bold stands set well apart. The exhibit was, perhaps, a trifle regular and formal in outline as compared with many of Mr. Jones's previous displays, but it was a great effort on the part of those who the previous day had put up a Gold Medal exhibit at the Royal Horticultural Hall. In front of the forty stands of big blooms there were sixty bowls of single and decorative flowers, and in the centre the foreground was extended, and other stands of singles were grouped on the floor with specimen Japanese blooms within an encircling margin of the deep green Helxine Solieroli. The finest Japanese varieties on view were Bob Pulling, Mrs. H. J. Jones, Mrs. R. C. Pulling, F. E. Hutton, new, yellow; Mrs. Kelly, J. Surry, Miss Elsie Davis, Mrs. A. T. Smith, Mrs. Tickle, and Mrs. Howard Kinsey, a new white.

Messrs. Cragg, Harrison, and Cragg, Merivale Nurseries, Heston, Hounslow, arranged their beautiful long-stemmed flowers in large bouquets among neat, dwarf pot plants, with a margin of ferns. The whole exhibit was square in outline, with a wide space between the "borders" and the square-based central pyramid. It must be remembered that the Messrs. Cragg, Harrison, and Cragg grow solely for market, and it was therefore a public-spirited business on their part to stage such a quantity of fine blooms, representing about sixty varieties, five and twenty being their own introductions. We were especially struck by the beauty of their single flowers, notably such varieties as Mensa, Juno, Snow Queen, Loo Thomson, Sandown Radiance, Portia, Max (very fine), Jessica, Orlando, Bronze Pagram, Pink Pagram, Mrs. Garner, Mrs. Tresham Gilby, Irene Cragg, Pink Beauty, Phyllis Bryant, Florrie King, Yellow Star, Bronze Star, Rowena, Elfrida, Elsa, and White Pagram—a splendid selection. The Japanese varieties were not less beautiful, but to these we have frequently made reference.

Messrs. Whitelegg and Page, Chislehurst, put up a fairly large group of single and decorative chrysanthemums in great variety. Messrs. J. Cheal and Sons, Crawley, provided an interesting exhibit of autumn-tinted foliage and flowering shrubs, and also contributed a very clean lot of cactus, single, and decorative dahlias, and again made a feature of their lovely pink, semi-double variety, Crawley Star. Messrs. W. J. Godfrey and Son, Exmouth, had a bright display, and prominent in their group were the large-flowering single varieties Reginald Godfrey, Mollie Godfrey, deep pink; Mrs. Tresham Gilby, Excelsior, Attraction, Miss Margaret Gidley, and Devonshire Lass, the latter a fine soft rose.

Messrs. H. Cannell and Sons, Eynsford, Swanley, filled a large table with a fine collection of clean, bright apples and pears, and the staging of the exhibit was as pleasing as the high quality of the fruit in it. The same firm displayed cut zonal pelargoniums. Messrs. John Peed and Son, West Norwood, contributed a large circular group of chrysanthemums, in which they used single varieties with great freedom and effect.

Messrs. Hobbies, Dereham, provided a very bold display of single chrysanthemums, all pot plants, grouped effectively with stands of collarette dahlias and roses in the foreground. Miss M. Walker, Mrs. Patching, Mrs. Tresham Gilby, Celia, and Florrie King were single chrysanthemums capitally shown by the Dereham firm. Messrs. H. Mash and Son, South Darenth, submitted baskets of excellent apples, and filled a large table with their display.

Begonia Gloire de Loraine was well shown in some quantity by Mr. G. Fisher, gardener to C. Lazenby, Esq., Oakfield, South Eden Park; Mr. S. Mortimer, Farnham, was represented by a bright exhibit of perpetual carnations and winter-flowering stocks, and Messrs. Butler Brothers, Bexley Heath, put up a group of their finely-grown dwarf pot plants of decorative chrysanthemums. Messrs. Stuart Low and Co., Enfield, submitted perpetual carnations in quantity.

MEDALS.

Special Gold Medal, offered by Messrs. Clay and Son, Stratford, for the best non-competitive exhibit in the show.—To Mr. Norman Davis, Framfield, Sussex.

Large Gold.—To Messrs. W. Wells and Co., Merstnam; and to Mr. Norman Davis, Framfield.

Gold.—Messrs. H. J. Jones, Ryecroft, Lewisham; to Messrs. Cragg, Harrison, and Cragg, Merivale, Heston.

Small Gold.—To Messrs. H. Cannell and Sons, Eynsford; to Messrs. J. Peed and Sons, West Norwood.

Silver-gilt.—To Messrs. J. Cheal and Sons, Crawley; to Messrs. H. B. May and Sons, Edmonton; to Messrs. Butler Brothers, Bexley Heath; to Messrs. W. J. Godfrey and Son, Exmouth; to Messrs. Stuart Low and Co., Enfield.

Large Silver.—To Mr. G. Fisher, South Eden Park; to Mr. S. Mortimer, Farnham; to Messrs. H. Mash and Son, South Darenth.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

THE SCARLET OAK.—T. B. H., Buckinghamshire: My employer, who has been staying in London for a short time, has been much impressed with the value of the foliage of the scarlet oak for use in floral arrangements of a bold character. He has brought some growths home with him, and is desirous of growing this oak for furnishing similar sprays of foliage. These growths are more robust than those we are able to cut from trees in the grounds, and I shall be obliged by your advising as to the proper course of procedure in the production of shoots of a similar character.—The best course to obtain a supply of strong growths is to plant half-a-dozen or so of dwarf trees in a convenient position, in well-prepared soil, and, in the course of the winter, prune them hard back. In subsequent winters prune such of the shoots that have not been used for decorations back to within one or two buds of the base.

UNHEALTHY VIOLETS.—T. S., Bury: We grow violets under glass rather largely, and are usually very successful. This year they are not quite so satisfactory as I could wish, and some appear to be damping off. Can you help me to prevent further injury to them?—The plants that you have sent us suggest a close atmosphere, owing to insufficient ventilation. We suggest that you admit air more freely to the frames, especially during periods of bright, dry weather, and carefully dust the surface of the beds between the rows of plants with slaked lime.

COLLARETTE DAHLIAS. — M. E. A., Cheriton: I shall be greatly obliged if you will publish as complete a list as possible of collarette dahlias, with brief descriptions. I have made notes of many varieties this season, but I should like to know whether there are others of similar colouring before I place orders for plants for next spring.—The following is as complete a list of collarette dahlias as we can compile from the material at hand: Antwerpia, crimson scarlet, yellow collar.; Ami Cochet, reddish orange with straw collar.; Albert Maumene, mauve, white collar.; Balmoral, puce colour, white collar; Buckingham, blood-red, white collar.; Carl Bechstadt, scarlet and yellow; Cloch, lavender, yellow collar.; Countess Douzon, white ground, white collar.; Comtesse Icy Hardegg, maroon, white collar.; Crimson Queen, purple crimson, white collar.; Diadem, rose colour, white collar.; Exposition de Lyon, rosy cerise, white collar.; Frogmore, yellow and vermilion, collar. yellow; Gallia, cream with rose, creamy collar; General de Sonis, crimson, yellow collar.; Goldstern, yellow, yellow collar.; Holyrood, rich ruby colour, yellow collar.; Henri Farman, vermilion, straw collar.; Inchcolm, white; Inchmarnock, salmon scarlet, yellow collar.; Hon. Vicary Gibbs, crimson scarlet, straw collar.; Joseph Jougon, ruby colour, cream collar.; Le Congo Belge, maroon, light collar.; Lowestoft, clear yellow self; Leitstern, velvety maroon, white collar.; Meteor, crimson, primrose collar; Madame J. Buyssens, crimson, straw collar.; Madame Empain, brown, sulphur collar.; Madame Gygax, yellow, primrose collar.; Madame R. Ferange, pink, straw collar.; Madame E. Poirier, violet, white collar.; Maurice Rivoire, crimson, white collar.; Negro, maroon, white collar.; Princess Charlotte, crimson, straw collar.; Prince John, crimson, white collar.; Princess Louise, crimson, white collar.; Prince of Orange, orange and yellow; Prince de Venosa, crimson, white

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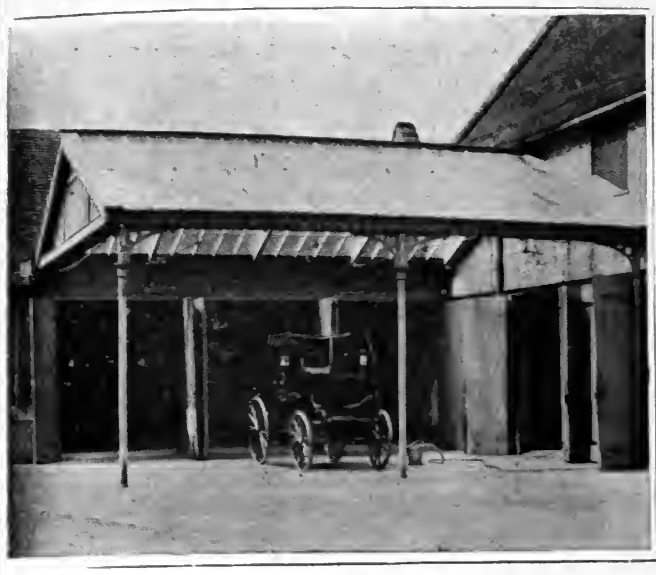

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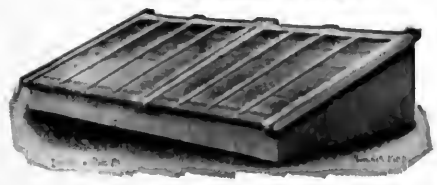

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collar.; Purity, white self; Queen Anne, scarlet, straw yellow collar.; Queen Bess, scarlet, yellow collar.; Queen Mary, rose, blush collar.; Rheinkvone, maroon, white collar.; Souv. de R. Bernedean, white and crimson, cream collar.; The Czar, deep rose, white collar.; Tusca, crimson, and rose, and white; Victoria, rich lake, straw collar.; Vilmorin-Andrieux, purple, white collar.; and Windsor, light yellow, straw yellow collar.

MARKET CERTIFICATES FOR CHRYSANTHEMUMS.—J. S., Exeter: I see by your columns that the Floral Committee of the National Chrysanthemum Society now awards Market Certificates to deserving varieties. Will you kindly tell me the basis of judgment followed in these cases?—Your letter arrived just as we were going to press, and not having a copy of the list of points which the N.C.S. has drawn up for the purpose of awarding market certificates, we must ask you to kindly refer to our next issue, when we hope to supply the information.

BERBERIS FOR THE ROCK GARDEN.—M. E. G., Chepstow: You will much oblige me by stating which species of berberis you consider the best for a comparatively small rock garden.—All things considered, we think the new Berberis Wilsonæ is the best species for a rock garden, as it is of modest growth, berries freely, and is very pretty.

DECAY OF CALADIUM CORMS.—W. S. H., Leeds: Each year I lose a considerable proportion of my caladium corms, although I take the greatest possible care of them. To prevent them being injured by an excess of moisture I turn them out of the pots in November, and, after shaking away the soil, I put them in flower pots, and cover with dry silver sand. Am I right in doing this?—It is a grave mistake to attempt to keep the corms of caladiums in dry sand, in accordance with your practice. The best course is to allow the corms to remain in the pots in which the plants were grown the previous season. If you do this and keep the soil dry you have no further losses.

NAMES OF PLANTS.

G. F., Yorkshire.—1, Gaultheria Shallon; 2, Hippohæ rhamnoides.

S. H., Sussex.—1, Dendrobium Phalænopsis; 2, Cypripedium Harefield Hall; 3, Epidendrum vitellinum majus; 4, a good form of Cattleya labiata.

F. K.—1, Begonia Rochfordi; 2, B. Mrs. Heal; 3, one of the perpetual-flowering carnations, but the bloom was undersized and so much shrivelled that it was impossible to recognise it .

S., Norwich.—The specimens sent were too small to admit of identification. If you will send larger specimens with flowers, we will do our best to assist you.

W. B., Leicester.—1, Cotoneaster buxifolia; 2, Pyracantha Lælandi, more generally known as Cratægus pyracantha Lælandi; 3, Azara microphylla; 4, Elæagnus pungens aureo maculatus; 5, Pittosporum Tobira variegatum; 6, Griselinia littoralis.

NAMES OF FRUIT.

R. M., Kent.—1, Lord Derby; 2, Flower of Kent.

B., Hunts.—Your grape is Lady Downes Seedling.

F. B., Sussex.—1, Easter Beurre; 2, Glou Morceau; 3, Fruit so deformed as to be unrecognisable.

F. L., Shropshire.—1, Durondeau; 2, Doyenne du Comice; 3, Winter Nelis; 4, President Barabe.

W. W.—1, Cox's Orange Pippin; 2, Bauman's Red Winter Reinette; 3, Cornish Aromatic; 4, Allington Pippin.

H. Smith.—1, Lord Derby; 2, Bramley's Seedling; 3, Hambledon Deux Ans; 3, Newton Wonder; 4, Annie Elizabeth; 5, The Queen; 6, Ecklinville.

OBITUARY.

MR. J. CHANNON.

For over forty years Mr. J. Channon was gardener to the Peacock family at Grosvenor Lodge, London Road, Croydon, and not long since he was the recipient of a handsome bequest from a late member of the family. This he did not live long to enjoy, as he passed away somewhat suddenly a few days ago at the age of 66 years. Mr. Channon was a well known member of the Croydon Gardeners' Society, and this body sent beautiful flowers to the funeral on Tuesday last. He was a capable gardener, and a most interesting personality, and for a number of years he acted as local secretary for the Royal Gardeners' Orphan Fund.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
1913. October 26 to November 1.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 26—Sunday	—	50	50	58	38
,, 27—Monday	2 0	58	56	61	49
,, 28—Tuesday.....	3 54	56	55	63	56
,, 29—Wednesday..	6 24	59	56	62	51
,, 30—Thursday....	1 48	53	51	57	50
,, 31—Friday.....	6 36	50	48	58	45
Nov. 1—Saturday.....	2 18	44	44	57	43
	(total)				
Means	23 0	53	51	59	47

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
1913. October 26 to November 1.					
	ins.	deg.	deg.	deg.	deg.
Oct. 26—Sunday	0·71	50	52	54	39
,, 27—Monday	0·02	51	52	53	37
,, 28—Tuesday.....	0·18	52	52	53	42
,, 29—Wednesday..	0·09	52	53	53	43
,, 30—Thursday....	0·16	52	53	53	42
,, 31—Friday.....	0·04	52	53	53	36
Nov. 1—Saturday....	0·04	51	52	53	35
	(total)				
Means ...	1.24	51	52	53	39

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

TUESDAY, November 11.—Birmingham Chrysanthemum Show; three days.
Belfast Chrysanthemum Show; two days.
Brighton Chrysanthemum Show; two days.
Manchester Chrysanthemum Show; two days.

WEDNESDAY, November 12.—Dulwich Chrysanthemum Show; two days.
York Chrysanthemum Show; two days.
Finchley Chrysanthemum Show; two days.
Bedford Chrysanthemum Show.
Reigate Chrysanthemum Show.
Winchester Chrysanthemum Show.
Liverpool Chrysanthemum Show; two days.
Otley Chrysanthemum Show.
King's Lynn Chrysanthemum Show.

THURSDAY, November 13.—Edinburgh Chrysanthemum Show; three days.
Newport Chrysanthemum Show.
Nottingham Chrysanthemum Show; three days.
Sheffield Chrysanthemum Show; three days.
Hessle Chrysanthemum Show.
Manchester and North of England Orchid Society.
British Gardeners' Association, London Branch—Lecture at Carr's Restaurant, Strand, W.C., on "Soils and Soil Sterilisation," by Mr. C. P. Clayton.

FRIDAY, November 14.—Bradford Chrysanthemum Show; two days.
Huddersfield Chrysanthemum Show; two days.
Ellesmere Autumn Show.
Leeds Paxton Society; two days.

SATURDAY, November 15.—Batley Chrysanthemum Show.
Burton-on-Trent Chrysanthemum Show.

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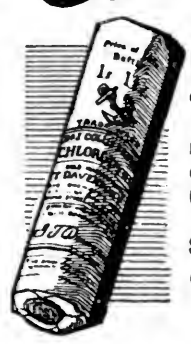
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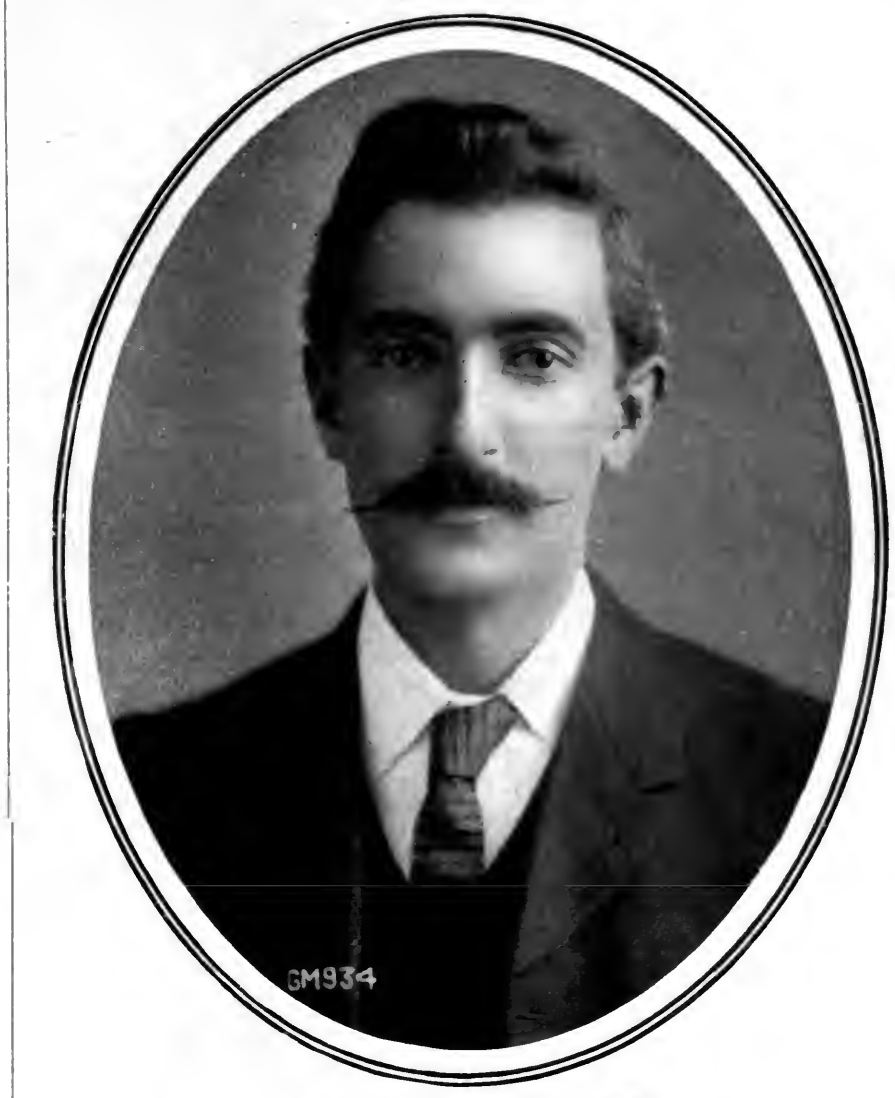
VOL. XVI.—No. 3,133. SATURDAY, NOVEMBER 15, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

A Great Naturalist.

The death of Dr. A .R. Wallace, at the ripe age of 91, has snapped the last link of the chain that connected present-day workers in the vast field of natural history with the great naturalists of the Victorian era, and removed from our midst one who has rendered services of such commanding importance that they will not be readily forgotten by those who are engaged in the investigations of the many interesting questions associated with animal and plant life. He was best known in scientific circles as the co-discoverer with the late Charles Darwin of the principle of natural selection as the chief agent in the evolution of species, and by those possessing a taste for the literature of natural history he will long be remembered for his highly entertaining and important works relating to this interesting science. He, however, did not limit his literary labours to works of travel, or to works on philosophical and systematic natural history, but wrote much in the course of his long life on subjects outside the realms of science, but having, as he believed, a distinct bearing on the welfare of the country and the health and happiness of the several classes of the community.



MR. J. S. CHISHOLM.

Born at Usk, in Monmouthshire, on January 8, 1823, he lived with his parents until 1836, when he took up his residence with an elder brother, who was a land surveyor and architect, and remained with him twelve years. During this period he had opportunities for travelling through several parts of England, and obtained a considerable knowledge of agriculture, and became well acquainted with the economic and social conditions of workers on the land, in whom, later in life, he evinced much interest. Before he had passed out of his teens he turned his attention to the study of natural history, and devoted the whole of his spare time to the collecting, drying, and mounting of native plants, and reading books of travel. When, in 1844-5, he was engaged as an English master at a middle-class school in Leicester, Dr. Wallace became acquainted with the late Mr. W. H. Bates, who also attained a high position as a naturalist. A few years later, when the desire to visit tropical regions became irresistible, Dr. Wallace suggested to his friends a joint expedition to the Amazons for the purpose of collecting natural history specimens and gathering facts, as stated in a letter to Mr. Bates, "towards solving the problem of the origin of species," which had been the subject of frequent discussions between the two friends. The joint expedition was arranged, and early in 1848 they left this country, and reached the mouth of the Amazon on April 20 of that year, and at once commenced the explorations that were destined to make both famous. They continued their work of exploration in association until early in 1850, when, by another route, Mr. Bates continued his investigations of the flora and fauna of the Amazon, and Dr. Wallace turned his attention to the exploration of the Rio Negro and the higher reaches of the Orinoco. The adventures of the latter during the next two years, and his observations on the natural history, and the tribes inhabiting the Amazon valley, are recorded in a most entertaining manner in his "Narrative of Travels on the Amazon and Rio Negro," which contains many facts relating to the causes and modes of transformation of species. In 1852 Dr. Wallace returned to England, but the homeward journey was adventurous and unfortunate, for the vessel in which he sailed caught fire and was destroyed. As the result thereof he lost the large and valuable collection of specimens he brought with him, and had to spend ten days in an open boat. A portion of the collection he had made was fortunately sent home previous to his return, and reached this country in safety. Dr. Wallace remained in England two years, and throughout this period he was busily engaged in the preparation and publication of the work above mentioned, and to the disposal of the specimens that had reached their destination without a mishap. Neither the difficulties he had to surmount in the course of his explorations in the valley of the Amazon, or the dangers and losses experienced on his return voyage, abated the interest of Dr. Wallace in tropical regions; and early in the summer of 1854 he started for the Malay Archipelago, so rich in plant life. Here he evidently found a happy hunting-ground, for he remained eight years, and during this period he travelled about 14,000 miles, visiting Borneo, Celebes, Java, New Guinea, Sumatra, and other regions—some more than once. He achieved so high a degree of success during his explorations that he was able to bring back with him in 1862 upwards of 125,000 specimens, illustrative of the fauna and flora of the places visited. The examination and classification of this immense collection must have been a heavy task, and we have a proof that it was so in the fact that not until 1869 was he able to see his second great work, "The Malay Archipelago," through the press. As will have been seen from the quotation from the letter written to Mr. Bates, Dr. Wallace evinced from a quite early period in his life a deep interest in the problem involved in the origin of species. To mention this is a point of much importance, as evidence of the trait in his character which obtained for him the esteem of the scientists, not alone of this country, but of the whole

world. Dr. Wallace was first introduced to Mr. Charles Darwin in 1854, but nothing appears to have then been said with reference to the matter that had for some time been engaging a considerable share of the attention and thought of both. As known for many years past, Mr. Darwin had in 1842 written an outline of the law of natural selection, and in an extended form it had been read by Sir Joseph Hooker and Sir Charles Lyell in 1844, but it does not appear to have been mentioned to anyone else. In a paper published in the "Annals and Magazine of Natural History" for September, 1855, "On the Law that has Regulated the Introduction of New Species," Dr. Wallace stated that he had arrived at the conclusion that "every species had come into existence coincident both in space and time with a pre-existing closely allied species"; and Mr. Darwin, in writing to Dr. Wallace, stated that he was in general agreement with his views as therein expressed. In February, 1858, Dr. Wallace, who was then at Ternate, wrote an essay "On the Tendency of Varieties to Depart Indefinitely from the Original Type," and sent the manuscript to Mr. Darwin, who was perturbed by the close similarity of the views expressed therein to his own. The question of publishing this theory was beset with some difficulty, because both were anxious not to obtain an undue advantage; but it was overcome by Sir Joseph Hooker and Sir Charles Lyell arranging to communicate to the Linnean Society, on July 1, 1858, a joint paper by Mr. Darwin and Dr. Wallace. This paper, as well known, created wide-spread interest in scientific circles, and resulted in a lifelong friendship between these two great naturalists.

Mr. J. S. Chisholm, the chief lecturer in horticulture at the Edinburgh and East of Scotland College of Agriculture, and adviser in horticulture to the twelve counties in the college area, is a native of Berwickshire, and was born at Houndwood, where he also commenced his horticultural career. After working for several years in private gardens, he went to Edinburgh to take advantage of the three years' course in the Royal Botanic Gardens. Here he was employed in various departments, and took advantage of his opportunities for study. He sat for several examinations in the various subjects which underlie horticultural practice, and secured a First-class Diploma. In addition to this he studied extra subjects, and in 1904 obtained the medal for horticulture at the Heriot-Watt College. Shortly after this success he was appointed lecturer in horticulture to the Northumberland County Council, with charge of the horticultural and forestry departments at the Experimental Station, Cockle Park, Morpeth. Here Mr. Chisholm remained for eight years, and during that period he planned and carried into effect an excellent scheme of gardening instruction and nature study throughout the county. A year ago Mr. Chisholm went to Edinburgh, and in May last received his present appointment. Mr. Chisholm is an easy speaker, and we have on many occasions heard him lecture and give demonstrations. He has had an excellent training for the position he occupies, and has already added to his reputation at Edinburgh as an instructor who interests as well as teaches.

Dahlias at Barry in August and November.—Barry Summer Show was held on August 4, and the Autumn Show on November 5, and on both occasions a very fine display of dahlias was made by Mr. A. Cobb, gardener to R. Cory, Esq., Duffryn, Cardiff. It is not too much to say that at the November Show the dahlias were the chief attraction, and as they represented practically every florist's section of the dahlia, the interest taken in this flower was very keen. Object lessons of this kind demonstrate the worth of dahlias, their great variety of form and colour, and their lengthened season of flowering.

The National Chrysanthemum Society's Annual Dinner will take place on Friday, November 28, at 6.45 p.m., in the Royal Venetian Chamber, Holborn Restaurant London, W.C., when the president, Sir Albert Rollit, D.C.L., LL.D., will preside. The various trophies, cups, medals, etc., will be presented during the evening. Mr. T. Bennett Griffin has charge of the musical arrangements. Tickets, 5s. each, exclusive of wine, may be obtained from the secretary, Mr. Richard A. Witty, 72, Savernake Road, Gospel Oak, N.W.

Value of Grading and Packing Apples. — Many Kentish fruitgrowers are adopting Australian methods in dealing with dessert apples. After being graded, each fruit is wrapped in tissue paper and packed in boxes of convenient size, with the result that a box of eighteen first-class apples sell for 4s.—or about 5d. per lb.

Eradication of Bracken in Scotland.—Efforts are being made in various parts of the country to eradicate bracken from what would otherwise be useful land. Colonel Ferguson-Buchanan has for many years been improving his Auchentorlie estate, and in an address given at the West of Scotland Agricultural College recently, he told how, by the use of a thistle cutter, making successional cuttings during the year, and never allowing bracken to ripen its spores, he had raised the value of 700 acres of land from 4s. to 6s. per acre, at a cost of £430, spread over eight years. Harrowing and burning he considered useless as a means of eradicating the bracken, but frequent cuttings, commencing when the fronds are three inches high, is the best method.

Horticultural Club.—A house dinner of the Horticultural Club will take place at the Hotel Windsor, Victoria Street, Westminster, on Tuesday next (the 18th inst.), when Mr. Reginald Farrer will give a lecture, entitled "Not about Switzerland." The dinner will, as usual, commence at 6.30 p.m.

Liverpool Parks and Gardens.—At a recent meeting of the Parks and Gardens Committee of the Liverpool Corporation some very interesting particulars were given respecting the recreation spaces under its control. These places number eighty-one, and comprise nine parks, thirty-two recreation grounds, and forty gardens—in all about 1,100 acres, or over one-fifteenth of the present area of the city. Further additions to the extent of over one hundred and fifty acres are to be acquired. Extensive accommodation is given for football, cricket, and lawn tennis, over four hundred clubs being provided with grounds for these games, in addition to provision made for girls' rounders and hockey clubs. Children's gymnasia are erected in twenty-five of the recreation grounds, and nearly 20,000 school children held picnics in the parks during the past summer. Thirty-two bowling greens can scarcely accommodate the ardent trundlers who patronise them; while on four of the park lakes ninety-five boats are provided, the receipts from which amounted to £1,152 this season. The year's receipts from boating, bowling greens, football and cricket plots, and other games, were £3,400. The net cost of the parks amounted to £28,000 yearly, and nearly £20,000 was paid in salaries and wages. The Chief Superintendent and Curator of Parks and Gardens, Mr. James J. Guttridge (an old Kewite), is a zealous lover of flowers, and continuous floral displays are provided at Sefton Park, Stanley Park, and the Botanic Gardens. During the greater part of the year the flower beds in the parks and gardens are brilliant with bloom, over 250,000 bedding plants being required to fill them. The annual chrysanthemum shows are now open at Sefton, Stanley, Newsham, and Calderstones Parks, and for the next five or six weeks will afford much pleasure to the crowds of visitors who go to see them.

A Hard Winter Predicted.—Quite a number of weatherwise people are predicting a very severe winter. There has been a succession of mild winters, and now a severe one is due to restore the balance. Sir Oliver Lodge forecasts hard weather, and also suggests that it will be clear as well as cold. Horticulturists generally will not mind a severe winter, provided the weather is clear and fairly dry, and, also, provided the winter does not last into springtime. The plague of slugs and other pests experienced this year is due largely to mild, moist winters, but the ranks of the enemies would be severely thinned by a hard winter. Anyhow, it is as well to be prepared for keen frosts, even if they do not come.

The English Sugar Beet Harvest.—Very considerable progress is being made in the beet sugar industry in this country, and Norfolk is the chief centre of operations. A large factory has been built at Cantley, between Norwich and Yarmouth. About 4,500 acres are under beet this season, and harvesting is in full swing. The estimated yield is an average of 14 tons per acre, or 63,000 tons. Expert cultivators secure from 15 to 20 tons of sugar beets per acre, and such crops are considered to pay well. A number of Dutch workmen have been engaged this season, as last, to deal with the roots as brought in, and prepare them for manufacture, but as the local workmen, numbering about 400, get used to the work, imported labour will not be necessary.

Chrysanthemum Conference at Essex Hall.—A chrysanthemum exhibition and conference will be held at Essex Hall, Essex Street, Strand, W.C., on December 10. The exhibition will be opened at one o'clock, the Floral Committee will meet at 3 p.m., and the conference will commence at 7 p.m., —Sir Albert Rollit, D.C.L., LL.D., presiding. Mr. Norman Davis will read a paper entitled "The Evolution and Development of Outdoor Chrysanthemums." This will be followed by a paper by Mr. Thomas Bevan, on "Chrysanthemums for Outdoor Garden Decoration," illustrated by limelight views. The two papers will then be open for discussion. A very interesting debate is anticipated, and it is hoped that members will be present in large numbers. Members of affiliated societies are particularly invited to be present.

Export of English Apples to Cape Town.—Consignments of apples from Kent are being sent to Cape Town, where they meet with a ready sale at remunerative rates. They are packed in boxes holding about one bushel of fruit.

BIRMINGHAM CHRYSANTHEMUM AND FRUIT SHOW.

Bingley Hall, Birmingham, on November 11, 12, and 13, was well filled with beautiful flowers, plants, and other horticultural products, the occasion being the show of the Birmingham and Midland Counties' Horticultural Society. There were those present who could look back upon bygone years, and could remember shows that were more extensive and of higher quality than that of this year, but, for our part, we were well pleased to note that, on the whole, things were about as good as usual, whilst there were in minor details of arrangement undoubted improvements that added to the enjoyment of visitors.

FIRST PRIZE EXHIBIT OF TWELVE C HRYSANTHEMUMS, WITH DECORATIVE FOLIAGE,
At Birmingham Show, exhibited by Mr. J. R. Tooley, gardener to Hugh Andrews, Esq., Toddington Manor, Winchcombe.

PLANTS.

Year by year the popularity of the trained specimen plants of chrysanthemums seems to wane, and in the half-dozen classes provided there was practically no competition, Mr. Alfred Cryer, gardener to J. A. Kenrick, Esq., Berrow Court, Edgbaston, being awarded first prizes for six large-flowered Japanese, and for three plants, and a single specimen. The same exhibitor had the best three plants of single-flowered varieties, second prize in this class going to Mr. Rayner Bullock, gardener to T. W. Piggott, Esq., The Lions, Moseley. Mr. J. S. Higley, gardener to Godfrey Nettlefold, Esq., South Bank, Edgbaston, taking third prize.

In the group classes there was again but little competition, the principal group occupying 16ft. by 10ft., having only one entry, which came from Mr. Alfred Cryer. It was, however, a magnificent exhibit, in which grand plants were used with great skill and taste. A central mound at the back rose to a great height, and contained many immense blooms of the best varieties, and on either side of the foreground rose pyramids of choice incurved and Japanese varieties. Cut blooms of good quality were used to finish off the front, together with small crotons, ferns, and grasses. Mr. Cryer was also alone in the group of decorative chrysanthemums, occupying 12ft. by 8ft. Single varieties of bright colours were freely used, with small-flowered Japanese, the whole being tastefully grouped to present a very pleasing effect.

In the smaller group, combining large-flowered and decorative varieties, there were two entries, the first prize being secured by Mr. F. W. Love, gardener to the Studley Horticultural College, Studley, Warwickshire. There were some nicely grown Japanese flowers, but the greater portion of the group was made up of singles and decorative flowers, and of these there were decidedly too many for the 12ft. by 8ft. space. Mr. L. Fewkes, gardener to H. Green, Esq., Gravelly Hill, Birmingham, who was placed second, had a very good lot of large-flowered Japanese, which, on the whole, were of good quality, and were so arranged that each flower stood well out to show its merits. There was some expression of opinion that this group more correctly fulfilled the conditions of the schedule than did the other.

CUT FLOWERS.

A most attractive class was that for a table of cut chrysanthemums, Japanese and incurved, with ferns and foliage plants, the space allotted each exhibit being 18ft. by 5ft. There were three strong entries, and the leading position was well taken by Mr. Norman Davis, Framfield Nurseries, Sussex. The background was given up to huge blooms of beautiful white, yellow, and crimson Japanese varieties, whilst in front there were grand stands of perfectly-formed incurves, and the table base had other large flowers dispersed among pteris and nephrolepis, with trailing selaginellas. This exhibit secured a silver challenge shield in addition to the cash prize of £8. Mr. H. Woolman, Shirley, Birmingham, came a good second with tall stands of big blooms, and smaller vases of incurves, the decorations being crotons, ferns, and small palms. Mr. John Sherratt, Burton-on-Trent, received third prize, his exhibit lacking something in boldness of arrangement.

The class for six vases of Japanese varieties, each containing three blooms, all distinct varieties, had three entries, the first prize being awarded to Mr. E. J. Brooks, gardener to Lieut.-Colonel Beech, Brandon Hall, Coventry. The Hon. Mrs. Lopes, Miss A. E. Roope, Lady Talbot, and F. S. Vallis were all good yellows; Queen Mary and William Turner, whites; and William Mease, Frances Row, and C. A. Broomhead were good bronze and red varieties, all well-formed, fresh, and large blooms. Mr. H. Woolman, Shirley, took second prize with somewhat smaller, but still very nice flowers, which included Thomas Lunt, Mrs. T. Stevenson, Reg. Vallis, and other good varieties. Third prize went to Mr. J. R. Tooley, gardener to Hugh Andrews, Esq., Toddington Manor, Winchcombe. Mr. Brooks was again to the fore with three vases in three distinct varieties, three blooms of each. John Peed, a pale lilac mauve, F. S. Vallis, of wonderful size, and the massive white William Turner were the varieties used. Mr. H. Woolman again followed for second place, his varieties being Miss A. E. Roope, Mrs. H. J. Jones (both yellows), and Mrs. Gilbert Drabble, the latter being beautifully-developed blooms. Mr. W. H. Westbury, gardener to J. H. Wheatley, Esq., Berkswell Hall, Coventry, received third prize.

A class of special interest was that for twelve Japanese blooms placed on a table with small foliage plants and ferns as a setting. There were five capital entries, and some splendid flowers were staged. Mr. J. R. Tooley, gardener to Hugh Andrews, Esq., Toddington Manor, Winchcombe, was first-prize winner, his flowers being large, beautiful, fresh, and just fully developed, whilst they were well arranged against a background of black velvet, with small crotons

and coleus for embellishment. A gigantic bloom of F. S. Vallis was outstanding, but W. Rawlings, Pockett's Crimson, Bessie Godfrey, and Bob Pulling were also splendid flowers. Mr. Rayner Bullock was a good second, although one or two of his flowers were a trifle out of form. Third prize went to Mr. A. W. Young, gardener to Mrs. R. Peyton, Edgbaston, who had an even and pretty lot of flowers that did not equal the foregoing in size. Mr. E. Avery, gardener to J. B. Brooks, Esq., Finstall Park, Bromsgrove, was placed fourth, and a fifth prize was awarded to Mr. T. W. Davis, gardener to H. F. Keep, Esq., The Grange, Edgbaston.

Incurves did not make a big show, but some nice flowers were staged in the class for four vases containing twelve blooms distinct. Mr. T. W. Davis, gardener to H. F. Keep, Esq., The Grange, Edgbaston, led the way, showing a refined bloom of C. H. Curtis, a good Romance, and also Clara Wells, with other well-known varieties. Mr. Rayner Bullock was winner of second prize, his Madame E. Roger, Buttercup, and Fred. Palmer being neat, shapely flowers. Third prize was awarded Mr. Harry Hall, Halesowen.

Single vases of three blooms each were shown in separate classes to colour, the best vase of pink coming from Mr. Westbury, Reg. Vallis being the variety. Mr. Woolman's vase of His Majesty secured first prize for a crimson variety, and the same exhibitor's Miss A. E. Roope won first prize as the best yellow of five entries. Mr. Brooks came to the fore again for a white variety, showing William Turner in superb form.

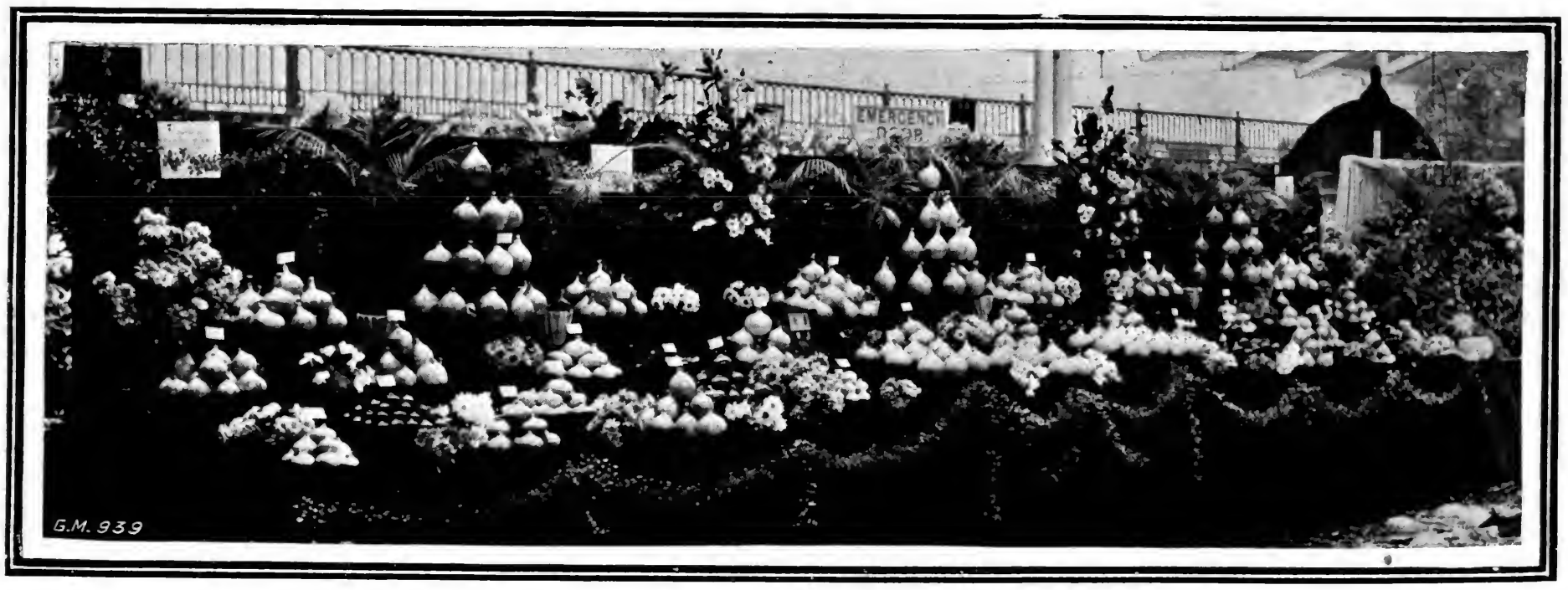
A table of cut single chrysanthemums, 8ft. by 4ft., arranged with foliage, brought first prize to Mr. Wm. Newton, gardener to Major Everett, J.P., Knowle Hall, Knowle. Yellow and bronze varieties predominated, but a few deep crimsons and brighter red and pink varieties gave the touch of variety required, and the effect of the whole was good. Mr. Rayner Bullock received second prize with a somewhat thin and flat arrangement, in which white and delicate shades largely predominated. Some of the flowers were very large, and bespoke good culture. Third prize was awarded Mr. E. Bostock, gardener to E. Martineau, Esq., Edgbaston. For four vases of single chrysanthemums in sprays, Mr. M. V. Wall, gardener to Jas. Booth, Esq., Ardencote, Claverdon, secured first prize, his varieties being J. H. Greswold Williams, yellow; Ceddie Mason, crimson; Coronation, pink; and Countess of Egmont, bronze. All were fine large flowers, and clear in colour. Mr. A. H. Hickman, Eagle and Spur, Cookley, took second prize, and he also had first prize for six vases of decorative varieties, each vase containing six sprays. Mr. J. Valet, a pure white, was very good, and somewhat larger than Felton's Favourite.

MISCELLANEOUS PLANTS AND FLOWERS.

The exhibits of primulas, cyclamens, and other winter-flowering plants seem to diminish every year, but one thing that still comes along in strong force is Begonia Gloire de Lorraine. In a class for twelve pots, Mr. A. Cryer scored a success with a dozen capital specimens, well flowered from base to summit; Mr. J. S. Higley, gardener to L. Spiers, Esq., Edgbaston, received second prize; and Mr. J. Farmer was third in a strong class. Mr. Cryer secured the premier award for a dozen cyclamen, and Mr. Higley led the way for Primula obconica.

TABLE DECORATIONS.

There was but one class for table decorations, but it brought upwards of two dozen entries, and it can only in fairness be said that every table was a credit to the competitor. The fortunate winner of first prize was Mrs. Batchelor, Hampton-in-Arden, who used yellow and bronze single chrysanthemums with Adiantum gracillimum, and trails of small-leaved ampelopsis. There was just enough on the table to make a decoration, but no overpowering display. Second prize was given to Miss A. S. Herbert, Acock's Green, who used very pretty bronze-coloured flowers with narrow croton leaves. Mr. T. Batchelor, Hampton-in-Arden, was placed third with a pretty yellow and crimson combination.



A NOTEWORTHY DISPLAY OF WELL-GROWN ONIONS,
Exhibited at Birmingham Chrysanthemum and Fruit Show by Mr. E. R. Janes, gardener to the Right Hon. Lord North, Wroxton Abbey, Banbury.

FRUIT.

It has for many years been customary to find a collection of fruit exhibits at Birmingham Show that would compare with any show in the country, and it is no exaggeration to say that this section this year was of tip-top quality, and without a doubt made the most important feature of the show apart from the chrysanthemums themselves. The opening class in the section was for a table of British-grown fruit occupying 10ft. by 5ft. There were three entries, and, as the judges remarked at the luncheon, they provided a most difficult task when it came to awarding the prizes. Mr. J. R. Tooley, Winchcombe, deserve congratulation on receiving first prize for his collection, which included Muscat of Alexandria, Gros Colmar, Golden Queen, and Alicante grapes, some dishes of beautiful apples, such as King of the Pippins, Rival, Cox's Pomona, Royal Jubilee, and others, together with Beurre Alexandre Lucas, Beurre Diel, Charles Ernest, and Beurre Clairgeau pears, and a good dish of medlars. The table was nicely decorated with crotons and trails of ampelopsis. Mr. G. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, Ledbury, was a very close second with some splendid fruit, just perhaps a trifle behind the winner in condition of grapes, although they were by no means to be despised; while the apples, such as Adam's Pearmain, Mère de Ménage, Queen, and Gascoyne's Seedling, were fine samples, as also were Pitmaston Duchess pears and Countess Melons. Mr. J. H. Goodacre, gardener to the Right Hon. Earl of Harrington, Elvaston Castle, Derby, was third; and, as might be expected from this veteran exhibitor, the fruit shown was of a very high order of merit.

Another most interesting class was that for a collection of British-grown hardy fruit on a table 12ft. by 8ft., and here again there were three entries, each of which was deserving of high praise. The successful exhibitor was Mr. C. Crooks, gardener to H. Mitchell, Esq., Impney, Droitwich, who had a splendid lot of dessert and culinary apples and pears, besides such things as medlars, and fruits of Passiflora edulis. The pears were grand, the fruit of Beurre Diel, Conference, Doyenne du Comice, and Beurre Bacheleuse being perfect in form and beautifully finished. The apples included superb examples of Lord Hindlip, Belle de Pontoise, Wealthy, Crimson Queen, and a number of other excellent varieties, every dish being of remarkably good quality. The second prize was awarded Mr. Hy. Cotton, gardener to Lord Biddulph, Ledbury Park, Ledbury, who was strong in apples, but lost points with his pears. He had capital medlars, walnuts, and Kentish cobs, as well as chestnuts; and, taken all round, the exhibit was very fine. Third prize was given to Mr. C. W. Powell, Warham, Hereford, and even this lot would have carried the exhibitor to victory in many shows.

Grapes were well shown, the first prize for six bunches going to Mr. J. R. Tooley, Winchcombe, who put up heavy clusters of Alicante, Gros Colmar, and others; second prize went to Mr. J. H. Goodacre, who had Gros Maroc in good form, with Muscat of Alexandria and Alicante; third prize went to Mr. G. Mullins, Ledbury. The best three bunches of black grapes were shown by Mr. Mullins, Gros Maroc being the variety shown; second prize in this class going to three bunches of Alicante shown by Mr. J. R. Tooley, third prize being awarded Mr. J. H. Goodacre. Mr. J. R. Tooley led for three bunches of white grapes, showing Muscat of Alexandria in capital form; he was followed by Mr. T. Bannerman, gardener to Lord Bagot, Blithfield Hall, Rugeley; Mr. Sheppard, gardener to Chas. Winn, Esq., Selly Park, coming third. The best two bunches of black grapes came from Mr. J. S. Higley, gardener to Godfrey Nettlefold, Esq., South Bank, Edgbaston; second prize going to A. G. Buller, Esq., Kingfield, King's Heath, Birmingham; Mr. A. Cryer coming in for third prize—the stipulation in this class being that the exhibitor resides within four miles of the centre of Birmingham.

(Continued on page 871.)

WINTER TREATMENT OF PERPETUAL FLOWERING CARNATIONS.

The correct management of perpetual-flowering carnations during the winter months is an important matter. The first essential item is a suitable house. A span-roof house facing due south is the best, as it obtains the maximum amount of sun and light during the dull days of the year.

Carnations require a fairly cool and buoyant atmosphere, consequently ventilating and heating must receive special attention. Whenever possible, leave the ventilators at the top of the house open a little way all night, provided this can be done without lowering the temperature too much. It is a good plan to use sufficient heat to maintain a minimum temperature of 80 degrees at night, but the pipes in the carnation house must not become really hot. In big houses a large number of pipes kept comfortably warm are greatly to be preferred to half the quantity of piping overheated. The latter will encourage red spider and other evils. A suitable day temperature for the carnation-house is from 55 to 60 degrees, according to the conditions prevailing outside. On a bright, mild day admit air freely, and gradually lower the ventilators as the natural warmth declines. At the same time begin to raise the warmth in the hot-water pipes.

Admit air very judiciously on damp, foggy days, as such weather facilitates the development of rust. Under such conditions it is necessary to employ sufficient fire heat to counteract the moisture in the atmosphere, and so keep the air of the house light and buoyant. Only by a combination of air and artificial heat can ideal atmospheric conditions be maintained in winter.

Watering requires great care. Allow the soil to become moderately dry, and then afford sufficient water to moisten it all through. Do not allow the plants to remain in a really dry condition, so that they flag at the first outburst of sun, as such irregularities often give a check, and are sometimes the cause of the blooms failing to open properly. It is advisable to give water in the morning, and one must be careful not to spill water about the house.

Feeding must be very judiciously carried out in winter, if at all; experts differ on this matter. Nevertheless, the fact remains that those who apply weak stimulants occasionally obtain larger blooms than those who do not. Occasional light top-dressings of a really good carnation manure will produce fine blooms of good colour, besides building up the growth of the plants, and assist the developing buds to expand. Such feeding is in no way harmful to the constitution of the plant. I have found Bentley's a really excellent carnation fertiliser, if used in the form of a very light top-dressing in winter; but after the turn of the year the plants demand additional nourishment with their increasing growth. Clear soot-water forms a good change, and may be used at almost all seasons.

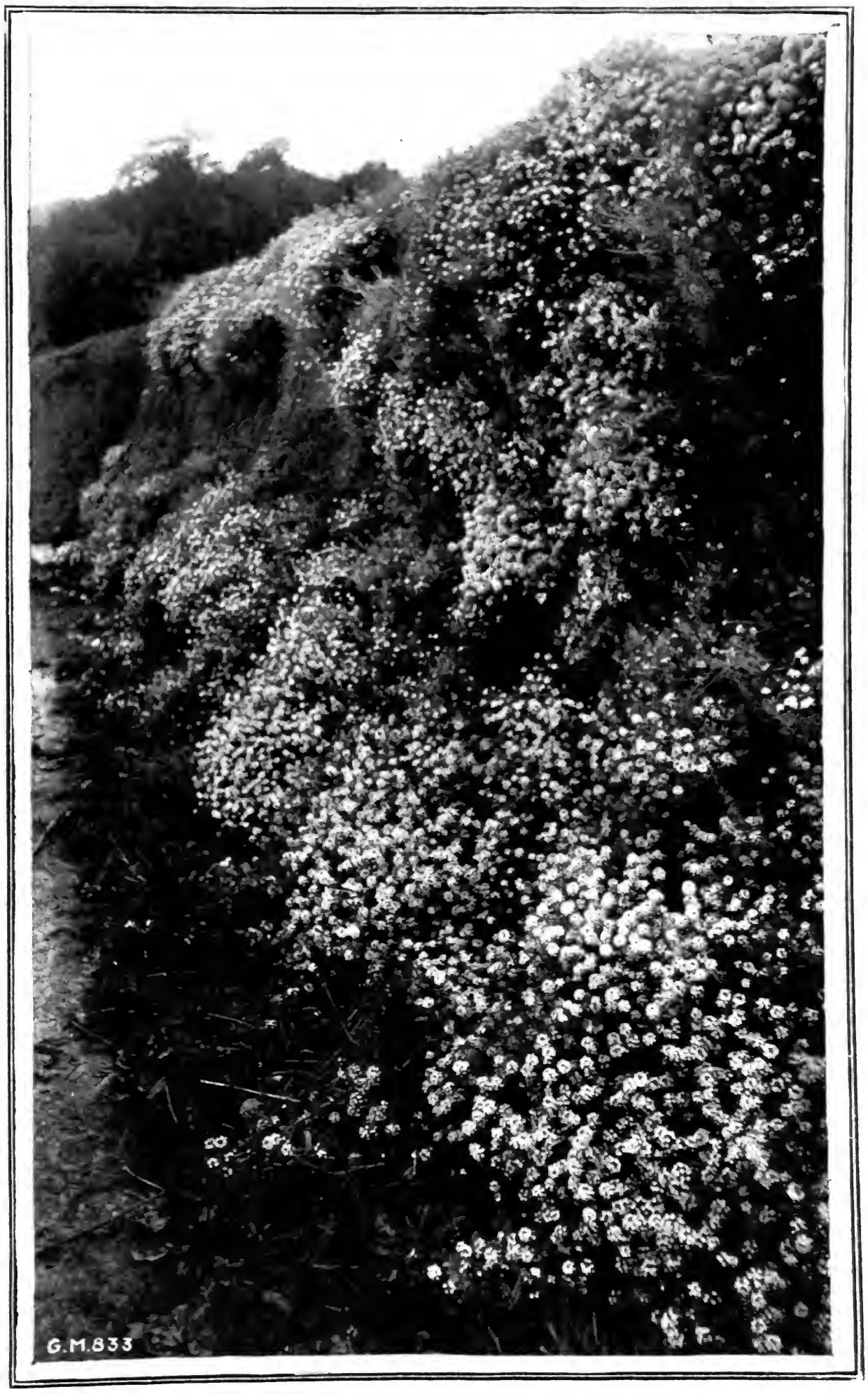
Disbudding requires careful attention, for if all but one of the buds on a stem are removed at the same time the bloom will probably come blind or malformed. Pay strict attention to the work, and examine the plants twice a week, so that the matter may receive attention at the right time. Look the plants over occasionally during the winter, and remove any diseased or dead foliage; but if the treatment outlined above is followed there will be little trouble with rust or other pests. Keep the plants neatly tied with green raffia, so that the growths may be held erect. Fumigate the house occasionally with nicotine compound to prevent the development of green-fly.

Perpetual-flowering carnations are chiefly grown for winter flowering, and after good plants have been obtained it is most essential they receive the correct treatment.

J. Gardner.

SWEET ALYSSUM.

The alyssums constitute a large genus, numbering about ninety species. There are probably, at the present time, not more than about a dozen really attractive kinds in cultivation, and some of these are, indeed, so closely allied that a fair proportion of them might be dispensed with altogether. There are a few annual species, of which the subject of this note is one, but, in many cases, in the warmer districts it will live through the winter,



SWEET ALYSSUM CLOTHING A STEEP BANK.

the plants shown in the accompanying illustration having remained in good health for some years. The majority are, however, perennial shrubby or half-shrubby plants, procumbent in habit, and, for the most part, evergreen.

The flowers, though individually small, are produced in such dense clusters, and in such great numbers, as to render this class of plants quite indispensable in spring and

early summer, both in the wild garden, the spring garden, and the rock garden. They are of very easy culture when rightly situated. Propagation of the perennials is effected by division and cuttings, the latter in the case of most species being much the safer way. Alyssum, or Kœniga, maritima, the sweet alyssum of gardens, is most satisfactory when treated simply as a hardy annual. The flowers, which are small and white, are borne in profuse clusters, and emit a delicious fragrance. It is a good plant for covering bare spaces, banks, or tops of unsightly walls, where it will sow itself from year to year. It may be used also as a carpet plant, but in rich soil it generally grows too robust, and does not flower so freely. It is found in waste places near the seaside, but only as a plant escaped from a garden.

In large colonies of this alyssum what attracts particular attention is the great mass of pure white blossom, that quite hides the foliage from view. Single plants a foot or more across are a pure white mass. Large spaces in the rock garden may be amply clothed with it in a short time. The plants shown in the illustration were the produce of self-sown seed. It is a native of Southern Europe.

Wyndham Fitzherbert.

PEROWSKIA ATRIPLICIFOLIA.

This plant belongs to the Natural Order Labiatæ, and its genus consists of four species, two of which are natives of Turkestan, one comes from Beluchistan, while the other is found over the greater part of the Himalayas from Afghanistan to Tibet. The latter, P. atriplicifolia, is a very handsome sub-shrubby plant, growing from three feet to five feet high. In some parts of this country it is usually cut down to the ground during the winter, but in the warmer parts it makes quite a shrubby subject.

Like many of the plants of this order it is strongly scented, much resembling the common sage. The stems are erect, and covered with a hoary tomentum, while the ovate leaves, about two inches long, have a scented margin. Branching towards the top the stems bear a large terminal panicle on the current year's growth. The silver-grey stems and flower stalks, bearing the violet-blue flowers, are very attractive during the autumn, and flowering takes place early in September.

Perowskia atriplicifolia is said to grow in large quantities in the Himalayas, where it makes a most effective display. While the prevailing colour of the flowers is dark lavender, a white form is met with in a wild state, but I have not seen it in cultivation. The species has been in cultivation since the year 1906, when it was introduced by the Messrs. Bees, Lim. It is easy to manage, and will grow in any well-drained soil in full sunshine. Owing to the late period of flowering it does not produce seed here, but it may be propagated freely by means of cuttings in early summer.

W. Irving.

Kew.

Acacia platyptera.—Nearly all the greenhouse acacias flower during the spring months, but this is quite an exception, as its blossoms, like little golden balls, are borne in the autumn. Apart from its season of blooming, another distinctive feature is the peculiar, green, winged stems which take the place of leaves, for it is practically devoid of foliage. For its successful culture, it needs a liberal amount of peat in the soil, and neat little flowering plants may be grown in pots from five to six inches in diameter.—T.

BERRY-BEARING SHRUBS IN WINTER.

Nothing enlivens our gardens more during the winter months than a good collection of shrubs bearing bright fruits. At one time almost the only shrubs we had of this class were the holly and Cratægus pyracantha, but now there is a host of kinds from a foot in height up to fair-sized trees.

After the deciduous trees and shrubs have shed their leaves our gardens would be bare were it not for the evergreen plants and those having showy fruit. Some of the deciduous shrubs, however, have interesting fruits. Take the symphoricarpus, for instance; the large white berries, hanging in graceful racemes, are very conspicuous long after the leaves have fallen. To see this plant to advantage it should be planted in bold clumps on a sloping bank on the side of a stream as the long sprays of large white berries are then very effective. Well-fruited hollies look well in almost any position.

The pernettyas, as most people are aware, thrive best in a peaty soil, and, when established, will berry most profusely, even when in a very small state; but if planted in loam, though they will make ample growth, it is seldom they fruit freely, though they may have an abundance of flowers. Plants about a foot high, grown in a sunny position, will produce clusters of variously-coloured fruit, and such are well adapted either for the rock garden or in groups in front of taller-growing shrubs. I have seen these grown to fair-sized bushes, from three to four feet high, and when they have attained this size they are very showy.

Skimmias, again, are most useful and with their thick, shining foliage are always interesting, but when clothed with clusters of red berries they are doubly so. I have always found these grow best in a light, rich soil, such as a mixture of peat and loam, to which some thoroughly decayed manure or leaf-soil has been added. Birds are not very fond of skimmia berries, so the display remains through the winter, and until quite late in spring. When planted in a sunny position skimmias usually fruit most profusely.

To obtain finely-fruited aucubas both male and female plants should be arranged near each other. The large red fruits are most showy during winter, as they are produced in prominent clusters on the young shoots. Both the green and variegated kinds are very useful. Hippophæ rhamnoides (Sea Buckthorn) is a deciduous shrub or small tree, and, as with the aucuba, the male and female flowers are produced on different plants, therefore to obtain a crop of fruit it is essential that both be planted together. In winter, when the foliage falls, the berry-bearing plants are very showy with their orange-red berries. These plants are most effective when grown as standards on stems from five to six feet high, and planted in groups over some dwarf-growing shrubs. There are several species of euonymus that fruit most profusely. Our own native species, E. europæus, which in some parts of the country grows wild in the hedgerows, is very ornamental. When grown as standards on tall stems, and planted in a sunny position, the foliage assumes glorious tints in the autumn, and after the leaves have fallen the peculiarly shaped fruits hang for some time. E. radicans, when grown against a building, assumes quite a different character, the foliage being much larger and almost white, and often the young shoots are clothed with the clusters of fruit, which, when ripe, are a great contrast to the foliage.

There are many interesting species of cotoneaster, and some of these, such as C. Simonsi, are attractive when grown either as bushes, standards, or against walls, the bright red berries being always conspicuous. It is, however, when trained against a wall, and the growths are treated as upright cordons, the finest effect is produced. Grown in this manner, and closely spurred in, the clusters of red fruit against a stone wall are very effective. C. applanata has brilliant scarlet berries, produced in great profusion. A. angustifolia is too seldom met with in our gardens. The berries are produced in clusters, or bunches, unlike those of most cotoneasters. I saw a plant of this at Hartpury last year that was covered with bunches of berries. The fruits do not ripen until late in the season, and remain quite fresh until the spring. To induce it to fruit freely the shoots should be thinned out. There are several cotoneasters of recent introduction, with very attractive fruit. C. Dielsiana elegans is one of these, and is an evergreen species bearing pink flowers, followed by bright red fruit. C. salicifolia glacialis is also an evergreen kind with deep red fruit. C. salicifolia rugosa is a semi-evergreen species, bearing coral-red berries.

The fruits of many berberis are very bright, but, unfortunately, where birds abound in great quantities they usually strip the bushes as soon as the fruits are ripe. B. vulgaris and its varieties are most useful. The old Viburnum lantana, which grows wild in our hedgerows, and V. opulus, which is so frequently met with in boggy places, are very showy, but, in addition to these, there are several species of recent introduction that are well worthy of notice. V. rhytidophyllum is one of these. It is an evergreen species, producing large handsome foliage and noble spikes of flowers. The other day I saw a specimen of it covered with clusters of dark red berries, which were very attractive. Then we have V. phlebotrichum, V. Henryi, V. Davidi, and others. Stranvæsia undulata is a handsome evergreen shrub that should find a place in gardens as its orange-red fruits are very effective.

H. C. Prinsep.

TODEAS AT GLASGOW.

Time was when todeas were subjects of awe to the visitor to the gardens where they were grown under carefully-studied conditions. Now, however, they are found to be quite easily grown, and one is pleased to see them in the best of health under conditions one would not always expect. The Kibble Palace in the Glasgow Botanic Garden is one of these. The pathway in the large central part of the structure was too broad, so it was decided by Mr. Whitton that it might be reduced in breadth by placing rockwork and soil in front of the pipes, which were rather an unsightly feature. This was done, and a number of todeas planted there along with other subjects. There they are doing splendidly, and are growing apace, and are forming big plants. In the Moss House, too, they have been planted instead of some of the commoner ferns which formerly helped to make this attractive house prettier. The conditions are very different, as the atmosphere of the Moss House is moist, while that of the Kibble is drier and airier. Yet in both the several todeas are flourishing equally well. Mr. Rourke, who is in charge of the Glasgow Botanic Gardens, deserves much credit for the success of these plants there.

S. A.

LIFTING AND STORING DAHLIAS.

Though as I write (October 23) the dahlia plants here are a mass of bloom, we must expect that any night the curtain will be rung down for another season, through the intervention of a few degrees of frost.

Usually in this locality we are fortunate enough to reach the end of October, and even the second week of November, before this happens, proof of which has been seen by many fine exhibits of dahlias by a well-known local firm at the Cardiff Chrysanthemum Show. Last year, however, was an exception, the visitation of six degrees of frost on the night of October 5 completely transforming a glorious display to a blackened mass.

Before it is too late it is wise to take the precaution of examining labels to see if these are in order, for where the system of placing the label in the soil close to the plant has been adopted some may easily have been displaced during working operations. No doubt the safest system of labelling is to fasten the label securely with copper wire to the stake. If a very small-size wire is used this is quite cheap, and undoubtedly so in the long run, as the same label can be used for winter storing. No good purpose can be served by delaying lifting after the plants are cut down by frost, excepting that a fine day, with, preferably, a drying wind, will greatly assist in preparing the tubers for storing.

The old stems should be cut down to within six inches or nine inches of the soil, and the roots carefully lifted with a fork. After removing any soil round and among the tubers, carefully secure the label round the base of a good tuber, not the stem, which will decay and may fall off, and place in an airy position to thoroughly dry before storing.

Where large numbers of plants, and especially of various types, are grown, the lifting should be carried out systematically, taking one section at a time, and dispose of all the plants belonging to it before proceeding with the others.

A very great difference will be found in the roots of dahlias, some varieties making a large mass of tubers, while others scarcely any. The latter shy rooters, of which the fine bedding, decorative Brentwood Yellow is an example, require more care in storing than the vigorous-rooters. The former must not be dried too much, or they may shrivel, and when ready no time should be lost before placing them in boxes or other receptacles, and cover with sand. For the larger roots sand or soil will be suitable, or even hay placed around and over them will be sufficient. It is imperative that whatever covering is used that it be thoroughly dry.

In the winter storing of tubers three cardinal points have to be kept in mind, viz., the avoidance of excessive heat, cold and damp. As to where they should be stored is solely a matter of convenience, and many and various are the places adopted by amateurs, from the attic to the cellar. Any building, be it loft, storeroom, or cellar, provided it is dry and the temperature about 40 degrees, will be suitable. Vineries, peach houses, etc., which are "resting," serve equally well if these can be spared and no objection is made to seeing them in the houses.

During the winter they must be examined occasionally to see that all is well. Should the slightest sign of damp, which usually shows itself in a mouldy form, be apparent, the affected part, if small, may be cut off, and the roots dusted with lime, or lime and sulphur. This is work which can be attended to in wet or bad weather, and a little timely attention in this respect may save much disappointment.

Arthur J. Cobb.

TULIP MASSENET.

New Darwin tulips were not numerous last spring; at least, few were honoured by awards, but now that these fine flowers are coming into their own place in our gardens the standard of quality needful for an award steadily rises. A beautiful variety which attracted considerable attention at the meeting of the Royal Horticultural Society on May 14 last was Massenet, with finely-rounded flowers of great substance, borne on stout stems. The colour, softest buff, with a deep flushing of rich rose over the centre of each segment is very distinct. We believe the variety was discovered in Holland, but it was exhibited by Messrs. R. H. Bath, of Wisbech, on the above date, and secured an Award of Merit.

DARWIN TULIP MASSENET.

Flowers pale buff, with deep rose shading over the centre of each segment. A.M., R.H.S., May 14. Messrs. R. H. Bath, Lim., Wisbech.

THE GARDENS OF ASIA;
SOME NEW ALPINES FROM TIBET.

Is it not strange that many of the most beautiful and delicately-formed flowers should inhabit the most savage mountains in the world, where, blasted by the howling winds, hammered by the pitiless rains, they yet spring up boldly amongst the rocks, and star the grass-covered slopes with spots of colour all the brief summer through, till the snow creeps down and covers them with a warm blanket, and the wind rattles their skeletons in vain! It is as though the monarchs of the mountains were alone worthy to stand watch and ward over the greatest treasures of the earth; as though none but the fiercest storms could breed so pure and noble a race of plants.

More than a year ago I climbed some of those desolate mountains which stretch away, range beyond range, from Western-most China into Tibet. Above was the silence of eternal snow; far below the rivers foamed and thundered over the rocks, smashing their way southward through endless gorges to the plains beyond. But here, all round us, were grand forests of fir and giant rhododendrons, of elder, birch, and bamboo; meadows of alpine grasses and stately flowers; and, still higher, stretching up towards the vast snowfields, a wealth of scattered gems, most brilliant of all flowers, painting with many colours a world of grey rock.

Those who delight in alpines and rock gardens will have seen some of these very plants this year, for many of them were on the market, as well as at the chief shows. A few I have seen again myself, growing in the quiet Cheshire nurseries of Bees, Lim., as well as in the Edinburgh Botanic Gardens—surroundings so different to those in which I had first found them that I scarcely recognised them as the same. Much as I love our English gardens, with their splendid array of hardy plants, spring, summer, and autumn, I must confess that, since fortune has taken me there, I love these plants even more in their wild haunts.

Throughout the brief Tibetan summer the very high alpine regions towards the extreme limit of flowering plants prove the happiest hunting ground.

Here is the neat little Primula bella, starring the grassland with its lovely purple flowers; the blue Primula brevifolia, with tall, loose umbels; and, most magnificent of all, P. dryadifolia, flaming in crimson patches on the limestone rocks. None of these are known in cultivation, though the last-named has been successfully raised at the Edinburgh Botanic Gardens.

In July the Cambridge-blue Meconopsis speciosa is flowering at an altitude of about 16,000 feet. What a wonderful sight to see this plant in full bloom, a stem about eighteen inches high bearing a raceme of eight or ten brilliant pale blue flowers, each an inch and a-half across, massed with golden stamens in the centre! Unfortunately, the meconopses, though perfectly hardy in this country, are not perennial.

Lower down is the Oxford-blue Meconopsis Wardii, a new species, named after the writer; it has, however, black instead of golden stamens, which detracts considerably from its beauty. A third species, M. rudis, a dwarf plant, with bluish-violet flowers, occurs on the alpine grassland at 16,000 feet, and all three species should be seen in England next year.

Down in the valleys, at 12,000 feet, the season opens as early as the middle of May with a few shade plants, amongst which we may notice Primula sonchifolia, a damp-loving plant, bearing close heads of large blue flowers with a yellow eye. Higher up, and consequently flowering rather later, is P. pulchella, another dwarf, with mauve flowers.

In June we can ascend above the forest limit, where, in the track of the melting snow, we may come across marshy ground scattered with the magenta P. Souliei, an anomalous species, each stem bearing a single large, slightly irregular flower. Here there will be a host of magnificent alpines, amongst which it will be sufficient to mention the sulphur Meconopsis integrifolia, already in cultivation in this country; the somewhat similar M. pseudo-integrifolia, recently lost to civilisation, and now again restored; Primula nivalis, a beautiful species, known only from a few plants raised in St. Petersburg Botanic Garden; and the pink Fritillaria Souliei.

It will be well to point out here that Western China is peculiarly rich in fine primulas. These flowers, which scarcely occur in the New World, and are but poorly represented in the Alps, have two great centres of distribution in Asia, one in the Himalayas, and the other in the province of Yunnan.

At the end of the summer the primulas will have all gone, and instead there will be, particularly at high altitudes, a wealth of saxifrages and gentians, forming the autumn flora. Saxifraga negroglandulosa which occurs in large tufts on the limestone rocks may serve as a type of the numerous yellow-flowered saxifrages, and Gentiana sikkimensis of the blue alpine gentians. But by far the most brilliant of the latter is G. ornata, with its long, trumpet-shaped corollas radiating out from a centre; a mass of these lying prostrate on the rocks is indescribably glorious. In this country the plant has hitherto only been raised at the Edinburgh Gardens.

Then there are the various cremanthodiums, with delicate nodding flowers, mauve or yellow. They grow in damp, shady places, and set so little good seed that it is almost impossible to raise them this way.

Androsace spinulifera, with massive heads of pink flowers, and the peerless A. Bulleyana, with smaller heads of carmine flowers, have been successfully raised in England, though neither is yet known to the public; but the unique Isopyrum grandiflorum, a limestone plant, bearing masses of semi-pendant, delicate violet flowers, has defied almost every attempt to raise it from seed.

The curious labiate Phlomis rotata, with four large cruciate leaves lying flat on the ground, should make a first-rate rock plant, and Primula sibirica, which is not unlike the beautiful P. malacoides in colour and habit, should also become popular.

The twining Codonopsis convolvulacea, which has been successfully grown at Edinburgh, and the dwarf blue Aconitum Hookeri, are also worthy of mention.

In the above list of alpines I have mentioned but a score of the best which I collected in Tibet last year. Not one of these is known in cultivation in England to-day, but next year may see some of them added to our gardens.

F. Kingdon Ward, B.A.

BARREN FERNS.

Normally, of course, all ferns bear their reproductive bodies, the spores, in one way or another, though they contrive to do this in various fashions, some in the shape of dots, lines, or patches, or even, as in the Staghorn Ferns (Platycerium) in evenly-spread masses all over the backs of specialised fronds. Others, like our Royal Ferns and many exotics, have parts of their fronds specialised to bear spores only, while others, like our Blechnum spicant, and the Lomarias, bear them on erect fronds of narrower type than the fertile ones.

Ferns, therefore, which are persistently barren can only be regarded as abnormal, and such barrenness is almost always associated with some further peculiarity. As a general rule the suppression of spore production seems to be co-related with increased foliar development, the energy of reproduction being diverted in that direction. The spore heaps are always, and naturally, developed on, and by, the vein system of supply, and, equally naturally, if the system of feeding-veins is relieved of the exhausting function of forming and nourishing many millions of spores, given healthy conditions, those veins, whose other function is the construction and nourishment of mere leafage, have, as a result, the more energy at their disposal for this purpose

We may illustrate this by the forms of Scolopendrum crispum, or the Frilled Hartstongue. Of these there are two sections—the crispum proper, or the perfectly barren one, and the fertile crispums, which are sparsely fertile, and reproduce themselves truly when sown from. With the crispum proper, the frills are perfectly regular, with even, or, it may be, regularly crenate, edges. The seedlings of the fertile crispums in their juvenile stage are equally regular, but no sooner do they commence to show the spore heaps than, in precisely the same ratio, the frills and regular edges suffer. This is simply because we shall find, on examination, that the furcate veins, which, in the true crispums, go right to the frond edges and form the frills by forking again and again, in the fertile crispums they are interrupted halfway by having to form, and feed, the spores, and, being thereby exhausted, fail to reach the edges, and do what we may term "crispum duty" as well.

In the Polypodium family, we have the cambricum forms, which are entirely barren, and in these we see the same phenomenon of diverted reproductive energy, with the result that while the normal fertile frond is only pinnate, or once divided, these barren ones are greatly widened, and divided again and again. Nature, however, is fully capable of undertaking both tasks, viz., great foliar development, associated with spore production, but it may be taken as a rule that the former is correlated with, at any rate, a diminution of the latter, if not with entire disappearance.

It is, however, a curious fact that the faculty of cresting which involves material

additions to the structural function of vein systems, does not seem to decrease spore production in the least, as the crests themselves may be crowded with spores. The number of quite barren ferns, i.e., those which never bear spores, is comparatively small. Among our native ferns it is only the true plumose forms of Polypodium vulgare (cambricums), Scolopendrium vulgare (crispums), and Asplenium trichomanes (incisums) which have maintained their sterility unquestioned.

There is undoubtedly much in seasonal influences and environmental conditions which may either stimulate or check spore production, so that a fern grown for many years under one set of conditions may be regarded as perfectly sterile, but, given a change, it will be fertile; or it may be, a secondary bud "mutation" in an offset may lead to fertility therein, though the parent remain as sterile as ever. We have a vivid recollection of a division of Athyrium f.-f. plumosum Barnes, reputed as always barren, which was most profusely fertile, while the others in the same frame, though really portions of one and the same plant, were quite barren.

It is to the extra development due to spore suppression that we are indebted for some of our most beautiful ferns, both British and exotic. Adiantum Farleyense, the Queen of the Maidenhairs, is one of them, as also are Polypodium Knightæ, and the splendid forms of P. glaucum and aureum, raised by Messrs. May and Rochford, and last, but not least, by Mr. Manda. In the Pteris family we have the examples of P. Childsi and P. Sommersi, both very beautiful plumose and crested forms of, we believe, P. serrulata which have not been found to bear spores, though long in cultivation, and a number of other instances might be cited.

Chas. T. Drury, V.M.H., F.L.S.

CHRYSANTHEMUMS AT GHENT.

As duly recorded in the report which appeared in our issue of the 1st inst., chrysanthemums of English growth were splendidly shown at the great International Exhibition at Ghent, which was held during the closing days of October. The private growers of these flowers in this country were admirably represented by Mr. Thomas Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Add'estone, who contributed a magnificent set of Japanese and single varieties, the whole of the blooms being superbly developed. The display of flowers so impressed the members of the jury by reason of the high quality of the flowers and the taste evinced in their arrangement, that the highest award in the class was made with acclamation and the felicitations of the jury, who also recommended an increase in the value of the prize originally offered. The prize awarded by the jury was not the only honour that Mr. Stevenson received at Ghent for his splendid demonstration of British skill in the cultivation of chrysanthemums, for H.M. the King of the Belgians, after going round the show, sent for Mr. Stevenson, who was presented to the King. His Majesty complimented our great grower upon the result of his cultivation, saying he had never before seen such fine chrysanthemums, and for some little time was engaged in conversation with Mr. Stevenson, whom we most heartily congratulate upon his well-deserved distinction. His group, herewith illustrated, of cut blooms, both Japanese and singles, was indeed well worthy of the highest commendation.

THE ROSE SEASON OF 1913.

This has been a most erratic year for many subjects besides roses, and I greatly fear many rose lovers have not fared so well as we have in Mid and East Sussex.

During very early spring growth was more than usually precocious, especially in the case of wall roses and ramblers of the wichuriana type. Indeed, few of these ceased to grow throughout the whole winter; and yet our Northern and Midland friends were so heavily hit by the early and severe frost of November, 1912, as to lose a number of their plants, no matter what the position occupied. From Scotland I received many bitter complaints, coupled with sarcastic remarks about the "hardiness" of these roses.

When the east wind came early, we also suffered, and even in the sheltered spots roses were much injured by the wonderful crop of insect pests encouraged by mild weather, and fed by the persistent young growth. Where the attack against these was neglected they increased so as to completely cover the growth, and quickly spread all over the garden directly the weather conditions were at all favourable.

On the whole I was quite agreeably surprised, when pruning, to find such good pith and soundness at the base of wood generally, although we had a sharp spell just after the sap began to rise. At what should have been the height of summer we were rather punished by hot and dry air, accompanied by an unkind easterly wind. Much of our young growth assumed a distressed appearance, and attacks of mildew quickly followed. Prompt measures had the desired effect, and I am pleased to say there have been few seasons when less of this dreaded disease was present with us.

The greenfly, the rose maggot, and grubs were very troublesome at first, and the amount of hand-picking was greater than usual. Nothing but an early and persistent use of the finger and thumb seems thoroughly effectual with these pests.

As usual, some few roses did better than they generally do, and I do not remember Etoile de France so good in early and mid summer before. It is rather strange that this rose should burn and "ball in" so much, as it is apt to do until the autumn arrives, seeing the grand opening qualities of its parents—Madame Abel Chatenay and Fisher Holmes.

A rose that has been good all through the season here is Lady Hillingdon. At first this came too pale, and actually flabby with us in the open, and I was by no means impressed in its favour. It has had no demerits during the present season, however, and at the end of October I could cut a really fine lot of highly-coloured and exquisitely sweet-scented flowers and buds; and it did not cease flowering once.

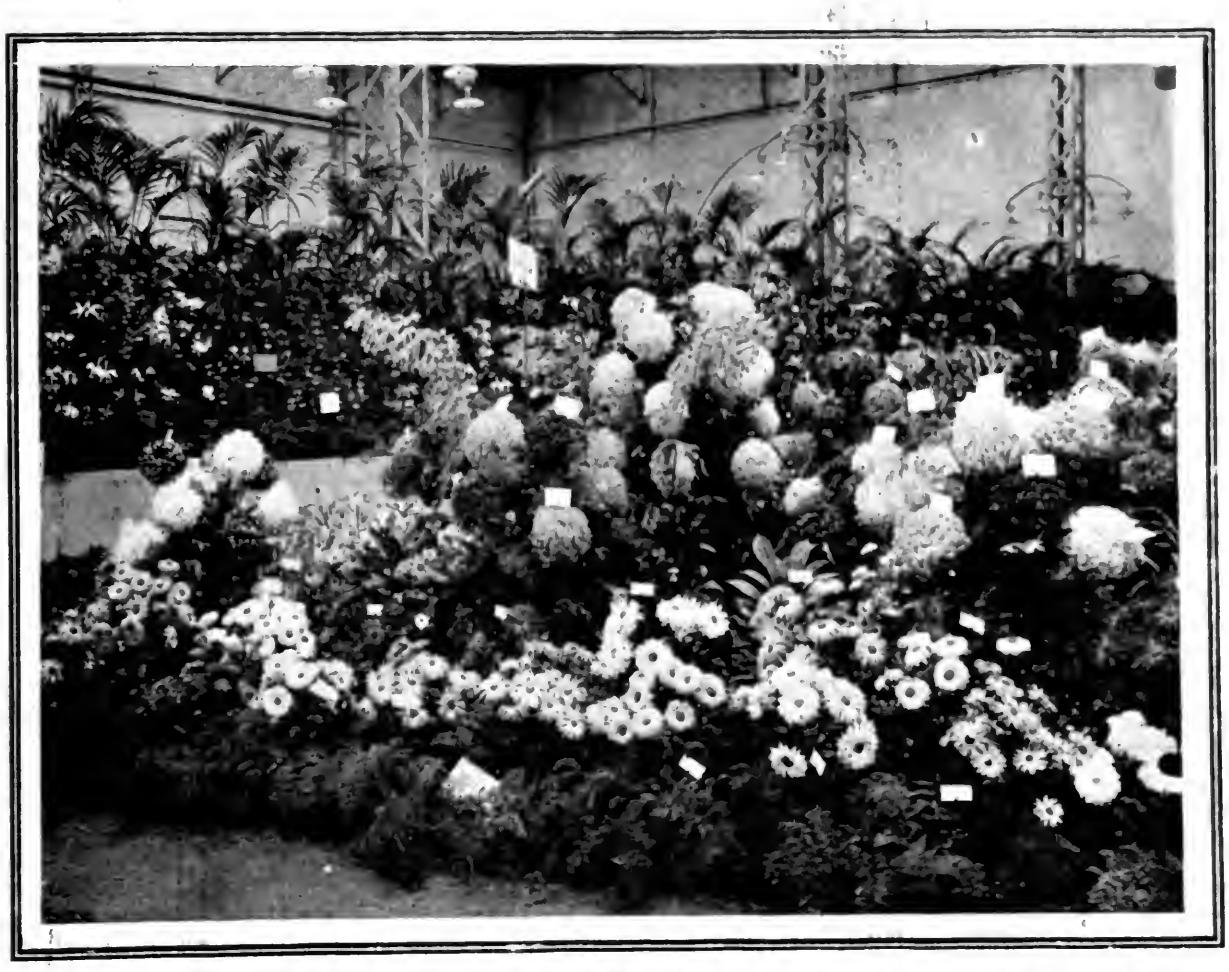
Three varieties from the newer Pernetiana group have been extra good all through the season. These are Lyon Rose, Rayon d'Or, and Arthur R. Goodwin. By the way, the sport from this, G. F. Barry, has been one of the best yellows. This only differs from the parent in its depth of deep primrose-yellow, that, like Rayon d'Or, does not fade. It is also a wonderfully sweet-scented variety, and will prove invaluable for beds. Beauté de Lyon and Louise Catherine Breslau have also been exceptionally good from this class.

The bulk of the hybrid wichurianas here have never been more constant in bloom, and quite a number have done well all the autumn. As I write, we have Alberic Barbier, Emile Fortepaule, and Mrs. Alice Garnier gay with flowers upon standards that were moved last winter.

At the early part of the budding season matters did not look at all promising, and we feared quite a number of stocks would not be active enough for favourable working. This was at the time of great drought and unkind winds; but it was surprising how soon the stocks answered to the change when it came, and at present I do not think there is any cause for complaint as to the promise of the buds, whether upon dwarf or standard stocks.

We have not had a first-class rose year, but the season has extended longer than usual, and has thus been fairly satisfactory all round.

Rosarian.



A FINE COLLECTION OF CHRYSANTHEMUMS AT THE GHENT SHOW.

Exhibited by Mr. T. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone, who was awarded the Grand Prix.

NEW PLANTS AND FLOWERS.

IRIS VARTANI WHITE PEARL.

This is one of the most charming irises of the reticulata group, and also one of the earliest to flower. I. Vartani is rich yellow, but the variety White Pearl is pure white. The leaves are slender, 6 or 8in. long, but the flowers only rise 3 or 4in. high. Originally collected as a wild form, I. Vartani White Pearl has been readily raised from seeds, and comes quite true. A beautiful addition to a delightful group of plants, and one that is hardy, but seems to lend itself especially to cultivation in a frame or cold house. A.M., R.H.S., November 4. Messrs. R. Wallace and Co., Colchester.

IRIS VARTANI WHITE PEARL.

A charming and beautiful bulbous iris of lowly habit, and producing pure white flowers. A.M., R.H.S., Nov. 4. Messrs. R. Wallace and Co., Colchester.

CYPRIPEDIUM OLYMPUS.

Not so very long ago such a fine cypripedium as this would have secured a First Class Certificate. It is a very large hybrid derived from C. Alcibiades and C. Leeanum Clinkaberryanum. The broad dorsal sepal measures rather more than 3½ inches across, and is white, with a green base and radiating lines of deep purple. The petals are tawny-yellow, shaded with red-brown, and highly burnished; the lip is similarly coloured, and very large. A.M., R.H.S., November 4. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

CYPRIPEDIUM STELLA.

A lovely plant, bearing medium-sized flowers; its parents are C. Godefroyæ and C. Fairieanum. The influence of the latter parent is very obvious in the shape of the flower, and especially in the deflexed petals. The ground colour is cream-white, and this is freely strewn with rose-purple dots, chiefly grouped in lines on the dorsal sepal and petals, and on the elongated lip. A.M., R.H.S., November 4. Messrs. Sander and Sons, St. Albans.

CATTLEYA ANDREANA McBEAN'S VAR.

A very pretty orchid, with flowers of fair size. Sepals and petals soft and rich rose-purple overlaying a yellowish ground. Lip large, waved at the margin, deep golden-yellow, margined with rose-purple. The parents of this hybrid are C. Dowiana aurea and C. Mrs. Pitt. A.M., R.H.S., November 4. Messrs. J. and A. McBean, Cooksbridge.

SOPHRO-LÆLIO-CATTEYLA NIOBE.

This very neat habited and pretty orchid is the result of crossing Lælio-cattleya Gottoiana with Sophro-lælia Heatonense. The flower is of moderate size and of good shape, deep rose coloured, with a bright crimson lip that is very effective. A.M., R.H.S., November 4. Messrs. Charlesworth and Co., Haywards Heath.

LÆLIO-CATTLEYA OLENUS BLENHEIM VARIETY.

A large-flowered hybrid, very much resembling L.-c. Bletchleyensis, which, with C. aurea, were its parents. The flower shown lacked something in substance, but its broad petals and narrow sepals are very handsome; crimson-purple. The large ruby-crimson lip is marked with gold in the throat and base. A.M., R.H.S., November 4. The Duke of Marlborough (gardener, Mr. Hunter), Blenheim.

ODONTOGLOSSUM CRISPUM XANTHOTES WESTONBIRT VARIETY.

A lovely odontoglossum, with flowers of the finest shape and purest white ground colour, the whiteness enhanced by the rich golden-yellow spots on all the segments. A.M., R.H.S., November 4. Lieut.-Colonel Sir George Holford, Westonbirt.

CARNATIONS.

Gorgeous.—A showy perpetual variety of American origin; broad-petalled, of good size and shape, with capital stem and calyx. The colour is rich cerise-scarlet. A.M., R.H.S., November 4. Messrs. Stuart Low and Co., Enfield.

Champion. — This is a very fine scarlet perpetual variety, also hailing from the United States. The broad petals have fringed margins, and make up a bold, good-sized bloom, and the colour is a bright and rich shade of scarlet. Whether this will be the champion scarlet variety so long sought remains to be seen, but it is certainly very promising. A.M., R.H.S., November 4. Messrs. W. Wells and Co., Merstham.

CHRYSANTHEMUMS.

Pink Pearl.—A medium-sized Japanese variety, with silvery mauve-pink flowers; the florets flattish, smooth, and drooping slightly. Very attractive. A.M., R.H.S., November 4; F.C.C., N.C.S., November 5. Messrs. H. J. Jones, Ryecroft Nursery, Lewisham.

Daily Mail.—A bold, straw-yellow Japanese variety, already described and figured in our columns (see p. 849). A.M., R.H.S., November 4. Messrs. W. Wells and Co., Merstham.

Madme Th. Morel. — A large Japanese variety of fine exhibition type; the florets broad, and regularly reflexed to form a deep bloom. Colour, pale yellow, with a fawn or buff tint. A.M., R.H.S., November 4. Messrs. W. Wells and Co., Merstham.

Golden Mensa.—This fine, large-flowered single variety is a clear yellow counterpart of the popular white Mensa. A.M., R.H.S., November 4; F.C.C., N.C.S., November 5. Messrs. W. Wells and Co., Merstham.

Mrs. R. C. Pulling.—This is a large exhibition-sized Japanese variety, with loosely incurving florets. Colour, clear light yellow. Promises to be very popular. F.C.C., N.C.S., November 5. Messrs. H. J. Jones, Lim., Lewisham.

Mrs. H. J. Jones.—One of the largest and deepest of Japanese chrysanthemums. the florets long and graceful. When first opened, the colour is soft yellow, with a greenish tint, but the green soon fades, and the colour becomes deep lemon-yellow. F.C.C., N.C.S., November 5. Messrs. H. J. Jones, Lim., Lewisham.

Mrs. J. Gibson. — An attractive single variety, with shapely flowers, mauve-pink on a white ground. F.C.C., R.H.S., November 5. Messrs. W. Wells and Co., Merstham.

Isobel Felton.—One of the very largest of single varieties, many of the flowers measuring seven inches across. The florets are stout, and the flowers stand well. Colour, light and bright yellow. F.C.C., R.H.S., November 5. Mr. Norman Davis, Framfield, Sussex.

Buttercup. — This golden-yellow single variety promises to become very popular, its rich shade of colour and fine shape attracting general attention. F.C.C., R.H.S., November 5. Mr. G. Mileham, Emlyn Gardens, Leatherhead.

Rosalind. — A Japanese variety of medium size, of decorative or market style. The colour is a ruddy bronze. F.C.C., N.C.S., November 5. Messrs. Cragg, Harrison, and Cragg, Histon, Hounslow.

J. W. Streeter.—A fine primrose-yellow sport from the white incurved variety H. W. Thorp. It is very free-flowering as shown, one plant carrying eighteen blooms. Section I., b. First Class Market Certificate 93.28 points out of 100. October 13. Messrs. Cragg, Harrison, and Cragg, Merivale, Heston, Hounslow.

THE LESSER KNIPHOFIAS.

The charm of the lesser kniphofias is apparent to all lovers of hardy plants, and although they are not so widely utilised as they deserve, yet there are signs that the daintier torch lilies are gradually coming into their own. I have written previously of their great value for rock garden adornment. They are grand for any sunny piece of rockwork, and I am making greater use of them each season, as they are so brilliant in colour and continuous in blossom.

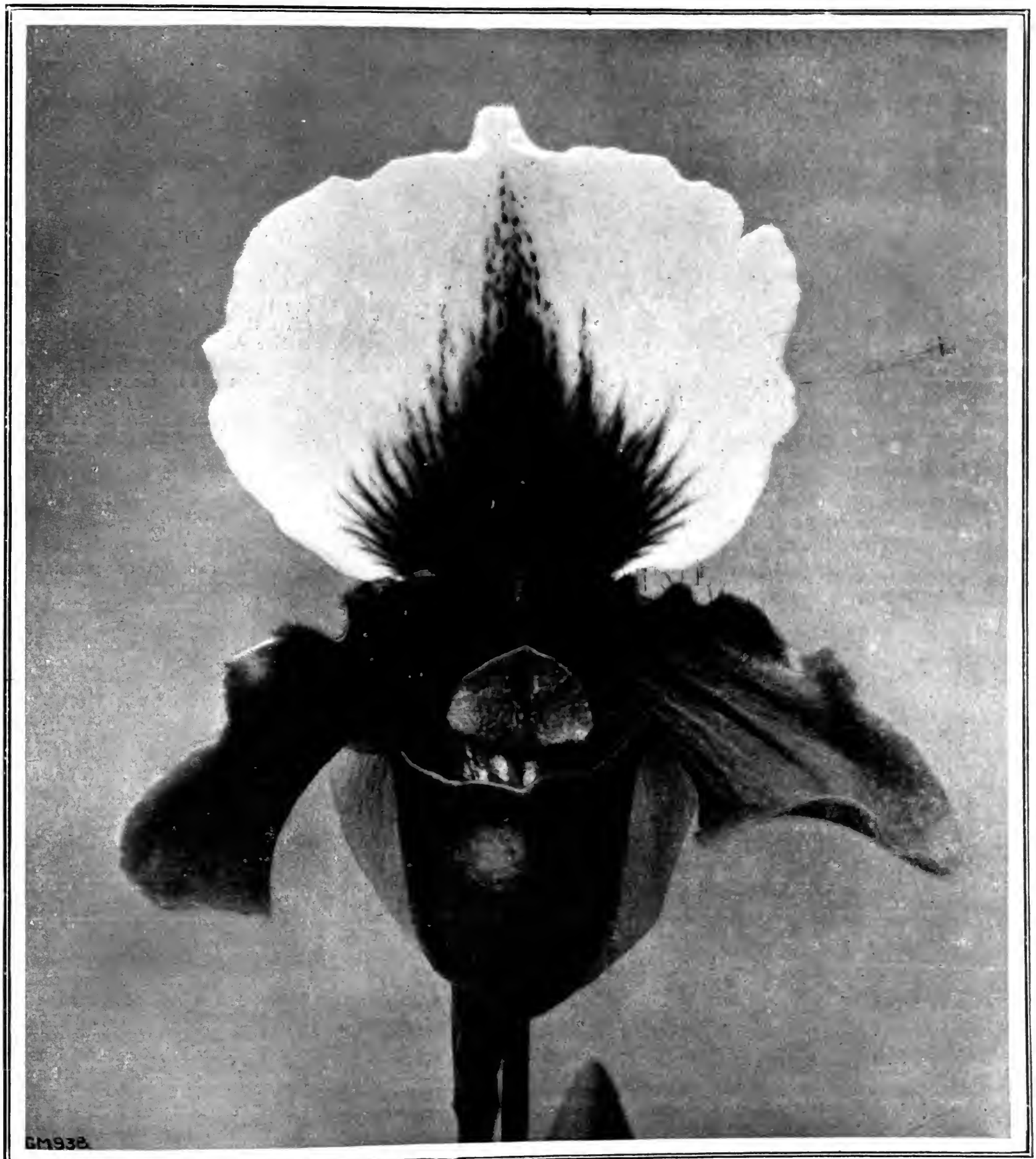
An open situation, with a deeply dug, moderately manured, loamy soil, will suit them perfectly, and if sufficient water is given in dry weather to keep the foliage from yellowing at the tips, and the surface of the soil is kept clean and stirred, little difficulty will be presented to the cultivator.

A brief chat concerning a few of these lesser torch lilies may be of service to readers. K. Nelsoni is one of the best known, a real delightful gem, which produces hosts of dainty flame-coloured blossoms from the wealth of grassy foliage. K. Goldelse, a pretty pure yellow hybrid, is a great favourite of mine, and should be found in every garden. K. Torchlight, a charming companion to the last-named, differs only in its colouring, which is of a bright flaming orange—a very showy and continuous form. G. pauciflora is yellow; a slender, graceful plant of great beauty and decided garden value. K. breviflora, somewhat on the same lines, but with shorter blossoms, is also worthy of note. It carries a pretty yellow shade of colour, and is tall, and very slender. K. rufa I think delightful, a real beauty, with its distinct colourings of fiery red above and bright yellow below. It is tall, free, and very dainty, and I would widely commend it for its beauty.

K. Modesta, the creamy-white kniphofia, can be classed with this smaller section. It is not quite so hardy as most, yet I think it can be safely wintered in England in the majority of gardens if a little protection is given it. Some charming hybrids and seedlings of Modesta have been raised, but I do not know if these are obtainable now. Some very quaint and unusual shades were to be met with among them, not brilliant, but decidedly original.

K. longicollis, one of the most recently-introduced species, can also be included. This is a soft yellow, tinted with orange, and flowers rather late in summer. It is free and beautiful, a very pretty addition to the class.

P. S. Hayward.



CYPRIPEDIUM OLYMPUS.

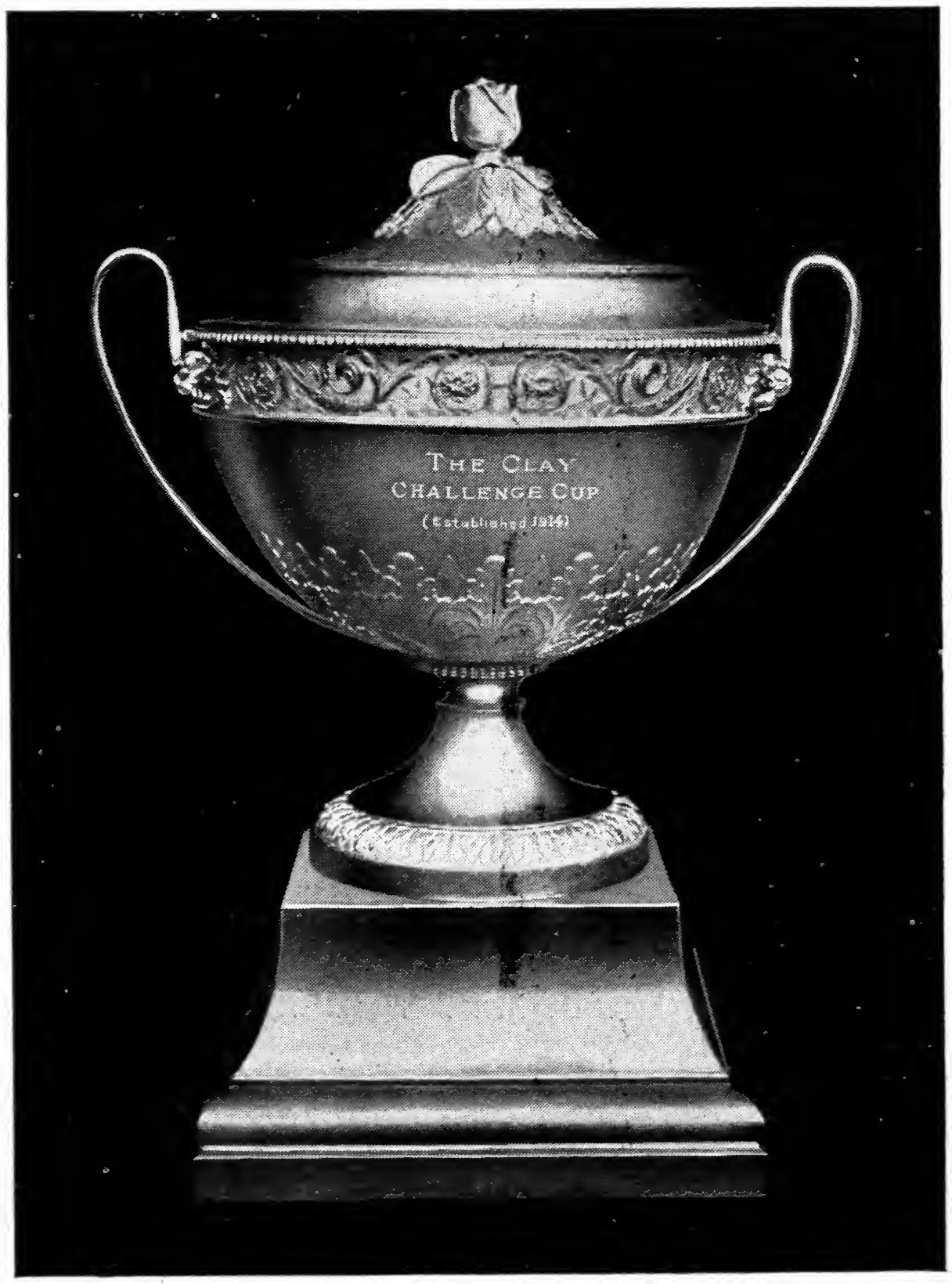
A very fine, large, Lady's Slipper orchid, with white, green-based, purple-line dorsal sepal, and tawny yellow and red-brown petals and lip. A.M., R.H.S., November 4. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

I would commend them, not only for the rock garden, but also for bedding out for a summer display.

Planted in beds in the grass, with a groundwork of lesser plants (as a type of what to use I may mention violas), these smaller-growing kniphofias, with their slender, grassy foliage and graceful wealth of torches, make an exquisite picture. They are light in appearance, very effective and brilliant in hue, and create some very artistic groupings.

CHALLENGE CUP FOR FRAGRANT ROSES.

In our issue of the 1st inst. we were able to announce that Messrs. Clay and Sons had presented to the council of the Royal Horticultural Society a silver-gilt challenge cup of the value of 75 guineas, for the purpose of encouraging the development of fragrance in roses; and we have now much pleasure in presenting our readers with an illustration thereof. This fine example of the silversmith's art is to be offered for annual competition at the Holland House Show, and its object is to encourage raisers in the endeavour to obtain a race of roses with flowers of good form and colour, and possessing "the true old genuine rose scent, such as may be found in the old cabbage or Provence rose." suffice to say that the cup is silver-gilt in two colours, and bears upon one side the inscription, "Clay" Challenge Cup (established 1914); and upon the other the crest of the Royal Horticultural Society. The height, with pedestal, is 18 inches, the width 13½ inches, and the weight 90oz. It may be added that this fine cup is in every way worthy of the donors, the society, and Messrs. Elkington and Son, the makers.



SEVENTY-FIVE GUINEA CHALLENGE CUP FOR FRAGRANT ROSES,
Presented to the Royal Horticultural Society by Messrs. Clay and Son.

The perfume known as the "tea scent" is, we learn, to be excluded from the consideration of the judges in making their awards, and we assume the "musk scent" also will not be taken into account. The competitors for the cup will be allowed to stage a number of new roses, not exceeding three varieties, and from three to six blooms of each variety must be submitted. For five consecutive years Messrs. Clay and Son will also give a smaller commemorative cup which will be presented by the council of the Royal Horticultural Society to the winners of the challenge cup, when, at the end of twelve months, it is returned to the society.

The accompanying illustration so admirably portrays the elegant design for which the cup is remarkable as to render a lengthy description unnecessary. It will therefore

FLORAL DECORATIONS.

I have read with great interest the correspondence in your paper on "Table Decorations." As an exhibitor, I do not agree with Mr. Wise that the general style of decoration put up in rustic vases is altogether easy. Has he ever used these stands? If not, let him try, and see what he can do with a few flowers and a little foliage. I consider the rustic stands have been most useful to the majority of competitors, and the tubes, which some seem to think unsightly, can easily be hidden by a little artistic arrangement of foliage. At the same time, I do not favour these stands for all flowers, such as roses, chrysanthemums, and other heavy blooms; a low decoration and heavier vases are much nicer. But this style of decoration does not suit the majority of judges, whom, I may safely venture to say, are almost invariably gardeners.

Another point is height. No restriction should be made in this; it would result in monotony. Not enough scope is given to the competitor, and the generally expressed opinion of the public is, "What a sameness there is in these tables." And the public are the best critics. All competitors would welcome something new in the art of decorating, and I hope Mr. Wise will come forward at one of the forthcoming exhibitions and show competitors how to decorate a table fit to be seen in a gentleman's house. He would do well to visit the National Rose Society's show, and see for himself that rustic vases share equally in the awards with silver vases and bowls.

Points should be given for artistic arrangement, good blooms, artificial light, effect, style, etc.; and the rules should also state whether the decoration is for the centre of a table, or for the whole of the table. Finally, I think the various show committees would do well to appoint younger judges with newer ideas, and let those of twenty or thirty years' experience retire. There are always plenty of critics at the various shows, but few have the pluck to do anything new and original. (MRS.) A. R. BIDE.

Highlands, Farnham.

R.H.S. RULES FOR ENTERING DAFFODILS FOR AWARDS.

At their meeting on the 4th inst., the President and Council of the Royal Horticultural Society adopted the following new rules submitted by the Narcissus and Tulip Committee of the Society. The rules will take effect from January 1, 1914.

1.—It must be clearly stated on the entry form of any variety which is submitted to the committee for an award, under which of the following heads the sender wishes it to be judged—

(a) As a show flower, or "show."
(b) As suitable for garden decoration, or "garden."
(c) For growing and flowering in pots, or "pots."
(d) For cutting or market purposes, or "cutting."
(e) As a plant for rockwork, or "rockery."

N.B. Any one variety may be entered under more than one head.

2.—The following conditions must be complied with in all cases:

If submitted under (a) five stems with bloom are necessary for an Award of Merit, and twelve stems for a First-class Certificate.

If submitted under (b) and (d) for either Award of Merit or First-class Certificate twenty-five stems must be submitted in two vases; twelve must be bunched and thirteen be loose.

If submitted under (c) and (e) two pots or pans must be shown, each containing not less than three bulbs, for an Award of Merit. Four pots or pans, each containing not less than three bulbs, for a First-class Certificate.

3.—Official entry forms will be provided, and may be obtained from the R.H.S. offices. One of these forms must be properly filled up by the exhibitor for each variety before it can be placed before the committee.

4.—The words "Show," "Garden," "Pots," "Cutting," or "Rockery," will in future be added to the usual A.M. or F.C.C.

Broccoli.—The mild and wet weather we have experienced of late has caused sappy growth in most of the brassicas, and broccoli in particular will require special care to enable them to pass through the winter safely, should it be at all severe. The best method of treatment is to heel over the plants with their heads to the north, covering the stems with soil right up to the lower leaves. Unless the soil covers the whole of the bare stem, frost will do much damage, as that portion of the stem just below the leaves is most susceptible to harm. Should the weather be extra severe, bracken or loose litter scattered over the plants will afford adequate protection. The early autumn varieties may be lifted with good balls of soil and planted in pits, and they will supply good heads up to Christmas.—W. MESSENGER

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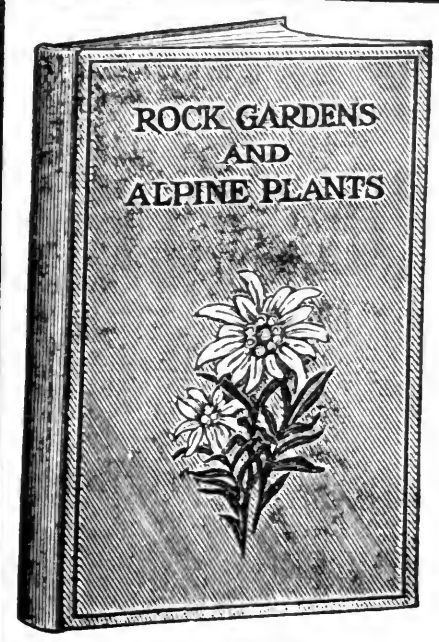

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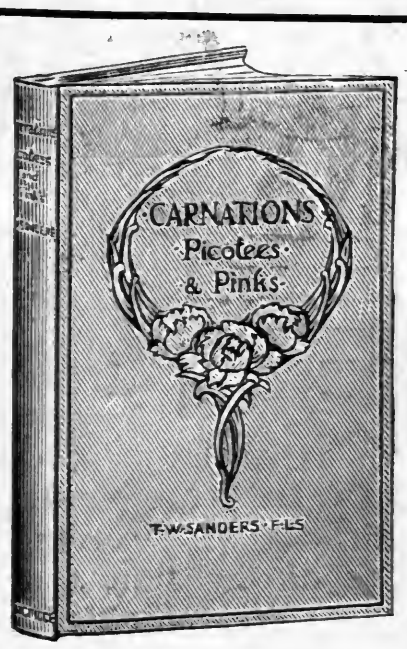

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WORK FOR THE WEEK.

THE ORCHID HOUSES.

PLEIONES.—When grown in large pans the early-flowering P. maculata and P. lagenari make a fine display at this season of the year, and smaller specimens are exceedingly serviceable for decorative purposes. We find that they take no harm when employed in the dwelling-house if kept reasonably dry while in the rooms. As soon as they pass out of flower, the growth develops rapidly, therefore repotting should be attended to as soon after the flowers have been removed as possible. In the case of larger specimens, annual repotting is not necessary, but all dead and decaying matter about the surface of the compost should be removed. The surface moss, owing to the prolonged resting period, usually dies, and this should give place to living moss, carefully washed before use, as sphagnum is usually infested with small slugs, or eggs of slugs, at this season. When repotting large specimens, choose a lasting compost of good turfy loam, sphagnum, and fibrous peat in equal portions, with sufficient finely-broken crocks and sand added to render the compost porous. The plants should be placed about two inches apart, and the compost made moderately firm about the roots. Smaller specimens should be annually repotted, and if a little decayed leaf-soil is mixed with the compost we find the plants root more freely. Ample drainage must be given, and water afforded sparingly until the new roots become established in the fresh compost. The plants should be suspended from, or placed in a position near to, the roof-glass in a warm intermediate house for the winter months.

ANGULOAS.—The various species will now have completed their growth, and may be removed to cooler and more airy conditions to rest. It is not desirable to withhold water altogether until after the leaves have fallen, then only sufficient will be necessary to keep the pseudo-bulbs plump. Place the plants in a position where they will have the full benefit of all available light, for on the maturation of the pseudo-bulbs the success or failure of flowering in the spring will depend. Many of the lycastes have completed their growth, and will require less root moisture, but sufficient must be supplied to keep the leaves and pseudo-bulbs in good health. Cooler conditions, but not a too dry atmosphere, will assist the plants of this group during the short dormant season.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

LUCULIA GRATISSIMA.—If a suitable place can be found in the greenhouse or conservatory for this plant it should certainly be grown, for there is no more beautiful subject among our greenhouse shrubs. To grow it really well it should be planted in a restricted border. A suitable compost consists of fibrous loam, peat, or leaf-soil, and coarse sand. A frequent cause of failure, I believe, is keeping it too warm during the resting period, and this fact should be borne in mind when choosing the position in which to plant it. The most successful example of this beautiful plant that I ever saw was growing in a small greenhouse, in which the temperature dropped very closely to freezing point during severe frost. After the plants have finished flowering, which is usually by the end of the present month or early in December, the old wood should be cut hard back. Between pruning time and the spring the plants should be induced to rest by keeping the atmosphere cool and withholding water. They will then burst freely into strong growth in spring, and will have the whole of the summer in which to perfect their flowering shoots. One of the chief characteristics of Luculia gratissima is the delicate fragrance of its beautiful rose-coloured flowers.

LAPAGERIAS.—These plants require very similar treatment, both as to rooting medium and general conditions, as the luculia. Being a climbing plant it needs an overhead trellis for its long shoots, and where the flowers can be seen to advantage. By planting the red and white forms together, a fine contrast is produced, especially when the growths of each variety intermix. Great care is needed during the growing season to keep the shoots from becoming an entangled mass which should quite spoil the effect when the plants are in flower.

EARLY-FLOWERING BULBS. — The Paper White narcissus will need little forcing this season to flower them by Christmas. The bulbs which we potted up in September are still in cold frames, and are on the point of bursting into flower. Roman hyacinths, too, will not require to be hurried unless they are wanted at an early date. The early tulips are giving promise of success as the pots are becoming well filled with roots.

VIOLETS IN FRAMES.—The weather up to the time of writing has been very favourable for these, as, except during heavy rains, the lights have not been on, the frames either day or night. To keep violets flowering all through the winter there must be no semblance of coddling, and it is only during very severe frost that the frames will require to be tightly closed. Examine the plants frequently, and remove dead flowers and foliage; keep a sharp look-out for slugs, and dust the sides of the frame frequently with lime.—E. HARRISS, Lockinge Gardens.

HARDY FRUITS.

PLUMS.—As soon as the leaves have fallen pruning may be taken in hand and pushed forward when the weather is mild. Top-dressing at intervals of a few years will greatly assist the trees in the production of clean fruits and healthy growth, but when this work is performed it should be done thoroughly, getting well down to the main roots, and, if possible, bringing some of these nearer the surface. Remove all the old top soil, and give a good dressing of lime rubble and bone-meal, working this well down with a fork; then top-dress with plenty of good loam and lime rubble, laying out the roots as the work proceeds. Afterwards apply a good mulch of half-decayed manure. When pruning plums, lay in a fair quantity of young shoots, as I find it is from these young growths that the most and best fruits are produced: spur back the side growth on the main branches to within a couple of eyes; lay in the leaders neatly and straight, shortening them more or less according to the strength and maturity of the wood. If mussel scale is present, dress with caustic wash. Although the plum crop at Wrotham has been under the average on walls this season, two trees of Gisborne's, right in the open, in fact situated in a very exposed position, both cropped heavily, and the same was the case with one Victoria, a standard.

GOOSEBERRIES.—Pruning may be commenced now that most of the leaves have fallen. Some growers, however, prefer to leave them until spring, but if taken in hand at the present time the work can be got through quicker than when the weather is cold. Keep the heads well thinned out and the branches evenly distributed, so that when finished the bushes may have a good appearance; shorten the inner growths to within a few buds of older shoots, and, if the leaders are long, cut them back to within 12 or 15 inches of last year's wood. Leave, at intervals, young growths springing from the base, to take the place of any that may have to be removed next year. Rake up all the prunings, remove a portion of the top soil from beneath the bushes, dust well with fresh lime, and top-dress with loam and manure. Gooseberry bushes are frequently neglected, consequently the fruits are small and poorly flavoured, and the crops light. Syringe the bushes with quassia extract, and dust with soot and lime to render the buds distasteful to birds; and should the feathered tribe become very troublesome, strain black cotton at intervals and at different heights above the bushes, attaching it to bamboo stakes pushed into the ground.

PLANTING, ETC. — Proceed with the planting which remains to be done, and if the land is rather wet and sticky place some potting soil, or some other material moderately dry, among the roots, and do not tread too heavily until after the land is somewhat drier. See that all standard trees are neatly staked, and the ties renewed if needed. Afford protection against cattle, hares, and rabbits. Newly-planted trees will need only temporary supports until after they have settled and the soil has become more consolidated. In grass orchards keep the grass well grazed by sheep or cattle, and feed older trees with plenty of farmyard liquid; this may be applied at a much greater strength at this season of the year. If possible, keep poultry in the orchards, as their excrement is most beneficial to the trees.—H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

CUCUMBERS.—Plants now fruiting will require constant attention to keep them in a healthy condtion. All lateral growths should be closely stopped at a fruit joint, and trained in thinly; where the foliage becomes somewhat crowded remove some of the older leaves. If too much growth is allowed to remain the plants become weak and fail to crop satisfactorily. Avoid over-cropping. Light top-dressings of good loam and well-rotted manure should be applied frequently to encourage root action, and an occasional application of an approved artificial manure will be helpful. A brisk heat should be maintained and on sunny mornings syringe freely to keep down insect pests.

PEAS.—About the third week in this month, the earliest batch of peas for growing under glass may be sown. Eight-inch or ten-inch pots, well drained, are the most suitable for this purpose. A compost consisting of three parts good fibrous loam, one part leaf-mould and old mushroom-bed manure, should be passed through a half-inch sieve; fill the pots three parts full with the compost, making it moderately firm. The seeds should be sown about as thick again as the number of plants required, eventually thinning out the seedlings. Overcrowding should always be strictly avoided.

FRENCH BEANS.—The mild weather we have experienced has made it comparatively easy to keep up the supply of French beans, but now the short and often sunless days are with us it will be a much more difficult task to maintain the supply for the next two or three months. When sowing successional batches use smaller pots than usual—seven-inch pots will be quite large enough. The drainage should be ample, and the soil of a light, open nature. Place the plants as near the glass as possible, and maintain a genial atmosphere, but avoid, as far as possible, the excessive use of artificial heat. Thoroughly syringe the underside of the foliage twice a day, whenever the weather is bright and clear. Plants in bearing should be assisted with alternate waterings of liquid manure and clear tepid water.

FORCING.—Place chervil, mint, and tarragon in heat, also seakale, rhubarb, and chicory at intervals to keep up the supply. Make frequent sowings of mustard and cress.—W. MESSENGER, Woolverstone Park Gardens.

EXHIBITIONS AND MEETINGS.

Cambridge Horticultural Society.

The autumn show of this admirably-managed society, which was founded some ninety years ago, was held on the 6th inst. under most favourable conditions. The weather was bright and genial, and the Corn Exchange contained one of the finest displays of the products belonging to the autumn months that has yet come under our notice this season. We have seen the great building somewhat more crowded than on this occasion, but there was no falling off in the quality of either flowers, fruits, or plants; the cut chrysanthemums were indeed of such outstanding merit that they were fully equal to the best that have been shown this season, and the display of hardy fruits was of quite exceptional excellence.

CHRYSANTHEMUM BLOOMS.

There was a strong competition in the special class open to all England for twenty-four blooms of Japanese varieties, distinct, and the premier award was made in favour of Mr. G. Barker, gardener to Miss Gibson, who surpassed himself on this occasion. The whole of the blooms were of immense proportions, splendidly coloured, finely finished, and well set up. The varieties included: Miss A. E. Roope, Fred Green, R. Fralies, Master James, W. Turner, His Majesty, Frances Jolliffe, W. Parsons, Purity, W. Mease, F. S. Vallis, Mary Farnsworth, Mrs. J. G. Day, Bessie Godfrey, Mrs. G. Drabble, Reginald Vallis, J. H. Salisbury, Thomas Lunt, Dorothy Goldsmith, Mrs. G. C. Kelly, Lady Talbot, and Eclipse. Mr. W. H. Allen was second with an excellent collection of blooms, and Mr. G. Dyson, gardener to W. P. Neal, Esq., Cherry Hinton Hall, was third with blooms that in an ordinary competition would have placed him at the head of the prizewinners. Mr. G. Barker was successful also in the members' class for eighteen blooms of Japanese varieties, staging blooms that were fully equal to those which he contributed to the great open class. Sir J. J. Briscoe, D.L., Bourn Hall, was in fine form on this occasion, as exemplified by the fact that he was awarded premier honours in the class for twelve Japanese, distinct, and also in the classes for six and three varieties. His blooms were of good size, and superb in form and colour. Mr. F. Allen, gardener to Miss Smith, was second for six blooms, and Mr. G. Dyson second for three, both staging remarkably well.

Incurved chrysanthemums were so largely shown as to form a most interesting feature, and the quality was so high as to suggest a revival in the art of exhibiting blooms of this section in their proper form. The chief class was that for eighteen blooms, open to all, and here Mr. G. Barker was first with large, finely-finished, and remarkably fresh blooms of Romance, J. Wynne, Mrs. R. Hankey, Duchess of Fife, Daisy Southam, Buttercup, Miss Cora Stoop, Miss Nellie Threfall, Godfrey's Eclipse, J. W. Higgs, Emblème Poitevin, W. Pascoe, Maritana, Mrs. G. Denyer, Master A. Hall. Mr. T. Todd, gardener to W. A. Briscoe, Esq., Longstowe Hall, was a close second with a superb lot of blooms, the varieties being similar to those represented in the first prize stand. Mr. A .W. Taylor, gardener to Lord Inchcape, had blooms of a high order of merit for third place; they were not, perhaps, quite so deep as could have been desired, and this was accentuated by the low level at which they were staged. Mr. G. Barker scored for twelve incurved with finely-developed blooms, and was closely followed for second place by Mr. G. Dyson, who was first for six and three.

The contributions to the vase classes for incurved and Japanese formed a remarkably fine feature, the entries being numerous, and the blooms splendidly developed. For the awards for six vases of incurved, three blooms in each, there was a very keen contest, and at the head of the numerous competitions was Mr. G. Dyson, whose blooms were of large size and superbly finished, those of Romance and Mrs. J. Wynne being exceptionally meritorious. Mr. G. Barker was a close second with a grand lot of blooms, and Mr. A. W. Taylor was third with flowers evincing cultural skill of a high order. In the corresponding class for six vases of Japanese varieties, three blooms of each, Mr. G. Barker occupied the premier position with exceptionally fine blooms of W. Mease, W. A. Turner, Hon. Mrs. Lopes, Frances Jolliffe, and Mrs. A. E. Roope. Mr. T. Todd and the Rev. C. F. Townley followed closely for second and third places.

As is usual at Cambridge, decorative and single chrysanthemums were staged in large numbers, and the quality of the blooms was higher than in any previous year since they were given a place in the schedule of the society. For six vases of decorative varieties, Mr. A. Lelliott won with bold arrangements of fresh well-coloured flowers, and Mr. J. Hall, who occupied the second place, also staged well, and in the corresponding class for single chrysanthemums he was first with superb flowers. Mr. W. Dobbs, who is highly successful in the cultivation of the varieties belonging to the single section, was second with blooms of much merit. The first prize for pompons in vases was awarded to Sir J. J. Briscoe, who had a beautiful arrangement. There was an especially keen contest for the prizes for three vases of single chrysanthemums, and Mr. W. Dobbs, who occupied the post of honour, was seen at his best. Mr. R. L. Hudson and Sir J. J. Briscoe were second and third with finely-developed flowers. For three vases of single varieties, disbudded, Mr. Todd and Mr. G. Drayson were the most successful exhibitors.

Mr. T. Ward, The Graperies, Bishop's Stortford, exhibited a large and tastefully arranged group of chrysanthemum blooms, which attracted much attention from the visitors. It comprised a dozen or more pyramids, six or seven feet high, of decorative and single varieties, and between them were bowls and vases of specimen blooms in a high state of development. The award of a gold medal was made.

PLANTS.

The competition in the class for groups of chrysanthemum plants was not quite equal to that of last year, and consequently they failed to form so fine a feature as usual. Mr. G. Dyson, who was successful in obtaining premier honours, had a magnificent arrangement, both flowers and foliage of the chrysanthemums being splendidly developed, and the ornamental-leaved plants used in association with them were high in quality and arranged with much taste. The more successful of the competitors in the classes for specimen plants were Mr. G. Dyson, Mr. G. Willers, and the Rev. C. F. Townley. Begonias were finely shown by the exhibitor last named, and Mr. G. Dyson, who also staged large, finely-flowered examples of Salvia splendens.

FRUIT.

Fruit was so largely and well shown as to form a feature remarkable alike for its interest and attractiveness. Apples and pears were shown in sufficient quantities to fill a broad stage extending the whole length of the spacious hall, and the first-named were so rich in colouring as to surpass anything we had previously seen this season. Very keen was the contest in the class for twelve dishes of apples, to comprise equal numbers of culinary and dessert varieties, and in the result the premier award was made in favour of Mr. J. H. Ridgwell, Histon, who had remarkably fine dishes of Warner's King, Newton Wonder, Lord Derby, Mère de Ménage, Peasgood's Nonsuch, Bismarck, Tyler's Kernel, Charles Ross, Cox's Orange Pippin, Gascoigne's Scarlet, Wealthy, and American Mother. Mr. A. Lelliott was second, with Cox's Pomona, Braddick's Nonpariel, Allington Pippin, and Cox's Orange Pippin as his best dishes; Mr. R. Stevenson, third. Even more keen was the competition for the prizes for six dishes of apples, containing equal numbers of culinary and dessert varieties. Mr. Todd won first prize with Cox's Pomona, Gascoigne's Scarlet, and Rival as his dessert varieties, and Hoary Morning (very fine), Lord Derby, and Peasgood's Nonsuch as his culinary varieties. Mr. J. H. Ridgwell was an uncomfortably close second, and Mr. W. P. Hollis third.

For two dishes of dessert apples, Mr. R. Stevenson and Mr. J. H. Ridgwell were first and second; and in the class for three dishes of culinary apples the first and second prizes were awarded to Mr. Todd and Mr. J. H. Ridgwell. The best dish of Wellington was shown by Mr. W. P. Hollis; the best dish of Lane's Prince Albert by Mr. S. W. Cole; the best dish of Peasgood's Nonsuch by Mr. Todd; and the best dish of any other culinary variety by Mr. R. Stevenson, who had grand fruit of Bramley's Seedling. Messrs. R. M. Jones and Sons had the best dish of Cox's Orange Pippin; Mr. A. Lelliott was successful in taking the premier award for a dish of King of the Pippins; Mr. R. Stevenson won the first prize for the best dish of Blenheim Pippin of dessert size; Mr. Todd won for a dish of Ribston Pippin; and Mr. A. Lelliott obtained premier honours for any other dessert variety with Allington Pippin. The special prize for the best dish of apples in the foregoing classes was awarded to Mr. S. W. Cole for the magnificent fruit of Lane's Prince Albert exhibited by him in the class specially provided for that variety.

Baskets of apples constituted, as usual, an interesting feature, as in each class the entries were numerous, and the fruit highly meritorious. In each class the weight of fruit required was 20lb., and in that for dessert varieties Mr. R. Stevenson, Mr. A. Lelliott, and Mr. J. H. Ridgwell were the prize-takers in the order of their names, each staging Cox's Orange Pippin of high quality. In the corresponding class for culinary apples Mr. S. W. Cole was first with grand fruit of Newton Wonder. Mr. A. Lelliott followed closely with Lane's Prince Albert of high quality; and Mr. J. H. Ridgwell, third, with Lord Derby at its best.

The large array of finely-developed fruit of dessert and culinary pears suggested a season of plenty rather than one of great scarcity, and proved a veritable surprise to those who are well acquainted with the present position of the supplies of choice pears of home growth. Mr. Todd was successful in occupying the first place in the class for six dishes, with exceptionally fine fruits of Durondeau, Buerre Superfin, Marie Louise, Le Lectieur, Doyenné du Comice, and Pitmaston Duchess. Mr. W. Dobbs was a close second with remarkably fine fruit, especially noteworthy being the dish of Emilie d'Heyst. For three dishes Mr. Dyson and Dr. Dalton were first and second. Mr. Dyson was first for a dish of Doyenné du Comice; and Mr. Todd won in the class for a dish of Pitmaston Duchess.

Grapes were hardly up to the high average that usually obtains at Cambridge. Sir J. J. Briscoe obtained premier honours for two clusters of Muscat of Alexandria, and Mr. Dyson followed for second place. The best two bunches of Alicante were shown by Mr. R. L. Hudson, and in the class for any other black variety the exhibitor last-named was first with Gros Maroc, and Mr. Dyson second with Lady Downe's Seedling.

VEGETABLES.

Several classes for collections of vegetables were provided, and all were admirably filled. Mr. A. Lelliott was successful in obtaining first place in the society's class for ten kinds, with excellent produce, potatoes, celery, cauliflowers, and Brussels sprouts being particularly good. Mr. P. Hawkes was a close second, and in Messrs. Sutton and Sons' class for six kinds he occupied the post of honour, in both cases staging meritorious produce. The Rev. F. C. Townley and Mr. R. L. Hudson were the most successful competitors in Messrs. E. Webb and Sons' class for six kinds. Lord Inchcape scored for twelve dishes of potatoes with medium-sized, shapely tubers of well-known variety. For six dishes, Mr. Todd was a capital first with Mr. Bersec, Snowdrop, The Admiral, Table Talk, and Twentieth Century at their best. As usual, the whole of the arrangements were remarkable for their completeness, and reflected much credit upon the administrative ability of Mr. Rupert Fuller, the hon. secretary, and other members of the executive.

Portsmouth.

OCTOBER 29, 30, and 31.

The annual exhibition of this society was held in the Town Hall, and was doubly a success, both horticulturally and financially. Groups of chrysanthemums in pots, both single and double, were numerous, and of a high order of merit. Cut blooms were exceptionally fine, especially the incurved and single varieties, the latter standing out prominently. The arrangements were quite good, under the careful guidance of Mr. W. E. Gill, hon. secretary.

CUT BLOOMS OPEN TO ALL.

The leading class was for thirty-six Japanese, in not less than eighteen varieties, for which a silver cup, value £20, and £5 in cash, were offered. Four competed, making a bold display. Mr. Baxter, gardener to Captain Dalgety, Lockerly Hall, Romsey, was easily first with large blooms, fully developed and of rich colour. The leading varieties were Lady Talbot, Master James, F. S. Vallis, Mrs. Stevenson, Frances Joliffe, Mrs. G. Drabble, Queen Mary, Bob Pulling, the Hon. Mrs. Lopes, Mary Farnworth, John Peed, His Majesty, and Mrs. Luxford. Mr. G. Hunt, gardener to Pantia Ralli, Esq., Ashtead Park, Epsom, was a good second with smaller blooms; Mrs. Lloyd Wigge, Mrs. H. J. Jones, and Master James were his more prominent flowers. Mr. Herbert, gardener to Sir F. Fitzwygram, Leigh Park, Havant, third. Mr. Hunt secured the leading place for two dozen Japanese, with an even set of blooms of high quality; Frances Rowe, His Majesty, Miss Boyes, and Frances Jolliffe were the most noteworthy among so many superior blooms. Mr. D. Edwards, gardener to W. Garton, Esq., Sarisbury Court, Southampton, was a close second amongst four entrants. Mr. Herbert third; the last-named won for a dozen distinct Japanese.

Incurved blooms were remarkable, being large and especially well finished. For twelve, four entered, the best coming from Mr. Edwards, several of them measuring six inches in diameter; Mrs. J. C. Bryce, Mrs. Percy Wiseman, Godfrey's Eclipse, Mrs. G. Denyer, W. H. Thorp, and Miss Annie Holden were outstanding varieties. Mr. Hunt second, with neat smaller blooms. Single-flowered varieties were staged numerously. For six blooms, of distinct varieties, seven competed. Mr. Herbert, with a remarkable set, won the premier position; Mensa was remarkably fine; Edith Taylor, Draco, and Metta with Bronze and Edith Pagram, were also desirable. Mr. Edwards, with grand flowers of Silvi Slade and Mensa, won the second place.

Local classes were numerous and well filled. Mr. White, 6, Garden Terrace, Southsea, won easily with desirable blooms. Mr. Johnson, 10, Garnier Street, Southsea, second. Pompons were a distinct feature here, so seldom are they seen nowadays. For twelve sprays, Mr. H. Snooks, 5, Fitzroy Terrace, Fratton, was first, as he has been many years in this class, staging high quality, medium-sized blooms of W. Kennedy. W. Westlake, Acto, Eclipse, Fermy, and Mrs. Astic were the best. Mr. G. Johnson, 5, Clydesdale Terrace, Southsea, second. Five competed for six sprays of single-flowered varieties. Mr. H. Snook led with blooms but little less meritorious than in the open class. Anemone-flowered varieties are now seldom seen, but, when they are in good order, deserve noting. Mr. Snook, with medium-sized, fresh blooms with fair centres, was first, Mr. W. Snook following.

PLANTS.

A silver cup was offered for a group of chrysanthemums in a superficial area of 60 square feet. There were five entries, and the several groups made a fine display, extending the length of one side of the hall. Mr. W. E. Gill, Osborne Road, Southsea, the hon. secretary, was an easy first with an excellent exhibit of dwarf-grown plants, well furnished with good leaves and high-class blooms, not in the least crowded. Mr. W. B. Jeffreys, 37, Clarence Parade, Southsea, a good second, with finely-developed blooms on taller plants; Mr. W. Abbot, Twyford Avenue, Portsmouth, third. Single-flowered varieties made an excellent display, four groups were arranged for the gold medal offered. Mr. Burridge, North End, Portsmouth, was first with freely-flowered plants carrying good blooms; Mr. J. Johnson second with a tasteful arrangement of smaller blooms; Mr. W. E. Gill third. Mr. C. White had the best twelve specimens, the plants carrying good blooms. The Portsmouth Parks Committee were second for a group, and first for twelve specimens.

TABLE DECORATIONS.

Ladies' table decorations were of an interesting character. Mrs. Rapley, Warblington Cottage, Havant, won easily with bronze and yellow single chrysanthemums, nicely displayed, with suitable greenery in low vases, and a thinly-arranged centrepiece. Miss L. Hawkes, 325, Lake Road, Portsmouth, second with an arrangement in bronze chrysanthemums.

NON-COMPETITIVE.

Trade exhibits were not numerous, but interesting. Messrs. W. Wells and Co., Merstham, Surrey, had an interesting collection of chrysanthemums—Wm. Vert, Mrs. K. Luxford, Queen Mary, and the new Daily Mail Japanese. Amongst singles, Coronation, lilac rose, with silver tips; Marjorie Lloyd, amber bronze; Eric Wilde, rose; and Mdme. T. H. Morel, yellow, were noteworthy. The Barnham Nursery Company had four dozen dishes of apples of superior quality, and Newton Wonder, Rival, Charles Ross, Lord Derby, Allington Pippin, Chelmsford Wonder, and King of Pippins were the most conspicuous.

West of England Chrysanthemum Society.

This society opened its annual show in the Guildhall, Plymouth, on November 4. The entries were more numerous than they have ever been before, and the exhibition was by far the best ever held under the society's auspices, and marks a distinct advance on previous years.

In the class for thirty-six Japanese blooms, first prize was won by Sir Randolf Baker (gardener, Mr. Usher), Ranston, Blandford, with a marvellously perfect stand of very large blooms, better than any ever seen here before; Hon. Mrs. Lopes, F. S. Vallis, His Majesty, Rose Pockett, Mrs. G. Drabble, and Francis Rowe were exceptionally fine. For eighteen Japanese blooms Sir R. Baker led, and his Mrs. G. J. Beer, W. Turner, G. Lock, and Lady F. Ryder were extremely good. Twelve vases single chrysanthemums found Mr. Vere Cholmondley first, and his Mrs. W. Buckingham, Sylvia Slade, and Ceddie Mason were very pretty. For three vases single chrysanthemums, white, first prize went to Mr. T. B. Bradshaw; three vases, single, yellow, first prize, Mr. Vere Cholmondley; three vases, single, any other colour, first prize, Mr. Vere Cholmondley.

For a group of stove and greenhouse plants, Mr. J. Webber scored with Lilium longiflorum, carnations, cyclamen, Begonia Gloire de Lorraine, Erica gracilis, E. melanthera, crotons, odontoglossums, cypripediums, and bamboos, with a tall palm in the centre. For a table decoration there were eleven entries, and the first prize was won by Mrs. W. Liddle with a beautifully-arranged table of the salmon-pink rose Madame Abel Chatenay.

For a collection of salads one of the prettiest exhibits in the whole show was staged, the scarlet and yellow capsicums and tomatoes having a brilliant effect. The stand contained yellow, red, and black capsicums, Australian cress, American cress, Tom Thumb lettuce, cos lettuce, cucumber, watercress, variegated chicory, celery, beetroot, Batavian endive, curled endive, chives, radishes, red and white. At the back of the stand were two pillars about three feet high hung with scarlet and yellow capsicums and currant tomatoes, red and yellow, and in front were two pillars of mustard. The effect of the whole was most attractive, and was admired by numbers of visitors. The prize was won by Mrs. R. Bainbridge.

The first prize for a group of single chrysanthemums was won by Mrs. R. Bainbridge with a very tastefully-arranged collection of fresh flowers, with a spreading bamboo in the centre. For four specimens Japanese chrysanthemums, Mr. E. J. Hannaford was first, and for one specimen Japanese chrysanthemum Mr. W. J. Ellis led. In the other classes the chief prize-winners were—for six primulas, Mr. G. Shellabear; six Primula stellata, Mr. G. Shellabear; six pelargoniums, Mrs. R. Bainbridge; six begonias, white Gloire de Lorraine, Mrs. R. Bainbridge; six begonias, any variety, Sir R. Pole Carew; six stove or greenhouse table plants, the Earl of Morley.

In the classes confined to residents within fifteen miles of Plymouth, the silver challenge cup for twelve Japanese blooms was won by Mr. W. J. Ellis; twenty-four Japanese blooms, Lady Buller; six Japanese blooms, Mr. C. E. Curtis.

In the fruit classes, first prize for twenty dishes was won by Mr. H. St. Maur, and first for twenty dishes of apples was awarded to the Earl of Morley. A fruit of Lord Derby apple was shown by Miss Hawker, which had a circumference of 17¾ inches, and weighed 30oz., and a specimen of Mère de Ménage, with a circumference of 16½ inches and weighing 28oz. was shown by Mr. J. A. Paley. The vegetables were very good, and some splendid collections were shown. First prize for black grapes was won by Mr. H. St. Maur, and first prize for white grapes by Mr. F. R. Rodd.

The nurserymen's exhibits did much to enhance the attractions of the show. The Devon Rosery, Torquay, showed a marvellously perfect selection of fruit, which was awarded a gold medal. There were a hundred dishes of apples and several of pears, and fine bunches of Black Alicante, Barbarossa, Lady Hutt, and Gros Colmar grapes. Among the apples some of the most attractive were Bramley's Seedling, very highly coloured; The Queen, very fine; Belle de Pontoise, Peasgood's Nonsuch, large in size; Gascoigne's Scarlet, very brilliant; Cox's Orange Pippin, Bismarck, Lord Derby, Golden Noble, American Mother, Wealthy, and Mère de Ménage, while of pears there were, amongst others, Catillac, Bellisime d'Hiver, Beurre Bachelier, Duchesse d'Angoulême, and Verulam, and there were also baskets of medlars.

Messrs. Robert Veitch and Son, Exeter, exhibited an interesting stand containing Cypripedium Leeanum, C. L. superbum, C. insigne Maulei, C. i. Sanderæ, C. i. punctatum violaceum, Nerine Bowdeni, Berberis nepalensis, B. Thunbergi, Gloriosa superba, Skimmea japonica, Ceanothus Gloire de Versailles, Physalis Bunyardi, Mutisia decurrens, Pernettyas, Pancratium macrostephana, Cyclamen persicum, Schizostylis

coccinea, Veronica Veitchi, violets in variety, and about two dozen varieties of winter-flowering carnations. Messrs. Webber and Sons showed a large group of carnations.

Manchester Chrysanthemum Show.

NOVEMBER 11 and 12.

The Royal Botanical and Horticultural Society of Manchester held an autumn show in the Town Hall on the above dates, and a more charming display of autumn flowers could not well have been desired. The lovely hall was well furnished, and the splendidly developed plants and blooms gave a charming glow of colour in which yellow predominated.

For nine pots of large-flowered varieties, Mr. P. Seddall, gardener to E. Breslauer, Esq., was the first, with plants of medium size, carrying from twenty to thirty good flowers, all of which were bright and fresh. For six plants of Japanese varieties, Mr. Seddall was again first with well-flowered and remarkably bright specimens.

In the class for displays in which the competition was limited to nurserymen, Mr. W. J. Garner secured the premier award for a bold and telling arrangement on the organ platform. It included grand specimen palms, which made a splendid foil to the pillars of chrysanthemums which were tastefully arranged and interspersed with ferns and vases of bloom.

The chrysanthemum blooms were all staged on boards, and for twenty-four incurved, in not less than 12 varieties, Mr. C. Goves, gardener to Sir Gilbert Grenall, Bart., was first with a stand of blooms superbly developed, the chief being Mrs. G. Denyer, Clara Wells, Marjorie Shields, Romance, and Yellow Hygate. For twelve incurved, Mr. J. Stoney, gardener to Lieut.-Colonel J. B. Gaskell, was first, followed by Mr. G. Corbett, gardener to C. Lamb, Esq., for second place. In competition for the prizes for thirty-six Japanese, in not less than eighteen varieties, Mr. Charles Jones obtained premier honours with a telling lot of blooms, the best being Frances Joliffe, Lady Talbot, F. S. Vallis, and Mary Farnworth. For eight Japanese, Mr. C. Goves was first with a remarkably fine stand, his blooms being excellent throughout. Especially noteworthy were those of F. S. Vallis, W. Turner, and W. Mease; Mr. C. Jones second, and Mr. G. Corbett third. In the class for twelve Japanese, Mr. Corbett took the lead, with Mr. H. Phillips, gardener to C. W. Pritchard, Esq., second. In competition for the prizes for thirty-six blooms, miscellaneous varieties, Mr. J. Storey was first with an excellent collection, and put up a fine stand in which the blooms of reflexed and anemone varieties were of special interest as reminders of kinds that are now seldom seen; Mr. J. Roberts, gardener to Miss Lightfoot, was a capital second.

In the great class for forty-eight blooms, twenty-four Japanese and twenty-four incurved varieties, Mr. C. Goves was the only exhibitor, but his blooms were of high quality throughout, and the premier award was deservedly made in his favour; especially good were Bob Pulling, Leigh Park, Rival, Hon. Mrs. Lopes, Purity, etc.; incurved—Pantia Ralli, Mrs. B. Hankey, G. F. Evans, Calypso, Romance, etc. For twenty-four blooms, twelve Japanese and twelve incurves, Mr. S. Olliver led, with Mr. J. Stoney second. In the local classes Mr. F. Phillips gardener to J. W. Pritchard, Esq., was the most successful for Japanese blooms, and Mr. S. Olliver with the incurved.

In competition for the prizes for the most tastefully decorated dinner table, Messrs. J. Nixon, H. B. Vernon, and W. J. Garner were placed as named, the two former utilising orchids, and the latter roses. For one basket, Messrs. W. J. Garner, H. B. Vernon, and J. Nixon were the successful exhibitors. The class for three bouquets contained a charming display; Mr. W. J. Garner held the coveted position with carnations, Messrs. T. Nixon and A. Porter being second and third.

MISCELLANEOUS PLANTS.

The class for six pots of Roman hyacinths proved a strong one. The prizewinners were Messrs. R. Burch, gardener to C. H. Procter, Esq., A. R. Jones, and T. Petrocochina. For eight primulas the awards went to Messrs. W. Bramwell, T. Kenyon, and T. Petrocochina; for six cyclamens, to Mr. Bramwell and Mr. M. Woollard, gardener to Mrs. Gill; and for six winter-flowering begonias to Messrs. W. Woollard, C. F. Bostick, and T. Petrocochina.

In the class for a collection of orchids, amateurs, Mr. J. Brown, gardener to S. Greatrix, Esq., secured the leading award with cattleyas, cypripediums, odontoglossums, and others, well arranged.

In the trade class for a collection of orchids, Messrs. Charlesworth and Co. received a Gold Medal for a group in which fine forms of Vanda cœrulea, Cattleya Fabia alba, and Odontoglossum crispum in variety were noteworthy. Messrs. J. Cypher and Sons also received a Gold Medal for a meritorious display, in which Cattleya labiata, C. Walkeriana, C. callistoglosa, with oncidiums and cypripediums, were conspicuous. Mr. A. J. A. Bruce was awarded a Gold Medal for a charming group of sarracenias arranged with palms, ferns, etc. Messrs. Dickson and Robinson received a silver-gilt Medal for a large table of cut chrysanthemums and Michaelmas daisies well set up.

The arrangements, as usual, were in the able hands of Mr. P. Weathers, the society's secretary.

Reading Gardeners' Association.

The usual fortnightly meeting was held in the Abbey Hall, by kind permission of Messrs. Sutton and Sons, on Monday, October 27, when, owing to the enforced absence of the President, through indisposition, and of the Chairman (Mr. Powell), in consequence of the serious illness of Mrs. Noble, Mr. J. T. Tubb (Vice-chairman) presided over a good attendance of members.

The lecturer for the evening was A. Harrison, Esq., of Watford (late of Oneglia, Italy), and his subject was "Orchids."

The Lecturer first pointed out, by the aid of lantern slides, the structural peculiarities of the flowers of orchids and their resemblance to many insects, such as moths, butterflies, etc.

The extraordinary form of the reproductive organs, and the means whereby insects were attracted and used for the purpose of pollination and intercrossing, were also shown by slides of coryanthes, stanhopea, etc.

Mr. Harrison then went on with plates and descriptions together, giving cultural details of the most useful species, such as might be grown successfully in warm, intermediate, or cool greenhouses in the company of ordinary plants usually found in such structures, provided a few essential details were observed. He emphasised the importance of the use of rain water only, as well as of careful ventilation, stating that, while movement of air was absolutely necessary, nearly all the species objected to draughts. Most of the air admitted should come through ventilators below the stages and not at the stage level. It was pointed out how excess of ventilation at the apex of a house dissipated the moisture and unduly dried the atmosphere, to the detriment of the plants.

Among the species for warmer houses, of which slides were shown, Mr. Harrison included Cattleyas Mendelli Trianæ, labiata, Gaskelliana, gigas, Hardyana, and aurea; Lælia purpurata, Dendrobiums nobile, crassinode, Wardianum; Cypripediums Leeanum, Charlesworthi, bellatum, callosum Sanderæ, Curtisi. Plates were also shown of some of the newer and beautiful compound hybrids, such as lælio-cattleyas, odontiodas, brasso-cattleyas, and brasso-lælias, and the lecturer stated that the great vigour of many of these hybrids made them more amenable to cultivation than a number of the species, but added that the prices of many were prohibitive.

Among species needing cool treatment plates of Odontoglossum crispum, in many varieties were shown, O. Halli, O. Harryanum, as well as many hybrid odontoglossums and Cypripedium insigne. Seedling cypripediums were also shown growing on the compost of an established plant, and the various methods of raising orchid seedlings described.

At the conclusion of his remarks, Mr. Harrison answered numerous questions put to him by members of the audience, and, at the close of the meeting, was accorded a most hearty vote of thanks.

The hall presented an exceedingly bright and gay appearance, as, apart from specimen orchids brought by the lecturer, there were no fewer than eight exhibits. Mr. G. Tovey, The Gardens, Leighton Park School, staged 18 dishes of apples of much merit, and was awarded a Certificate of Cultural Merit. They were also judged for the points competition. For the latter three fine collections of chrysanthemums were put up, the exhibitors being Mr. J. T. Tubb, The Gardens, Bearwood; Mr. H. Reeves, The Gardens, Blandford Lodge, and Mr. H. G. Cox. Mr. E. Blackwell, head gardener to the Lord Chief Justice, staged a collection of well-grown apples, and Mr. H. Goodyer, The Gardens, Stoneham House, three baskets of fine Sutton's Ailsa Craig onions, which secured almost the maximum number of points. From the University College Gardens, Mr. Drew sent beautiful cut chrysanthemums. and Mr. W. Lees exhibited a group of seedling fuchsias.

Two new members were elected.

The Hon. Secretary acknowledges with thanks the receipt from "Onlooker" of two five-pound notes, to be devoted to special objects. The committee will consider and endeavour to carry out the donor's wish.

Surbiton, Kingston, and the Dittons.

The ninth annual exhibition of this society was held in the Assembly Rooms, Surbiton, on the 4th and 5th inst. Favoured with ideal weather, the show was a record one as regards entries, and the quality and number of blooms staged, while the public support accorded the society was one of the marked features of the day, and seemed a fitting reward to the strenuous efforts that have been made, especially by Mr. T. A. Hill, the secretary.

The most popular class in the show was the one for twelve blooms, Japanese, shown in four vases, in which Mr. H. C. Gardner, gardener to Lord Foley, Ruxley Lodge, Claygate, took first place; this exhibit also provided the premier bloom, this being a faultless specimen of W. Turner. Amateurs made a brave show, even against their professional brethren. The challenge cup offered to amateurs for two vases of Japanese blooms, five in each, was won, for the third year in succession, by Mr. J. Surry, of Oakdene, St. George's Road, Norbiton, with a splendid exhibit, and particularly fine were his blooms of Queen Mary and Lady Talbot. The cup now becomes Mr. Surry's absolute property.

The "Coronation" silver cup, given by Mr. T. Salter Cox, vice-president of the society, for the best group of chrysanthemums in pots, as grown, was awarded to the Marquis of Ripon, Coombe Court, Kingston Hill (gardener, Mr. T. Smith), who thereby displaces Mr. A. Zimmern, Oak Hill Drive, Surbiton (gardener, Mr. A. Corps), who has held the trophy for the past two years. The first prize group was composed of fresh, well-balanced flowers, among which Amber Queen, Miss Olive Millar, Mrs. G. Drabble, His Majesty, R. Vallis, Eclipse, and Lady Talbot stood out prominently; Mr. A. Zimmern had a well-balanced group of dwarf, well-grown plants; third place fell to Baron O. E. von Ernsthausen, Manor House, Ditton Hill (gardener, Mr. G. James), whose group comprised decorative singles, with a few Japanese blooms.

For a group of flowering and foliage plants in pots, first place fell to Mr. C. Burford (gardener to Mrs. Windeler), Ditton Hill,

those taste of arrangement was well sustained; second, Mr. E. Barber, gardener to Fownes Rigden, Esq., Brentor, Surbiton Hill, who also staged a light and attractive group.

In the open class for twelve blooms of Japanese, in four varieties, the first prize was given by H.R.H. the Duchess of Albany. Mr. H. C. Gardner scored with a heavy set of finely-finished blooms, that comprised Lady Talbot, W. Turner, F. S. Vallis, and Frances Joliffe, and, as already noted, this exhibitor supplied the premier bloom in the show; second place fell to Mr. S. Read, gardener to R. S. Bond, Esq., Surbiton Hill; and third prize was awarded to Mr. W. Jinks, gardener to G. Hartmann, Esq., Newlands, Thames Ditton; and Mr. T. Smith brought up the rear. For eighteen Japanese, not less than 12 varieties, a local class, first place went to Mr. W. Jinks with a bright set; his best blooms included H. E. Converse, Edith Jameson, Miss A. Nicolls, Kara Dow, W. Mease, Rockett's Crimson, etc.; second prize fell to Mr. S. Pead; and Mr. H. C. Gardner was third.

For twelve Japanese, distinct, Mr. T. Smith won; Mr. C. Burfoot was placed second; and Mr. Mercer, gardener to H. J. Marsh, Esq., Oakfield, Surbiton Hill, third. For six Japanese, distinct, E. Goddard, Esq., Coombe Brook, Kingston Hill (gardener, Mr. W. Coldicott), was placed first; Mr. W. Cundall, The Wood, Oak Hill, Surbiton Hill, coming second. For six incurved blooms, Messrs. W. Jinks, S. Pead, and F. Dalton, gardeners to the Earl of Dunraven, Kenry House, Kingston Hill, gained awards in the order named.

The single vase classes of five blooms were well filled, and Mr. W. Jinks came first for whites, with Mrs. G. Drabble and Miss A. Nicholls; Mrs. Gardner second; and Mr. Pead third, with W. Turner; and Mrs. G. Drabble respectively. For five yellow blooms, Mr. Gardner took first place with massive blooms of F. O. Fallis; Mr. Pead second with Lady Talbot; and Mr. H. Jinks third with the same variety. For five blooms, any colour, white and yellow excluded, Mr. Pead staged a lovely set of Francis Rowe; Mr. T. Smith second, with W. Mease and Master David; Mr. Gardner third, with nice clean flowers of Alice Lemon.

The class for six vases of singles—disbudded—brought out eight entries, the honours being shored by Messrs. W. Jinks, H. C. Gardner, and S. Pead. A similar number entered in the class for singles grown in natural sprays, and here Messrs. T. Smith, H. C. Gardner, and C. Burfoot were successful. For a basket of chrysanthemums, arranged, Mr. C. Burfoot was awarded first place amongst five competitors.

Mr. J. S. Kelly, gardener to H.R.H. the Duchess of Albany, Claremont, Esher, took first place for primulas, solanums, apples, pears, and vegetables; Mr. Gardner scored for grapes; and Mr. Mercer for six winter-flowering begonias; and in the single-handed gardeners' section this exhibitor came out first in both classes. The amateurs' class for ten Japanese blooms, not less than five varieties, to be shown in two vases, fell to Mr. F. J. Surry, Oakdene, St. George's Road, Norbiton, who, having won the cup for the third time, now becomes absolute owner; Mr. E. Nildman, Gordon Avenue, St. Margaret's, second; and Mr. G. Moorman, Hampton Court, third. Other successful amateurs included Mr. C. Hawkins, Wyndham Road, Kingston-on-Thames; Mr. L. Hobbs, Thames Ditton; and Mr. J. Woods, Surbiton Council Offices.

Mr. Burfoot scored for table decoration, and Mrs. T. Smith was placed first for a table centrepiece.

In the vegetable classes, Messrs. Plowman, Mercer, W. H. Hawkes, A. Corps, and T. Brill shared the honours.

The competitive section being so well filled this year, only a limited space could be allotted to non-competitive exhibits. Mr. James Naylor, of Hampton Court, tastefully decorated the front of the stage with magnificent specimens of Begonia Gloire de Lorraine, grouped with chrysanthemums and foliage plants. Mr. L. Russell, Richmond, staged a collection of trained ivies and berried shrubs. A capital display of some thirty-six dishes of apples came from Lord Foley, Ruxley Lodge.

Birmingham Chrysanthemum and Fruit Show.

(Continued from page 858.)

Mr. Sheppard, Selly Park, had the best two bunches of Muscat of Alexandria; Mr. M. West, gardener to Lester Lea, Esq., Greenhill House, Moseley, being second. Dishes of apples and pears were numerous and of good quality throughout, Mr. Robt. Price, Birmingham, being successful in several classes, together with the exhibitors whose names we have already mentioned.

VEGETABLES.

The classes for vegetables were, as usual, largely composed of those for which various seedsmen offered the prizes. They occupied the whole of the large bay at the end of the hall, and were of fine quality throughout.

In Messrs. Webb and Sons' class for a collection of eight varieties, there was a strong entry, the first prize winner being Mr. Fred. Barratt, Overton. He had magnificent leeks, parsnips, onions, celery, and cauliflowers, with carrots, sprouts, and potatoes of good quality. Second prize was awarded Mr. Jones, Ruabon, who was very strong in onions and leeks; third prize going to Mr. H. Keep, Aldermaston, Berks.

In Messrs. Sutton and Sons' class the premier award went to the credit of Mr. E. Beckett, gardener to Right Hon. Vicary Gibbs, Aldenham House, Elstree, who showed splendid examples of Sutton's Prizetaker leeks, Student parsnip, Ailsa Craig onion, New Red Intermediate carrot, Supreme potato, A1 tomato, and Dwarf Gem sprouts. The second prize in this class went to Mr. J. Hudson, Leicester; Mr. E. R. Janes being placed third. Robert Sydenham Limited, Tenby Street, Birmingham, as usual, provided a number of classes for produce grown from their seeds, and the exhibits entered occupied a stage the whole width of the spacious hall. In the collection of nine kinds there were four entries, the principal prize going to Mr. Edward Deakin, Hay Mills, Birmingham. The vegetables in this collection were well-grown samples of The Lyon leek, Standard Bearer celery, St. Valery carrot, Excelsior onion, Hollow Crown parsnip, Ideal tomato, Wroxton sprout, Up-to-Date potato, and Autumn Giant cauliflower. Second prize went to Mr. T. Griffiths, Somerset Road, Handsworth; and third to Mr. F. Anderson, Moseley. The single dish classes for vegetables were very fine, and it is only want of space that prevents detailed accounts of them all. There were many exhibits that might well have been described in length, so great was their quality.

NON-COMPETITIVE.

As usual, the non-competitive exhibits were an important and most attractive portion of the show, and from all points of view were a most important part of the exhibition.

Messrs. Godfrey and Son, Exmouth, Devon, showed Molly Godfrey, Snow Queen, Excelsior, Godfrey's Perfection, Lily Mann, and Devonshire Lass among other good single chrysanthemums, and a fine lot of large-flowered Japanese varieties, among which Autocrat (rosy-amaranth), and Godfrey's Success (bright yellow) were very distinct and good. Messrs. W. Wells and Sons, Merstham, had a fine exhibit of big blooms, Queen Mary, Daily Mail, Mrs. Gilbert Drabble, and James Fraser, a new, long-petalled yellow, after the style of F. S. Vallis, being their most outstanding varieties. Another good display of both single and double chrysanthemums was made by Mr. H. Woolman, Birmingham, the tall vases of flowers being interspersed with silver-leaved centaureas and small acers.

The Studley Horticultural College were exhibitors of perpetual-flowering carnations, and also of grapes, the carnations being daintily displayed in glass vases with Asparagus plumosus as a setting. Mr. H. N. Ellison, West Bromwich, arranged greenhouse ferns in his usual good style. Choice adiantums, graceful davallias, and finely-cut nephrolepis were used with good effect. Messrs. W. H. Simpson and Sons, Birmingham, had an extensive display of antirrhinums, which were remarkably fine for this season of the year, the colours being clean and bright. Another very creditable exhibit for so late in the year was a fine group of pæony-flowered and decorative dahlias shown by Messrs. Piper and Sons, Bayswater, London. Messrs. R. J. Barnes and Son, Wyche, Malvern, had some exceedingly well grown single and decorative chrysanthemums, which were large, fine flowers of decisive and useful colours.

Mr. E. R. Janes, gardener to the Right Hon. Lord North, Wroxton Abbey, Banbury, made a splendid show of onions. The varie-

By Special Appointment to His Majesty the King.

MESSRS. JAMES VEITCH & SONS, LTD.

Royal Exotic Nursery, CHELSEA.

Beg to announce that they are still carrying on every branch of their NURSERY BUSINESS for the supply of plants, trees, shrubs, vines, and fruit trees, etc., at their Chelsea, Coombe Wood, Langley, and Feltham Nurseries.

ties included Sutton's Selected Ailsa Craig, Cranston's Excelsior, Danver's Yellow, The Lordkeeper, and The Wroxton, besides several dishes of smaller varieties, such as Paris Silver Skin, Crimson Globe, and Blood Red. Mr. Janes is to be complimented on putting up one of the finest displays of onions we have ever had the pleasure of seeing. A big stand of vegetables, with several groups of flowering plants, came from Messrs. E. Webb and Sons, Wordsley. Begonias Gloire de Lorraine and Turnford Hall were well flowered, and Saintpaulia ionantha provided a fine dish of rich purple. Single chrysanthemums in vases and some small foliage plants completed the decorations, whilst the vegetables were varied and of good quality. Messrs. Clibrans, Altrincham, specialised in winter-flowering begonias, Scarlet Beauty, an intensely brilliant flower, and Altrincham Pink being two very decorative plants. Miss S. Thompson, Alfred Road, Handsworth, brought an interesting collection of succulent plants, some of the mammillarias, opuntias, and echeverias being good specimens; and there were also a variety of tiny plants in thimble-pots which looked very healthy.

A very elaborate exhibit of vegetables was arranged by Messrs. Toogood and Sons, Southampton, who adopted a pure white background and stage, a covering that set off the well-grown examples of onions, gourds, celery, beet, and potatoes to great advantage. Onions formed the chief feature of Messrs. Dickson and Robinson's exhibit, the well-known Premier being represented by shapely bulbs of upwards of two pounds weight.

The King's Acre Nurseries, Lim., Hereford, showed a grand lot of fruit, which was set up attractively in flat baskets. A model of the giant apple, which recently realised sixteen guineas at Covent Garden, was on view, and proved a centre of attraction. A choice collection of apples was sent by Messrs. H. Cannell and Sons, Eynsford, Kent. The fruit was beautifully coloured, and included such good dessert varieties as Allington Pippin, Rival, Cox's Orange Pippin, and Colville Rouge Precoce. Culinary varieties were also well represented, and a few dishes of good pears completed a fine exhibit. Messrs. J. H. White and Co., Worcester, were exhibitors of fruit, and they had also vases of chrysanthemums, and a flower of Strelitzia Regina, which attracted a good deal of attention.

Messrs. J. Peed and Sons, Norwood, S.E., put up single-flowered chrysanthemums, which included a new yellow of great promise named Sam Alcock. Stuart Smith, a pure white, and Marguerite de Quincey, lilac rose, were other good ones. A large group of hollies, conifers, and ornamental shrubs came from Messrs. John Waterer and Sons, Lim., Bagshot. Ilex crenata aurea, with tiny foliage, I. regina nigra, and I. ferex argentea, the silver Hedge Hog Holly, were but a few of the many good forms shown, some of the tall standard hollies being splendid specimens. Messrs. Robert Sydenham Limited, Tenby Street, Birmingham, arranged single chrysanthemums in their rustic receptacles, making a pretty display, which afforded another demonstration of the usefulness of the well-known table ware. Messrs. Hewitt and Co., Solihull, showed ornamental conifers of shapely growth, and choice quality. A few standards of golden privet relieved the more sombre shades of cupressus, abies, thiyas, etc. A rock and water garden exhibit from the Lapworth Nurseries, Lapworth, Warwick, included a good many flowering plants, such as Viola gracilis, Gentiana acaulis, Potentilla rosea, and a few ericas, whilst small bamboos, acers, and conifers furnished the more prominent parts of a nicely devised exhibit.

Gold Medals.—To Messrs. J. Waterer and Sons, Lim., Messrs. Clibrans, The King's Acre Nurseries, Lim., Mr. E. N. Janes, Mesrs. Pipers, and Messrs. Cannell and Sons.

Silver-gilt.—To Messrs. Godfrey and Sons, Messrs. W. Wells and Sons, Mr. H. Woolner, Messrs. Hewitt and Co., and Messrs. W. H. Simpson and Sons.

Silver.—To Mr. H. N. Ellison, The Studley Horticultural College, Miss S. Thompson, The Lapworth Nurseries, Messrs. J. H. White and Co., and Messrs. Dickson and Robinson.

Bronze.—To Messrs. J. Peed and Sons and Messrs. R. J. Barnes and Son.

Dumfries and Galloway Gardeners' Association.

Mr. A. Hosking, of the Glasgow and West of Scotland College of Agriculture, delivered a lecture under the auspices of this association in the Wesley Hall, Dumfries, on the evening of October 30. Mr. S. Arnott presided, and introduced Mr. Hosking, who gave a lucid and informative lecture on "Plant Propagation." The subject, one which is, of course, of pre-eminent importance to gardeners and nurserymen, was treated in detail, and the different plans by which plants are propagated received due notice, a number of limelight slides being exhibited to further illustrate the lecture. Mr. Hosking managed to condense within the limits of the lecture a vast amount of information regarding the principles and modes which govern the different processes, and many details were given which proved of much interest to the audience. He was accorded a hearty vote of thanks at the close of the lecture.

OBITUARY.

MR. ADAM BRYDON.

On November 3 there passed away, after a short illness, one of the widest-known and most respected of Scottish amateur gardeners, Mr. Adam Brydon, Innerleithen. Mr. Brydon, who was in his 63rd year, occupied with his brother two farms, Tweedbank and Birks, and was a successful exhibitor. He cultivated everything he took in hand with characteristic thoroughness, and at the leading Scottish, and at some of the principal North of England exhibitions, he proved himself a competitor difficult to beat. He was highly successful at the Edinburgh shows, especially with hardy herbaceous flowers, and many of the leading prizes fell to him year after year. He was imbued with the true sportsman's spirit, and when he was beaten took it well, while he was never unduly elated with his successes. Mr. Brydon took a warm interest in the affairs of the Royal Caledonian Horticultural Society, of which he was an active member, and his presence at the spring and autumn exhibitions of the society will be much missed. He was also a life member of the Scottish Horticultural Association. In private and public life Mr. Brydon was much respected, as will be seen when we mention that he was appointed a J.P. for his native county, Peebles, that he was an ex-Bailie of the burgh of Innerleithen, and a member of Traquair School Board.

MR. ANTHONY HALL.

The death, from pneumonia, of Mr. Anthony Hall, at the age of seventy-eight years, terminates a long career of fifty-six and a half years' service as head gardener at Park End, Wark-on-Tyne. Mr. Hall commenced as an apprentice in Nunwick Hall gardens in 1845, where figs, etc., were grown on flued walls, and lawns were mown with scythes. From Nunwick he went to The Hermitage, near Hexham, as journeyman; and from there to Park End in 1857. He was highly esteemed by each of the four generations of the old Northumberland county family of Ridley, descendants from Bishop Ridley. To commemorate his fifty years' service, he was presented by his employer, C. N. Ridley, Esq., with a suitably-inscribed silver tea service. His wife died in September, 1907. Of the family of four sons, two are alive. The elder—Mr. William Hall—follows the same profession, having the charge of the Corporation parks in Sunderland, where he has been for over twenty-three years.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

DATES OF EXHIBITIONS.—A. E., Notts: We are giving the matter our careful consideration. If, as sometimes happens, we fail to notify an exhibition that takes place the following week, it is because the secretary of the society in question has not furnished us with either date or schedule. We are glad at all times to receive show dates from responsible persons, and perhaps you can help us; a postcard is sufficient.

BEST DOZEN SPECIES OF PYRUS FOR SPECIMEN OR AVENUE TREES.—J. E. C., Hailsham: Please give me the names of the best dozen tall-growing species of pyrus suitable for specimen or avenue planting.—When there are so many beautiful trees in a genus, as in the case of pyrus, the selection of half a dozen is no easy task. Taking all things into consideration, we think there will be little to quarrel about in the following list: Pyrus Area, P. Aveuparia, P. baccata, P. communis, P. floribunda, P. germanica, P. Malus, P. prunifolia, P. Sorbus, P. spectabilis, P. Forminalis, and P. vestita. We may point out that, beautiful as many of the species are, the varietal forms are, in many cases, even more beautiful.

ACHYRANTHES VERSCHAFFELTI OR IRISINE HERBSTI.—A. R., Coventry: In a garden I have recently taken charge of there is a foliage plant labelled Achyranthes Verschaffelti. This name I am not familiar with, and it does not appear in any list or catalogue I possess. The plant seems to be an irisine, and so I am wondering whether the name is a synonym; perhaps you can help me.—Without a specimen to help us, we cannot say what the plant is, but if it was correctly labelled originally, then it should be Irisine Herbsti, as this is the proper title for the plant known some time as Achyranthes Verschaffelti. There are several varietal forms, but the type has crimson leaves and stems.

ABUTILON VITIFOLIUM.—N. E. C., Southampton: I have a plant of Abutilon vitifolium growing close to a wall in a sheltered place, and it has done well this year. I should like to propagate a few plants from it, and shall be glad if you will tell me how to proceed.—Cuttings of the young growth will root in a temperature of 65 to 70 degrees if treated as other abutilons, and finally hardened off, but very young plants should not be planted out, or they may succumb to the winter wet and cold; it is better to keep them in a frame for the first winter.

BLACKENED CHRYSANTHEMUM FOLIAGE.—W. F. E., Sussex: I enclose a few leaves of chrysanthemums, primulas, and begonias, and shall be glad if you will kindly say what has caused the disfigurement. I am inclined to think that the same trouble is affecting all the plants. The chrysanthemums were first attacked. Would eelworm in the soil, or an overdose of chemical manure, be likely to cause the disfigurement?—In our issue of October 18 we dealt with a similar case of blackened chrysanthemum leaves, and pointed out that an insect which punctures the foliage is the cause of the decay; you will find the reference on page 794 of that issue. The begonia leaves show a slight attack of mite, which can be checked by the use of tobacco dust, but the leaves suggest that there is some other weakening cause, and probably this can only be found in the soil, or in fumigation while the leaves were moist.

MARKET CERTIFICATES FOR CHRYSANTHEMUMS.—J. S., Exeter: In accordance with our promise on p. 854, we now give the scale of points used by the National

Kelway
of Langport, Somerset

LOVELY DELPHINIUMS

Kelway's Delphiniums grow to a height of from four to eight or more feet and bear masses of fine shapely blooms in all shades of blue and purple. They thrive with a minimum of attention in almost any soil and situation, and they provide a bold and beautiful show either massed by themselves or as a part of the Kelway Colour Border.

KELWAY COLOUR BORDER (Regd.)

To secure absolute perfection in your Herbaceous Border, stock it with Kelway Hardy Perennials. Their bold forms and lovely colours represent the outcome of years of patient experiment and hybridization, while they are raised from such strong country-grown stocks that they may be depended upon to flourish under almost all conditions of climate.

NOW IS THE TIME TO PLANT

Write for GARDENS of DELIGHT 6d. post free.

Chrysanthemum Society's Floral Committee when adjudicating upon varieties submitted for a Market Certificate. The name of the variety is given, the colour is then determined, and the classification settled. Maximum points are: Flower—colour, 20; Form, 20; Fullness, 10; Petal, 10; Stem, 10; Foliage, 10; Habit of plant, 20; total, 100. Singles are pointed on similar lines for Market Certificate. A minimum of 80 points is necessary for a First Class Certificate and 70 points for a Commendation. The voting papers are collected, and the average of points taken. Thus, if there are a dozen voting papers, and the pointing is 72, 75, 79, 80, 84, 87, 89, 86, 86, 89, 91, and 90, the total would be 1,008 points, or an average of 84, and so the variety voted on would receive a Market Certificate.

PEAR LEAF BLISTER MITE.—J. P., Coventry: My pear trees, planted two years ago, are infested with the Pear Leaf Blister Mite. Referring to your article of May 17, will you please say whether it would be advisable to lift the trees this autumn, and dress the roots with lime-sulphur wash. When the trees were planted, the soil was composed of sound turfy loam; would it be well to add some lime now? Also kindly say what proportions of lime and sulphur should be used.—Gather up all leaves that fall from the infested trees and burn them, and at the same time carry out any necessary pruning, and burn the prunings. The reason for this carefulness is that mites may remain in the leaves, and are certainly hiding in the bud scales, from whence they will come forth early in the spring, puncture the leaves, lay eggs, and so start a new generation, which, in turn, further attacks the leaves, and lays more eggs. Do not lift the trees unless they have made excessive growth and need root pruning, which is not very likely, but as soon as the leaves and prunings have been dealt with, remove the surface soil to the depth of two inches, and in its place put some sound loam mixed freely with old mortar rubbish or lime. Spraying with the lime-sulphur-soda wash may be done any time after the present month; the proportions are 1½lbs. each of lime, flowers of sulphur, and salt, a half-pound of caustic soda, and five gallons of water. Mix the sulphur in hot water, and, while stil hot, use it to slake the lime, to which first add the soda. Stir the whole vigorously, but carefully, and add the salt. The lime will generate so much heat that the whole of the mixture will boil for some time; when it ceases to boil, make up to five gallons by adding sufficient soft water; strain and use. February is probably the best time to use this spray mixture for the purpose of arresting the pear leaf blister mite (Eriophes pyri).

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

M. P. W., Bude.—Veronica cupressoides.

D. C., Chesham.—1, Genista pilosa; 2, Thymus villosus; 3, Sedum anacampseros.

S. M. W., Salisbury.—1, Crassula lycopodioides; 2, Cardiospermum Halicacabum; 3, Hibiscus abelmoschus.

P. T. V., Hadham.—1, Nerine Fothergilli; 2, Skimmia japonica; 3, Cotoneaster rotundifolia; 4, apparently the leaves of Magnolia stellata; 5, Lilium nepalense.

R. F. M., Ottery St. Mary.—The roses and chrysanthemums were beyond recognition when they reached us; but, in any case, we cannot undertake to name florists' varieties.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

E. R. B., Rugby.—Oncidium incurvum.

R. H. J., Eccleshall.—Cattleya labiata; a good variety.

M. E. W., Walthamstow.—1, Court Pendu Plat; 2, Beurre Diel.

S. E. L., Chepstow.—1, Cupressus Lawsoniana argentea; 2, Thuia occidentalis.

H., High Wycombe.—1, Smart's Prince Arthur; 2, Gravenstein; 3, not recognised.

J. J., New Brighton.—Sorry your specimen was overlooked recently; it is Ulmus montana.

H. L., Rugby.—1, Hawthornden; 2, Fearn's Pippin; 3, Warner's King; 4, Alfriston; 5, Allington Pippin.

E. J. B., Sodbury.—1, not recognised; 2, probably Margil; 3, Lord Derby; 4, Fearn's Pippin; 5, a small Lord Grosvenor.

H. H. W., Andover.—1, Peasgood's Nonsuch; 2, Not recognised; 3, London Pippin; 4, Catillac; 5, Mabbott's Pearmain; 6, Lane's Prince Albert.

A. B. C., Southampton.—You have broken two of the conditions imposed upon those who send fruits or flowers for naming. There were ten specimens instead of six, and your name and address were not sent. As a matter of courtesy you should have given name and address, not for publication. 1, Baumann's Reinette; 2, King of the Pippins; 3, Waltham Abbey Seedling; 4, not recognised; 5, Adam's Pearmain; 6, Dutch Mignonne; 7, Kentish Fillbasket; 8, Ecklinville; 9, not recognised; 10, Fearn's Pippin.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
		At 9 a.m.		Day	Night
1913. NOVEMBER 2 TO NOVEMBER 8.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 2—Sunday	1 36	54	50	58	44
,, 3—Monday	5 24	48	46	55	43
,, 4—Tuesday.....	4 48	38	38	56	33
,, 5—Wednesday..	4 12	49	47	56	38
,, 6—Thursday....	2 54	46	45	53	41
,, 7—Friday.....	4 54	41	41	50	40
,, 8—Saturday....	5 6	49	49	54	38
Means ...	(total) 28 54	46	45	54	39

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
1913. NOVEMBER 2 TO NOVEMBER 8.					
	ins.	deg.	deg.	deg.	deg.
Nov. 2—Sunday	0·5	51	52	53	37
,, 3—Monday	—	51	52	53	31
,, 4—Tuesday.....	trace	49	52	53	26
,, 5—Wednesday..	0·02	50	51	53	40
,, 6—Thursday....	0·07	49	51	53	28
,, 7—Friday.....	0·11	48	51	53	27
,, 8—Saturday....	—	47	50	52	26
Means ...	(total) 0.25	49	51	53	31

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, November 17.—National Chrysanthemum Society; Floral Committee at Essex Hall, Strand, at 3 o'clock; Executive Committee, at Carr's Restaurant, at 7 o'clock.

TUESDAY, November 18.—Royal Horticultural Hall, Westminster; Committees meet at 12 o'clock; Lecture at 3 p.m.; Scientific Committee at 4 o'clock.

November 18.—Horticultural Club, House dinner at the Hotel Windsor, Victoria Street, Westminster, followed by a lecture entitled "Not about Switzerland," by Mr. Reginald Farrer, 6.30 p.m.

Chester Paxton Society's Chrysanthemum Show; two days.

WEDNESDAY, November 19.—Newcastle Chrysanthemum Show; two days.

Bristol Chrysanthemum Show; two days.

Hull Chrysanthemum Show; two days.

Royal Meteorological Society Meets.

THURSDAY, November 20.—Norwich Chrysanthemum Show; three days.

Paisley Chrysanthemum Show.

Darlington Chrysanthemum Show.

Aylesbury Chrysanthemum Show.

Linnean Society Meets.

FRIDAY, November 21.—Bolton Chrysanthemum Show; two days.

Blackburn Chrysanthemum Show; two days.

Dunfermline Chrysanthemum Show; two days.

Dundee Chrysanthemum Show; two days.

SATURDAY, November 22.—Morley Paxton Society.

CATALOGUES RECEIVED.

A. AND J. C. ALLEN, EARLHAM, NORWICH.—A compact, pocket-sized catalogue of roses, with illustrations and special references to varieties specially suitable for certain purposes.

JAMES COCKER AND SONS, ABERDEEN.—A useful rose list with alphabetical as well as classified lists of varieties, and cultural directions. The same firm issues a catalogue of alpine, bulbous, and herbaceous plants.

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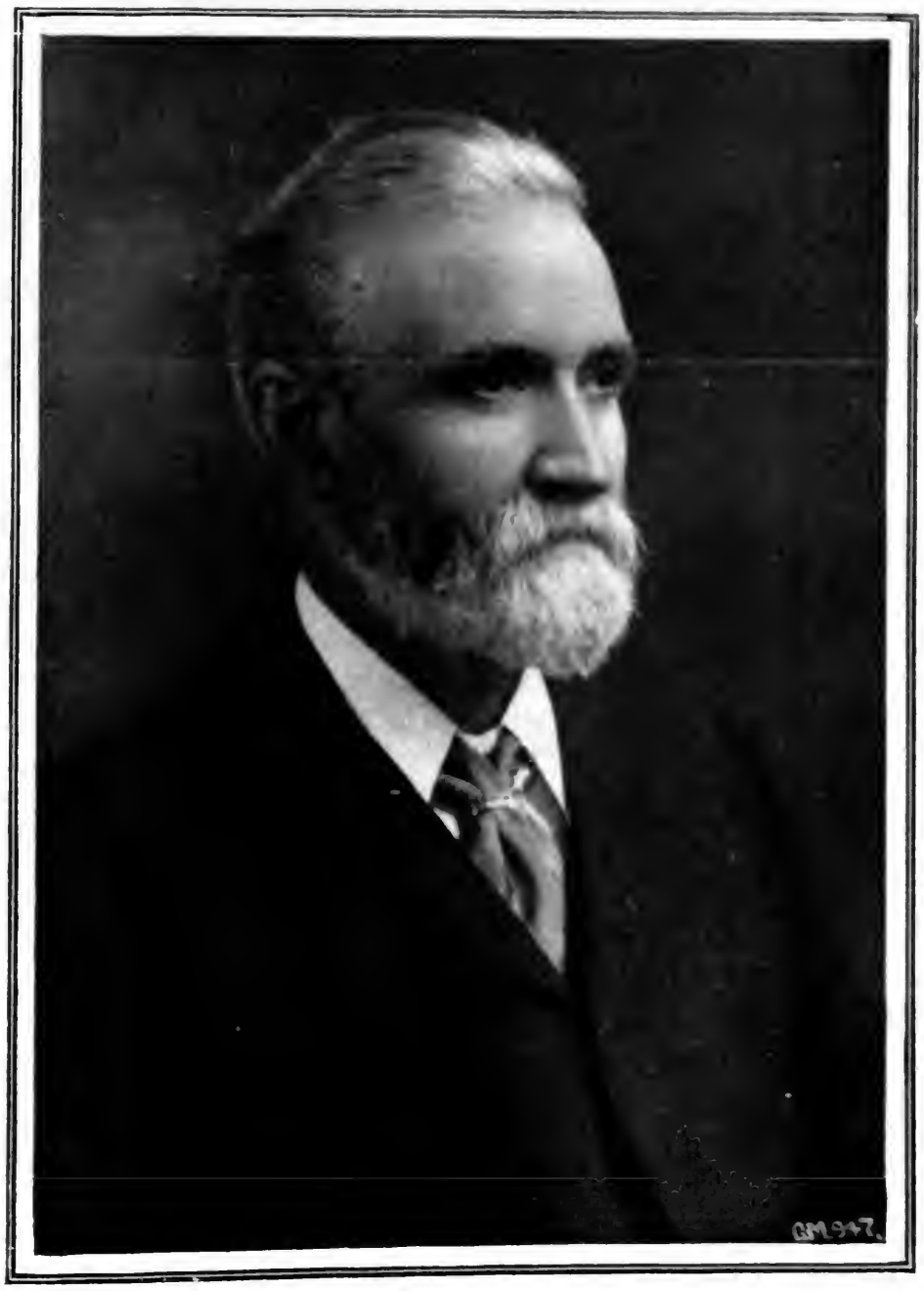
VOL. XVI.—No. 3,134. SATURDAY, NOVEMBER 22, 1913.

THE GARDENERS' MAGAZINE

Mr. GEORGE GORDON, V.M.H.

The retirement of Mr. George Gordon, V.M.H., from the Editorial Chair of THE GARDENERS' MAGAZINE provides the occasion for an appreciation of one to whom horticulture, is greatly indebted, and who, for about five-and-forty years, has used his pen and voice to advance the art and craft of gardening. His name and fame are known wherever horticulture finds a place, especially through the medium of THE GARDENERS' MAGAZINE, with which he has been associated for forty-four years, and of which he has been the Editor since the death of Mr. Shirley Hibberd in 1890. It is of special interest to notice that Mr. Gordon rose from the ranks, and had an early training in practical horticulture before he turned his attention to journalism. His working life was begun under his father, then head gardener at Frogmore Hall, Herts, and one of the most successful fruit growers of his time. From home he went as journeyman to High Leigh, Hoddesden, then famous for its valuable collections of orchids and stove and greenhouse plants. Here he soon attained the position of foreman, and after three years went to Duncombe Park, Helmsley, Yorks, to take charge of the extensive fruit and kitchen gardens. Opportunities for becoming acquainted with farm work were open to him at Helmsley, and these he took such full advantage of that for a time it seemed probable agriculture might claim him. Refusing some excellent offers, however, he remained true to horticulture, and soon afterwards was appointed to the charge of the gardens and farm at Norbiton Hall, Kingston, then an establishment of considerable importance in the London district. When Norbiton Hall and estate were sold Mr. Gordon was appointed to take charge of The Elms estate, Hampton Wick, which belonged to a friend of his former employer. Tall, broad-shouldered, and bearded, Mr. Gordon looked much older than his years, and, indeed, he was only in his twenty-third year when he took charge at The Elms. He was a skilful cultivator, and exhibited with marked success in the Kingston district, so much so that for several years he won practically every prize he entered for, and made a great reputation as a plantsman. Remembering it was not for the good of the society that one man should win all the leading prizes year by year, he gave up competing, but contributed large groups of plants to the exhibition; and in that year, being held in such great respect, he was invited to distribute the prizes. This was probably the first occasion on which Mr. Gordon occupied a prominent position at a public gathering. While at The Elms he began to contribute to THE GARDENERS' MAGAZINE, and a year later he was invited to become Assistant Editor under Mr. Shirley Hibberd. A keen observer, a careful writer, and a great reader, Mr. Gordon further equipped himself for his journalistic work by attending courses of lectures in London on botany, chemistry, geology, agriculture, and other subjects intimately associated with horticulture. It was in the spring of 1888 he suggested to some of his friends that the time was ripe for a conference on all matters pertaining to the fruit-growing industry, then in its infancy. His suggestion was well received, and a committee of sixty-five of the leading fruit growers and nurserymen was formed to carry out the idea, with the result that the first Fruit Conference was held at the Crystal Palace on September 7 and 8, 1888, and proved a great success, a success due chiefly to Mr. Gordon administrative ability. This conference gave a great impetus to fruit culture; indeed, it is not too much to say that the present importance of the fruit industry is due in large measure to Mr. Gordon's pioneer work. The British Fruit Growers' Association was formed after the conference, and Mr. Gordon was elected its vice-chairman. This body held conferences at the Crystal Palace on October 10, 1889; at Shrewsbury; at the Royal Aquarium, Westminster; at the Crystal Palace; at Taunton, and at Brighton in 1890. On August 6 of that year, Mr. Gordon, with Mr. Lewis Castle, Hon. Secretary of the Association, commenced a tour of Ireland, and spent the greater part of the month visiting the counties of Antrim and Derry, Cork, Kerry, and Waterford. Mr. Gordon made this tour at his own charge, for the purpose of investigating and reporting upon the fruit industry in the Sister Isle. His report, as the pages of THE GARDENERS' MAGAZINE show, was read at the Crystal Palace on September 5, 1890, and was of such a character that it attracted the attention of private and trade growers throughout the United Kingdom, and of Government Departments also. The views expressed in the report were widely criticised, and in some quarters were considered to be too optimistic, but as proof that they were based on excellent judgment it is enough to say they have been realised in every case. Chiefly as a result of this report the Agricultural Department of Ireland organised a staff of qualified horticultural instructors, and, under their guidance, the old derelict orchards of Ireland have given place to plantations managed on the most up-to-date lines.



MR. GEORGE GORDON, V.M.H.

In floriculture, no less than in the direction of pomology, Mr. Gordon's work has been, and is, most effective, because his prescience amounts almost to an added sense. Joining the committee of the National Chrysanthemum Society in 1886, he held office for thirteen years, and during that period took a leading part in the preparation of the society's catalogue, published in 1888, and the Centenary Edition of 1911. For his services he received a silver and also a silver-gilt medal, and two years ago was elected an Honorary Life Fellow. Elected a Vice-President of the National Rose Society in 1890, he has taken a very prominent part in the management of this body, and is now chairman of its Publications' Committee. In connection with this and other societies he is always a strong advocate of publications which will prove of value and interest to non-exhibiting members. In a leading article in The Gardeners' Magazine of March 25, 1899, Mr. Gordon pointed out the desirability of special exhibitions of sweet peas, the need of improving methods of staging the flowers, and of bringing the best varieties into greater prominence. The subject was much discussed, and on September 13 of that year a meeting was held in Edinburgh, Mr. Gordon presiding, when it was decided that the bicentenary of the introduction of the sweet pea into England should be celebrated in 1900. A committee was formed, with Mr. Gordon as chairman, to carry out the scheme, and the late Mr. Richard Dean was hon. secretary. How well the celebration was carried out is now a matter of common knowledge. Following this celebration at the Crystal Palace, the National Sweet Pea Society was founded, and came into being at the end of that year. Mr. Gordon was the first chairman of the society, and in 1903 was made President. The National Dahlia Society is now engaging his attention. He was Vice-President from 1891 to 1912, is now President, and, while not overlooking the claims of the dahlia as an exhibition flower, his advocacy of the flower as a suitable subject for garden decoration has brought about a quite new order of things, and made the events of the present year possible. Mr. Gordon's tastes are catholic, and his activities wide in the realm of horticulture. He helped to found the Royal Gardeners' Orphan Fund, and has been a member of its managing body from the beginning. He was also one of the founders of the British Gardeners' Association, and has consistently worked for the material and intellectual advancement of those who gain their livelihood in the gardening profession. In 1897 Mr. Gordon received the distinction of the Victoria Medal of Honour in Horticulture, when that distinction was founded by the Royal Horticultural Society; he has had a seat on the R.H.S. Floral Committee since 1891, and for many years has been a member also of the Scientific Committee. In connection with the Great International Horticultural Exhibition held at Chelsea in 1912, Mr. Gordon was a member of the jury, and of the Educational and Scientific Committee, and used this opportunity to bring into greater prominence the need of a better system of training and education for gardeners. Mr. Gordon has taken part in all the leading horticultural activities of nearly half a century, and on six successive occasions he has been a member of the jury at the Ghent Quinquennial Exhibitions, in addition to acting in a similar capacity at the great international functions at Hamburg, Haarlem, and Antwerp, and his latest appointment is that of vice-chairman of the Horticultural, Arboricultural and Forestry Committee of the Anglo-American Exposition to be held at the White City next year. Although a prolific writer, Mr. Gordon's energies have chiefly found expression in these pages, but he has added "Dahlias," "The Book of Shrubs," "The Wasted Orchards of England," and a long series of "The Gardening Year Book" to horticultural libraries. Altogether this, outline though it is, constitutes a splendid record for one man, and one who served with, and subsequently followed in the Editorial Chair, such a brilliant writer and publicist as Mr. Shirley Hibberd. It is a record of which The Gardeners' Magazine is proud, and one that may well serve to excite the ambition and raise the enthusiasm of the present generation. All our readers will join, with the proprietors and staff, in the wish that the excellent health Mr. Gordon has so long enjoyed may be continued to him for many years to come. It is with special pleasure that we are able to announce his attachment to The Gardeners' Magazine will not be severed, that in the capacity of Advisory Editor his ripe judgment will be at our service, and that he has promised to contribute regularly to the paper he has so long and ably edited.

NOTES OF THE WEEK.

The New Editor of "The Gardeners' Magazine."—The proprietors have much pleasure in announcing that Mr. Charles H. Curtis has taken up the duties and position of Editor of The Gardeners' Magazine. Mr. Curtis served under Mr. Gordon, as Assistant Editor of The Gardeners' Magazine, for nearly twenty-one years, and is well known to our readers.

Marriage of Miss Ellen S. Hibberd.—Those who remember the late Mr. Shirley Hibberd, a former editor of The Gardeners' Magazine, will be interested in the announcement that his only daughter, Miss Ellen S. Hibberd, was married at Kobe, Japan, on November 15, to Mr. Alexander Kennedy, eldest son of the late Dr. David L. Kennedy and Mrs. Kennedy, of Donnybrook, Dublin.

Attempt to Wreck the Palm House at Sefton Park.—Liverpool possesses a superb palm house and winter garden at Sefton Park; indeed, it is one of the finest structures of its kind in the country, and valued at about £20,000. A dastardly attempt, apparently by suffragettes, to wreck this structure, which, with its beautiful contents, add so much to the amenities of Liverpool, was made on Saturday night last, when a bomb, with two fuses attached, was found in the Palm House porch. Evidently the gale blew out the fuses, and so no damage was done. Suffragette literature was found near by, with a postcard on which was written, "Stop torturing God's human plants who are fighting for votes for women."

The Rescue of Box Hill.—For a long time the fear has been ever present that Box Hill, which stands in the midst of some of the most beautiful Surrey scenery, might be lost to the public, and be disfigured by the erection of residences. Mantled in boxwood and yew, and rising 600 feet above the lazy Mole, which skirts its western boundary, Box Hill is a popular and beautiful resort for Londoners, and from its summit glorious views extend over park land and farmsteads, villages and woodlands. Box Hill is part of the Deepdene Estate, and though it has for so long been open to all comers, the public have no rights upon it, save along the paths and roads. When the question of utilising certain portions of the hill for building sites arose, it soon became apparent that the public had no legal rights, although they had long enjoyed many privileges, and so the National Trust and the Commons and Footpaths Preservation Society opened negotiations for the acquisition of the hill for the public use for ever. An option for the purchase of the property was secured, and arrangements were being made for an appeal for funds, when, with great public spirit, Mr. Leopold Salomons, of Norbury Park, Dorking, purchased the hill, and proposes to vest the property in the National Trust, on condition "that it shall be permanently maintained as a public open space, subject to the supervision of a local committee of management, and subject also to the understanding that nothing shall ever be permitted to impair the unique natural features which have added so freely to the enjoyment of countless visitors." The property, secured at no small expense, and thus so generously given to the public, comprises about 235 acres, and includes not only Box Hill proper, but the whole ridge from Burford Bridge to Upper Box Hill Farm, and the valley up which the military road rises easily to the now derelict fort. Mr. Leopold Salomons deserves and receives the heartiest thanks of all lovers of open spaces and beautiful scenery for his splendid gift—a gift which, in the care of the National Trust, will be safely kept for all time.

A Boulevard all Round London is the ideal which Mr. Percy B. Tubbs, F.R.I.B.A., has in view, and, after a trip around the seven-mile radius, he believes that if co-operation between the authorities concerned could be arranged, a boulevard all round the outskirts of London might be provided, but he is of opinion that to secure this ideal no time should be lost in attempting its realisation.

The Scottish Horticultural Institute.—The proposal to found a Scottish Horticultural Institute is finding favour and receiving support. At a bazaar held in conjunction with the Scottish Horticultural Association's Chrysanthemum Show, in the Waverley Market, Edinburgh, on November 13, 14, and 15, the sum of £800 was realised in aid of the proposal.

Wimbledon Park as an Open Space.—The Wimbledon Town Council has decided to promote a Bill in the next Parliamentary Session authorising the Council to purchase the Wimbledon Park estate, at a cost of £65,000, for an open public space. The area under consideration is 155 acres, with a central lake of about 32 acres, the whole constituting one of the most beautiful spots around the Metropolis.

Presentations at Pershore.—Lord Coventry took advantage of the opening ceremony at the Pershore Fruit and Chrysanthemum Show to present a purse of money to Messrs. P. Hanson, T. Milward, and W. Wood, who have acted as honorary secretaries to the Pershore Horticultural Society for a period of ten years. When more prosperous than now the society gave £380 towards the local hospital. The address accompanying the purse stated: "It is with a sense of deep gratitude to you we remember that in the times of the society's financial success many of the useful institutions in the town

were materially benefited from its funds, through your instrumentality, and that, under all conditions, you have maintained the quality and importance of the Flower Show, thereby assisting what has now become the principal industry of the district."

Rosebery Park, Epsom.—It has been agreed that the land given to Epsom by Lord Rosebery, for an open space, shall be called Rosebery Park. His Lordship has also promised £500 towards the cost of laying out the land, and expressed his willingness to act with the Town Council in making the park as beautiful and useful as possible, when the lease of the land falls in.

Illness of Mr. William Collins.—Members and friends of the United Horticultural Benefit and Provident Society will regret to learn that Mr. W. Collins, until lately the veteran secretary of the society, is an in-patient at Guy's Hospital, where he has to undergo a somewhat severe operation. Everyone will join us in the hope that the operation will be successful, and that Mr. Collins will have a speedy recovery.

The Cowper Museum, Olney.—At a meeting of the Trustees of the Cowper Museum last week the secretary reported that during the past year the amount of the donations received had exceeded that of any previous year. To carry out the necessary work, and to provide a modest endowment, £2,000 is needed, and much of that amount has yet to be obtained. William Cowper, the poet, and author of "The Task," resided in the house for nineteen years. The exterior of the building has been restored, but money is needed to enable the interior to be used for the purposes of the Museum. The Museum has now been in existence for thirteen years, and contains a number of interesting paintings and relics of the poet and his friends. The secretary—Mr. Thomas Wright, of Cowper School, Olney, Bucks—will gladly acknowledge donations and provide information in regard to the Museum.

Public Displays of Chrysanthemums in the North.—Splendid displays of chrysanthemums have been, and are still being, provided for the public at Miller Park, Preston, where Mr. Tye has a grand lot of both Japanese and single varieties; at Manningham Park, Bradford, where, in the fine conservatory, where chrysanthemums vie with Begonia Gloire de Lorraine (two hundred plants) and orchids; at West Park, Hull, where November 9 was observed as Chrysanthemum Sunday; and at Dewsbury, where, in the beautiful conservatory presented to the inhabitants by Miss Tweedale, Mr. W. Daniels has excelled himself both in the cultivation and arrangement of the Queen of Autumn.

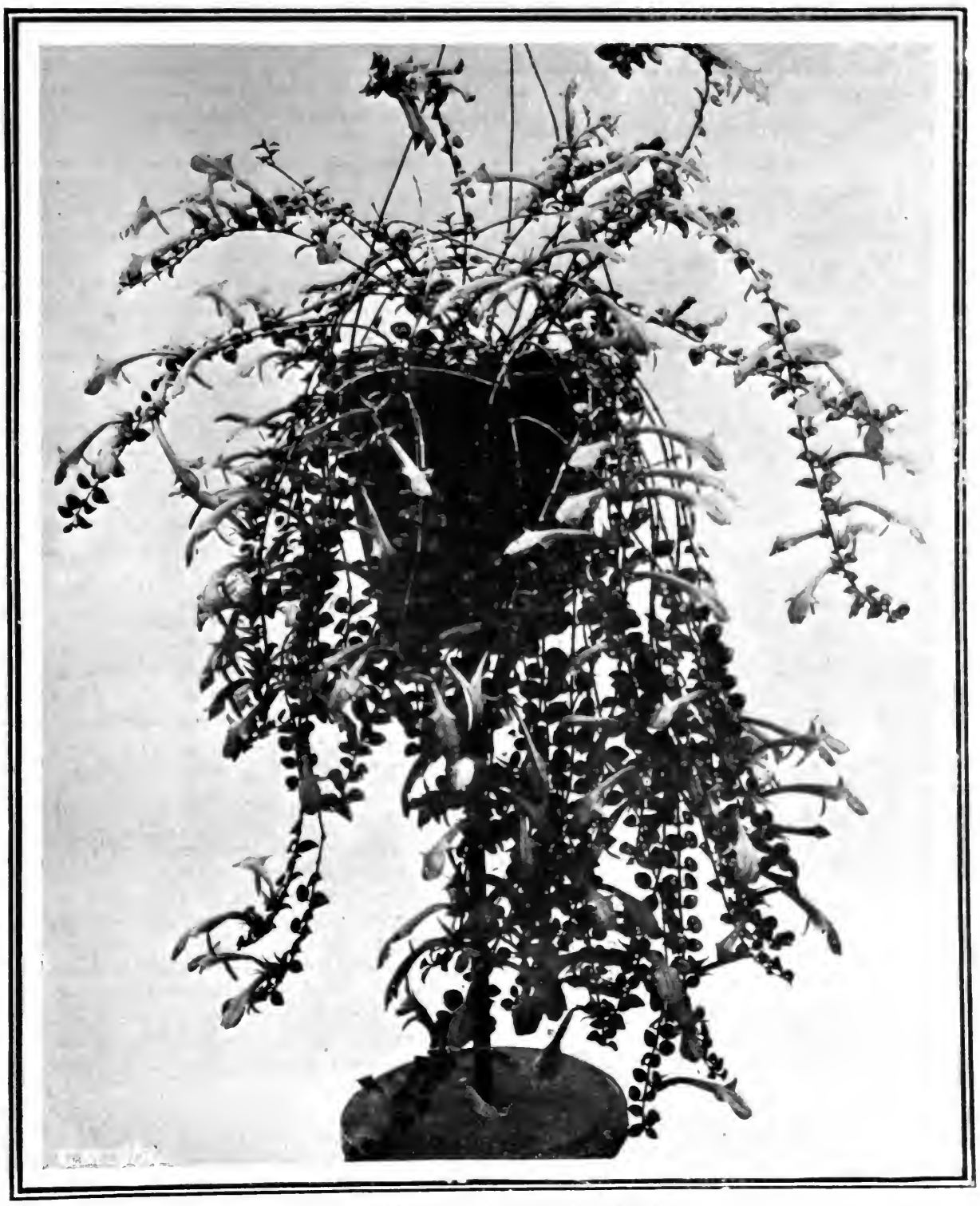
Prosecutions under the Wart Disease of Potatoes Order.—Three cases came recently before the Mansfield Petty Sessions, under the Wart Disease of Potatoes Order, 1912. It was claimed that the defendants had planted potatoes on infected premises, in contravention of an order prohibiting such planting except under a licence granted by an inspector authorised to administer the Order under the Board of Agriculture. Licenses are only granted, it appeared, to those who plant potatoes immune from the disease. The extreme penalty is £10. As these were the first cases taken in the district, two of the defendants were ordered to pay the costs, 5s., and the third case was dismissed.

ROYAL HORTICULTURAL SOCIETY.

The exhibition held at Westminster on November 18 well filled the Royal Horticultural Hall, and proved of great interest to the large numbers of visitors present. Chrysanthemums, winter-flowering begonias, and orchids were the leading features of a first-rate November show.

BEGONIAS AND CHRYSANTHEMUMS.

Messrs. Clibrans, Altrincham, filled an entire table with winter-flowering begonias, which were splendidly grown, and covered with fully-developed flowers. The most striking were Miss Clibran, rose pink, The Gem, Lady Cooper, Apricot, Scarlet Beauty, and Beauty of Hale, in splendid form, the whole making up a wonderful bank of colour-



COLUMNEA OERSTEDIANA.

A beautiful gesneraceous plant with orange-coloured flowers, borne on pendulous growths. F.C.C., R.H.S., November 18. Sir Trevor Lawrence, Bart., Dorking.

ing. Messrs. W. Cutbush and Son, Highgate, also staged a fine table of winter-flowering begonias, backed with palms, ferns, etc., and edged with Ficus repens variegata. The begonias were beautifully developed in four-inch and five-inch pots, and the chief varieties were Beauty of Hale, Winter Perfection, Lady Waterlow, Elatior, Mrs. Heal, Bowdon Beauty, and Rochfordi.

A fine group of begonias came from Sir Corbet Woodall, Walden, Chislehurst (gardener, Mr. W. Thoms). The plants were large specimens, some being at least three feet in diameter; all were magnificently flowered and tastefully arranged in a bed of ferns and Panicum variegatum. Messrs. Rasmussen and Crone, Woodbine Nurseries, Wanstead, N.E., staged a fine display of winter-flowering begonias, which were remarkably well grown, and included all the popular types.

Messrs. Jas. Veitch and Sons, Lim., Chelsea, filled an entire table with their winter-flowering begonias. These were arranged in blocks of colour, and presented a very striking appearance. The best were Fascination, a rich salmon variety; Syros, a charming orange-buff colour (A.M.); Julius, Emita, bright orange scarlet; Mrs. Heal, in splendid form; Optima, Elatior and Winter Cheer. The whole exhibit formed a most striking demonstration of the usefulness of these valuable winter-flowering plants. The Chelsea firm also exhibited a grand group of dwarf chrysanthemums in pots arranged in the central position of the hall.

Messrs. H. J. Jones, Lim., Lewisham, again staged a fine collection of chrysanthemums, arranged very much on the same lines as at the last meeting. The huge stands used to form the background were filled with Mrs. Gilbert Drabble, Miss Roope, Mrs. H. J. Jones in splendid form, Maud Louisada, a fine variety; Mrs. J. B. Riding, and Mrs. W. T. Smith. The front was filled with singles and decorative varieties, arranged in large masses, the whole forming a fine display. Mr. C. J. Simpson, Chelmsford, also contributed a display of single varieties in good condition.

Messrs. W. Wells and Co., Merstham, filled a long table with chrysanthemums displayed most artistically in a free and open arrangement. The huge show flowers came in for a lot of attention, while the single varieties proved no less attractive. The largest varieties were Mrs. Gilbert Drabble, W. Turner, James Fraser, Mrs. G. Drexel,

Frances Jolliffe, Queen Mary (a huge mass of blooms), H. E. Converse, and Daily Mail. The single varieties were equally well grown, and perhaps the most striking were Peter Barnes, Mrs. Whitehorn, Lady Mowbray, Isobel Felton, Golden Mensa, and Snow Queen. The Misses Price and Fyfe, Grove Park Nursery, Lee, S.E., staged a collection of chrysanthemums in tall stands.

A bright bank of chrysanthemums came from the Marchioness of Ripon, Coombe Court, Kingston Hill (gardener, Mr. T. Smith), but the lack of greenery was all too apparent. The chief features were the masses of Arcturus, Mrs. C. H. Totty, Doreen, Mrs. Rider Bird, very like Bronze Soleil d'Octobre, and Godfrey's King. Chrysanthemums of the single and decorative types were well represented by Messrs. J. Peed and Sons, West Norwood, and each variety was staged in quantity, so that a good general effect was produced. The most striking single forms were Stuart Smith, Doreen, Sam Allcock, C. J. Ellis, and Mrs. W. Buckingham.

GREENHOUSE PLANTS AND CARNATIONS.

A high decorative group of poinsettias and chrysanthemums was staged by Miss Baird, St. James' Gardens, West Malvern (gardener, Mr. J. W. Irvine). The poinsettias were arranged in tall stands, associated with sprays of variegated abutilon, while big columns of single chrysanthemums were utilised in conjunction with asparagus and smilax. Messrs. H. B. May and Sons, Upper Edmonton, N., filled one table with a miscellaneous exhibit consisting of ferns, hydrangeas, winter-flowering begonias, a fine variety of cyclamen in flower, and a number of Primula obconica hybrida.

Messrs. Whitelegg and Page, Chislehurst, had a large exhibit of single chrysanthemums, arranged in vases, which embraced all the popular varieties. From Mr. A. H. Cole, Swanley, came a bright exhibit of zonale pelargoniums, also some single chrysanthemums in vases. In the latter were noted Excelsior, Mabel Bath, Honeysuckle, and Sandringham. Messrs. H. Cannell and Sons, Eynsford, presented a fine display of zonale pelargoniums, in which were noted Frogmore, King Victor, Vesta, Dublin, Countess of Jersey, and Sir Thos. Hanbury.

A remarkably bright display of carnations came from Mr. C. Englemann, Saffron Walden, Essex. The chief varieties were Carola, in fine colour; Circe, a fine variety, after the Mikado type, but of fancy colouring; Pioneer, Triumph, and Fanny were also noted. Scarlet Carola was bright, while Variegated Carola could not be overlooked on account of its quaint colouring. A bright display of carnations was exhibited by Messrs. Stuart Low, and Co., Bush Hill Park, N.

Messrs. Allwood Bros., Haywards Heath, exhibited some of the newer carnations in vases and tall stands, in which were to be seen Wivelsfield White, Cinderella, heliotrope and cerise; Empire Day, in grand form; also Mary Allwood in fine colour. Messrs. W. Cutbush and Sons, Highgate, staged carnations in pots, as well as in vases. These were arranged with palms, ferns, and other desirable foliage.

A fine group of gesneras was staged by Mary Countess of Lovelace, Ockham Park, Ripley (gardener, Mr. Towell). The plants were growing in five-inch and six-inch pots, with perfect foliage and well-developed flowers, giving evidence of considerable cultural skill. Messrs. Wills and Segar, Onslow Crescent, Kensington, staged baskets of Gerbera Jamesoni, in fine colour for the season, also some well-grown cyclamen.

HARDY PLANTS.

Mr. Jas. Box, Lindfield Nurseries, Haywards Heath, presented a small display of hardy shrubs and flowering plants. Pans of Iris alata and I. Vartani were conspicuous, as were also vases of Berberis Darwini, Aster amellus Framfieldi, and the brilliant Berberis Thunbergi. From Messrs. J. Piper and Sons, Bayswater, W., came an interesting exhibit of miniature Japanese gardens, which attracted much attention. These were very quaint, and doubtless found many admirers. The Wargrave Plant Farm, Lim., The Arcade, Liverpool Street, E.C., had an exhibit of alpines arranged among stones; we noticed Mazus rugosus, and a variety of dwarf conifers suitable for rock work. The arrangement was rather unique in such a small space.

From Mr. Clarence Elliott, Six Hills Nursery, Stevenage, came a variety of conifers suitable for rockwork, also a nice collection of alpines, in which Gentiana acaulis and Achillea tomentosa were noted; while Androsace lanuginosa and Morisia hypogæa were also in evidence. An entire table was occupied with variegated foliage and berried plants filled by Mr. L. R. Russell, Richmond Nurseries, Richmond.

From Messrs. T. S. Ware, Lim., Feltham, came an interesting display of alpines, the background being filled in with dwarf-growing conifers, and Lauruetinus nicely in flower. Mr. J. J. Kettle, Corfe Mullen, Wimborne, brought a collection of remarkably well-grown violets, which attracted much attention, the varieties Princess of Wales and Mrs. J. J. Astor being most conspicuous.

A small table of nasturtiums in pots came from the John Innes' Horticultural Institute, Merton, Surrey: there were well-flowered plants of the double scarlet and double yellow varieties. These are the produce of a double yellow variety, crossed with a small dark variety having variegated foliage; the progeny from self-fertilised seeds of the hybrid, sorted themselves out as above, some with green and some with variegated leafage. Mr. G. Reuthe, Hardy Plant Nursery, Keston, contributed a pretty group of hardy plants, where the central subject was Erica mediterranea hybrida; he also had a fine variety of nerines, the best being M. Manselli.

Mr. G. Prince, Longworth Nurseries, Oxford, staged a grand exhibit of roses that would have done credit to an early autumn show. The arrangement was decidedly good, and the varieties Frau K. Druschki, Lady Hillingdon, Pharisaer, Hugh Dickson, La Tosca, Irish Elegance, Rayon d'Or, and White Maman Cochet were in capital form.

ORCHIDS.

Messrs. Stuart Low and Co., Bush Hill Park, contributed a small collection of orchids, staged in a groundwork of maidenhair ferns. A few of the most striking features were Cattleya labiata alba, Cattleya Fabia, two good varieties of Vanda cœrulea, some good oncidiums and Brasso-cattleya Fournieri Crowborough variety, and a few choice cypripediums. Messrs. Flory and Black, Slough, contributed a pretty group of odontoglossums, cattleyas, and cypripediums; the latter included some choice forms. From Messrs. W. Baylor Hartland and Sons, Cork, came a nice group, chiefly composed of cypripediums, cattleyas, and odontoglossums. The cypripediums were, however, the feature of the exhibit.

Messrs. Charlesworth and Co., Haywards Heath, had a most imposing display. The odontoglossums included O. crispum Mabel Wheatley, O. laudatum—a splendid form with rich colouring—O. eximium xanthotes, a yellow-spotted variety; and O. eximium, a fine blotched variety. The group was also rich in cattleyas, vandas, and oncidiums, and contained a fine example of the new white-flowered Angræcum recurvum (A.M.). Messrs. Jas. Veitch and Sons, Lim., Chelsea, contributed a collection of orchids, the chief attraction being the groups of calanthes, which were well flowered, especially C. Veitchi, C. V. rubro-oculata, and C. Harrissi.

Messrs. Hassall and Co., Southgate, also contributed a small group, chiefly of cypripediums and cattleyas; while Messrs. J. Cypher and Sons, Cheltenham, presented an attractive display. The cypripediums were the chief feature here, C. Venus var. Boltoni, with two flowers, being much admired.

Mr. Francis Wellesley, Woking; Mr. O. Wrigley, Bury; Sir George Holford, and others also showed a few orchids, some of which secured awards as notified below.

FRUITS.

The chief exhibit of fruit in the hall was a large table of apples from Messrs. J. Cheal and Sons, Crawley. The fruits were arranged in baskets and dishes, and were remarkable not only for their fine size, but for their very brilliant colouring. This latter point was certainly enhanced by the attractive vine and other leaves employed. Some of the most attractive varieties were Bismarck, Lord Derby, Mère de Ménage, Annie Elizabeth, Sandringham, Nelson Codlin, Winter Queening, Rymer, Crawley Beauty in great form, Bramley's Seedling of fine colour, Blenheim Orange, and Newton Wonder. It was difficult to pick and choose between the dishes where all were so good. Lady Lovelace, Ockham Hall, Ripley, sent excellent fruits of Surprise d'Automne and Everbearing Feldebrunner raspberries.

CERTIFICATE AND AWARDS.

First-Class Certificate.—To Columnea Oerstediana, from Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking.

Award of Merit.—To Cypripedium Cyclops, from Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury; to Cattleya Feronia, Charlesworth's var.; and to Angræcum recurvum, from Messrs. Charlesworth and Co., Hayward's Heath; to Dendrobium Leeanum, Langley var., from Messrs. Flory and Black, Langley; to Miltonia Harwoodi, The Shrubbery variety; and to Cypripedium Kentore, from Messrs. Armstrong and Brown, Tunbridge Wells; to Chrysanthemum Mary Morris, from E. G. Mocatta, Esq. (gardener, Mr. Thos. Stevenson), Woburn Place, Addlestone; and to Begonia Syros, from Messrs. Jas. Veitch and Sons, Chelsea.

MEDALS.

Gold.—To Messrs. J. Cheal and Sons, Crawley, for fruit.

Silver-gilt Flora.—To Messrs. Jas. Veitch and Sons, Chelsea, for begonias and chrysanthemums; to Messrs. W. Wells and Co., Merstham, for chrysanthemums.

Silver-gilt Banksian.—To Messrs. H. J. Jones, Lim., Ryecroft, Lewisham, for chrysanthemums.

Silver Flora.—To Messrs. Clibrans, Altrincham, for winter-flowering begonias; to Mr. L. R. Russell, Richmond, for berried shrubs; to Mr. G. Prince, Longworth, for roses; to Messrs. W. Cutbush and Son, Highgate, for begonias and carnations; to Messrs. Charlesworth and Co., Hayward's Heath, for orchids; to Messrs. Jas. Veitch and Sons, Chelsea, for orchids.

Silver Banksian.—To Messrs. Allwood Brothers, Wivelsfield, Hayward's Heath, for carnations; to Messrs. H. Cannell and Sons, Eynsford, for zonale pelargoniums; to Mr. C. Engelmann, Saffron Walden, for carnations; to Miss Baird, West Malvern, for poinsettias and chrysanthemums; to Sir Corbett Woodall, Chislehurst, for Begonia Gloire de Lorraine; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. Flory and Black, Langley, for orchids; to Messrs. W. B. Hartland and Sons, Cork, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Hassell and Co., Southgate, for orchids.

Bronze Flora.—To Mr. A. H. Cole, Swanley, for zonal pelargoniums; to Mr. Kettle, Corfe Mullen, Wimborne, for violets; to Messrs. Stuart Low and Co., Enfield, for roses and carnations; to Messrs. J. Peed and Son, West Norwood, for chrysanthemums; to Messrs. Rasmussen and Crone, Wanstead, for begonias.

Bronze Banksian.—To Misses Price and Fyfe, Lee, for chrysanthemums and carnations; to Mr. C. J. Simpson, Chelmsford, for chrysanthemums; to Mary Countess of Lovelace, Ockham Park, Ripley, for gesneras.

NOTES FROM THE ARNOLD ARBORETUM.

The number of trees and shrubs at present (November 4) brightening up the late autumn days with their showy fruits is considerable, and so a note on a few of the choicer ones may be of interest to those who live in the "old country."

The Black Alder or Winterberry (Ilex verticillata) is a native of the U.S.A., and forms erect-growing bushes, 5ft. high, that are now completely covered with a blaze of scarlet berries, and are decidedly attractive. Ilex lævigata, also a native, is very similar in appearance, except that the berries, although quite as dense, are hardly as deep in colour. The Ink Berry (Ilex glabra) has a more spreading habit, with a dense head of leaves, among which are innumerable small black berries. It is about 3ft. high. Similar berries are produced on Ilex crenata microphylla, from Japan, represented by compact-growing bushes that are 4ft. high, with small, shining foliage.

Lonicera Maacki var.podocarpa should find a place in every collection. It is a splendid, late-fruiting honeysuckle from China, with a remarkable number of berries, quite a dark red, gleaming everywhere on bushes 5ft. to 6ft. high, while the long, green, pointed foliage is still retained. Lonicera Maacki is quite as freely fruited, but the berries are smaller, and not so deep in colour as those of the variety, and it loses its leaves much earlier.

Euonymus radicans vegetus, from North Japan, is a low-spreading bush about 3ft. high, and presents a bright appearance by the side of a driveway, with its clusters of showy scarlet berries. Euonymus alatus is a much-branched shrub with curiously-winged branches, and grows 8ft. high and about 10ft. through, and, although but sparsely fruited, its chief beauty lies in the bright scarlet hue of its foliage, which is the first of all to colour up with the approach of autumn. Euonymus Hamiltonianus semipersistens is different to the other species, and forms quite a small tree, 10 to 12ft. high, of erect habit and with its foliage still green; while shrubs of E. Hamiltonianus (type) are quite bare. The home of the variety is unknown.

Cornus florida was very attractive a few weeks ago, with its clusters of large red berries on bushes 12ft. and more high, but these have now all fallen off, as also have the dark fruits of Cornus Mas. During September I came across a fine shrub of Cornus Kousa in Mount Auburn Cemetery, Mass., bearing quite a number of fruits; it was a shrub about 8ft. high, with a spreading habit. The Tupelo Tree (Nyssa sylvatica) is represented in the Arboretum by trees about 25ft. high, covered with grape-blue fruits; it likes a damp situation to grow in. Benzoin destivale (Lidera Benzoin), the Spice Bush, or Benjamin Bush, which grows wild in our neighbourhood, was a blaze of scarlet fruits about a month ago, but these have now fallen.

The Washington Thorn (Cratægus cordata) is conspicuous in many places, with its brilliant, small red berries; and many other species are also making a grand show on a hill-side in the Arboretum. Berberis vulgaris and its varieties form groups in several places, and are loaded with fruits; while fine specimen bushes of Viburnum Opulus, and its American form, V. Americanus, are both very attractive with their large clusters of red fruit.

Wm. H. Judd.

Arnold Arboretum, Mass., U.S.A.

CYCLAMEN MRS. BUCKSTON.

For many years past the Rev. H. Buckston, J.P., Sutton-on-the-Hill, Etwall, Derby, has taken a keen interest in cyclamen, and his gardener, Mr. Shambrook, has proved a most accomplished cultivator of these useful winter-flowering subjects. Moreover, improvement has been carried out until a splendid strain has resulted, the plants free and sturdy, and carrying substantial blooms in plenty, well above the foliage. It is with frilled flowers, however, that the most obvious improvement has been made, and when Mr. Shambrook brought up a large group of cyclamens to a meeting of the Royal Horticultural Society last February, everyone admired the variety herewith figured, and named Mrs. Buckston. In this variety exquisite frilling has been secured without loss of vigour, and without in any way spoiling the elegance of the flowers—indeed, frilling is an added grace in this case. At the Derby Chrysanthemum Show, held a week or so ago, Mr. Shambrook staged a very fine collection of indoor-flowering plants, and conspicuous among these were the finely-grown examples of Cyclamen Mrs. Buckston. The specimen illustrated indicates the beauty of the varieties, and Mr. Shambrook's skill as a cultivator.

CYCLAMEN MRS. BUCKSTON.

A frilled pink variety, raised by the Rev. H. Buckston, Etwall, Derby.

ENTHUSIASM IN NOVEMBER.

The fair-weather amateur who remembers he has a garden in March gets tired of it by the end of July, and thinks no more of it after the holidays, wonders what there can be to do in November, while the idea of getting enjoyment out of the work is altogether beyond his imagination. There is no quicker and surer way of finding out the extent of a stranger's interest in gardening than by directing the conversation to some of the routine work suitable to November. It is the month of all months for planting and transplanting fruit trees, roses, and most hardy perennials and shrubs, and for making alterations generally. The latter especially can be done with greater freedom at this season than at any other; the soil often works better, being moist to any depth without being saturated, except perhaps near the surface after recent rains, while the neat and well-cultivated appearance of things, after the work is done, is a joy to look at through the winter. It is not only the enjoyment of doing the work at this season in the bracing weather, when most people are in as good physical condition as at any time of the year, but it is the delight and satisfaction of carrying out the plans which have been in our minds during the summer and early in the autumn and we have been longing to put in hand ever since.

It is said that in gardening we have always the pleasures either of retrospection or of looking forward; but in November we have both, and, in addition, a considerable amount of actual happiness in viewing actual present accomplishment. The early part of the month should be a busy time gathering in the fruits of the earth and storing them, while there should still be a good deal waiting the time of our need, such as celery, celeriac, leeks, turnips, and the various members of the cabbage family. The making up of the clamps of beet and carrots gives one a happy sense of possession without the accompaniment of selfishness, and the stores of apples and pears likewise; and we can feel that in our leisure we have added this much wealth to the country, and not obtained it at the expense of anyone else.

The stores of fruit indoors are, perhaps, one of the greatest sources of pleasure of the whole round of the year, for no thorough-going fruit grower will leave this at the absolute discretion of the genius of the kitchen. He knows, as no one else should know, when apples and pears are in their best condition either for cooking or dessert; and if he does not yet know this in the case of certain varieties, it is of the greatest interest to find out by experience, and make mental notes for guidance another year, from which not only himself but the whole household will derive pleasure and profit. A man may study this subject for many years without finding he is always prepared for the vagaries even of his most familiar varieties; 1912 beggared the experience of many veterans in this respect—as, for instance, in the case with me of Josephine de Malines pear, which, notwithstanding the cold summer and autumn, was ready for dessert at the end of November, whereas usually it is allowed to hang on the tree till the middle of that month, and is not expected to be in season before January or even February. Only a keen and intelligent inspection can be ready for such unexpected happenings, for it is scarcely necessary to say that the pernicious habit of squeezing pears is absolutely taboo to the fruit connoisseur. It needs some amount of experience and almost loving study before we can tell by appearance only when such green or russety varieties as Winter Nelis, Glou Morceau, and Olivier de Serres are just becoming ready for use. When they are changing to yellow it is probable they are already too far gone, or will be before we have enjoyed them many days. The head of the house need not be ashamed to make this his own peculiar province, and it will give him many an hour's happiness late in the evening when he is too tired for much else, and the results will be seen in good things for others.

Of course the townsman and the half-hearted amateur will say there is no daylight for the outdoor work of the garden at this season. But where there's a will there's a way. Even late in November, if breakfast is at any reasonable time, an hour may be obtained before it, and even more, for work that does not want too good a light. I know of no garden work at any season of the year more really delightful than an hour's honest digging before breakfast on a crisp frosty morning. The ground digs splendidly, one gets in a glow which makes one feel ten years younger, and the work can be done without that undue amount of perspiration which is apt to be attendant upon it at most times. And afterwards there is the zest of breakfast!

This is the time for two or three-spit digging, and most of the garden refuse of a decayable nature can be put underneath the third spit, and will never be seen again except as a little humus in the otherwise light-coloured soil when we dig as deeply there again in two or three years' time. This is the best time of the day and year for the work, and it is a good plan to reserve it for the first thing every morning, so as not to use the full daylight for it, and also to warm us up when we are most likely to get a chill. Alger Petts.

LATE PEARS.

Mr. Princep's article on late pears is a very practical one, but allow me to say that I would not advise planters to try Forelle pear, because, while it is the most beautiful of all, the least bruise or rot causes it to become intensely bitter, and it seldom comes quite clear of spots or blemishes. Beurre Sterckmanns is of good quality, but very liable to spot and crack. Hughes' Victoria has practically run out of cultivation. I consider Prince of Wales was Hughes' best pear, but even that is rarely grown now.

A few late pears that have recently come to the front are The Blickling, very rich at Christmas, at which period Santa Claus is also first-rate. Roosevelt is a handsome, clean-skinned pear, often highly coloured; and Beurre de Naghin is also fine. These four have received recognition from the Royal Horticultural Society's Fruit Committee. Older sorts worth growing are Duchesse de Bordeaux and Doyenne d'Alencon. George Bunyard.

Maidstone.

THE BLACK CURRANT MITE.

I was deeply interested in Mr. A. H. Pearson's article on above subject in The Gardeners' Magazine of November 1. If the simple remedy he has discovered proves so efficacious in the destruction of this pest we may soon regard him as a public benefactor. He proves conclusively that he has mastered the pest, and what he has accomplished on so large a scale ought to be an easy matter in smaller gardens.

I have long been of opinion that it is in small and neglected gardens the mite is quite at home, and from these breeding places it is spread broadcast all over the country, so that a garden which is quite immune from attack this year can only be kept clean next year by the use of preventive measures. For the past six years our bushes have been quite clean, but this year we have been disturbed by discovering a crop of big bud on three or four of them. All the other bushes were laden with fruit this summer, but there was absolutely no fruit on the infested ones, because in the previous August they burst into second growth, and buds which ought to have been maturing as fruit buds made two or three small leaves. When pruning, I was harder on these than the rest, but could find no big bud to indicate that the mite was present. I had quite made up my mind to pull these bushes out this season, as they were behaving in the same erratic fashion which forecasted no fruit next season, and during a recent examination I found quite a number of big buds.

When I came here seven years ago I had to clear out the entire lot of black currant bushes, as they were so badly infested; they were promptly burned, and the ground limed and deeply trenched, and limed again on the surface. I made a new plantation in another position altogether, buying in the stock "guaranteed clean," the varieties being Victoria and Boskoop Giant. On delivery I discovered one or two big buds on Boskoop Giant, so this variety was promptly returned and Victoria ordered. Beyond spraying with alkali wash in winter, along with the fruit trees, no other precaution was taken, and every visitor commented upon the clean, healthy condition of the bushes.

My intention now is to consign the infested bushes to the flames, and act on the information given by Mr. Pearson, but, in addition, I shall return to my first practice of spraying with caustic wash in winter. I believe if I had sprayed each winter I might have had a clean stock yet; but I thought after the first two seasons the danger was over, and so stopped spraying. A dry spray of two parts sulphur to one part lime is frequently advocated, and only the other day I visited a large garden where every black currant shoot was greased in winter, and the bushes are entirely free from mite. The enclosed photo is of a mite magnified 4,000 times, but I fear, however, that it is too indistinct for reproduction. [Quite useless for reproduction.—Ed.] James Bethel.

The Grange Gardens, Monfieth.

Cucumbers.—A night temperature of 65 to 68 degrees will now be sufficient for cucumbers, a little ventilation being given whenever circumstances permit. Do not pinch the laterals as previously recommended, but rather encourage a little more extension; be careful not to overcrop the plants, but encourage them by light, rich top-dressings. Syringe the beds and surroundings with tepid water, but overhead syringing should now be discontinued.—F. Jordan, Warter Priory Gardens.

HARDY PERENNIALS FOR GROUPING.

Few plants add so much beauty to a garden as the more handsome hardy perennials, and, in addition to their use in the herbaceous borders, well-arranged groups are a means of greatly enhancing the attractions of the pleasure grounds and wild garden. For this purpose it is desirable to choose the more vigorous species, as they create a striking effect, and readily adapt themselves to the conditions of growth. In most gardens there are positions that could be rendered more picturesque by the planting of large beds and irregular groups of hardy flowers. For example, high ground by the water's edge, and the forefront of shrubberies, could be made bright and gay with waving masses of attractive blossoms.

Suitable plants are very numerous, and among them the delphiniums, with their stately spikes of bloom, form a telling feature. One colour alone may be used in the formation of groups; but large masses, in which different varieties are artistically blended, are equally attractive.

Several of the campanulas are ideal subjects for this style of planting. C. latifolia and the variety alba look charming in the woodland; while C. persicifolia and C. lactiflora are decided acquisitions. Buphthalmum speciosum grows vigorously in moist, rich soil, and its deep yellow flowers make a rich display. Lythrum roseum superbum make a strong growth, and blooms profusely under similar conditions, and associates very well with the above subject. Artemesia lactiflora, with tall panicles of white flowers in late summer, is a delightful subject for the woodland or stream side. Stenantheum robustum is even more attractive, its tall white plumes frequently attaining a height of 6ft., and continue to make a display well into the autumn. Funkia Sieboldi luxuriates in a moist position in partial shade; as also do Ranunculus aconitifolius, with white flowers, and Trollius Orange Globe. During the early part of summer these free-growing subjects make a bright display.

Probably no plants produce a more telling effect than the tritomas; and it is a matter for regret that they do not remain longer at their best. T. caulescens flowers in July, and a large mass of it on a slight incline looks remarkably well; while at other times its yucca-like foliage is distinctly attractive. T. uvaria grandiflora is a splendid variety for autumn effect. Verbascum olympicum is an ideal plant for the wild garden, where it seems perfectly at home, and reproduces itself freely from seeds, rivalling the foxgloves in this respect. Senecio clivorum is extremely effective in large masses near the water's edge; and the newer varieties, S. Veitchianus and S. Wilsonianus, with handsome, erect flower spikes, must on no account be omitted.

The spiræas must not be overlooked, as few subjects create a more pleasing effect, especially near the stream side. Of these, S. aruncus possesses tall, wavy plumes of creamy-white flowers, and is one of the most delightful. S. palmata has spreading clusters of lovely crimson blossoms; and S. venusta has attractive rosy-pink flower-heads. Astilbe Davidi is a charming species, possessing graceful spikes of rosy-purple flowers; and A. Queen Alexandra has deep pink blossoms of a very pleasing shade. A. grandis is a Chinese species, often attaining 6ft. in height, and its pure white flower-spikes are very beautiful. Epilobium angustifolium is well worth a place, as also is Echinops Ritro, with large, globular heads of blue flowers. Lupinus polyphyllus and its varieties are exceedingly showy, and are always admired when growing in large groups. The numerous varieties of Phlox decussata form beautiful objects planted in large beds; and pæonies are equally desirable for this purpose. Helianthus multiflorus and H. rigidus Miss Mellish are valuable for the production of colour effects in the late summer; and a little later on the perennial asters, some of which, like A. Climax, A. Beauty of Colwall, and A. Novæ Angliæ and its varieties, are ideal subjects for this method of arrangement.

Several of the polygonums are extremely handsome when massed, but some of them require unlimited space, as they are more easily planted than eradicated, so rapidly do they increase. P. cuspidatum can be recommended. It produces drooping panicles of creamy-white flowers in great profusion during the autumn, when it is a beautiful object. P. virginianum is an attractive species of medium growth. Bocconia cordata is worth inclusion, but the creamy-white flowers of B. microcarpa are rather more attractive. J. Gardner.

Batsford Park Gardens.

FLOWER BORDER IN A KITCHEN GARDEN,
Composed of Sweet Williams, edged with Viscaria.

Suggestions for Border Planting. — In a recent issue Mr. T. Smith gave some suggestions for planting the margins of fruit-tree and kitchen garden borders with flowers. An illustration of cordon apples bordered with aubrietias has already appeared, and on this page is shown another of the flower-bordered fruit quarters at Coombe Court.

TWO GOOD MELONS.

I should like to bring to the notice of those interested in first-class melons two fine varieties, viz., The Manchester, a scarlet-fleshed variety of all-round excellence, and Sutton's Ringleader, a fine green-fleshed variety. Many good gardeners follow a different method to mine in training and stopping, and they do not allow their plants enough headway. The Manchester requires great freedom of growth, and my method is to stop or pinch the growth at about 15 inches high; then comes four or five shoots, which I pinch again at a foot long, and then obtain seven to ten laterals, which invariably all show fruit. These laterals are not pinched or stopped again until the fruits are about the size of walnuts. If too many laterals develop, I rub out the alternate growths, so as not to have a thicket. When the fruits are as large as a cricket ball, about five or six to a plant, which is a fair average, I rub out entirely all growths not required, but always ensure plenty of strong leaves, without which one can never secure well-finished melons, rich in flavour.

As the fruits show signs of having swelled to their limit of about 5lb. to 6lb., some of the rampant growths and leaves may be thinned, but this must be done gradually. No better compost can be used than yellow fibrous loam, some rotten manure, and a shovelful of soot and lime to each barrowload of soil. I always keep thrips and spider at bay by using plenty of moisture throughout the season of growth. I never allow water to touch the stem, but frequently dust a little dry lime round the collar of the plant to prevent canker. I do not rub out the male flowers, as many do. I advise growers to try these two varieties—The Manchester, scarlet, and Sutton's Ringleader, green. Give them freedom of growth and they will be free growers, free setters, handsome in appearance, rich of flavour, and always winners at the shows, at least I have found them so under these conditions. W. Irvine.

St. James' Gardens, West Malvern.

PLANTS FOR THE MORAINE.

More and more does the value of the moraine for the treatment of alpine flowers become apparent, and it is evident that the moraine is the key to the successful cultivation of many choice plants in our climate. In the moraine many of them will laugh at the assaults of both excessive rainfall and extreme drought, and will give results unattainable in any other way. The moraine need not be an elaborate one, and much needless elaboration is often followed in its formation. The main feature is the good layer of gravel or chips above, and ample drainage below. In the following notes only good plants which have been carefully tested are named.

Dianthus Spencer Bickham.

This choice little hybrid pink is absolutely happy in the moraine, and it is increasing more rapidly than one could persuade it to do in the ordinary treatment of the rockery. I have a charming little plant of it here in a moraine composed of whinstone chips, with a very large proportion of old mortar and lime rubbish. Indeed, one has transposed the ingredients; for the bulk is lime rubbish and old mortar. Only about one-third is whinstone chips. Here Mr. Spencer Bickham's pink is flourishing, and in summer was a perfect beauty with its little stems three or four inches high, bearing such dainty little crimson flowers.

Thymus micans.

Under this name there is a delightful small thyme, which is pretty in the rock garden, but is still prettier, and does even better in the moraine. A little bit taken off a plant in the rock garden and planted in a whinstone and lime moraine (the proportion here being about one part of whinstone chips to one of old mortar and lime rubbish) has thriven exceedingly well, and has formed a dainty mound of vivid green decorated for a long time with tiny pink or purplish flowers. I see that the great "Index Kewensis" refers T. micans to T. serpyllum, but, though it may be nearly related, the plant I have as T. micans is totally unlike our common thyme. It has very small foliage, and forms a mound almost like one of moss. The moraine seems, however, to be congenial to the thymes, for in the same moraine a little bit of T. s. lanuginosus has also made itself thoroughly at home, and is, indeed, spreading too quickly. T. micans, however, though growing rapidly, has not the rampant growth of T. serpyllum and its varieties, and is a most exquisite little alpine, and perfectly hardy.

Æthionema iberideum.

The æthionemas are evidently happier in the moraine than anywhere else, and Æ. iberideum, the iberis-like one, is one which is making itself thoroughly at home in the same moraine as the tiny Thymus micans. A small plant has soon made itself quite happy there, and is growing remarkably well. It is a white-flowered species, and gives a number of heads of flowers which are pleasing in the mass. Against the grey moraine the glaucous foliage looks quite harmonious, while the silvery flowers appear entirely in consonance with the chips and lime granules. These æthionemas delight in free drainage, so that they settle themselves well down to the conditions of a moraine.

Saxifraga paradoxa.

Everybody who loves the silvery saxifrages (and no true alpine grower is without the number) will seek to give these beautiful flowers the conditions under which they look best and are happiest. Speaking theoretically, most of these silvery saxifrages should thrive best with some lime in the compost or moraine, but I find that my finest plants are in a moraine which has no lime about it. Perhaps, after the others have been as long in the lime moraine they may give as good results, but they hardly look like it, and it is impossible to conceive prettier and more charming silver saxifrages than those which have been tried in the pure whinstone moraine. Among these is that charming one called in gardens S. paradoxa. Authorities tell us that it is a variety of S. aizoon, but I am disposed to agree with the eminent writer who says that he "cannot see by what right the plant dares to call itself an aizoon at all." Still further, I agree with him in saying that it has "the loveliest foliage of the whole race." The same writer, by the way, asserts that it has the poorest flowers. I think I know of some with poorer flowers, but, all in all, S. paradoxa is a rarely beautiful plant, and it seems greatly glorified in the moraine. It thrives better there than on the rockery, and is a gem indeed with its long, blue-grey, silver-edged leaves. Against the grey of the whinstone it is a picture of the rarest beauty.

Androsace Chumbyi.

I suppose, if we follow the Kew "Handlist," we must call this delightful plant Androsace "sarmentosa x villosa," but nobody would care to talk familiarly of a flower with such a name, although I suppose it is doubtless a correct indication of its lineage. But "Chumbyi" it is likely to remain, and as Chumbyi I shall speak of it. A little plant was committed to the lime and whinstone moraine (the first one mentioned in these notes), and there it has thriven splendidly. It has given me many of its heads of lovely rosy flowers above the silvery rosettes. Compared with its sisters in the rock garden, this plant surpasses them all, and shines pre-eminent as the prettiest of the bevy of beauty.

Just a word as to planting these in the moraine. I like to plant them with a modicum of soil about the roots, so that they will suffer little at first from being consigned to the chips without a little root-hold. They soon establish themselves, and are then independent of the soil until they reach down to the earth below.

S. ARNOTT.

Broad Beans.—Where no convenience exists for raising the plants under glass early in the new year, a sowing outdoors may be made forthwith; the position must be warm and sheltered, and the soil well drained. To preserve the seeds from rotting place in the drills a layer of finely-sifted leaf-mould, and cover the seeds with a further three inches of the same or a mixture of finely-sifted potting-bench refuse and leaf-mould. The seeds may be sown thickly, and the surplus plants transplanted in February or March. Royal Dwarf Cluster and a good type of Longpod are suitable varieties for present sowing.—W. MESSENGER.

SPIRÆA ARBOREA.

Spiræa arborea is a Chinese species, belonging to the Sorbaria group—Sorbaria being an old generic name which numerous present-day botanists are reviving. The group also includes S. Aitchisoni, S. assurgens, S. Lindleyana, and S. sorbifolia. S. arborea (Schneider) is a very variable species, and two or three forms have been given varietal names, but connecting these are numerous intermediate forms, making it difficult in some instances to say to which variety a particular plant belongs.

They are all vigorous-growing shrubs, seven feet to eight feet or more in height, with elegant pinnate leaves, consisting of, usually, seven or eight pairs of leaflets. Allied to the Hamalayan species, S. Lindleyana, they differ in having the underside of the leaves more of less tomentose (except in the variety glabrata), the magins of the leaves less deeply serrated and longer stamens; the inflorescence is also tomentose. In the variety sub-tomentosa, introduced by Mr. E. H. Wilson from China, the woolly character of the leaves and inflorescence is less marked. A second variety, glabrata, also introduced by Mr. Wilson, has glabrous foliage, and a narrower inflorescence with ascending branches.

The typical inflorescence of S. arborea is inclined to be flat-sided, and roughly triangular in shape, 12 inches to 15 inches long, and 9 inches to 12 inches wide at the base. S. arborea var. grandis, given an Award of Merit by the Royal Horticultural Society on July 29 last, and figured in THE GARDENERS' MAGAZINE the following week, has white flowers, and is another of Mr. Wilson's introductions from China. The several varieties flower throughout the month of July, and most of August.

A. O. K.

THE CHICKWEED FAMILY.

It will probably surprise a good many of my readers who are only too familiar with the common chickweed as a remarkably intrusive garden pest, that it really belongs to a family to which we are indebted, as a counterpoise, for many beautiful garden gems. Among these, as species of the same order, are the dianthus tribe, embracing all the beautiful pinks, from the little alpine gems which render our rockeries resplendent in the early summer, to the magnificent carnations which form so important a cult in themselves as to constitute a basis and raison d'être for a number of societies all over the world in temperate regions.

The extremely beautiful silenes, arenarias, and lychnis of many kinds are also relatives, and at the moment of writing we have in sight another relative in the shape of a double form of saponaria, which like its relation, the chickweed proper, has an invading character, owing to its underground stolons, but in due season pays its rent to the full by forming a huge mass of rosy-pink double flowers of great beauty, borne on lax stems rising a foot or more from the soil.

Of the natural order Caryophyllaceæ to which the chickweed belongs there are about 60 genera, and over 1,000 species. Though these are found spread all over the world, they are practically confined to high and cool elevations in the Tropics, or to regions of moderate temperature, their consequent hardiness being thus greatly in their favour as popular garden favourites.

C. T. D.

CHOOSING APPLES FOR PLANTING.

It is so difficult in gardening to lay out one's money to the best advantage that probably no one, not even the most careful man, avoids buying things sometimes which turn out to be unsatisfactory. Even if our judgment is perfect, and our nurserymen such us exactly what we ask for and nothing else, there is always the great uncertainty as to how our soil and general conditions will suit the plants, trees, etc., which we buy. Choosing varieties of apples is by no means one of the least difficult in this respect, and no amount of advice can altogether guarantee us against mistakes. Still, there are often certain well-defined causes underlying one's failures, and these may serve as warnings to intending planters. The form of tree to be planted must depend upon one's circumstances, while the choosing of trees, of whatever form, is a general subject, and does not specially relate to apples, so that neither of these subjects will be touched upon here.

The exhibition table is one of the most common pitfalls for intending planters, and for others as well, for it is there that we are led to choose varieties solely on their appearance, without knowing anything of their hardiness, fertility, and other characteristics which will determine their success or otherwise under our conditions. The apple behaves most inexplicably in various soils and situations. I will not say it is capricious, for I am doubtful if any tree or plant is really that in the way we apply the word to individuals, though we often apply the term to plants when we do not understand the cause of their failure. Not only will the same variety of apple grow and fruit well in one place and badly in another not far off, but in the one case it may be a good dessert variety and in the other a very poor one. As an instance, that apple which some of us praise so much, Egremont Russett or Petworth Nonpareil, was said by a writer in a gardening paper recently to be not worth eating with him.

Assuming that we have a definite idea for what purpose we want apples—early, mid-season, late, dessert or cooking, etc.—the great desideratum is to find out what sorts are best adapted to our conditions. Market growers have been recommended to plant two or three trees of a number of varieties with the idea of finding out which do best on their land, and then to plant their ground with trees of a few of the most promising of them, and no others. Most of us, both amateur and market growers, plant too many sorts. In some of the famous apple-growing districts of the Western States only one or two varieties are grown, and in some parts only one, that is, on a commercial scale, apart from the needs of inter-pollination.

For the private grower, who wants to plant a few trees only, it is often difficult to find out which of the varieties that meet his requirements are likely to do best with him. The best thing he can do is to consult his neighbours as to those which are the greatest success with them, and, if any of those varieties are adapted for his purposes, to plant them. There is often, however, a considerable difference in soil conditions within a couple of hundred yards. Most of us want to plant certain varieties, e.g., Cox's Orange Pippin, whether suitable or not, and in these cases we have to learn by experience. I have seen healthy young trees of this variety literally crack to pieces after a couple of years. Catalogues are not as a rule of much use to us in this respect, for they recommend all the varieties included, but rarely mention any unfavourable characteristics, of which probably every variety grown possesses at least one.

There are one or two general principles we might bear in mind. If our situation is more than ordinarily liable to late spring frosts we should try to avoid those varieties which flower early. There is fully a week between the very early-flowering varieties, and the mid-season ones, and nearly another week between the latter and those which flower very late, so that there is enough scope to make all the difference between probably losing the crop through frost and being fairly safe. The "Journal" of the Royal Horticultural Society for December, 1911, gave some valuable information on this subject.

Then, again, if the soil is a damp one, especially if it is very fertile, this is favourable to late vegetative growth, which means that fruit will keep on growing in the autumn instead of maturing, or "finishing," as fruit growers call it. This is fatal to the late varieties, dessert especially, as they will only properly ripen under such conditions in an exceptionally favourable season. After the memorable summer of 1911 it would have been thought that all varieties would mature, but on a wet soil Sturmer Pippin was not ready to gather at the end of November, and, though there was some fine fruit to all appearance at the time of picking, a considerable percentage shrivelled so much as to be worthless for dessert. Duke of Devonshire behaved similarly. On such a soil it would not be advisable to plant varieties which are specially liable to canker.

But when we have used all the care and forethought of which we are capable, and have consulted all friends and neighbours, we shall still probably plant some varieties which will not be a success, but we shall have reduced the number of failures to a minimum. There is always some mysterious factor which causes some excellent varieties to come much below our expectations. It is not always either the soil or the climate, for there is no doubt that with many varieties, there are a number of strains which have arisen from what is known as "bud variation." The most casual observer, when visiting a large fruit show, must have noticed the difference, often very considerable, in the appearance of Blenheim Pippin, for instance, and if he has had the opportunity of eating this same variety from several trees year by year he will probably not have failed to notice similar differences in the texture and flavour, even though the characteristic flavour of the variety is not altogether absent from any—the points of variation being so constant year by year that he can often tell from which tree, or from whose garden, a particular fruit was gathered. This is a subject to which more attention is likely to be given in the future, and one which fruit growers cannot afford to ignore if they are going to compete successfully in the markets of the world.

ALGER PETTS.

APPLE HITCHIN PIPPIN.

An excellent dessert variety, somewhat similar to the King of the Pippins.

APPLE HITCHIN PIPPIN.

This is a dessert apple which not a few growers speak highly of, and one which has been frequently exhibited during the last two or three years. It is a free grower and regular cropper, and bears fruits which have a very close resemblance to those of the old and well-known King of the Pippins. In flavour it is superior to the older variety and keeps well. Where a substitute is needed for King of the Pippins—and it is common knowledge this variety does not please every fruit-grower—then Hitchin Pippin may well be cultivated. Our illustration shows a fruit exhibited not long since by Messrs. George Bunyard and Co., Maidstone, in a large basket of this variety.

THE COTONEASTERS.

Until the present century the headquarters of the genus Cotoneaster were considered to be in the Himalaya, but recent explorations in Central China have revealed so many new species that it is probable the former country will have to relinquish its claims in favour of China. The genus is an important one to horticulturists, for it contains many species which bear attractive fruits, some being, at the same time, useful evergreens, and pretty flowering shrubs. In addition, the genus is an accommodating one, for it includes plants which exhibit a wide range of habit, from prostrate shrubs, rising but a few inches above the ground, to those of tree-like dimensions.

Some kinds, such as C. horizontalis, C. microphylla, and C. thymifolia, are excellent for planting on rockeries, whilst they may be planted against walls with equally satisfactory results. It is astonishing how well they adapt themselves to the latter method of culture, for, while being semi-prostrate bushes, when planted in the open ground, they grow to a height of twelve to eighteen feet against walls, and attain that size with little aid from the gardener. They thrive most satisfactorily in loamy soil, and prefer that of a medium consistency to that of a clayey nature. But they also do remarkably well in light, sandy soil. The greatest difference, perhaps, between plants growing in poor and really good soil, after allowing for the difference in vigour, is that the leaves of some deciduous kinds growing under the latter conditions are retained later in autumn than in the case of plants growing on sandy ground, greater vigour, in some cases, allowing the leaves to be carried until well on towards Christmas. Temperature, also, exerts a distinct bearing upon the fall of the leaves, and when a very mild autumn and winter is experienced, some kinds which would otherwise be deciduous retain their leaves almost until new ones appear.

Seeds of most of the kinds are ripened freely, and they form the most satisfactory means of propagation for the more vigorous kinds, but the dwarf set may be grown quite as well from cuttings of short, half-ripe shoots inserted in pots of sandy soil in a close frame during July or August, or, if large numbers are required, they may be dibbled into a bed of sandy soil in a cold frame. Formerly the practice obtained of grafting various species upon stocks of common thorn. Fortunately, this method of propagation has been discarded in the best gardens.

Little in the way of regular cultural attention is required by the cotoneasters. Except when growing under conditions which necessitate the restriction of growth, they require no regular pruning, providing attention has been paid to procuring a stocky foundation during early life. People sometimes like to have examples of the strong-growing C. frigida with a distinct trunk, and in such cases it is necessary to trim the lower branches off, or shorten them, in order that the full strength of the plant may be centred upon a single stem.

W. DALLIMORE.

(To be continued.)

COLOUR SCHEMES IN GARDENS.

As a general rule it is as desirable to provide contrasts as well as colour harmonies in the garden, and where space is limited, the use of one colour with its many shades passing gradually from the palest to the deepest hue, does not provide the greatest enjoyment. On the other hand in large gardens such schemes have much to commend them, and, if well carried out, they provide items of great interest. It must be admitted, however, that an ambitious programme in this direction is likely to prove rather costly, both in labour and material; but where there are gardens within the garden, then one may be devoted to blue, another to yellow, and another to red flowers; or grey-leaved plants may be pressed into service in yet another. At Friar Park, Henley, Sir Frank Crisp, Bart., has, as readers are aware, a large number of special attractions as well as the general one which always attaches to a well-kept garden. Quite recently we referred to the Fragrant Garden there, and now, while planting is still in full swing, the grey and blue gardens are worthy of note, and are herewith illustrated.

THE GREY AND BLUE GARDENS, FRIAR PARK, HENLEY.

Polygoniums, santolinas, cerastiums, echeverias, and many other plants are available for a grey garden, while for the blue quarters there is abundant available material, ranging from tiny campanulas up to tall anchusas and giant delphiniums. Grey-leaved plants are not so numerous, or, at least, not so well known, and it would therefore prove an interesting and pleasant task for younger readers among professional gardeners to make a note of suitable species and varieties which they would select if commissioned to plant a grey garden or a grey border. Having completed their task, we should like to receive a copy of the list.

FUNKIA TARDIFLORA.

This attractive plant is well named, for it is the latest of all the Plantain Lilies to flower. The first blooms do not expand until September, while in favourable seasons the period of flowering extends, as this year, well into November. It is of Japanese origin, a plant having been found in a collection of funkias brought back to America from Japan by Mr. Thomas Hogg about 1870. Being distinct from anything already in cultivation it was named and distributed as Funkia Thomas Hogg.

A plant under this name was obtained from America by Mr. Max Leichtlin, of Baden Baden. He did not like the American title, and appropriately substituted the name of F. tardiflora. Kew obtained a plant from M. Max Leichtlin in 1895, and inches to 18 inches in length, and freely furnished with lilac-tinted blossoms.

Division of the clumps forms a ready means of increase, the best season for the work being March and April. Such a good flowering plant as F. tardiflora is worth cultivating in pots for cool greenhouse and conservatory decoration. Under glass the prettily-tinted flowers, with the protection afforded, are very useful at a season not abundantly supplied with dwarf flowering plants for the side stages.

Kew. A. OSBORN.

PÆONY-FLOWERED DAHLIAS

At the second of the September and the first of the October exhibitions held by the R.H.S. at Vincent Square, these flowers were shown in great numbers, and it is almost a

CAMPANULA PROFUSION.

This charming alpine Bell-flower greatly resembles one called C. haylodgensis, raised by the late Mr. Anderson Henry, at Hay Lodge, Edinburgh, and also one which is now called C. Tymonsi, but which is not, I think, the C. Tymonsi originally sent out. It is, however, a plant raised distinctly by a well-known hardy plantsman, Mr. E. H. Jenkins, of Hampton Hill, one who knows hardy flowers better than most, and who has, fortunately, preserved the origin of this hybrid Campanula. It was obtained when Mr. Jenkins was trying to cross C. pyramidalis alba with C. turbinata var., and the seed-pod was actually taken from the former. The result is rather a curious one, as the little campanula under notice bears no trace of either of its parents.

FUNKIA TARDIFLORA.

A beautiful Plantain Lily, producing its lilac coloured flowers in late autumn.

a considerable number of plants having been propagated, we have a good show when they flower during the autumn. Flowering at a season when frost may be expected, it is as well to select slightly sheltered spots for this funkia, and it is well known that all the Plantain Lilies thrive in moist, partially shaded positions, and some of the best plants at Kew are in the Bamboo Garden. It is also used as a carpeting plant for beds of deciduous shrubs and in the Rock Garden.

Funkia tardiflora is allied to F. lancifolia, and has, in fact, been referred to as a variety of that species. Its more tufted growth, shorter and more crowded racemes of flowers, and late season of flowering, should be ample distinctions for its consideration as a distinct species. The dark green, lanceolate leaves are comparatively short for a funkia. The racemes are 12

mystery how they have gained so much popularity and seem to hold a higher position—in many people's estimation—than the cactus-flowered varieties. I do not for a moment suggest that the colouring in this section is poor; in fact, in this respect everyone will, I think, agree that they are a great acquisition to a garden for late summer and autumn flowering. The weak feature, in my opinion, is the badly-formed centres of so many of the pæony-flowered varieties. If these flowers could be grown with a decided "eye," or else with a quite uniform centre, the flowers would be, I think, very much more attractive.

As it is now, one sees flowers shown which strike one as being mere freaks, and were it not for their colour one would feel disposed to discard them altogether. How is it that this point is overlooked in this one class of dahlia? If a cactus bloom is shown with the least flaw it is rejected at once. Why should not the same apply to these? L.

However this may be, the plant is a delightful one, of trailing habit, and with yellowish foliage, and bearing pleasing, light-blue flowers. This is the form generally seen, but, as a matter of fact, there are two forms of C. Profusion, one with yellowish and the other with green leaves, just as there are two varieties of C. G. F. Wilson, presenting the same points of difference as are shown by these two Profusions.

I look upon C. Profusion as one of the prettiest and best of our hybrid Campanulas, and, as it is not difficult to grow on the ordinary rockery, it should be acquired by the many. It seems to prefer a little shade, but is not too particular. C. Profusion is increased by careful division in spring or summer, and also by cuttings taken in summer and autumn. It flowers from June onwards. S. A.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

WINTER-FLOWERING CATTLEYAS.—In many private gardens there is considerable demand for attractively-coloured flowers during the months of November and December, and if decorations consist of a limited class of any kind of flowers for a lengthy period complaints are apt to be made. Things are very different now to what they were a decade ago, and there is as great a demand for change in floral arrangements as in other pleasures of life. While we may obtain considerable variation in tints among florists' flowers in general, the colours are limited, but we find among the autumn and winter-flowering cattleyas those tints of colour which are particularly pleasing. There need be no extensive outlay where there is a stove house, as it will afford facilities for the cultivation of most of the winter-flowering cattleyas.

C. LABIATA is one of the most serviceable for the purpose, and as plants are annually imported in large quantities, and are procurable in an imported state for a modest outlay, there is no difficulty in obtaining good stocks. They are exceedingly free-flowering, and if procured early in the year they bloom the following autumn. Like many other imported species they grow and flower well for a few years, but their free-flowering habit will in time cause a general deterioration. It is therefone desirable to add a few imported plants to the collection each year. C. Harrisonianum and C. Loddegesi, with their long spikes of flowers, are also most useful, and where suitable conditions are provided the plants retain their normal vigour for an indefinite period. C. Bowringiana is another species that does well in cultivation. C. aurea and the natural hybrid C. Hardyana are also desirable.

AMONG THE HYBRIDS, C. Mantini, C. Wendlandi, and a whole host of others that have been derived from the use of C. Bowringiana as one parent, are of much value. We have also large-flowered kinds of great excellence as C. Fabia, one of the most variable of all cattleyas; Lælio-cattleya Bella, and the numenous hybrids from C. labiata. The greatest variation and certainly the attractive colours are found in hybrids that have been raised from C. aurea or C. granulosa. The varied tints of orange, scarlet, and yellow among the later introductions have added to the charm and usefulness of the autumn-flowering cattleyas. I have wandered from the beaten path in this issue to draw attention to the utility of a class of plants that cannot fail to be serviceable to my brother gardeners, where the autumn requirements are a great consideration.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

THE PALM HOUSE.—The present season affords an excellent opportunity for thoroughly overhauling the house devoted to palms, which, in common with all plants growing inside, cannot give of their best unless both the plants and the house in which they are growing are kept in a clean condition. The leaves should first be loosely tied up to avoid injury when the plants are being moved to one end of the house while the vacant half receives a thorough cleaning. Glass, woodwork, and walls should be washed down with warm soapy water containing a little paraffin or other insecticide, the walls limewashed, and the granite chips or material on which the pots stand be washed or renewed. Afterwards remove the plants to the clean half whilst the other section is similarly treated. The plants should now be thoroughly cleaned, scale being the most troublesome pest, and where this is present great care will be necessary to remove it without damage to the fronds. This, however, may be accomplished by means of a sponge, or small brush, with a little insecticide. Thrips are sometimes troublesome, but an occasional fumigation will keep them in check. Red spider is also a visitor, but usually only when proper care with regard to damping and watering has been somewhat neglected. The plants should now be rearranged, and where considered necessary the soil in the pots may receive a slight topdressing of soot and bone-meal, or other approved fertiliser. Imperfect drainage may be attended to, but repotting had better be deferred until the early spring. Watering should be accomplished with care, for palms generally suffer when the moisture about their roots is in a stagnant state during the winter months.

BULBS, CORMS, AND TUBERS.—Having been stored for their resting season, these should, if time permits, be examined. Caladiums are generally kept in good condition undisturbed in their pots in a temperature not lower than 60 deg., but there is always the possibility of their being damaged, either by being in too close proximity to the hot water pipes, or by the soil becoming wet through drip. Achimenes that were stored with any growth remaining should now have this removed, as also should gloxinias, afterwards replacing them in the resting quarters. Amaryllis should be examined and cleaned. Some of the earliest will probably be found throwing up their flower spikes. These may receive a thorough soaking prior to being top-dressed, and be placed in a warm house, to form the earliest batch. Flowering in the winter these will prove most acceptable for decorative purposes. Calla Elliottana should be sufficiently ripened to store in the pots in which they have been grown until required in the spring months for restarting. —H. PRIME, Hatfield House Gardens.

THE FLOWER GARDEN.

THE WATER AND WILD GARDENS.—Now is an opportune time for giving special attention to the water garden and wild garden. In the wild garden many of the occupants are of herbaceous character, consequently their foliage is now in a state of decay, and should be cut off and cleared away, as most of that which was retained for its autumn colouring is no longer attractive. At the same time fallen leaves and rubbish can be collected. Then fork up the soil round about the shrubs and plants as deeply as possible without injuring the roots, at the same time working in some well-rotted manure or leaf-mould, the latter, preferably on stiff ground. No trouble should be spared as the work proceeds to pick out the roots and underground stems of perennial weeds. Subjects not perfectly hardy should be afforded some protection; lay dry material over the surface soil around gunneras, and cover their crowns with heather or their own foliage, and they will then be safe from the severest frost. Bamboos which have their roots protected by a covering of dry leaves or bracken are not liable to suffer to such an extent during a hard winter as if they are neglected in this respect; it is surprising the amount of frost well-matured growths of many of the bamboos will stand when provision has been made to exclude frost from their roots. Kniphofias, too, are uncertain subjects in some soils, and a covering of dry pine leaves placed round them will keep them safe during severe weather. Mulching the various plants in the wild garden with manure at this season is not to be recommended: such treatment is better deferred until the spring. The foliage of many water plants will now be decaying, and an effort should be made to clear it away.

CHRISTMAS ROSES.—Varieties of Helleborus niger are now beginning to bloom profusely and are well worth a little attention. Afford the flowers some protection from inclement weather, but in such a manner as to avoid coddling, otherwise premature growth will be excited. Cloches or handlights raised on bricks answer admirably for individual specimens, and for quantities growing closely together on a border, lights supported on a temporary framework and made secure against winds, will be found most suitable.

SPECIMEN PLANTS in ornamental tubs and vases, such as myrtles, camellias, bays, hydrangeas, chamærops, etc., used for terraces should be given some shelter from severe weather. If room can be found for them in a well-ventilated, unheated house, no place will be more suitable; failing this, a light, airy shed, or a verandah in a sheltered position, forms a useful substitute. All statuary and other garden ornaments liable to be affected by frost should either be removed to a shed or be covered up with mats or canvas; fountain basins must be emptied regularly after heavy rains, unless constructed of very durable material, otherwise they are liable to become split or distorted.—T. B. FIELD, Wych Cross Place Gardens.

FRUITS UNDER GLASS.

EARLY PEACHES.—Where very early forcing is contemplated, whether of pot or permanent trees, no time should be lost in clearing the orchard house of chrysanthemums or other plants and placing the trees in position. Select those trees well set with buds thoroughly ripened in moderately sized pots that are full of roots and well drained. Only such varieties as Cardinal and Early Rivers nectarines, with Duke of York peach, need be started yet; allow them plenty of time, and start with a low temperature and plenty of ventilation. Mild bottom-heat is a great help, and this may be secured by standing the trees on inverted pots with a good body of leaves around them. Very little pruning is necessary. Some of the strongest shoots and leaders may be cut back to a triple bud, but weak shoots are better left until the young growths are pushing freely.

PERMANENT TREES.—If ripe peaches are required in May, the houses must be closed. Carefully examine the borders and make sure they are in a moist condition down to the drainage. For some time after the house is closed it will not be necessary to apply fire-heat, but as a free circulation of air is most important, it is better to warm the pipes a little, rather than have a cold, damp atmosphere. Flowers expand stronger with free ventilation than where they do not receive this attention early. A temperature of 40 to 43 degrees is high enough to start with, and as the buds swell 45 degrees may be given, rising to 55 degrees during the day with sun-heat.

CHERRIES AND PLUMS.—If these are required early the trees may be at once placed in position; both are, however, most impatient of fire-heat, or of being kept too close. During moist and mild weather full ventilation may be left on night and day. Provided there are shelves in this house, it will be found most suitable to start strawberries in, as the temperature through the first stages need not exceed 40 to 45 degrees by night, and 50 degrees throughout the day.

FIGS.—These should be started for early supplies, and here also gently fermenting material is of great assistance. The temperature of the pit or house may range from 50 to 55 degrees, with a little ventilation on all favourable occasions. Syringe with tepid water early in the day, so that the trees may be dry by nightfall. Avoid hard firing, and if severe weather sets in, let the temperature decline a few degrees.—F. JORDAN, Warter Priory Gardens.

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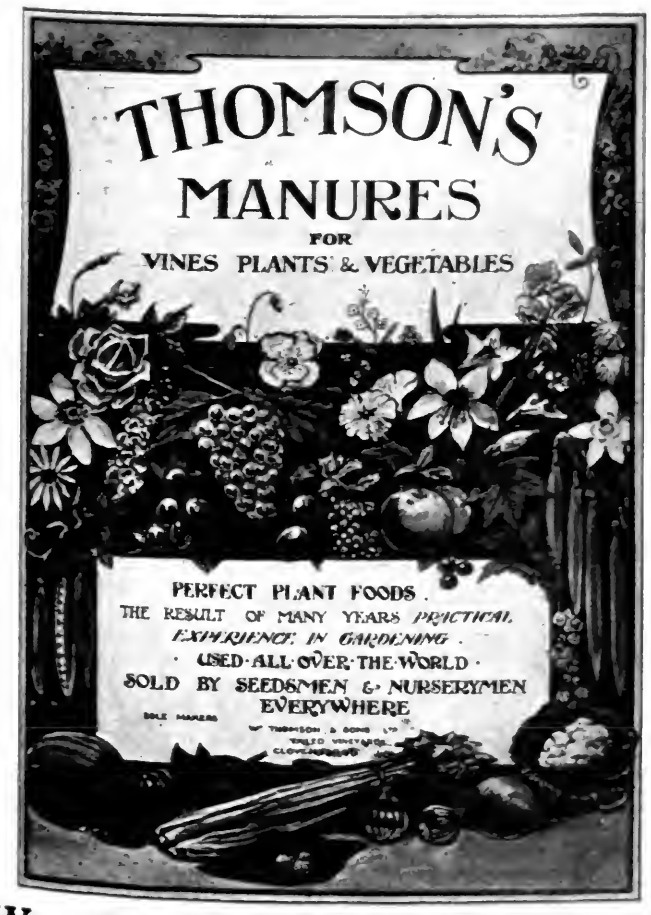

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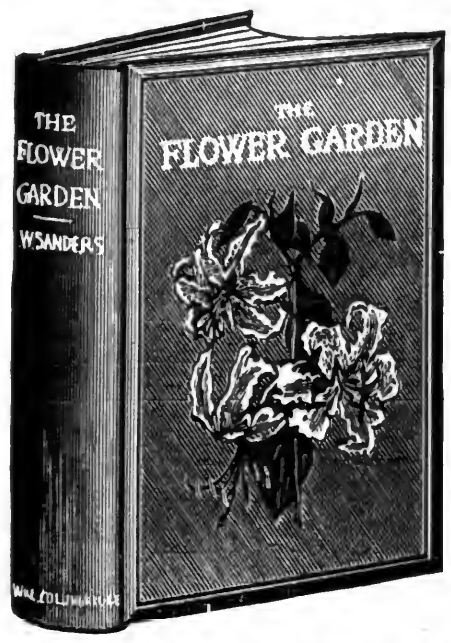

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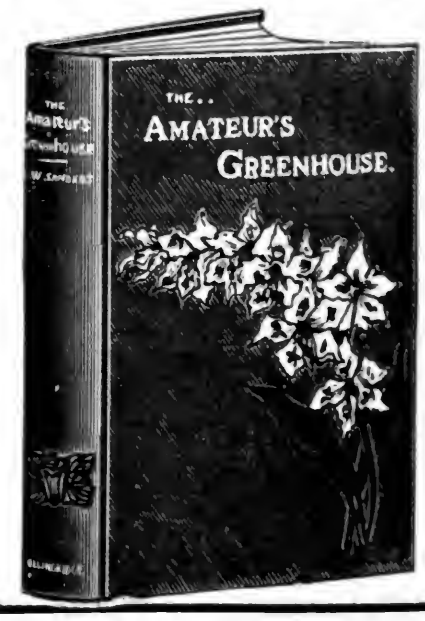

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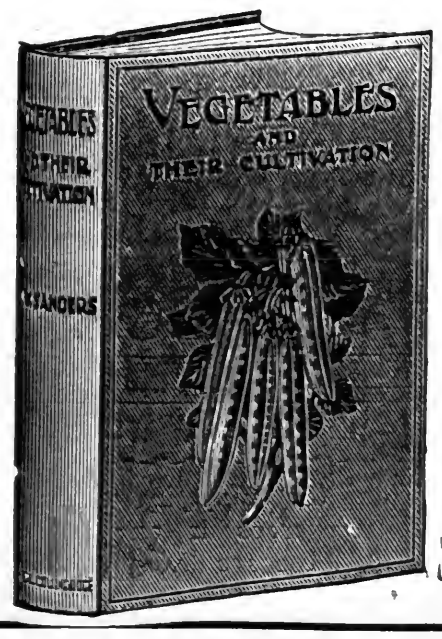

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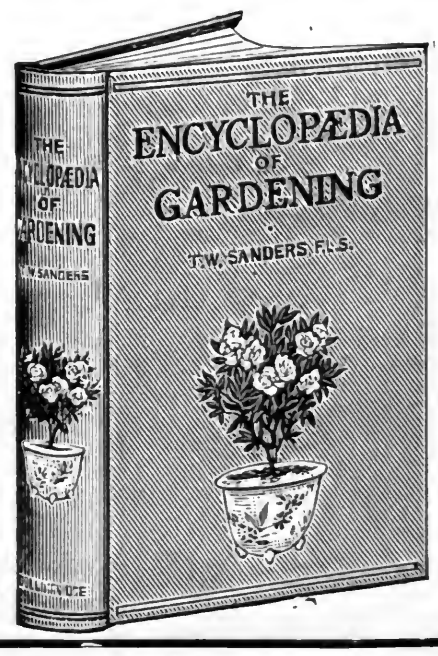

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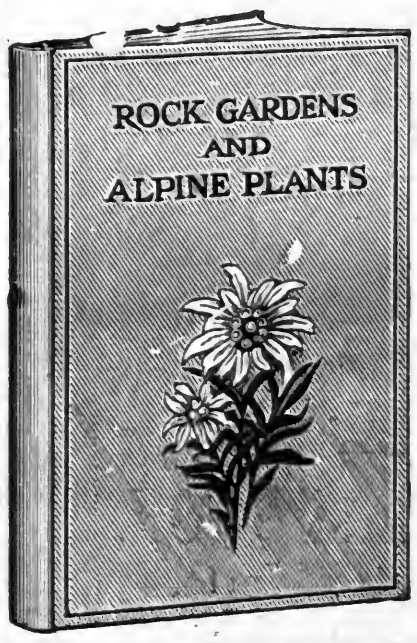

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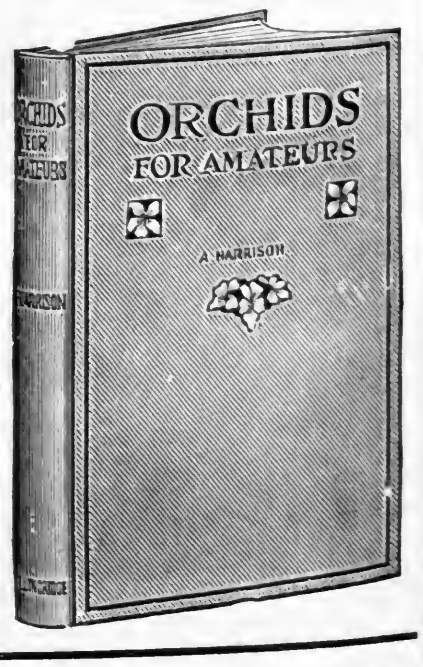

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EXHIBITIONS AND MEETINGS.

Liverpool.

NOVEMBER 12 and 13.

The thirty-fourth autumn exhibition held by the Liverpool Horticultural Association adds another to the long list of successful shows. This most recent success certainly surpassed all previous efforts so far as chrysanthemums are concerned, whether as plants or cut flowers, while the exhibition as a whole eclipsed in magnitude all held during recent years. The difficulty was to find space for the exhibits, even when the smallest amount of space allowable was left for the visitors.

CHRYSANTHEMUMS IN POTS.

Liverpool has always come out well in this section, but this season a record was created both as regards quantity and quality. For three large flowering plants, Mr. W. Wilson, gardener to Walter Cunningham, Esq., was to the fore with well-trained examples, carrying a large number of excellent blooms; Mr. T. Hitchman, gardener to A. Earle, Esq., was a close second; and Mr. W. Scott secured the remaining award. In the class for one large-flowering plant, Messrs. Hitchman and Wilson reversed positions. For three singles, trained, Mr. Wilson was in splendid form with Annie Street, as nearly perfect as possible, with flowers of glowing colour; Mr. Hitchman was second. For one pompon, Mr. Wilson was again in the front place with an excellent trained plant of William Westlake.

The class for six singles, staked, not disbudded, found Mr. F. C. Keightly, gardener to Mrs. Duncan, first, with finely-grown plants; Mr. T. Hitchman had the best three, and Mr. E. R. Finch the best single specimen.

Mr. G. Osborne, gardener to Messrs Tisdall and Ingall, and Mr. F. Atkin, gardener to T. W. Wright, Esq., divided the honours for a group arranged on 60 square feet of space.

CUT BLOOMS.

These still claim the chief interest, and, as Mr. N. F. Barnes remarked at the luncheon, if they become much larger, both boards and hall will have to be extended.

In the class for thirty-six blooms, eighteen Japanese and eighteen incurved, Mr. C. Goves, gardener to Sir Gilbert Greenall, repeated his last year's success, so that the handsome trophy now becomes his own property; his blooms were a distinct advance upon those of former years, and included W. Turner (which secured the N.C.S. Certificate as the best Japanese bloom in the show), F. S. Vallis, W. Mease, Alice Lemon, Frances Joliffe, Bob Pulling, Mrs. A. E. Roope, Mrs. G. Drabble, and Fred Green; incurved, G. F. Evans (N.C.S. Certificate), Pantia Ralli, Doris Rayner, Godfrey's Eclipse, Mrs. P. Wiseman, and Embleme Poitivine. The remaining awards went to Mr. G. Haigh, gardener to Sir W. H. Tate, Bart.; Mr. H. Osborne, gardener to Thomas Woodsend, Esq.; and Mr. John George, gardener to Thomas Henshaw, Esq.

For twenty-four blooms, twelve Japanese and twelve incurved, Messrs. C. Goves, J. George, and G. Haigh, were placed as named. For twelve incurved, Mr. J. Young, gardener to W. E. Willink, Esq., led the way, and J. Copple held first place for six blooms. Mr. J. Copple, gardener to H. Belk, Esq., took the lead for twelve Japanese varieties, as he also did for six blooms.

In the class for six vases of singles, six blooms in each vase, Mr. P. Caunce, gardener to G. Nicholson, Esq., won with a surprisingly fine set, remarkable for size and colour; the varieties were Mrs. William Street, Edith Pagram, Ruby, Miss Annie Street, Mrs. H. Herbert, and Miss K. Wells; Mr. Leo Thomson was a close second, staging very fine flowers of Sandown Radiance; Mr. J. Williams was third.

A display on a four feet run of tabling provided a new feature, and Mr. E. Wharton, gardener to J. Findlay, Esq., led with a bright array, in which he introduced the rarely seen anemone varieties; Mr. Haigh was second, and Mr. J. Aindow third. For a basket of blooms, Mr. J. Williams, gardener to C. H. Procter, Esq., proved the winner, and Miss Newsham upheld her fame in the decorated table class, while Mr. J. Shepherd scored for buttonholes and sprays.

MISCELLANEOUS PLANTS.

For three stove or greenhouse ferns, Mr. J. McColl, gardener to J. W. Hughes, Esq., won with a set which included a fine plant of Polypodium knighti; for a single specimen the same exhibitor scored with a grand plant of Gonophlebium subauriculatum, carrying fronds 9ft. long. For three orchids, Mr. Hurd, gardener to L. G. Pilkington, Esq., took the lead; and for one plant Mr. H. Osborne won with a good Cattleya Portia carrying thirty-seven flowers.

For a pair of palms or cycads, Mr. F. Atkin, gardener to J. W. Wright, Esq., led with grand kentias, following this up with the best three palms in eight-inch pots.

Mr. E. Wharton came out first in a strong competition for four begonias with excellent plants. Mr. H. Holland, gardener to Mrs. J. D. Lever, had the leading cyclamen in two classes.

FRUIT.

This section was hardly up to Liverpool's standard, colour being below the average in grapes, apples, and pears. For six dishes, distinct, dessert fruits, Mr. T. Elsworthy, gardener to W. L. Gladstone, Esq., was to the fore. For four bunches of grapes, Mr. J. Wright, gardener to Edmund Lord, Esq., led with Muscat of Alexandria and Alicante; Mr. T. Barclay second with good Muscats. Mr. W. Wilson was to the fore for two bunches of Alicante, and for two of any other black grape, Mr. W. H. Faulkner, gardener to A. P. Eccles, Esq., scored with Gros Colmar, fine in berry and bunch. Mr. W. Wilson showed the best two bunches of Muscat of Alexandria.

For six dishes of dessert pears, Mr. J. Lee scored with weighty fruits; Mr. F. C. Keightly had the leading four dishes, and Mr. Lee the best single dish, showing good Doyenne du Comice. Mr. J. Bott won for six dishes of dessert apples with handsome fruits, and scored for one dish with Cox's Orange Pippin. Mr. Bott had also the best six dishes and single dish of culinary apples.

NON-COMPETITIVE.

The association is much indebted to the trade for their assistance, and possibly this has never been given more generously than on this occasion.

Gold Medals.—To Messrs. Stuart Low and Co., Enfield, for a fine display of carnations, a Certificate of Merit being awarded to Gorgeous, a bright scarlet variety of good size; this firm also staged orchids; to Messrs. Mansell and Hatcher, Rawdon, for a grand array of orchids; to Messrs. Fishlock Bros. for an extensive contribution of floral designs.

Silver Medals.—To Messrs. W. Wells and Co., Messrs. W. Rowlands and Co., and Messrs. Dicksons, for chrysanthemums; to Messrs. Young and Co., Hatherley, for carnations; to the Liverpool Orchid Company, for orchids; to Mr. J. W. Fletcher, gardener to R. le Doux, Esq., for orchids; to Messrs. R. P. Ker and Sons, Aigburth Nurseries, Liverpool, for cyclamen.

Awards of Merit.—To Messrs. Clibrans, Altrincham, for chrysanthemums; to Mr. H. Middlehurst, for vegetables; to Messrs. T. Davies and Co., for heaths; to Mr. C. A. Young, for carnations.

Reigate.

Reigate held a splendid autumn exhibition in the Public Hall on November 12, but, alas, the hall, with the various downstairs rooms, does not provide sufficient space, or the right kind of space, for the proper display of such numerous and high-class exhibits. The committee works most enthusiastically and pleasantly, and has worked wonders in recent years, so that now there is not only a fine exhibition annually, a large number of cups and trophies for competition, but also a balance on the right side, and a small reserve fund. Probably in the near future a more suitable hall will be secured for the show, and then the efforts of the Reigate Society will be better appreciated.

CUT FLOWERS.

The silver cup presented by Miss Wooley for the best twenty-five Japanese blooms, distinct, shown in five vases, was won by Mr. H. G. Bassett, gardener to Mrs. T. B. Haywood, Woodhatch Lodge, whose examples of Mrs. G. Drabble, F. S. Vallis, W. Mease, Reg. Vallis, Queen Mary, W. Turner, Mrs. Drexel, and T. Lunt were of capital size and finish; Mr. W. Morgan, gardener to W. Ellis, Esq., The Woodlands, came second with smaller but quite fresh flowers; and Mr. T. Beeson, gardener to Mrs. N. Mappin, Headley Park, Epsom, came third; four entries.

Mr. C. Fox, 12, Linden Gardens, Tunbridge Wells, led for ten Japanese blooms staged in two vases, and he was followed in order by Mr. H. G. Bassett, and Mr. S. W. Sherlock, gardener to G. W. Tyser, Esq., J.P., Oakfield, Morden. In another and similar class Mr. Fox was again premier prizewinner, with Mr. E. W. Walker, 30, St. Mary's Road, Reigate, second.

Mr. H. Prouting, gardener to H. Somers Somerset, Esq., The Priory, won the Reigate Tradesmen's cup offered for the best six vases of single varieties, six sprays per vase; Mr. Prouting was the holder in 1910 and 1911, but was displaced by Mr. Hunt in 1912. This year Mr. Hunt had to be content with second place. Mr. Prouting had excellent flowers of Mensa, Metta, Ivor Grant, Sandown Radiance, Sussex Yellow, and Crown Jewel Improved; Mr. W. A. Dobson third; six entries.

In a small growers' class for six vases of single varieties, a Tradesmen's Challenge Cup was also offered as premier award, and this fell to Mr. C. Washington, gardener to C. Daniel, Esq., The White House, for Countess of Egmont, J. B. Lowe, Chas. Kingsley, Ideality, Crown Jewel Improved, and Edith Mileram, all well shown; Mr. A. C. Walton, gardener to A. G. Ashby, Esq., Mead Lodge, second; and Mr. P. Sherlock, gardener to J. B. Crosfield, Esq., Undercroft, third. The latter was the winner in 1912.

Mr. Bassett led for a vase of five yellow Japanese blooms with F. S. Vallis in grand condition; Mr. Blackwood second. For a vase of white Japanese blooms, Mr. Bassett scored with lovely and large flowers of Queen Mary, in six entries; Mr. Dobson second, and Mr. Hunt, gardener to G. Jackson, Esq., Churchfield, third. In the "any other colour" class Mr. Bassett was once more first, and this time with H. E. Converse; Mr. Dilly, Batts Hill, second, with W. Mease; and Mr. Dobson third. Mr. Hunt had the finest vase of incurved blooms, and Mr. F. Phillips, gardener to Colonel Sir R. W. Inglis, Craigendowie, second.

Mr. Dobson was first for a vase of decorative varieties, ten entries; and Mr. P. Sherlock scored for a vase of singles, nine entries. For a dozen Japanese blooms, distinct, in two vases, Mr. Bassett continued his conquering way, with Mr. Phillips second

and Mr. Prouting third. For two vases each of Japanese, single, and decorative varieties, Mr. Prouting was a capital first among six entries; Mr. R. Payne, Sandhills Gardens, Betchworth, second; and Mr. J. Dilly third.

In a special class for a big vase of chrysanthemums, quality and effect to be considered, Mr. Phillips scored with a superb vase of huge blooms of F. S. Vallis, Mrs. Drabble, etc., grandly arranged; Mr. J. T. Mitchell second, and Mr. Dobson third, the latter showing singles famously.

GROUPS AND PLANTS.

Single chrysanthemums in groups are a fine feature at Reigate, and the fine exhibits along one side of the large hall proved a great attraction. An improvement in staging is needed on the part of some competitors, or, rather, we should say that in some cases a number of dwarfer plants should be grown so that the group may be well and pleasingly finished. However, we do not wish to be severely critical. Mr. F. Kemp, gardener to E. V. Nicholl, Esq., Oakwood, Redstone Hill, won first prize with fine plants carrying excellent flowers, and the whole well arranged with due regard to colour blending and elegance; Mr. J. Giles, gardener to Miss Trollope, Eastnor Cottage, second, with a fine exhibit, in which there was a trifle of formality, and an endeavour, which the single flower would not quite permit, to secure that uniformity of outline so common in the old days, when every group of big blooms sloped with the regularity of a roof. Mr. J. A. Steadman, gardener to Dr. E. C. Prince, The Shrubbery, third; and Mr. J. G. Walder, gardener to Paul von Fleischl, Esq., Shagbrook, fourth.

Mr. W. A. Dobson, gardener to A. J. Waby, Esq., Stone House, was the only exhibitor of a table group of big Japanese blooms set amid suitable foliage plants; he now secures the challenge cup. He used crotons, small pteris, and variegated drooping ficus for foliage plants, and had splendid flowers of Mrs. Drabble and other good sorts rising from them.

In the pot plant class Mr. Prouting scored for a specimen single chrysanthemum, and Mr. J. Giles for a specimen decorative variety; Mr. H. Coleman, gardener to F. Budgen, Esq., Highfield, led for six primulas, and Mr. Blackwood for six cyclamens; while Mr. Scutt was awarded first prize for six zonal pelargoniums, freely flowered.

There were five entries of six plants of Begonia Gloire de Lorraine, and here Mr. W. Scott, gardener to H. L. Shelton, Esq., Lowwood, was a good first with large, fresh, freely-flowered specimens; Mr. W. M. Blackwood, gardener to J. Auerbach, Esq., Hethersett, came second; and Mr. Dobson third. There was not nearly enough room to show these begonias off to the best advantage.

FLORAL DECORATION.

A pretty arrangement of yellow chrysanthemums, selaginella sprays, and asparagus fronds, secured for Mrs. A. C. Brown, Brokes Lodge, Reigate, the premier place for table decoration; the combination of large and small blooms was capital, the base of the centrepiece being filled in with incurved blooms and a few small singles, while pompons and thread-petalled flowers were used above and in the corner vases; Mrs. Walter Morrison, Theydon, Reigate, second, with crimson, yellow-centred single flowers, which would have looked far better had more suitable foliage than maidenhair fronds been used with them. Miss H. Brown, Brokes Lodge, Reigate, scored for a large vase of decorative chrysanthemums, with white and yellow flowers of good size, associated with prunus and spiræa sprays; Miss Shelton, Lowwood, second, with a capital arrangement, somewhat depreciated by the lack of a couple of blooms in the centre. There were five large vases of single blooms and suitable foliage, and here Mrs. A. C. Brown came first with a very elegant and pleasing vase of large, bright yellow, soft bronzy yellow, and crimson flowers, and suitable autumn-tinted foliage; the same lady secured the piece of plate for the best exhibit in this and the latter class with this vase of singles; Miss M. C. West, Firthdene, Reigate, second, with a design that was a trifle formal, and needed a few shorter-stemmed flowers to give the centre a more finished appearance. We liked the vase put up by Miss H. Brown in the class of white and rosy-pink flowers, but noticed that the side away from the spectator lacked the grace of the front—no doubt an improvement in this respect would have secured a prize.

FRUIT AND VEGETABLES.

Mr. Bassett scored for half a dozen dishes of apples in a good class, and Mr. Dobson had the best pair of dishes—Benheim Orange and Cox's Orange Pippin. Mr. Sargent had the best two bunches of grapes—Alicante; Mr. Walden second. In the vegetable classes, which were few, Mr. Sargent, Mr. Phillips, Mr. Dilly, Mr. Peters, gardener to W. D. Jupe, Esq., Wynscot, and Mr. Mottrell, gardener to R. B. Lemon, Esq., Wragmill, were the leading prizewinners.

Congress of the French Chrysanthemum Society.

The eighteenth annual congress of this society was held in Ghent, in conjunction with the Floralies de l'Automne on the 25th to 28th ult. Quite a large number of members attended, and the numerous festivities in which they took part were much appreciated. The serious part of the business began on Monday, the 27th ult., in a large hall in the Grand Palais des Fêtes. Here, under the presidency of M. Viger, who was supported on the platform by Messrs. Vernieuwe (representing the Belgian Minister of Agriculture), Firmin de Smet, Couillard, Rosain-Boucharlat Dubreuil, Rible, Toscanelli, Quentin (President of the Conseil Général de la Seine), Callier (President of the Ghent Society), Ph. Rivoire (secretary of the French N.C.S.), and Harman Payne, the proceedings began.

The first paper was on "Insect Pests and Diseases of the Chrysanthemum," by Dr. J. Chifflot, of Lyons. This was followed by another, contributed by M. Godde, chiefly on chemical subjects. M. Couillard dealt with a proposal for a revision of the classification. There was a good deal of discussion arising out of each subject. Among the speakers were the Chairman, M. Crepin, M. Clement, Mm. Decault, Couillard, Payne, etc. The Congress Medal was awarded to Dr. Chifflot, and another to M. Firmin de Smet. M. Godde also had a similar award. The Chairman announced that the French Government had decided to promote M. Couillard to the rank of Officer of the Mérite Agricole.

Before concluding, the Belgian Secretary of the International Congress distributed invitations to the members to attend the formal closing of the exhibition by the King of the Belgians, and the distribution of prizes, which took place in the presence of many thousands of visitors in the vast hall known as the Grand Palais des Fêtes.

The Royal Agricultural and Botanical Society of Ghent entertained the Congress members at a reception given in the ball room of the Casino on Sunday evening. On Tuesday there was an excursion to Bruges, where, under the guidance of the Curator of the Museum, visits were paid to all the objects of interest in the town. The afternoon was spent at Messrs. Sanders' nursery. On this occasion M. Firmin de Smet gave a lunch to the whole party at the Hôtel de Londres. He was thanked in the name of the French members by M. Couillard, and on behalf of the English ones by Mr. Harman Payne, in one of his characteristic French speeches that was most enthusiastically received.

The members were provided with free tickets for the International Exhibition, and enjoyed other advantages, which were much appreciated.

Derby.

NOVEMBER 7 AND 8.

The annual chrysanthemum show of the Derbyshire Gardeners' Association was held at the Albert Hall, Derby, and, in the unavoidable absence of the President, Mr. H. M. Gray, J.P., C.C., Broompark, the opening ceremony was presided over by Alderman C. Boam, J.P., who was supported by other patrons of the society. Sir Thomas Roe, M.P., in declaring the show open, congratulated the promoters, and endorsed the opinion that the show certainly surpassed any previous effort.

All available space was utilised, and the whole presented a mass of floral wealth. Among the non-competitive exhibits was an imposing display of miscellaneous plants from the Rev. Henry Buckston, Sutton Hall (gardener, Mr. A. Shambrook), and which was awarded a gold medal; the group filled a space of 150 square feet, and consisted chiefly of Begonia Gloire de Loraine and B. Turnford Hall, Cyclamen Mrs. Buckston, and some new hybrids, with Cattleya Bowringiana violacea Vanda cærulea, and Begonia Ideala in the centre, with ferns, etc., around. A fine specimen single yellow chrysanthemum came from Mr. A. Preston Jones, Mickleover House (gardener, Mr. J. Bacon) and bore 320 blooms; this was sufficient to merit special comment. Mr. Jones has, as an incentive, kindly offered the Derby society two silver cups for 1914—a gift much appreciated.

Miss Wilmot, Chaddesdon Hall (gardener, Mr. J. Evans) sent a number of well-grown Japanese blooms. Mr. J. H. Goodacre, V.M.H., gardener to the Earl of Harrington, Elvaston Castle, staged a superb exhibit of fruit in his usual grand style, which was another feature of the show (silver medal).

The cut bloom portion was unusually well represented, and flowers of remarkable size came from Sir W. A. H. Bass, Bart., Byrkley (gardener, Mr. R. Nisbet); Mr. Oswald Mosley, Rolleston Hall (gardener, Mr. H. Collier); and Mr. C. W. Catt, The Outwoods (gardener, Mr. J. H. Coley). Mr. Mosley's Lady Talbot was the premier bloom. Sir W. A. H. Bass secured first honours for six vases of Japanese, and the most striking variety was R. Luxford; Mr. C. W. Catt closely followed, and Mr. F. Meakin was third. For eighteen Japanese on boards, Mr. Oswald Mosley led with Lady Talbot, Valerie Greenham, H. E. Converse, Hon. Mrs. Lopes, Frances Joliffe, F. S. Vallis, R. Luxford, Mrs. G. Drabble, Mrs. G. C. Kelly, Mrs. C. H. Totley, Rose Pockett, Geo. Hemmings, Miss A. Nicol, Walter Jinks, Marquis of Northampton, Mrs. Marsham, W. A. Etherington, and Edith Smith. For twelve incurved Mr. Mosley was in front of Sir W. A. H. Bass and Mr. J. Wood, Alvaston.

For a group of chrysanthemums, 6ft. by 5ft., Mr. A. Preston Jones was clearly ahead of Mr. Buck, and of Mr. G. Potter, Derby. The winners in a second group class were Mr. A. Cripps, Mr. S. Potter, and Mr. J. White, Derby.

In the various classes for single varieties in vases there were numerous entries, and the exhibits elicited admiration. There was also a large entry in the class for an epergne or basket; the successful contestants were Sir W. A. H. Bass, Mr. C. G. Durham, Whatstandwell, and A. Cripps.

For twelve pots of cyclamens there were only two entrants. Mr. G. H. Strutt, Makeney House (gardener, Mr. G. T. Pallett), was declared first, and Mr. C. W. Catt second.

The remaining classes were fully represented, and the exhibits in the artizan classes were an advance on previous years.

There were twelve collections of vegetables, and the chief winners were Mr. O. Mosley, Mr. H. C. Smith, Alvaston, and Mr. J. White, while for fruit Captain Drury-Lowe, Locks Park, exhibited the best grapes, and fine apples were noticed from Rolleston Hall.

Edinburgh Chrysanthemum Show.

The Scottish Horticultural Association held its 28th annual Chrysanthemum Exhibition in the Waverley Market, Edinburgh, on the 13th, 14th, and 15th inst. There was a slight increase in the entries over those of 1912, and the show was one of great excellence. Favoured by good weather, the attendance of the public was very satisfactory, and the takings at the gates were about £130 above those of last year. A bazaar in aid of the Horticultural Institution Fund was held along with the show, and this realised over £800. The Hon. Mrs. Stirling, of Keir, opened the show and bazaar.

CUT FLOWERS.

A change was made this year in the premier class for cut blooms, for which the City of Edinburgh Queen Victoria Memorial prizes were offered. Formerly this consisted of fifteen vases of cut blooms, in fifteen varieties, three blooms in each vase, but it was decided this year that the prizes should be offered for a display of chrysanthemums, arranged on a table ten feet by eight feet, with ferns, foliage plants, or cut foliage, or any combination of these, and to be seen from all sides. There were five entries, and the first prize—the City of Edinburgh Cup (to be won three times) and £12—was awarded to Mr. D. Kidd, gardener to the Right Hon. Lord Elphinstone, Carberry Tower, Musselburgh. Mr. Geo. Scott, gardener to A. Sinclair Henderson, Esq., Seathwood, Dundee, won the second prize of £8; Mr. G. Little, gardener to the Hon. Mrs. Askew Robertson, Ladykirk, Norham-on-Tweed, was third; and Mr. Jas. Fraser, gardener to Mrs. Simson, Bonaly Tower, Colinton, was fourth.

The Scottish Challenge Cup class, which was formerly confined to gardeners and amateurs, was now made an open one, the number of vases being increased from eight to ten, and as many varieties, and the prize money increased, so that it became the leading class for large blooms. The first prize—the cup and £8—was won by Mr. R. Stewart, gardener to Sir James Sivewright, Tulliallan Castle, Kincardine-on-Forth; the second (£6) by Mr. James Small, gardener to J. Graeme Thomson, Esq., Norwood, Alloa; the third (£4) by Mr. R. Mackenzie, gardener to J. T. B. Baillie, Esq., Dochfour, Inverness; and the fourth (£2) by Mr. D. McLean, gardener to the Right Hon. R. C. Munro Ferguson, M.P., Raith, Kirkcaldy. Mr. Stewart's varieties and the points awarded to them were as follows:

Variety Shown.	Maximum Points.	Points Awarded.
Fred Green	12 ...	10½
D. B. Crane	12 ...	9½
Queenie Chandler ...	12 ...	9½
Eclipse	12 ...	9½
Edith Jameson	12 ...	9½
Lady Conyers	12 ...	9
Fred Chandler	12 ...	11
Wm. Turner	12 ...	11
Francis Jolliffe	12 ...	10
Reginald Vallis	12 ...	9½
	120	99

Mr. Small had 89½ points; Mr. Mackenzie, 84½ points; and Mr. McLean 78½ points, out of 120.

In the class for six vases of Japanese chrysanthemums, six varieties, three blooms in each vase, Mr. H. MacSkimming, gardener to W. T. McLellan, Esq., Auchenault, Helensburgh, was awarded first prize; Mr. J. Waldie, gardener to W. H. Dobie, Esq., Dolarranged for effect; Mr. Jas. Bruce, Davidsons Mains, was first for six varieties of singles, not more than eighteen disbudded blooms in each vase, and all flowers facing one way (for which Messrs. Wells and Co. offered a silver cup and medals); Mr. W. Aitchison, gardener to Mrs. Hunter, of Thurston, East Lothian, was first for three vases of singles, not more than twelve sprays in each vase; and Mr. Wm. Galloway was first for three vases of singles, not more than twelve sprays in each vase, for quality and decorative effect.

Mr. James Bruce was placed first for six vases of chrysanthemums as grown for market, in six varieties, and not more than eighteen sprays or eighteen disbudded blooms of singles, and not more than twelve sprays or twelve disbudded blooms of doubles in each vase; Messrs. Todd and Co., Musselburgh, were second.

The silver medal offered by the association for the best new chrysanthemum was secured by Messrs. W. Wells and Co., Merstham, Surrey, with Mrs. Tresham Gilbey; and Mr. A. S. Watt, Whiting Bay, Arran, was awarded the bronze medal for Mrs. A. S. Watt.

EDINBURGH CHRYSANTHEMUM SHOW: FIRST PRIZE DISPLAY OF BLOOMS AND FOLIAGE,
Arranged by Mr. D. Kidd, Carberry Tower, Musselburgh.

larbeg, Dollar, was second; and Mr. J. Moir, gardener to James Mann, Esq., Castlecraig, Dolphinton, was third.

For twelve blooms of Japanese chrysanthemums, in twelve varieties, shown on boards, Mr. Alex. S. Watt, Whiting Bay, Arran, was placed first, Mr. Jas. Small second, and Mr. H. MacSkimming third.

Mr. R. Stewart, Tulliallan, was placed first for two vases of Japanese chrysanthemums, one variety, three blooms in each vase; Mr. Jas. Small for four vases Japanese chrysanthemums, in twelve varieties, three blooms in each vase; and Mr. David Bowie, Kincardine-on-Forth, for four vases Japanese chrysanthemums, four varieties, three blooms in each vase, and two vases Japanese chrysanthemums, six varieties, three blooms in each vase. The silver medal for the best bloom in the show was awarded to Mr. G. Little, Ladykirk, for a very fine flower of Purity.

In the decorative classes, Mr. Wm. Galloway, gardener to the Earl of Wemyss, Gosford, Longniddry, took first place for three vases, in three varieties, not more than a dozen sprays in a vase, for quality and decorative effect; Mr. R. Whannell, gardener to Colonel More Nisbet, The Drum, Midlothian, led for a vase of disbudded flowers, Mr. Jas. Wilson, gardener to Sir John Gilmour, Bart., of Montrane, Leven, won the first prize (Messrs. Young and Co.'s challenge cup, to be won three times in succession, or four times in all, and £1), for one vase of perpetual carnations, in at least six varieties; and Mr. Wm. Hart, gardener to P. Anderson, Esq., the Manor House, Dunbar, was placed first for a vase of twelve perpetual carnations.

BOUQUETS AND FLORAL DESIGNS.

Mr. James Beats, gardener to Mrs. Boase, Binrock, Dundee, took first honours for a bride's and two bridesmaids' bouquets, for a bouquet of flowers other than chrysanthemums, for a hand bouquet of chrysanthemums, a basket of hardy foliage and berries arranged for effect, and a floral wreath. Mr. A. Knight, gardener to Sir Wilfrid Lawson, Brayton, Carlisle, was first for a bouquet of chrysanthemums; Mr. Geo. Scott, Seathwood, for a basket of chrysanthemums, and three best-arranged sprays of chrysanthemums for ladies' wear; Mr. D. Halliday, gardener to W. Mackay, Esq., Ascog, Bute, for a basket of flowers, exclusive of chrysanthemums, and for a basket of orchid blooms arranged for effect; and Mr. H. MacSkimming

PERPETUAL-FLOWERING CARNATION SOCIETY.

THE 15th EXHIBITION
will be held at
THE ROYAL HORTICULTURAL HALL,
WESTMINSTER,
on WEDNESDAY, December 3rd, 1913.
Open 12 noon to 5 p.m. Admission 1s.
Schedules and other particulars from the Hon. Secretary,
T. A. WESTON, Floradale, Orpington.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

for a hand bouquet of flowers other than chrysanthemums.

Mr. D. Kidd, Carbery Tower; Mr. Geo. Scott, and Mr. J. Beats were placed first, second, and third respectively for the floral decoration for a dinner table, 10ft. by 5ft. (orchids excluded).

In the classes for ladies, Mrs. MacLachlan, Gracemount, Liberton, was placed first for the best arranged epergne of chrysanthemums, and Mrs. J. Donaldson, Kirn, for the best arranged vase of chrysanthemums.

PLANTS.

Mr. W. Michie, gardener to Jas. Chisholm, Esq., Edinburgh, took first place in the classes for six chrysanthemums (singles and pompones excluded); four Japanese chrysanthemums, and a single chrysanthemum; and Mr. Thos. D. Hodge, gardener to George Cowan, Esq., Edinburgh, was placed first for two chrysanthemums, one large-flowered chrysanthemum, and six chrysanthemums in 7in. pots.

In the other plant classes, the chief prizewinners were Mr. J. Templeton, gardener to Mrs. Rose, Richmond House, Glasgow; Mr. A. McMillan, gardener to the Earl of Home, Douglas Castle, Lanark; Mr. A. A. Law, gardener to Wm. Baird, Esq., Elie House, Fife; Mr. Geo. Anderson, gardener to the Right Hon. A. J. Balfour, M.P., Whittingehame; Mr. D. McLean, Raith; Mr. W. Robertson, gardener to Miss Balfour-Melville, Pilrig House, Edinburgh; Mr. A. Williams, gardener to the Right Hon. Lord Strathcden and Campbell, Hartrigge, Jedburgh; Mr. R. Whannell; Mr. J. McNeill, gardener to Major Thorburn, Craigerne, Peebles; and Mr. P. McMarrie, gardener to W. H. Coats, Esq., Woodside, Paisley.

FRUIT.

For the collection of eight dishes, distinct, the entrants were Mr. Wm. Galloway, Gosford; Mr. D. Kidd, Carbery Tower; and Mr. D. Halliday, Ascog, Rothesay, and the prizes were awarded to them in the order given.

In the grape classes, Mr. G. Halliday took first place for four bunches, distinct, for two bunches, for two bunches of Alicante, and for a bunch of Appley Towers. Mr. Wm. Galloway was first for two bunches of Muscat of Alexandria; Mr. J. Waldie, Lollarbeg, for two bunches of Gros Colmar; Mr. G. Chaplin, gardener to T. A. Nelson, Esq., Edinburgh, for two bunches of Lady Downes; and Mr. W. G. Pirie, gardener to C. W. Cowan, Esq., Dalhousie Castle, Midlothian, for a bunch of Lady Hutt.

Mr. J. Duff, gardener to Colonel Gordon, Threane House, Castle Douglas, was first for eighteen dishes of apples, not less than twelve varieties, grown in Scotland; and Mr. J. Whittle, gardener to Lieut.-Colonel Borton, Cheveney, Hunton, Kent, was first for eighteen varieties of apples, in an open class. Mr. Chas. Webster, Gordon Castle; and Mr. R. Currie, gardener to the Rev. G. H. Davenport, Foxley Hall, Hereford, won prizes for pears.

Mr. R. G. Sinclair, Congalton, East Lothian, took first place for three baskets of dessert apples, as grown for market; and Mr. John Mackenzie, Lochend, Dunbar, was placed first for three baskets of culinary apples, as grown for market.

VEGETABLES.

For a collection of nine distinct kinds of vegetables, selected from the list in the prize schedule, Mr. R. Stuart, gardener to Viscount Maitland, Thirlestane Castle, Lauder, was first; Mr. W. P. Bell, gardener to the Earl of Home, Bothwell Castle, second; and Mr. Wm. Harper, gardener to A. Ackland Allan, Esq., Tulliebelton, Perthshire, third.

In the single dish classes, the chief prizewinners were: Mr. A. McMillan, Mr. A. A. Law, Mr. R. Mason, Lanark; Mr. P. McLaren, Ballencrieff; Mr. W. Galloway; Mr. S. Murray, gardener to Sir Duncan E. Hay, Bart., Kerfield, Peebles; Mr. J. W. Scarlett, Inveresk; Mr. Charles Shaw, gardener to Stephen Mitchell, Esq., Boquhan, Kippen; Mr. Jas. Borrowman, gardener to Lady Sinclair, Stevenson House, Haddington; Mr. R. Staward, Hertford; Mr. Charles Davidson, Pencaitland; Mr. J. Waldie, Dollarbeg; Mr. J. Cossar, gardener to Miss Watt, Spott, Dunbar; Mr. S. Gordon, gardener to Sir Herbert Maxwell, Bart., Monreith, Wigtownshire; and Mr. W. Craig, Duns.

In the classes for market garden produce, confined to Edinburgh market growers, Mr. G. M. Service, Gilmerton, was placed first for leeks, and for a collection of vegetables.

NON-COMPETITIVE EXHIBITS.

Gold medals were awarded to Messrs. W. Wells and Co., Merstham, Surrey, for chrysanthemums; Messrs. Dobbie and Co., Edinburgh, for potatoes; and the Government of the Province of British Columbia for apples. Mr. D. W. Thomson, Edinburgh, was awarded a silvergilt medal for conifers, and also for winter-flowering begonias; and Messrs Storrie and Storrie, Glencarse, received a similar award for fruit trees. Silver medals were awarded to Messrs. Dobbie and Co., for chrysanthemums; Messrs. W. Cutbush and Son, London, for carnations; and Mr. D. McLeod, Chorlton-cum-Hardy, for cypripediums. Messrs. Young and Co., Cheltenham, and Messrs. John Forbes (Hawick), Lim., received bronze medals for carnations, and carnations and other flowers respectively.

AWARDS.

First Class Certificate.—To Carnation Champion, from Messrs. Wells and Co.

Certificate of Merit.—To Carnation Peerless, from Messrs. Wells and Co.; and to incurved Japanese chrysanthemum, Mrs. Ker, from Messrs. J. Ker and Sons, Lim., Penrith.

Hull Chrysanthemum Show.

The annual exhibition of the Hull Chrysanthemum Society opened on Wednesday, November 19, and was a brilliant success. The City Hall was crowded with plants, flowers, fruits, and vegetables, and the quality was high throughout. The groups formed a glorious feature. Mr. T. Petch, Bridlington, and Mr. H. Walmesley were first and second respectively. Mr. A. Chandler, Rugby, and Mr. Fleming, Grimsby, were first and second in order for twenty-four Japanese blooms; for eighteen, Mr. G. Burrows, Grimsby, and Mr. J. Backhouse, Beverley, were the chief prize-takers. Mr. Wilson, Burton Hall, and Mr. G. Musk obtained the principal award for eighteen incurved blooms. We shall give a full report in our next issue.

East Anglian Horticultural Club.

There was a very large gathering of members at the November meeting, to hear a lecture by Mr. Edward Peake upon "Leaves and Flowers." Mr. Peake is thoroughly versed in matters botanical, and by means of a lantern and a fine selection of slides made his subject of great interest. The members listened with every attention, and were sorry when the lecture ended.

There was a good collection of exhibits of flowers, fruits, and vegetables, special mention being due to Mr. W. Shoesmith for his apples and his fine lælia, and to Mr. W. Marjoram, gardener to W. T. Jarrold, Esq., Thorpe, for his superb bunch of Alicante grapes.

Winchester.

NOVEMBER 12 and 13.

The annual autumn display was held in the Guildhall, and was a distinct success. In the principal classes the competition was keen, and the exhibits of superior quality. The hall itself is an admirable place, being light and of a warm tone of colour that harmonises so well with a floral display. As usual the arrangements were excellent, Mr. Saunders, secretary, having the valued and experienced aid of Mr. Oxford in arranging the exhibits.

PLANTS.

For a group of plants arranged in a space 8 feet by 7 feet there were four entries. The premier award was made in favour of Mr. W. Paice, gardener to the Lady Brandreth, Heathfield, Winchester, who had superior blooms on dwarf plants, all neatly edged with single-flowered varieties and ferns; Mr. W. Pearce, gardener to H. E. Johnson, Esq., Northgate Place, Winchester, second; and Mr. J. Edsall, gardener to Major C. P. Holroyd, Ropley House, third. The class for nine plants, in not less than six varieties (each plant to carry not fewer than five blooms), in pots not more than 9½ inches across, generally provokes keen competition here. This time there were but two entrants, and Mr. G. Cousins, gardener to J. A. Fort, Esq., The College, Winchester, led with plants carrying excellent blooms and good foliage—the varieties Frances Joliffe, F. S. Vallis, W. Mease, and Mrs. Gilbert Drabble were the best. Mr. H. Gigg, gardener to Mrs. Moorsom, Holyrood, Winchester, a good second. For nine plants, any white and yellow varieties, under similar conditions to the former class, Mr. G. Cousins was again the chief prizewinner with plants fine in every respect, and F. S. Vallis was especially noteworthy; Mr. Gigg was again second.

In a class for six plants suitable for conservatory decoration, with not less than eight blooms on each, Mr. T. W. Stone, gardener to the Rev. A. G. Bather, Sunnyside, Winchester, was first with excellent examples, among which Splendour was especially fine; Mr. J. Smith, gardener to H. Aris, Esq., 69, Kingsgate Street, Winchester, second. Single-flowered varieties were well represented, and Mr. Cousins was first for six plants, distinct, and Mrs. W. Buckingham was quite the best variety in a good collection; Mr. F. W. Stone second. Mr. Cousins had the best single specimen—W. Mease—carrying eight handsome blooms; Mr. W. Stone followed with F. S. Vallis in fair condition.

Miscellaneous plants arranged for effect were but moderately displayed, and Mr. James Hayes, gardener to Captain H. Bull, St. Phillip's, Winchester, was first prizewinner.

CUT BLOOMS.

The leading class in this section was for eighteen Japanese blooms and the same number of incurved, in not less than twenty-four varieties. Unfortunately there were but two entries. Mr. Cyrus Moore, Frensham Place, Farnham, won the premier award with full-sized Japanese blooms nicely set up, and fairly good incurved blooms. The most noteworthy varieties were Frances Joliffe, W. Turner, Frances Rowe, Alice Lemon, Mrs. G. Drabble, F. S. Vallis, Miss J. Stratton, Bob Pulling, Master James, and T. Lunt among Japanese, and G. W. Matthews, Topaze Orientale, Embleme Poitivine, Marjorie Shield, Mrs. G. Denyer, Ialine, W. Biddle, and Romance among incurved. Mr. D. Edwards, gardener to W. Garton, Esq., Sarisbury Court, Southampton, second, with smaller examples of Rose Pockett, Hon. Mrs. Lopes, Mrs. Kelly, Romance, and Clara Wells. Five entered the class for twelve Japanese, distinct, and Mr. J. Goatley, gardener to Lord Northcliffe, Sutton Place, Guildford, was easily first with huge specimens of His Majesty, H. E. Converse, F. S. Vallis, Joan Stratton, Mrs. G. Drabble, and Mrs. H. Stevens; Mr. W. H. Cole, gardener

to Mortimer Gale, Esq., Warley, Twyford, second, with a creditable set.

Only three entered for six Japanese, distinct, arranged in vases, and Mr. Goatley, with Queen Mary, Thos. Lunt, Fred Green, Mrs. G. Drabble, F. S. Vallis, and H. E. Converse, was first, with Mr. C. Moore a good second. Mr. Edwards had the best of four exhibits for twelve incurved, with well finished, medium-sized blooms of Edwin Thorpe, Romance, and W. Pascoe; Mr. Moore followed.

Two new classes were arranged, and produced a large entry; but unfortunately the space provided for them did not allow the exhibits to be shown to the best advantage. The first was for a vase of Japanese varieties, arranged for effect with any foliage, and here there were nine entries. Mr. J. Goatley, with bronze and yellow blossoms most harmoniously arranged with yellow beech foliage, secured the leading award, and Mr. R. Learmouth, gardener to John Liddell, Esq., Sherfield Manor, Basingstoke, was second, with F. S. Vallis and red autumn foliage. No fewer than twelve competed in the class for a vase of undisbudded varieties arranged for effect with any foliage. Mr. L. Carsley, gardener to the Countess of Northbrook, Stratton Park, Micheldever, was distinctly first with mixed single varieties effectively blended with autumn foliage, in which sprays of berberis were most telling; Mr. P. Learmouth was placed second with Edith Pagram and red acer sprays, which proved a crude colour scheme.

Single-flowered varieties were freely contributed, and for six bunches, distinct, not disbudded, nine entered. The best, a charming display, came from Mr. G. Ellwood, gardener to W. H. Myers, Esq., Swanmore House, Bishop's Waltham, and he was closely followed by Mr. Carsley. For six bunches, any section except singles, and not disbudded, Mr. C. Smith, gardener to A. H. Evans, Esq., Horris Hill, Newbury, was first, with Mr. W. Hunt, gardener to Lord Ashburton, The Grange, Alresford, an exceedingly close second.

FRUITS AND VEGETABLES.

Fruit was plentifully staged. Mr. Ellwood secured the leading award for two bunches of black grapes with Mrs. Pince. Mr. T. Hall, gardener to Ellen Lady Swaythling, South Stoneham House, Southampton, won for two bunches of any white grape with Muscat of Alexandria. For four varieties of dessert apples there were eight entries, and Mr. A. Basile, gardener to the Rev. McMurdie, Woburn Park, Weybridge, was easily first with good specimens of popular varieties. Mr. Basile, in an even stronger competition, won with four dishes of kitchen sorts, and also led for four dishes of pears with large, clean fruit.

Mr. Ellwood easily annexed the premier awards in the vegetable classes provided by Messrs. Toogood and Sons and Messrs. Sutton and Sons, for six varieties.

LADIES' CLASSES.

For the most tasteful table decoration of chrysanthemums, with foliage and grasses, there were five entrants. Mrs. Bealing, Bassett, Southampton, was first with an effective arrangement of bronze flowers; Mrs. A. Saunders, Western Road, Winchester, second. Miss Margaret Fort, The College, Winchester, had the most tastefully arranged stand of single chrysanthemums suitable for table decoration, and Mrs. A. Smith, 17B, Front Street, St. Cross, Winchester, secured the leading award for a stand of flowering shrubs, foliage, grasses, etc.; Mrs. A. Saunders second.

NON-COMPETITIVE.

Mr. W. H. Myers sent three dozen dishes of apples of excellent quality. Messrs. E. Hillier and Sons, Winchester, arranged apples and carnations effectively. Mr. E. J. Wootten, Fair Oak, had carnations in quantity. Messrs. Sutton and Sons, Reading, filled the front of the stage with a magnificent bank of vegetables, all of the highest quality.

EDINBURGH CHRYSANTHEMUM SHOW: LARGE BLOOMS IN THE SCOTTISH CUP CLASS.
The first prizewinner was Mr. D. Stewart, Tulliallan Castle, Kincardine.

Tunbridge Wells.

The chrysanthemum show in connection with the Tunbridge Wells Gardeners' Mutual Improvement Association was held recently in the Great Hall, when, as in the past, the exhibitors fully maintained their high standard of efficiency. The arrangements were in the capable hands of Mr. E. Charlton, chairman, Mr. H. Hollingsbee, secretary, and a strong committee.

In the class for a group of chrysanthemums in pots, arranged in a space 8ft. by 6ft., Mr. A. G. Corner, gardener to Mrs. Beer, Chancellor House, Tunbridge Wells, secured the first prize and challenge cup, presented by Mr. J. S. Swork, with dwarf plants in small pots, carrying fine flowers; Mr. J. Cradduck, gardener to the donor of the cup, was second, with similarly grown plants, but was not quite up to his usual form. Last year he won outright the cup presented by Mr. A. P. Hedges in the same class.

For a group of miscellaneous plants, arranged for effect, 8ft. by 6ft., Mr. Corner was again winner of the first prize and cup, presented by Mr. E. R. Ashton, with a neat arrangement, consisting chiefly of well-grown ferns, pink Lorraine begonias, nicely coloured crotons, etc.; Mr. H. Smith, gardener to F. T. A. Bomert, Esq., Broadwater Down, Tunbridge Wells, second.

CUT FLOWERS.

For eight vases of Japanese blooms, three in a vase, distinct varieties, the invincible amateur, Mr. C. Fox, of Linden Park, Tunbridge Wells, was well to the front, thus making the challenge cup, presented by Captain Spender Clay, M.P., his own property. The flowers in this exhibit were much the finest in the show, and the varieties were Mrs. G. C. Kelly, W. Turner, Mrs. G. Drabble, Mrs. R. H. B. Marsham, Master James, President Viger, Mrs. A. T. Miller, and Rose Pockett; the whole gained 51 points. Mr. Bristowe, gardener to Mrs. Temple, Leyswood, second, with 33 points.

For four vases of singles, distinct, Mr. J. Cradduck led, but, unfortunately, his varieties were unamed; Mr. Frost, gardener to Mrs. Trevenen Holland, Mount Ephraim, Tunbridge Wells, second. For a dozen incurved blooms, Mr. J. Cradduck led, with Mr. A. Wilson, gardener to the Marquis of Abergavenny, second. Mr. Bristowe was an easy first, with Mr. A. Wilson second, for eight vases of Japanese blooms; while for a dozen Japanese, distinct, Mr. A. Wilson scored with good flowers of Mrs. C. Penford, Mrs. G. Drabble, John Lock, etc.; and Mr. Bristowe was second.

For six blooms, Japanese, distinct, Mr. C. Fox was first with good flowers of Mrs. G. Drabble, D. B. Crane, W. Turner, W. Mease, Mrs. A. T. Miller, and Mrs. G. C. Kellis; Mr. Muntz, gardener to Miss E. D. Coates, Brenchley, second. In a special class for four vases of Japanese blooms, Mr. C. Fox was first, showing fine examples of Alice Lemon, H. E. Converse, W. Turner, etc.; Mr. J. Cradduck second.

In the class for a decorative vase of chrysanthemums, Mr. J. R. Allan, gardener to C. A. Morris Field, Esq., Ashurst Park, led with Mrs. A. T. Miller, used in conjunction with acer and prunus foliage, nephrolepis fronds, and trails of Asparagus decumbens.

The best group of orchids, arranged for effect in a space 5ft. by 2½ft., came from Mr.

Bristowe, who had a very pleasing arrangement, containing many choice and beautiful hybrids; Mr. A. Young, gardener to E. R. Ashton, Esq., Broadlands, Camden Park, second, with a choice collection attractively arranged.

For Begonia Gloire de Lorraine, three pots, not to exceed 6in. diameter, Mr. Corner scored with fine specimens 2½ft. through, splendidly flowered; Mr. S. Snashall, gardener to M. B. Snell, Esq., Broadwater Down, second. In a similar class, but for white begonias, Mr. Corner was again first, and Mr. Snashall second.

FRUIT.

For three bunches of black grapes, Mr. J. R. Allan led with Alicante, Mr. A. Wilson second with the same variety. For three bunches of white grapes Mr. Bristowe scored with Lady Hutt. Mr. Allan had the best six dishes of dessert pears, and had fine dishes of Marechal de la Cour, Beurre Diel, Pitmaston Duchess, Emile d'Heyst, Doyenne Boussoch, and President d'Osmonville. Mr, Allan was also first for three dishes of dessert pears, and for one dish of stewing pears with Bellisseme d'Hiver. Mr. F. French, gardener to F. Burnaby Atkins, Esq., Hamptons, Tonbridge, had the best six dishes of dessert apples, winning with good examples of King of the Pippins, Allington Pippin, Blenheim Orange, American Mother, Cox's Orange and Ribston Pippins; Mr. Bristowe second with finely coloured fruit. Mr. French was successful for three dishes of dessert apples, for six dishes of kitchen apples, and for three dishes of kitchen apples, Mr. J. R. Allan coming second in the last two classes.

Mr. J. Cradduck, and Mr. Gorham, gardener to Mrs. Gray, Broadwater Down, Mr. A. Manktelow, and Mr. A. Wilson were most successful with vegetables.

In the single-handed gardeners' classes, Messrs. Frost, Pinchin, Peele, and Dann were the chief prizewinners.

NON-COMPETITIVE.

The non-competitive exhibits were an attractive feature. Mr. John Charlton, The Pantiles, Tunbridge Wells, showed single chrysanthemums, perpetual carnations, etc. Mr. L. R. Russell, Tunbridge Wells and Richmond, exhibited a group of variegated ivies and flowering shrubs. Messrs. A. Charlton and Sons, Summervale Nurseries, Tunbridge Wells, had an exhibit consisting chiefly of pink and white Lorraine and Mrs. J. Heal begonias effectively arranged.

Messrs. J. Cheal and Sons, Crawley, put up about three dozen dishes of highly coloured apples, including their new Crawley Beauty. Mr. F. French, Hampton, Tonbridge, also exhibited, not for competition, about thirty dishes of well-grown apples and pears.

National Chrysanthemum Society.

The Executive Committee of this society held a meeting at Carr's Restaurant, Strand, on Monday last, Mr. T. Bevan occupying the chair.

An offer from Messrs. W. Wells and Co., Merstham, of £10 in cash for prizes at the society's show next year, for their novelty, Daily Mail, was accepted. It was resolved, on a suggestion received from an affiliated society, that the winner each year of the Challenge Trophy should receive a certificate recording the fact, the resolution being retrospective.

The report of the Publications Committee was received and adopted, as a result of which the N.C.S. "Transactions" will be continued next year. Its contents were briefly outlined, and will consist of a report of the Ghent Show, an article on soil sterilisation, a report of this year's conference, an audit of the last November show, and probably a paper on single chrysanthemums.

The conference to be held on December 10 next will be free to all, but it was stated that admission to the show will be sixpence to non-members of the N.C.S. Members of affiliated societies will therefore have to pay only in case of their visiting the show.

From the interim financial statement we learn that prize money to the value of £167 15s. 9d. was awarded at the November show at the Crystal Palace. In 1914 the society's exhibitions will, subject to the approval of the Crystal Palace authorities, be held on October 7 and 8, and November 4, 5, and 6. It is also intended in next year's programme that a conference and a late show be held as before.

Mr. Harman Payne reported on the British exhibits at the recent Ghent Show, and on the proceedings there of the French Chrysanthemum Society's Congress.

Eighteen names were added to the list, either as Fellows or as ordinary members.

Reading Gardeners' Association.

The fortnightly meeting of this society was held on Monday at the Abbey Hall, kindly lent by Messrs. Sutton and Sons, when Mr. F. B. Parfitt presided over a good attendance.

The lecturer for the evening was Mr. E. Feltham, of the Wargrave Hardy Plant Farm, and his subject was "Alpine Plants." Mr. Feltham's quiet and convincing manner interested the audience from the commencement of his remarks. First dealing with the haunts and habits of his favourites, which have also become the favourites of so many garden lovers, he afterwards imparted useful information as to the culture of these popular flowers, and in conclusion gave full details with regard to the construction of a rock garden, advising those present to carefully think out their plan of operations, remarking that it was easier to think thrice than to move a number of (or only one) heavy stones three times.

A good discussion followed, and Mr. Feltham was accorded a hearty vote of thanks.

The hall again presented a gay appearance. Chrysanthemums were exhibited by Mr. J. T. Tubb and Mr. H. G. Cox, vegetables by Mr. G. Tovey and Mr. H. Goodger, and grapes by Mr. H. Reeves, while Mr. F. Townsend, head gardener to the vice-president, was awarded a certificate for an excellent collection of vegetables.

Scottish Horticultural Association.

The monthly meeting of this association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on the 4th inst. Mr. King, the president, was in the chair, and there was an attendance of 115 members.

Dr. W. G. Smith, of the Edinburgh and East of Scotland College of Agriculture, delivered a lecture, with limelight views, on "The Influence of Drought on Plant Form." The large size and rapid annual growth of many tropical and aquatic plants presented, he said, a strong contrast to the dwarfed form of plants grown under drought conditions. The cactus house furnished extreme drought forms evolved in hot climates with low rainfall. The rock garden, a more familiar place for observation, contained numerous examples. Here plants from many varied types of natural habitats were grown together, and required a very varied treatment. The one feature in common was inability to withstand competition, and to escape this a rock life was adopted; but, as rocks occurred mainly in exposed places, the plants must be able to meet special conditions, of which drought was important. The modifications of plant form were illustrated from experiments on plants grown at high and low altitudes, those at high levels becoming dwarfed and otherwise modified like true alpines. The liability of many alpine plants to vary under lowland cultivation was mainly due to the new environment. All rocky places tended to promote the same types of plant form, and this was illustrated in the case of limestone vegetation. The influence of peat was to produce drought forms, notably the heaths. Sand was another habitat inducing adaptations for drought.

The exhibits were: New single chrysanthemum Lady Cayzer, exhibited by Mr. R. H. Cockburn, Gartmore, Perthshire; single chrysanthemums Miss H. M. Cowan, Ceddie White, Miss Callander, and Weston Gem, exhibited by Mr. W. G. Pirie, Dalhousie Castle, Bonnyrigg.

A Cultural Certificate was awarded to Mr. Pirie for his chrysanthemums, and to Mr. W. H. Sands, Hillsborough, Co. Down, for tuber of potato, Irish Gem, exhibited at the previous monthly meeting.

Dundee Horticultural Association.

Mr. William Christeson presided at the ordinary monthly meeting of the society, held in the Technical College, on November 7, when Mr. J. S. Chisholm, of the Edinburgh and East of Scotland College of Agriculture, gave an interesting and instructive lecture on "The Cultivation of Small Fruits." Confining his remarks chiefly to the cultivation of gooseberries and currants, Mr. Chisholm (whose portrait appears in this issue) dealt with the American gooseberry mildew and the black currant mite. Cutting off the tips of the shoots affected by the mildew was not sufficient, he said, without spraying with one ounce of sulphide of potassium to two gallons of water. For the black currant mite he recommended a dry spray of two parts sulphur and one part lime.

Mr. James Staward, St. Fort Gardens, Newport, exhibited a highly meritorious lot of cyclamen growing in 4in. and 5in. pots, Sutton's Giant White being particularly fine and well-grown.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the Royal Horticultural Hall on Monday, November 10, Mr. Charles H. Curtis in the chair. Four new members were elected. The sick pay on the ordinary side amounted to £74 10s. 4d., and in the state section to £24 8s. 10d., and maternity claims were £9. The sum of £9 10s. 10d. was passed for payment to the nominee of a deceased member, and one member was allowed to withdraw double the amount of his interest on deposit account. Important items regarding the state section of the society were dealt with, and the committee desires to point out that gardeners may transfer from the Post Office to "The United" for insurance benefit, and that the Secretary (Mr. A. C. Hill, Alexandra Road, West Kensington Park), will be pleased to forward them a form for this purpose.

TRADE NOTES.

At the recent Ideal Homes Exhibition, held at the Olympia, Kensington, a fifty-guinea gold cup was offered for the best model of a garden design. The jurors have now made their decision, and have awarded the cup to Messrs. J. Cheal and Sons, Lim.

Mr. Alfred Dawkins, who for seventeen years has been manager of the seed and bulb department of Messrs. James Veitch and Sons, Lim., Chelsea, has commenced business as a seed and bulb merchant at 408, King's Road, Chelsea, where he will be assisted by members of his old staff. Mr. Dawkins has issued a list of choice liliums and gladioli, and will soon be distributing his first seed catalogue.

Among the many inventions which save a gardener from the troubles his forebears had to contend with unaided, the Frost Predictor must rank as one of the most useful. It is a double column thermometer, with a little cistern, for water, to be placed in association with the wet bulb of one column. If the wet bulb is kept moist, and the mercury in that column sinks below the mercury in the dry bulb column, then a frost may be safely predicted, and means can be taken to prevent untoward results. Five p.m. is given as the best time to take the reading. Messrs. Short and Mason, Walthamstow, N.E., the makers, issue a little pamphlet explaining just how and why this instrument predicts frost. It is worth getting.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notifications of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming, or opinion, should be sent to the Editor of THE GARDENERS' MAGAZINE, 2, Adelaide Road, Brentford, Middlesex, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

BOOK ON GARDENING.—B. M. E., Menston-in-Wharfedale: I should be obliged if you will recommend me a good all-round book on gardening. I want cultural details and description of species and varieties. It is for a friend who is a keen amateur gardener.—A book of the kind you suggest would run into many volumes, and these of large size. Nicholson's "Dictionary of Gardening" comes nearest to your ideal, but for your amateur friend we recommend the "Encyclopædia of Gardening" (post free 3s. 10d., W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London, E.C.). It is far and away the most useful book of its size, and, as everything is arranged alphabetically, one may easily find any given subject. The most useful species and varieties of plants are indicated, floral colour, etc., given, and brief cultural details appended.

CHIRONIA IXIFERA.—T. B., Hassocks: Having recently purchased a dozen small plants of Chironia ixifera, in small 60-sized pots, I should be very pleased if, through the medium of the GARDENERS' MAGAZINE, you could give me a few cultural hints concerning the species. I should like to know how to propagate it, and whether I should cut the plants back or allow them to grow naturally. I should like to grow them into good-sized plants by next August.—Chironia ixifera, or, more correctly, C. linoides, is an evergreen greenhouse shrub, not difficult to cultivate, provided very free drainage is afforded, and overpotting is avoided. These are matters of the greatest importance. Light loam and some peat and sand form a good potting compost. Propagation is effected by means of cuttings inserted in very sandy soil, under a handlight or bell-glass in a greenhouse in spring. A gentle bottom heat will facilitate rooting, but a high top temperature must not be given or the cuttings will damp and rot. The leading growths should be pinched back two or three times during the growing season. Excess of water is the cause of much trouble in the cultivation of chironias and other greenhouse-flowering shrubs, therefore great care is necessary in this connection during winter. Afford a warm greenhouse temperature, with ample ventilation.

MARGUERITE MRS. SANDER.—Mr. C. Craddock, gardener to Mrs. Tyrwhitt-Drake, Coltree Manor, Maidstone, sends us a small photograph of a large specimen of the double-flowering Marguerite Mrs. Sander, growing in a big upright vase or urn. He writes: "The cutting was taken in September, 1912, and the plant was put out in June. It is now flowering for the fourth time this year, and had even more flowers during its third display than when photographed. Would you consider this a good specimen?" — The photograph was small, and not suitable for reproduction, or we would have reproduced it. So far as we could make out, there were upwards of 200 flowers on the specimen. Perhaps some of our readers will be good enough to tell us the size of the largest plant they have seen, and the number of flowers it carried. We saw a very fine example in Guernsey last year, planted as a lawn specimen, but, though we had no opportunity of counting its blossoms, we should say it was not so large as the one Mr. Craddock writes about.

MANUFACTURE OF PERFUMES.—G. L. W., Hurst.—My employer proposes to purchase a still for the purpose of making lavender perfume and other scents, so I shall be glad if you will kindly tell me where I can obtain information respecting the distillation of fragrance from aromatic herbs.—You will find "The Book of the Scented Garden," and "The Still Room," both published by John Lane, The Bodley Head, London, useful to you in connection with the distillation of perfumes; the former contains a long and excellent list of plants with fragrant flowers or fragrant leaves.

NAMES OF PLANTS.

D. G. J., Hexham. — 1, Symphoricarpus racemosus; 2, Leycesteria formosa.

S. R., Ipswich.—1, Calanthe Veitchi; 2, Rivinia humilis; 3, Cypripedium Baron Schröder.

G. H. H., Watford.—1, Cattleya labiata; 2, Oncidium varicosum Rogersi; 3, Cypripedium Arthurianum.

N. D. T., Bedford.—1, Centropogon Lucyanus; 2, Nertera depressa; 3, Skimmia japonica; 4, Cupressus obtusa; 5, Plumbago rosea.

NAMES OF FRUITS.

P. P., Derry.—Newton Wonder.

J. G. S., Tunbridge Wells.—1, Warner's King; 2, Alfriston; 3, Court Pendu Plat.

F. C., Bideford.—Very fine specimens of Lane's Prince Albert.

W. C. J., Northampton.—1, Dumelow's Seedling; 2, New Hawthornden; 3, King of the Pippins; 4, Sturmer Pippin.

C. H. A., Hampton.—1, Emperor Alexander; 2, Waltham Abbey Seedling; 3, Claygate Pearmain; 4, Pitmaston Duchess; 5, London Pippin; 6, Dumelow's Seedling.

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.
Height above Sea-level, 150 feet.

Date. 1913. November 9 to November 15.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 9—Sunday	0 36	35	35	55	32
,, 10—Monday	0 12	55	53	57	35
,, 11—Tuesday.....	3 54	46	46	59	43
,, 12—Wednesday..	0 36	54	52	55	46
,, 13—Thursday...	—	42	41	49	42
,, 14—Friday.....	4 0	46	46	52	42
,, 15—Saturday.....	6 36	43	41	51	40
	(total)				
Means ...	15 54	46	45	54	40

Date. 1913. November 9 to November 15.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Nov. 9—Sunday	trace	49	50	52	23
,, 10—Monday	0·58	48	49	52	31
,, 11—Tuesday.....	0 5	49	50	51	33
,, 12—Wednesday..	0·38	49	50	51	40
,, 13—Thursday....	0·24	49	50	51	38
,, 14—Friday.....	0·04	48	50	51	36
,, 15—Saturday	—	47	49	51	30
	(total)				
Means ...	1.·9	48	50	51	33

Dahlias destroyed on Sunday, November 9.

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FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, November 24:—National Chrysanthemum Society; Floral Committee at Essex Hall, Strand, W.C., at 3 p.m.

THURSDAY, November 27.—Manchester and North of England Orchid Society.

Barnsley Chrysanthemum Show; two days.

FRIDAY.—November 28.—Annual Dinner of the National Chrysanthemum Society, Royal Venetian Chamber, Holborn Restaurant, W.C., commencing at 6.45 p.m.; Sir Albert Rollit, D.C.L., LL.D., in the chair.

CATALOGUES RECEIVED.

MESSRS. H. J. JONES, LIM., RYECROFT, LEWISHAM.—A pocket-sized, sixty-four paged catalogue of special interest to those who make a feature of chrysanthemums, perennial phloxes, Michaelmas daisies, pyrethrums, sweet peas, etc.

R. WALLACE AND CO., COLCHESTER.—This firm has given us something new in catalogues in their issue devoted to irises. Upwards of 350 distinct species and varieties are listed and described, and numerous illustrations are given, while three pages are occupied by an admirable article on "Garden Irises" by Mr. W. R. Dykes, who has made the genus iris his special study.

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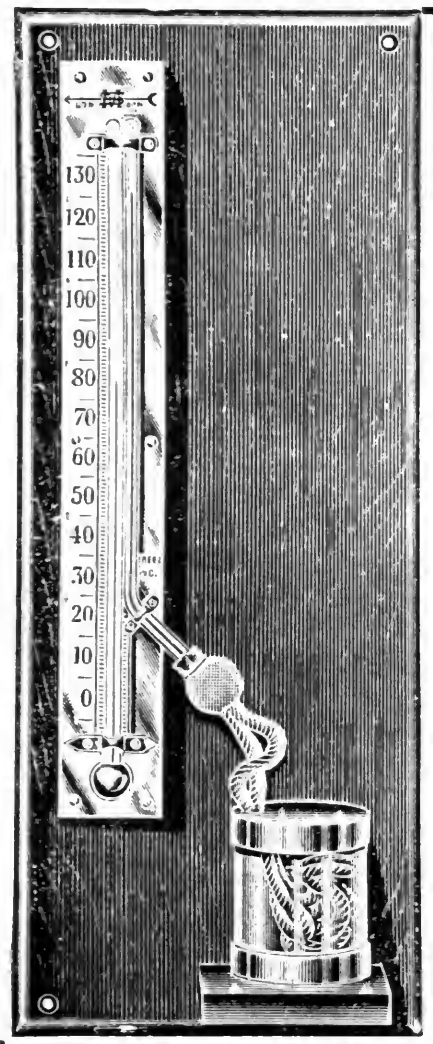

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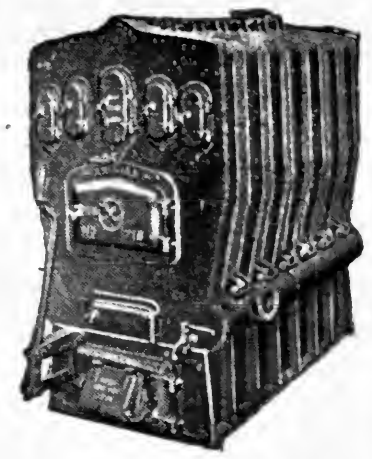

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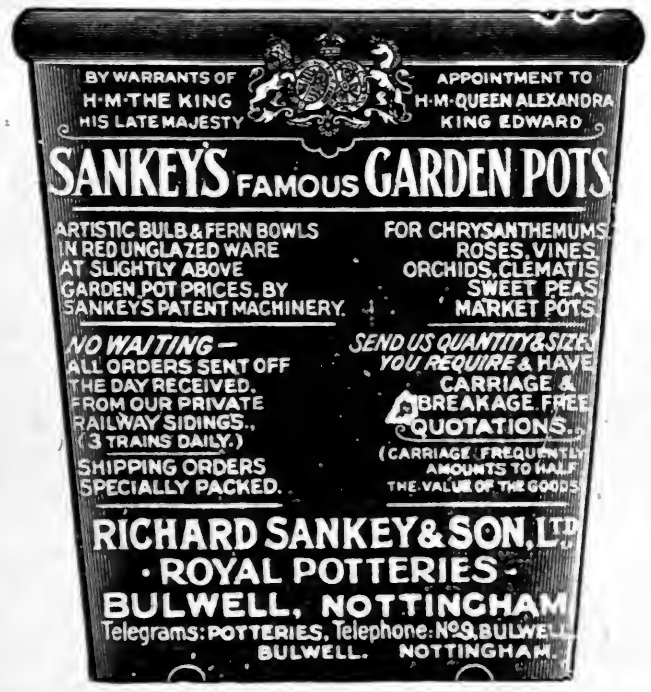
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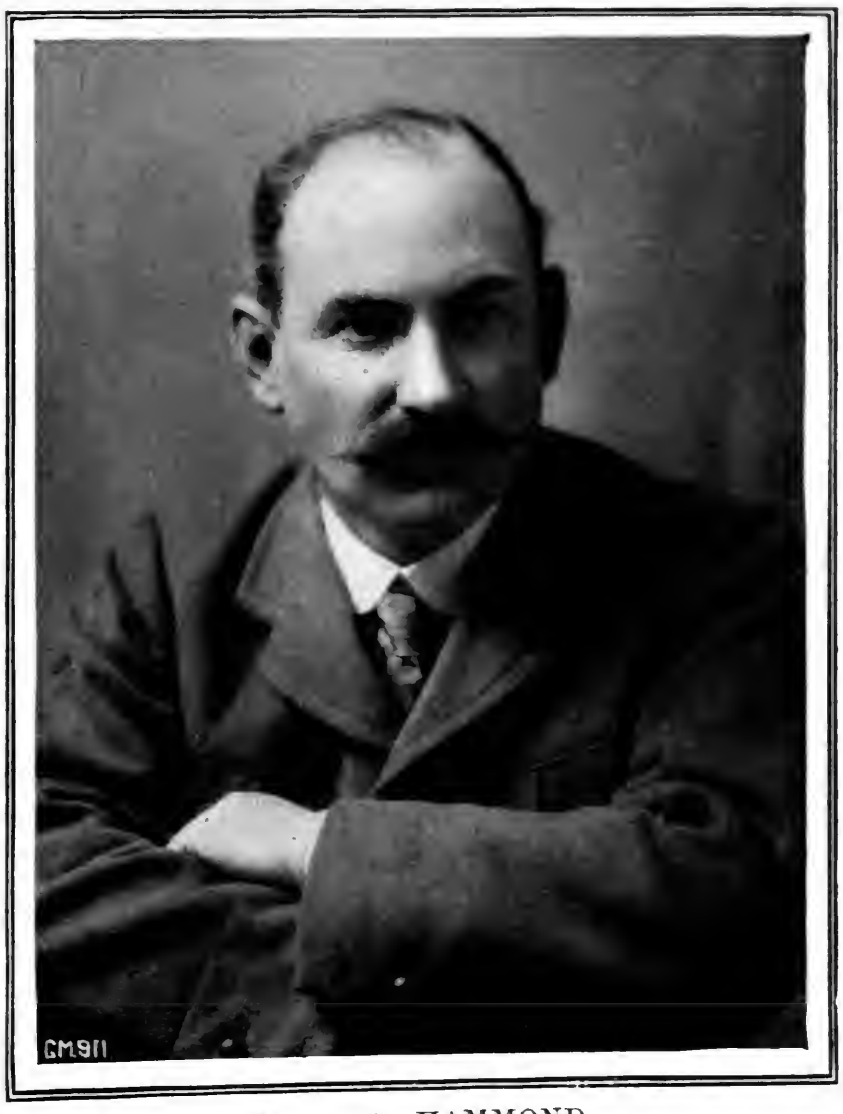
VOL. XVI.—No. 3,135. SATURDAY, NOVEMBER 29, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

New Berry-bearing Shrubs.

Although there is no good reason, as the dull days of autumn bring into prominence the brilliantly-coloured berries of the ever-popular shrub, why we should not enter heartily into the spirit of the old carol, "Heigh-ho! sing Heigh-ho! unto the green Holly," the time has come when those who are interested in the shrubbery should give careful consideration to the claims of berry-bearing shrubs of merit other than those which have had a place in British gardens for so long a time. There are not among the kinds of recent introduction any that can justify a claim for superiority to the holly, the pyracantha, and a few other of the old favourites, but many possess sufficient beauty, when laden with their brightly-coloured fruits, to entitle them to a prominent position in groups and borders. For the new, hardy, berried shrubs, as for many other hardy plants of much interest and beauty, we are indebted to the activities of Mr. E. H. Wilson, and the enterprise of those by whom his explorations in Western China were rendered possible; and among them are some of the most valuable of the newer Chinese plants. Hitherto, the estimate of the merits of these ornamental plants from Western China has been based chiefly on the habit of growth or the attractiveness of the flowers. It could not well have been otherwise, for not until they had attained some size and age was it possible to determine with necessary exactitude their berry-bearing capacity in this country. It is not enough to know that in their native homes they produce an abundance of attractively coloured fruit, and it would not be difficult to call to mind several hardy shrubs that gave great promise of usefulness in this connection, but failed to realise the promise because the climatic conditions of our land were unfavourable. Happily, many of the newer shrubs have reached the fruit-bearing stage, and the collections of Chinese plants in the Aldenham House gardens and the Coombe Wood nurseries afford ample evidence that a considerable proportion of the species and varieties bear their fruits so freely as to present a rich effect when they have attained maturity. Especially noteworthy among kinds deserving the immediate attention of planters are the berberis and cotoneasters, which include a considerable number of species that are of comparatively small growth, and therefore suitable for small gardens, for the rock garden, and for the marginal lines of broad belts of large-growing shrubs. Among the berberis of special merit are B. Coryi, a compact-growing species of upright habit, with slender growth, bearing yellow flowers on spurs and short laterals, these being followed by medium-sized fruits of the most brilliant scarlet colour. B. Wilsonæ is a dwarf-growing species of elegant habit; the flowers are bright yellow and produced so freely as to give a pleasing effect. But its chief value for decorative purposes consists in the bright coral-red fruits, which are produced in abundance; and being protected from the birds by long and sharp spines, they are retained far into the winter. B. sub-caulialatus is a stronger grower than the foregoing, is highly effective when the fruits have ripened, and, as they receive the protection of sharp-pointed spines, they contribute to the attraction of the shrubbery border for a longer period than do those to which the feathered tribe have free access. B. Geraldi is a strong-growing species of deciduous habit, and bears a profusion of deep yellow flowers, which are followed by fruits borne in dense clusters. B. Stapfiana has a dwarf habit, is elegant in growth, and bears its yellow flowers and red fruits the whole length of the slender shoots, the latter producing a rich effect during the autumn and winter. B. polyantha is a rather strong-growing species, attaining a height of five or six feet, and bearing an abundance of coral-red fruits in long racemes. B. Gagnepaini and B. verruculosa are two purple-fruited species that deserve attention for the distinct colour of their fruits, as well as for their other merits. Of the somewhat large group of new cotoneasters the following deserve special attention: Cotoneaster amœna is a charming species, dense in growth, and forms handsome specimens; the white flowers are borne in large corymbs, and present a pleasing appearance, while the brilliant scarlet fruits are so abundant as to produce a fine effect in the autumn. C. rugosa Henryi is distinct in character and elegant in growth, and the large clusters of rich crimson fruits along the slender shoots present a charming appearance. C. applanata is distinct in character, and, in point of merit, follows very closely the foregoing species. It is free in growth, profuse in flowering, and the scarlet fruits, which are produced in great abundance, remain on the plants for a long time. C. salicifolia and its varieties, glaciosa and rugosa, are free in growth and elegant in habit, the shoots being slender and pendulous, and the flowers are white, followed by brilliant red fruits. One other berry-bearing shrub must be mentioned, and that is Symphoricarpus occidentalis (mollis), an American Snowberry which is perfectly distinct from, and has much larger berries than, the common Snowberry (S. racemosus) of British gardens. It is altogether superior to that species, and should be planted wherever berry-bearing shrubs are appreciated.



Mr. G. A. HAMMOND.

Mr. G. A. Hammond, of Woodlands, Burgess Hill, Sussex, is one of the most enthusiastic amateur rosarians of the present time, and also one of the most successful. He cultivates roses extensively and skilfully in a delightful district, and he knows how to exhibit his blooms when they have been well grown. He won his first prize at a National Rose Show at the

Crystal Palace in 1897, and in 1900 he secured medals for blooms of Maman Cochet and The Bride at Reigate and Brentwood. In 1902 he won the Graham Cup, and in 1906 captured the Christy Cup. In 1908, 1911, and 1912 he won the Eltham Cup for roses, and in the latter year also won the Harkness Cup at the Royal Botanic Gardens, Regent's Park. Both in 1908 and 1909 he led at Regent's Park for nine vases of exhibition roses, and in the latter year was also successful in an extra class for two dozen blooms. Mr. Hammond is a keen competitor, and loves a close contest which brings out the skill of the grower and the exhibitor. He first served on the Council of the National Rose Society in 1904, and has rendered such considerable service to that body that in 1912 he was elected a vice-president.

"Gardeners' Magazine" Almanac for 1914.—We shall be very greatly obliged to secretaries of horticultural, floricultural, and gardeners' mutual improvement societies, if they will kindly send us dates and particulars of their meetings for 1914, so that, as far as possible, these dates may be inserted in our Almanac for the ensuing year. In most cases a postcard will hold the information we need, and it should be addressed to the Editor, THE GARDENERS' MAGAZINE, 148, 149, Aldersgate Street, E.C.

The Kew Flagstaff. — A local landmark and a conspicuous feature of the grounds at Kew is practically missing for the moment. The inspection of the great flagstaff made last summer revealed the fact that in several places it was decaying badly. For a week or more preparations have been in progress for lowering the pole to the ground, and this work was accomplished on Monday, November 24. A casual glance at the flagstaff suggests that the decay has spread so as to render repair and safe re-erection almost impossible, but this, of course, remains for experts to decide, and we understand every effort will be made to save the flagstaff, which is 159ft. high, and 20in. in diameter at the base, and a splendid example of the Douglas Fir (Pseudotsuga Douglasi), a native of British Columbia. The Kew flagstaff was presented to the Royal Gardens in 1861 by Mr. Edward Stamp, who at that time was engaged in the timber trade of British Columbia. It was taken down for repair once previously, in 1896, seventeen years ago.

New Work on Hardy Trees and Shrubs. — There is no greater authority on hardy trees and shrubs than Mr. W. J. Bean, Assistant Curator, Royal Botanic Gardens, Kew, therefore it is with great pleasure we learn that Messrs. H. Sotheran and Co. will shortly publish a two-volume book from his pen, entitled "Trees and Shrubs Hardy in the British Isles." Mr. Bean has been at work on this book for a considerable time, and we gather he has included the most recent introductions from China in his descriptive list of kinds. Cultural matters will occupy considerable space, and there will be three hundred illustrations.

Perpetual Carnations at Westminster.—The exhibition of the Perpetual-flowering Carnation Society, to be held at the Royal Horticultural Hall, Westminster, on December 3, promises to be a great success. An entirely new class for a dozen vases of blooms, twenty-five blooms in each vase, should prove an additional attraction, especially as the large growers are likely to put forth their best efforts in an endeavour to be the first to hold the splendid George Monro, jun., challenge cup, valued at 50 guineas, offered as first prize. A carnation Conference will be held during the afternoon, commencing at 3 o'clock, when Mr. G. H. Lawrence will lecture on "Carnations for Amateurs"; the Annual Meeting of the society will follow at 6 p.m.

Record of the Royal International Horticultural Exhibition of 1912.—We understand that this publication, which is rather overdue, will be issued by Messrs. J. and A. Churchill next month. Besides the descriptive and historical text contributed by well-known horticultural writers, the work will contain 117 coloured plates, and 67 half-tone illustrations, representing views or exhibits at the great gathering of 1912. Mr. Reginald Cory, of Duffryn, Cardiff, has, with commendable public spirit, made "The Horticultural Record"—as the book will be called—possible. Mr. Cory has received the gracious permission of the King to dedicate the volume to His Majesty, and we feel sure all lovers of gardens and gardening will look forward to its appearance.

Hobbies' Jubilee Dinner. — Messrs. Hobbies, Lim., Dereham, gave a dinner at the Holborn Restaurant last week, when some sixty gentlemen connected with business undertakings in Norfolk, and others interested in the welfare of the firm, were entertained on the occasion of the company's jubilee celebration. Mr. Alfred Jermyn, H.P., took the chair, the vice-chairman being Mr. Richard Jewson, of Norwich. Others present were: Dr. Hallwright, Birmingham; the Mayor of Peterborough; Mr. John Green and Mr. Herbert Jewson, of Dereham, directors; Mr. W. C. May, goods manager of the Great Eastern Railway; Mr. W. A. Vincent, of Messrs. A. W. Gamage, Lim.; Mr. F. Stephens and Mr. F. Nash, of Messrs. Horace Marshall and Son; Mr. A. H. Shaw, Editor of "The Ironmonger"; Mr. W. A. Young, Editor of the "Hardware and Ironmongers' Chronicle"; Mr. George Gordon, V.M.H.; Mr. John Collingridge, and Mr. Edward C. A. Green, secretary of the company. Mr. R. Winfrey, M.P., proposed the toast of "The Company," and the Chairman of Messrs. Hobbies, Lim., in responding, spoke enthusiastically of the position and prospects of the business. Incidentally he mentioned that their customers numbered over 100,000. Mr. Richard Jewson, the vice-chairman, also responded. Other toasts honoured were "The Guests," "The Press," and "The Staff," the last being proposed by Dr. Hallwright, and responded to by Mr. Edward C. A. Green, and Mr. Edmonds Sears, the Editor of "Hobbies." An excellent menu was provided, and a bright musical programme added to the entertainment of the guests.

Horticulture and Forestry at the Anglo-American Exposition of 1914.—As already announced in these columns, Horticulture, Arboriculture, and Forestry are to be important departments at the Anglo-American Exposition of 1914, at the White City, Shepherd's Bush. Considerable progress was made in connection with the horticultural section on Tuesday last, when the General Committee met under the presidency of Mr. George Gordon, V.M.H., and accepted a scheme, drawn up by a sub-committee, for laying out the various beds, borders, and other spaces at the exhibition to the best advantage. Arrangements were also made for four special conferences and exhibitions, dates of which will be settled later. Mr. Kiralfy sails for the United States next week, and will get into touch with the leading nurserymen and seedsmen across the water, for the purpose of securing their assistance at the Exposition. Messrs C. H. Curtis, F. W. Harvey, W. A. Manda, and R. Hooper Pearson were added to the General Committee, and executive committees were appointed for the horticultural and the forestry sections.

Official Catalogue of Roses for 1914.—We have received a copy of the National Rose Society's Official Catalogue for 1914, and find that this new edition shows several improvements upon the older ones. The table of contents has been made much clearer, and is followed by an index of all the names of roses in the catalogue, so arranged that one may readily find the class to which a given variety belongs. The lists of roses suitable for special purposes form, once more, a very excellent feature, and we understand that in drawing up these lists the Publications Committee has had the assistance and advice of over fifty well-known rosarians resident in different parts of the country. Members of the N.R.S. are entitled to a free copy of this catalogue.

"My Camel Ride from Suez to Mount Sinai," is the title of a book written by Mr. Arthur W. Sutton, F.L.S., and recently published by Messrs. J. J. Bennett, Lim., Henrietta Street, W.C. The work is of general interest because it describes a journey made by the author in the spring of 1912 through the country which was traversed by the Israelites when they left Egypt, over three thousand years ago. Nearly a hundred illustrations serve to bring before the reader the chief places of interest noted in the Biblical narrative of the Exodus. The views of scanty desert vegetation, and of luxuriant palms at the oases, at once attract those who study plant life; while the observations of one who is so well known in the world of horticulture prove that a holiday in a desert is not without its compensations. A copy of Mr. Sutton's book has been graciously accepted by her Majesty the Queen, and we understand the whole of the proceeds of the first edition will be devoted to the funds of the Young Women's Christian Association. The author has paid several visits to the Holy Land, Egypt, and Arabia, and his lectures dealing with his travels, given before the Victoria Institute, the Horticultural Club, etc., have proved particularly instructive and entertaining.

Vancouver Island, part of the Canadian Province of British Columbia, is renowned among arboriculturists as the home of Pseudotsuga Douglasi, the splendid conifer, which, before steel became so largely used, provided the material for tall masts and flagstaffs. Other trees of commercial value find a home in this island, therefore horticulturists should have a special interest in the lecture entitled "A Ramble along the West Coast of Vancouver Island," which Mrs. Julia L. Henshaw will give at the Horticultural Club on Tuesday, December 2, after the monthly house dinner. The lecture will be illustrated with coloured lantern slides reproduced from photographs taken by the lecturer.

Official Guide to Kew. — Some time ago we announced that the President of the Board of Agriculture had appointed an official guide to conduct parties of visitors round the collections contained in the Gardens, the Plant House, and Museums, at Kew, and to point out objects of particular botanical interest. Morning parties were limited to six, and afternoon parties to twenty persons. These restrictions as to numbers are now removed, and whereas

the fee for a morning tour was 2s. 6d., and for the afternoon 1s per person, the charges henceforth will be 6d. and 3d. respectively. This considerable reduction suggests that the services of the guide have seldom been requisitioned.

Silver Medal for Ghrysanthemum Daily Mail.—Messrs. Wells and Co., Merstham, write: "In your issue of November 22, on page 889, it is reported that the silver medal offered at Edinburgh for the best new chrysanthemum was awarded us for Mrs. Tresham Gilbey. It should have read, 'for Daily Mail.' The name ticket became reversed, hence the mistake."

Pathfinding at Brentwood and Upminster. — The Upminster Parish Council is making every effort to locate and define the many pathways and rights of way in the Upminster and Brentwood district, and their efforts are being admirably seconded by Mr. J. F. Lescher, a large landowner, and chairman of the Brentwood Justices. Old maps and plans are in great request at present, and no pains will be spared to secure these country pathways for the public use.

Honey Harvest in the North.—The honey harvest this season, writes our Aberdeen correspondent, has been an exceedingly lucrative one, both from clover and heather. Clover was somewhat deficient in some districts, but there were many localities where capital crops of white clover obtained, and the bees gathered record stores. Not a few beekeepers secured from 170lbs. to 190lbs. from individual hives, and in the less-favoured districts, where the ordinary yield runs from 30lbs. to 40lbs., the average this season amounts to between 50lbs. and 60lbs. It is in such a season as the past that good management and the exercise of great care tells. One well-known expert in the north obtained from 175lbs. to 190lbs. per hive from clover within the space of six weeks, while in another instance 260lbs. was taken from a bar-frame hive of the newest type. After several more or less unproductive seasons the heather this year has yielded capital results. The beautiful weather prevailing in August and early September produced a fine flow of nectar. There were some districts where, through lack of moisture, the heather ripened and dried off quickly, but where the bees were strong the yields averaged from 70 to 80 sections per hive. The quality and flavour, too, have been very superior, and some of the honey is almost as thick as candy. The largest yields from heather are over 200lbs. per hive.

Prosecutions by the Board of Agriculture.—With the concurrence of the Lord Chancellor, the Board of Agriculture proposes to make regulations providing that in cases which appear to the Board to relate to agricultural or horticultural produce, the prosecution of offences under the Merchandise Marks Acts, 1887, shall be undertaken by the Board of Agriculture. These regulations will prescribe the conditions on which such prosecutions are to be so undertaken, and copies of the draft regulations may be obtained at the Board of Agriculture, 4, Whitehall Place, London.

Artificially Coloured Butcher's Broom is more or less familiar to most people, but its use as decorative material in the garden has been left for M. Chas. Moquet to discover. Under the title of La Franonine (Fragon is the French name for Butcher's Broom), M. Moquet suggests a new style of gardening for the purpose of securing a brilliant display in the garden during winter, when floral colouring is absent. His method is to dye sprays of Butcher's Broom the desired colour, and place these sprays thickly in the otherwise vacant flower beds, and then, as he puts it, "you get the illusion complete." Just so. We prefer to be without the illusion.

PYRUS VEITCHI.

This is a new and distinct Chinese species introduced by Mr. E. H. Wilson when collecting on behalf of Messrs. James Veitch and Sons, Chelsea. Fruiting specimens grown, from seeds sent home by Mr. Wilson, in their Coombe Wood Nursery were exhibited by the Messrs. Veitch on October 8, 1912, at a meeting of the Royal Horticultural Society, when the species received an Award of Merit.

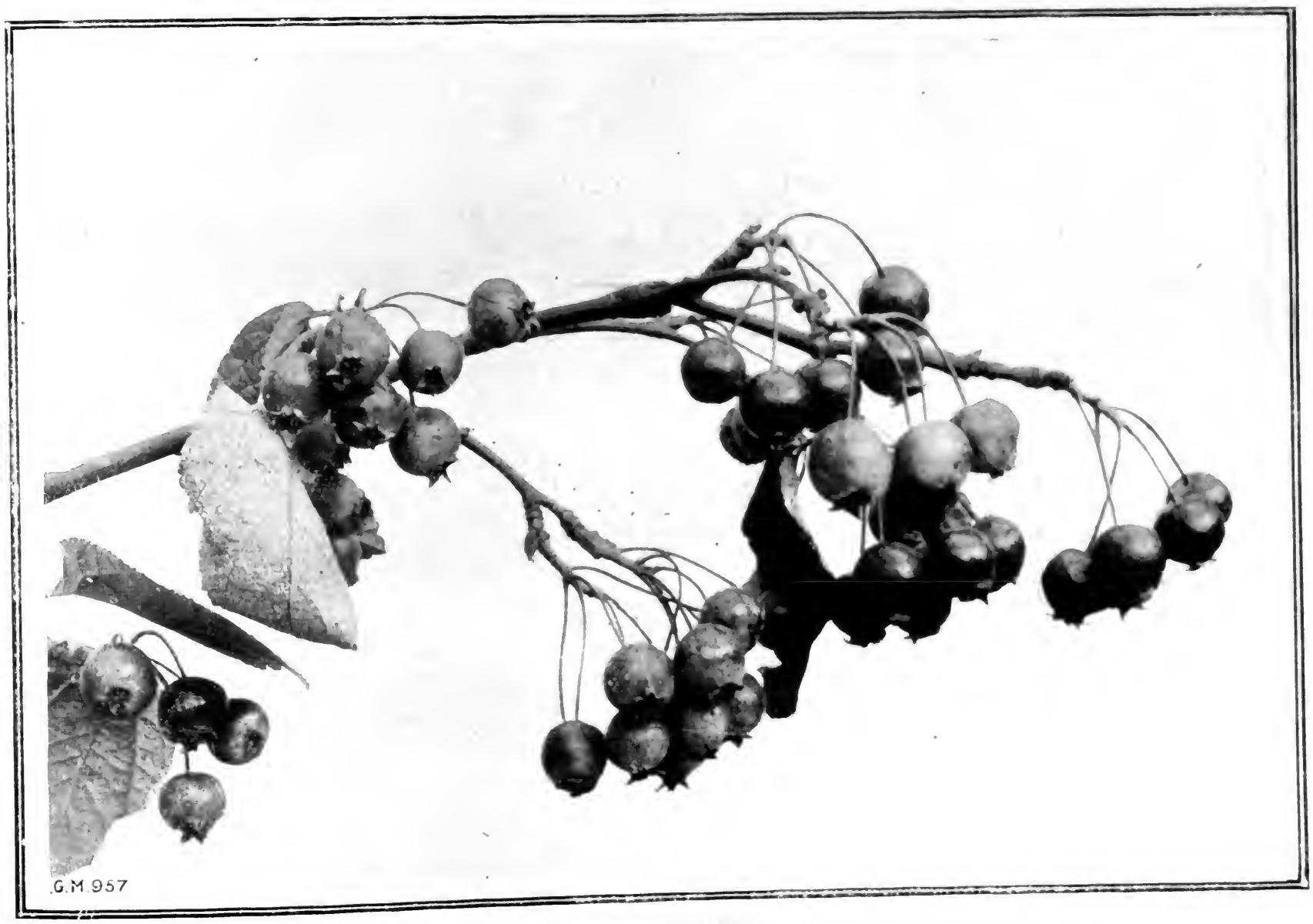
Veitch's pyrus promises to be a useful addition to our gardens as a deciduous specimen tree of moderate dimensions for the lawn and pleasure grounds. The simple leaves are ovate, and finely-toothed, dull green in summer, tinted red in autumn. The flowers are blush-pink, followed in autumn by comparatively small globular fruits, about half-an-inch in diameter. These are dark red in colour; but a close examination reveals the fact that they are speckled. The accompanying illustration successfully depicts the free-fruiting character of the sprays.

Seeds ripened in this country have been sown, and have germinated freely, so that a plentiful stock of young trees should soon be available for sale. One of the original trees is already some sixteen feet high at Coombe Wood.

When exhibited before the Royal Horticultural Society's Floral Committee the Award of Merit was given to this tree as Pyrus Veitchiana, but the name has apparently been altered to P. Veitchi, as this is the title under which it is now being sold.

A. Osborn.

Kew.



PYRUS VEITCHI.

A new species bearing an abundance of dark red fruits.

AMERICAN GOOSEBERRY MILDEW:

A REMEDY WANTED.

Some six or seven years have passed since the news was spread abroad that a new disease had been discovered among the gooseberries in Worcestershire, and not long afterwards it was found that this disease, the American Gooseberry Mildew, was present in gooseberry plantations practically all over the country. The latter discovery was, of course, made after the mildew was scheduled as a notifiable disease by the Board of Agriculture, and since then inspectors have been appointed and a large sum of money has been spent in attempts to eradicate the disease.

What is the position now? Either the measures adopted have not been drastic enough, or they are inadequate, for comparatively little progress has been made. That American mildew is not an easy thing to get rid of many of us know from experience, and I am acquainted now with several plantations which have been infected for five or six years. Every effort has been made by means of spraying and pruning to get rid of the disease, and, though these attempts may have prevented its spread, they have not been successful in eradicating it. It has peculiarities, too, that are not easily understood. For several years the summer stage of the mildew appeared first on the young shoots, but this season the fruit, in many cases, was attacked before any traces were seen on the leaves and shoots. Some people are apt to blame growers for the little progress made in stamping out the disease, but, as far as my experience goes, I have found them ready to obey the Order and adopt the methods that are recommended.

It seems, however, that better remedies are wanted than those at present known, and matters in reference to future procedure have been brought to a head by the action of the Kent County Council. At the last meeting of this authority a Special Committee reported that a year ago they decided, after anxious consideration, to recommend the Council to continue the administration of the Order, but the experience of the twelve months had been so discouraging, and growers seemed to be unanimous in their opinion that the work carried out by the Council was of little, if any, value, therefore the committee decided to recommend the Council not to appoint any more inspectors, and to terminate the appointment of the one already engaged on the work. In presenting the report attention was called to the fact that there were 3,600 acres of gooseberries in the county affected, and Alderman Quested argued that the disease would have considerably diminished if the remedies applied during the six years' administration of the Order had been effectual.

So much for the local authority. But the Board of Agriculture, on the other hand, in a letter urging the Council to continue to administer the Act, stated that so far as the Board was aware there had been no serious attempt by fruit-growers of Kent, as a whole, to free their county from infection. By way of contrast, Worcestershire was quoted in the following words: "Disease was found to be widespread and serious in Worcester before it was known in Kent, and at one time it was thought hopeless to save the gooseberry-growing industry there. Disinclination to adopt prompt measures was shown, and there was even organised resistance to the Board's Order—which the local authority conceived it their duty to enforce, however—and there was now every reason to believe that the disease in that county would be reduced to very small dimensions, and the county be freed from an expense and an embarrassment that had seriously handicapped it." Figures were given showing how the disease had decreased in Worcester and increased in Kent since 1909-10, but the arguments did not appear to have much influence on the Kentish men in arriving at their decision, and the position is interesting in regard to what will be done with American Gooseberry Mildew in the future, because the voice of such an important fruit-growing county as Kent must necessarily be listened to. It seems to be a question of either leaving growers to their own devices, continuing present methods, or, if possible, finding out something that is better.

H.

A REMARKABLE GRAFT HYBRID.

(Cratægo-mespilus Dardari).

The "Kew Bulletin" records how, in its issue of 1911, p. 267, it gave an illustrated account of this graft hybrid, and its companion of similar origin, C.-m. D'Asnieresii, was given. They both originated at Bronvaux, near Metz, from shoots borne on a tree of common medlar grafted on hawthorn. Of the two, the latter is the more beautiful as a garden tree, but C.-m. Dardari is the more interesting in having (like Laburnum Adami) the faculty of producing several kinds of growth on the same individual.

At the time the article was published the specimen of C.-m. Dardari in the Kew collection carried a branch of pure medlar and one of C.-m. D'Asnieresii; but no branch of true hawthorn, the other parent, had appeared, nor has it done so up to the present. Mr. Vicary Gibbs, however, on May 27 last, was kind enough to forward to Kew from his remarkable collection at Aldenham a flowering spray gathered from C.-m. Dardari. This spray is Crataegus monogyna—the form with hairy flower stalks, calyx-tube and deceptacle, distinguished by Beck as var. lanigera. Mr. Gibbs observed that the flowers, borne on a shoot 3 feet long, were fully open on May 27, whilst the rest of the tree had only unopened buds of the white, medlar-like blossoms characteristic of C.-m. Dardari. A shoot of true medlar has since been found on the tree.

Thus this graft hybrid shows a phenomenon, unique so far as we are aware, of one kind of tree (not as yet, however, one individual) producing four types of growth, two of which are distinct species and two of a hybrid or intermediate nature. They may be tabulated as follows:

1. Crataegus monogyna } parent species.
2. Mespilus germanica }
3. Crataego-mespilus D'Asnieresii, hybrid approaching No. 1.
4. Crataego-mespilus Dardari, hybrid approaching No. 2.

Laburnum Adami has not been known to produce more than one hybrid type of flower besides those of its two parent species (Laburnum vulgare and Cytisus purpureus) three in all.

COMPETITIONS IN THE PACKING OF SOFT FRUITS.

The schedules of the Royal Horticultural Society's fortnightly meetings on June 16, and July 14, 1914, and the Fruit Show on September 29, 1914, will contain the following class:—

Class 3.—Soft fruit, packed in an attractive manner, and so as to travel unbruised either by rail or post. The package must be sent by parcels post from the exhibitor's nearest post office, or be handed in at his nearest or most generally-used station, and delivered by the railway company, or by post, at Vincent Square, either on the Monday before the show or before 10.30 a.m. on the day itself. Under no circumstances may a competitor bring the package or send it by hand, or otherwise convey it further than his nearest or most usual post office or railway station. If sent by rail, a post card addressed to the Secretary, R.H.S. Offices, Vincent Square, Westminster, must be sent at once, saying from what station and at what time the parcel was despatched. Separate packages, or punnets, may be used inside the parcel if desired, but the whole package must not exceed 18 inches in length, 10 inches in breadth, and 5 inches in depth—all inside measurements. The packages may be of any material so long as they are sufficiently strong, but not too heavy.

The Council's desire is to obtain a really good and useful lesson in the packing of soft fruits, so as to enable them to be sent by post or by passenger train, and arrive in a condition suitable for a gentleman's table. The Council will, on June 16 and July 14, and on September 29, give special awards in accordance with the above conditions.

Market growers may compete as well as private gardeners.

By "soft fruit" is intended such as strawberries, cherries, figs, peaches, and nectarines, and not such as apples, pears, and melons, or unripe plums. Tomatoes are excluded.

FLORAL TABLE DECORATIONS.

Referring to page 866 of THE GARDENERS' MAGAZINE for November 15, I would remind Mrs. Bide that my article was directed against the style of table decorations in the exhibition tent as compared with the style in private establishments. And although at the show she mentions the awards were given to tables decorated with rustic stands, it does not necessarily mean such a style of decoration would do in a gentleman's dining-room. By "a gentleman's dining-room" I mean the dining-room in a large establishment, where, I take it, one would expect to see the highest excellence in table decoration. Money is not spared to obtain it, and I doubt whether any decorator has ever used a rustic stand in such a house as defined above. At the recent Birmingham Show, out of over two dozen exhibits, I believe three-fourths were arranged in rustic stands, and the awards had to go to displays made by their help. But a gardener has to ask himself, "Would such exhibits suit my employer?"

I have never used a rustic stand. My duties are to decorate dinner tables, etc., not to embellish a bent-metal construction. Surely your correspondent is writing entirely from an exhibitor's point of view. Private decorators have to provide a rich scheme of decoration, perfect in taste and arrangement, without the aid of tubes distributed about the receptacles used. The decoration has to be changed every day, and our hardest work is to secure fresh ideas.

Mrs. Bide says the public are the best critics. How many visitors to flower shows have seen a table laid and decorated for dinner in a large private establishment?

E. B. WISE.

Swinfen Hall Gardens, Lichfield.

NEW PLANTS AND FLOWERS.

ANGRÆCUM RECURVUM.

A lovely species, with pure white flowers borne singly on long, flexible, and drooping stems. The lip is quite flat, and each flower is three inches across. The leaves are long and leathery, in two ranks, and the stem or base of the plant sends out aerial roots from amid the fibrous ends of dead leaves, so that this basal portion looks like a little hairy trunk. The specimen shown carried thirteen beautiful flowers, and these were drawn between the leaves instead of being allowed to droop their full length. A.M., R.H.S., November 18. Messrs. Charlesworth and Co., Haywards Heath.

LÆLIO-CATTLEYA FERONIA, CHARLESWORTH'S VAR.

A splendid hybrid between C. Enid and L.-c. Haroldiana. The spike carried five very handsome blooms, each six inches wide and rather more in depth, from the tip of the dorsal sepal to the apex of the lip. Sepals and petals soft mauve-pink shaded with violet-purple; lip mauve, with a broad, frilled apex of a brilliant violet-purple shade. The throat is freely veined and shaded with deep yellow. A.M., R.H.S., November 18. Messrs. Charlesworth and Co., Haywards Heath.

DENDROBIUM LEEANUM, LANGLEY VAR.

A strong-growing hybrid with stems two and a-half feet long, bearing arching spikes of purple flowers.The sepals reflex a little, and are soft purple; the petals are of a deeper shade, and the lip is dark rich blue-purple with a darker disc of raised lines. D. Leeanum was originally raised many years ago by crossing D. Phalænopsis with D. superbiens, and it carries the chief characters of its parents, the flower being larger and broader than in D. superbiens, but not so rounded as in D. Phalænopsis. A.M., R.H.S., November 18. Messrs. Flory and Black, Langley, Slough.

BEGONIA SYROS.

One of the newest of the winter-flowering varieties, and derived from B. socotiana and a copper-coloured tuberous begonia.Of excellent habit, sturdy, and carrying about seven flowers on each semi-drooping spike, it is remarkably free flowering, and as the colour is light orange-tinted buff, the plant is most effective. A.M., R.H.S., November 18. Messrs. Jas. Veitch and Sons, Chelsea.

COLUMNEA OERSTEDIANA.

A beautiful and rare plant shown in magnificent condition. It has long, wiry stems with opposite, fleshy, ovate, small, shining green leaves, and bears its flowers singly from the leaf axils. The calyx and the flower are alike rich and brilliant orange-coloured. The individual flowers are two and a-half inches to three inches long, with a two-lipped mouth, the lower lip narrow, and the upper lip tribolate, its central lobe quite broad. In the throat there is a tinge of yellow in the orange. C. Oerstediana is a native of Costa Rica (see p. 877). F.C.C., R.H.S., November 18. Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford Lodge, Dorking.

CYPRIPEDIUM KENTORE.

A very distinct and handsome hybrid from C. Fairieanum; C. Cambridgeanum being the second parent. The dorsal sepal has a white margin and white ground, but the whole of the centre is heavily veined and shaded with dark, rich claret-purple, and this colour is also seen on the deflexed wavy-margined petals, in conjunction with green shading and white tips. Lip brilliant purple-brown. A.M., R.H.S., November 18. Messrs. Armstrong and Brown, Tunbridge Wells.

CYPRIPEDIUM CYCLOPS.

A large and bold hybrid with a rounded flower, the dorsal sepal a little over three inches wide, and the flower four and a-half inches across the petals. The dorsal sepal is light green, with purplish spots of various sizes, and a wide, white margin all round the upper portion. Petals green, shaded with brown, and with a narrow purple line and purple spots; lip green and purple-brown. C. Actæus and C. Alportensia were the parents of C. Cyclops. A.M., R.H.S., November 18. Lieut.-Colonel Sir George Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury.

ANGRÆCUM RECURVUM.

A beautiful white-flowered species. A.M., R.H.S., November 18. Messrs. Charlesworth and Co., Haywards Heath.

MILTONIODA HARWOODI, THE SHRUBBERY VAR.

A charming form of the pleasing hybrid between Miltonia vexillaria and Cochlioda Noezliana. The flowers are flattened, the sepals and petals bright red, the lip deep reddish-rose, and the column and disc golden-yellow. The little plant exhibited carried a spike of seven expanded flowers and two buds. A.M., R.H.S., November 18. Messrs. Armstrong and Brown, Tunbridge Wells.

CHRYSANTHEMUMS.

Mary Morris.—A splendid single-flowered variety with large-sized blooms, each having about three rows of well-arranged reddish-terra-cotta florets, surrounding a dark yellow disc, that, in turn, is surrounded by a narrow bright yellow zone. The specimen showed carried a few over fifty flowers. A.M., R.H.S., November 18. Mr. Thos. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone.

Maud Louisada.—A Japanese variety of full exhibition size. The flowers are broad in build, with long, medium-sized florets, which curl and intertwine in a charming manner. The colour is silvery-mauve, with a paler reverse. It should make a popular exhibition variety. H., a.; F.C.C., N.C.S., November 17. Messrs. H. J. Jones, Lim., Ryecroft, Lewisham.

Miss Willis.—A charming single variety, good either disbudded or in spray form. The colour is white, slightly shaded pink. V., 2. a; F.C.C., N.C.S., November 17. Mr. H. Reddan, West Wickham.

Mrs. H. Bean.—A large single variety, with four rows of petals, making up a finely-formed flower. Commendation, N.C.S., November 17. V., 2, a.; Mr. H. Reddan, West Wickham.

Gladys Jones.—A striking single variety, with tubular florets which open flat towards the ends; best described as rosy terra-cotta. V., 2, a.; Commendation N.C.S., November 17. Mr. P. Ladds, Swanley

Mr. L. Smith.—A single variety, of good build, with two rows of florets, a deep rich rose colour. V., 2, a.; Commendation, N.C.S., November 17. Mr. F Humphries, Shoreham.

Mrs. Lawrence.—A very fine single variety, rich rosy-pink, with a small white zone; suitable as a disbudded flower, or in spray form. V., 2, a.; Commendation, N.C.S., November 17. Mr. J. Lawrence, Shoreham, Sevenoaks.

Holyport Pride.—An anemone variety exhibited in the competition for the best seedling of 1913. The colour is rosy-mauve, and it was awarded 65 points out of a possible 100. Commendation, N.C.S., November 17. Mr. Broom, Holyport, Berks.

THREE GOOD ROSES.

Now that the planting season is again with us, I would like to draw the attention of rose-loving readers of THE GARDENERS' MAGAZINE to three roses which have been especially good with me during 1913. My soil is not the heavy yellow loam so much belauded by many rosarians, but is a deep, dark soil of a light nature.

The first of my varieties is Miss Cynthia Forde, deep pink, with the inside petals flesh-pink. This is a sturdy and free-branching variety, mildew-proof here, and (a matter of importance in a bedding rose) it opens its flowers fully, and retains its colour well. The blooms are of good size and shape, and sufficiently full to build up a bloom fit for any exhibition. Mrs. C. E. Allen is my second variety, and in this the colour is pale orange, shading to straw, with ochre tints. This is a good bedding rose, as every branch carries one or more flowers, which are beautiful in all stages of development. It is a rose that lasts well, and is delightful for personal wear. My third successful variety is Leslie Holland, a fine scarlet-crimson rose, with darker shading. This differs from the two former in its habit of growth, as each shoot is upright, and blooms at the tips. About 18 inches high, it flowers continuously, does not fade in the sun, and is therefore a fine hot-day exhibition rose; moreover, it does not flag, like so many roses do, when placed in an exhibition box. To amateurs who have a soil that is not cold I can strongly recommend these three fine varieties. They have been shown by me every time I exhibited in the past summer, and helped me to win half a dozen first prizes. To-day (November 12) I have cut flowers of each variety, and the perfume of Leslie Holland is charming even at this late date.

HAROLD NEWTON.

Winterley, Sandbach.

The Mountain Feather Fleece.—The botanical name of the plant, which has such a pleasing, popular one, is Stenanthium robustum. It is a flower which has quickly come to the front, and is likely to be better appreciated when its preference for moisture is recognised and considered when it is being planted. It is very handsome when in a moist place, growing to as much as four or five feet high in some places, and giving handsome plumes of drooping feathery, fleece-like blooms, which have been well described as "making a snowbank of bloom." One writer hardly does justice to it in a remark in which he likens it to a certain ornament connected with obsequies; but the plant is really a very beautiful one when in a moist place by the side of a stream or in a bog. It is increased by division, and is now sold at a moderate price for a plant of its character.—S. A.

AMONG THE ROSES.

This is a very busy time with rosarians as planting should be in full swing. It will be well to remember the great harm often done by excessively treading the ground when it is wet. If planting cannot be delayed use planks to walk upon, and place dry, prepared soil in contact with the rose roots. This will readily work among the fibres, and assist in early root formation. Fresh manure of any kind should never come into contact with the bare roots, but be well intermixed with the soil, so that the new roots can find it for themselves when they are active next spring.

Standard and pillar roses must be made secure against damage from wind, and there is no reason why this should not be done at planting time. If this precaution is neglected the swaying causes a smooth hole to form at the base of the stem, which not only holds water but leaves the most vital spot unprotected.

As most of our extra-vigorous roses need closer pruning than those of normal growth the first spring after planting, we might as well cut away a goodly portion of this superfluous wood at the time of planting. In many cases semi-pruning might be practised with advantage, as it reduces the strain upon the unestablished roots, and keeps the lower buds, or eyes, in better condition.

Mulching established roses is pretty general at this time of the year, but I protest against overmuch manure being placed close to the base of the plant with an idea of protection. It is far better and safer to draw some of the surrounding soil to this part, which will always secure the base and the valuable lower eyes from harm.

When the work is finished the plant should appear as though growing from a good-sized mole-heap. This soil will not only keep away frost, but keep the base of the plant dry. Quite the opposite is the case when a quantity of manure lies in contact with the stem base, as this retains the moisture, and thus renders frost more harmful.

How to mulch and what to use for the purpose depends upon the class of soil and material available. Several hints upon manures for roses have appeared from time to time, and I merely give this reminder so that they may be put to the best advantage.

While dealing with protection, I may say that it is not nearly so much practised as was once the case. Still, it is advisable to have something ready in view of severe weather. One of the readiest means is provided by pieces of fir, gorse, and laurel that may be cut from hedges and saved for the purpose. The twiggy branches of birch, beech, and hazel are also very suitable. These are quickly inserted in the ground around and against any of the more tender varieties, and afford great protection. They might also be fixed in the form of a shelter hedge upon the exposed side of beds and borders.

I have very little to say in favour of straw, hay, and loose litter that have a tendency to blow away when most wanted, or else fall to the ground and retain any moisture that may be present. In fact, this class of protection is apt to do the same harm as overmuch wet manure around the base of our plants, and it is generally admitted that frost and wet combined are more harmful than frost and dry weather.

ROSARIAN.

HABRANTHUS PRATENSIS.

The proper name of this handsome bulbous plant is Hippeastrum pratense, but it is generally known in gardens as Habranthus pratensis, although occasionally met with as Amaryllis pratense. A native of the hills and plains of Chili, it has proved amenable to cultivation in some parts of the United Kingdom in the open, and is also highly suitable for growing in pots in a cool house. It is cultivated in the open air with much success in the Eastern Counties of England, and in the gardens at Westwick it is a great success. The writer saw it in Ayrshire this summer, well established in the border, and cultivated without any protection. It is a very handsome Amaryllid, with leaves about a foot and a-half long, and bearing on stems, a foot or so high, handsome, brilliant scarlet, bell-shaped flowers in summer. It has, within recent years, been grandly shown at the London exhibitions. It succeeds well in pots in the cool house, giving it a period of rest after flowering, and potting in soil composed of loam, peat, and sand. It is, however, very desirable that H. pratensis should be grown more frequently in the open, and it may be planted in a warm, sheltered, well-drained, sunny border in loam, leaf-soil, or peat and sand, at a depth of from six to eight inches. A covering of ashes or dry litter may be placed over the place the first winter, but in after years it may be dispensed with. It is not possible to predict success in every garden, but it is safe to say that many places would be beautified by the brilliant flowers of this plant were it attempted and treated in the manner suggested. S. A.

LATE-FLOWERING SHRUBS.

Often, when walking round a garden, attention is drawn to some unusual plant, or the unusual manner in which it is growing. I have before remarked how well all kinds of flowering shrubs bloomed in the spring and summer of this year, but I do not ever remember those which bloom in the latter part of the season producing such a wealth of flowers before. Here the myrtles growing in the open were so covered with flowers that one could scarcely see the foliage, and at the present time the various osmanthuses are loaded with their small, sweet-scented flowers. The most interesting shrub, however, at the present time (November 15) is Berberis Darwini. This is now in full bloom, and has been for some days past, and though the racemes are not quite so long or of such a deep colour as in spring, they are very beautiful. Flowering at this season of the year can be accounted for, in a measure, by the dry weather during the summer months, for between May 14 and September 1 only three inches of rain fell, so that the land had become very dry. September and October were two showery months, with warm night temperature, which no doubt caused the most prominent buds to burst into bloom after the long spell of dry weather, with the result that we have now a second crop of flowers.

I noticed a lilac bush the other day with the crown buds all bursting, and the spikes of flowers just showing themselves, while those on another plant were just unfolding their young leaves. I could have understood this had the shrubs been recently transplanted, but those in question have been in their present position for several years. No doubt the late mild weather has had much to do with this abnormal blooming.

H. C. PRINSEP.

Gloucester.

A PLEA FOR NERINES.

The nerine is an autumn-blooming Cape plant, which should appeal to all lovers of bulbous flowers. Once understood, its requirements are few, therefore it should be far more grown than at present. Any amateur having even a small amount of glass to spare should secure and cultivate a little collection of nerines, and he will be more than repaid by the charm of the gilt-spangled flowers, which continue in succession right through the dull autumn months.

The ease with which nerines can be hybridised, or cross-fertilised and grown from seeds, is remarkable, and if careful records are kept the fascination of the seedlings when they begin to come into flower at about the third year from sowing is something delightful to count upon and look forward to.

The first of the species to open, and perhaps the handsomest of all, is N. Fothergilli, which bears umbels of large scarlet flowers, borne erect, and which glitter in the sun as though gold-specked. N. sarniensis (or N. corusca) comes a little later, bearing heads of orange-scarlet flowers. The only pure white natural kind with which I am acquainted is N. flexuosa alba, believed by some to be a white form of N. crispa (or N. undulata); the last-named is rather a poor flower, and scarcely worth cultivating for its own sake, though I have seen some very pretty hybrids from it. N. Planti is a good nerine, the flowers crimson-scarlet, and the spike well-formed; I imagine it to be a hybrid. Later on come N. Manselli and N. Bowdeni, with pinkish flowers, the latter being, perhaps, the largest flowered of all.

But to add to these there are now the numerous hybrids raised during the last twenty years by Mr. H. J. Elwes and others, some of which are gradually beginning to find their way into the market, though it should be borne in mind that a long time is needed to work up the stock of a nerine, increase from offsets being in most cases a very slow process. This was brought home to me the other day when I was looking at the stock of a nerine raised about twenty years ago, of which I happen to be the fortunate possessor. It consists only of seventy bulbs and small offsets, all told.

The nerine would gain in popularity, to my thinking, if it were more shown by the trade at the London shows, as well as at provincial autumn shows. Beyond an occasional display made by Mr. Elwes, and peripatetic exhibits by Messrs. Barr, Veitch, and one or two others, I think that Mr. G. Reuthe, of Keston, is about its only regular exhibitor, and on recent occasions I have not failed to notice in front of his stands a foregathering of those who are interested in these things.

I started my collection of nerines about ten years ago, and at once began to cross-breed them. About as soon as my first seedlings were beginning to flower the whole lot was visited by a severe attack of mealy-bug, which put the plants into bad health. I tried various remedies without success, until someone recommended methylated spirit. We went carefully over every plant with this, my man and I, using a camel-hair brush, and working between every leaf and scale, until now I have the collection clean — at least, I hope so, and I touch wood as I write this!

Seedlings that are coming into flower for the first time at the moment are principally from crosses made between N. flexuosa albo, N. sarniensis, and N. Planti, and there are some very charming things among them. N. flexuosa alba (seed) x N. sarniensis (pollen) is giving pretty rose-pink flowers, with a darker line down the centre of each petal; while the reverse cross has produced some very handsome scarlet-crimson flowers, shading to white in the centre; in both cases the undulating petal of N. flexuosa alba is much modified, but is just in evidence.

Next year's seedlings should be still more interesting, as the crosses were much more varied, and as time goes on the excitement as to results may be expected to increase.

In most cases we leave our nerines in the same pots for three years, and after that period divide and repot them, while in a dry state, in August. As is well known, the nerine needs to be well watered during winter to make good and strong foliage and sturdy bulbs, and an occasional dose of some liquid manure is not inadvisable. As the leaves fade away in late spring the plants should be kept perfectly dry in a frame or greenhouse, close to the glass, until they show the first signs of flowering or of growth, when they may be actively started by dipping each pot into a pail of water or otherwise thoroughly moistening the soil.

A word or two as to hybridising and seed-sowing. The pistil of the nerine is prominently visible between its six stamens, and the pollen from the anthers of another variety can be transferred to the stigma by means of a camel-hair brush. I always keep a record of the varieties or species used, and this adds immensely to the interest of seedling-raising. The seeds are ripe as soon as they are easily detachable. There are some folks who delay gathering seeds until they fall, thinking that they will wither and harden; this is a mistake, for they remain green and fleshy to the last. After gathering, seeds should be sown as soon as possible in pots or pans, using a fairly light compost, and covering the seeds with about half or a quarter of an inch of finely-sifted soil. We never dry off our young seedlings like we do the fully-grown bulbs, but keep them growing steadily all the time.

A complaint is sometimes made that the nerine is a "naked" flowering thing, coming into bloom before the leaves are properly developed; but I would like such critics to see an exhibit of finely-flowered plants, carefully interspersed with adiantums and other ferns, such as is occasionally set up by Mr. Elwes at the Royal Horticultural Hall. In all my floricultural experience I have seen no more charming sight.

F. Herbert Chapman.

Rye.

CHRYSANTHEMUM MARY MORRIS.

A handsome, free-flowering, single variety with reddish, terra-cotta blooms. A.M., R.H.S., November 18. Mr. T. Stevenson, The Gardens, Woburn Place, Addlestone. Raised by Mr. T. Page, Hampton. (See New Plants.)

THE TWEED VINEYARDS, CLOVENFORDS.

Nestling among the hills, about three miles from the ancient town of Galashiels, is Clovenfords, and close by the railway station, sheltered on all sides, are the Tweed Vineyards, established nearly half a century ago by the late Mr. William Thomson, after he had for many years been head gardener to the Duke of Buccleuch, at Dalkeith Palace. The place is aptly named Tweed Vineyards, for grape-growing has all along been the chief speciality of the firm. In the early days pineapples were also grown, but the time came when pine-growing had to be relinquished in order to meet the growing demand for the grapes that readily won a widespead reputation for superior quality.

A PORTION OF THE TWEED VINEYARDS, CLOVENFORDS.

The houses are lofty, well built structures, and the vines are full of health and vigour, clean, and free from either disease or insect pests. One vinery 200 feet long contains about fifty vines of Muscat of Alexandria, which are thirty-six years old, and they produced this season a magnificent crop of about 700 bunches, weighing from about two pounds to over six pounds per bunch. Another grape of high quality that is grown in considerable quantity is Duke of Buccleuch, which, when well finished, is of bright amber colour, and exceptionally rich in flavour. Buckland Sweetwater is grown, but it has not the quality of the last-named. As might be expected, Black Hamburgh is largely cultivated, and the crop this season was somewhat above the average in weight. Appley Towers and Lady Downe's are represented by a number of strong vines in full bearing, but the variety that is grown in greatest quantity of Gros Colmar. Its chief points are good cropping qualities, handsome appearance, and a skin texture that enables it to travel without damage. The flavour of Gros Colmar, when well grown and finished, is superior to that of other large-berried black varieties, and as the thousands of bunches grown at Clovenfords are readily disposed of, the system of cultivation adopted obviously provides the necessary quality and "finish."

It is quite apparent to anyone who carefully notes all there is to be seen in the establishment, that a wonderful amount of care and attention is bestowed upon the vines, and minute details are not overlooked. Mr. D. Calderhead, who has had the care of the vines for about thirty years, knows the peculiarities of each variety, and thus one finds that in some cases new wood is constantly being laid in to replace old, and the temperature at finishing time is regulated to suit the variety in the house. These, as every grape grower knows, are points which have a direct influence on flavour, and one is not surprised to learn the Clovenfords grapes are in such demand among the leading fruiterers of Edinburgh and Glasgow that the whole crop, running to about 15,000lbs. per season, is disposed of without having to market any in England, although in the earlier years of the firm's existence goodly quantities were sent to London. One variety that deserves mention, but one not so often met with as its merits would warrant, is Cooper's Black. Some of the bunches of this grape are very handsome, and, having put the flavour to the test, we can testify to its thoroughly good quality. It makes large-berried, high-shouldered bunches, which carry rich bloom; and, although the skin is not tough, the fruit travels well.

A system has for many years been in vogue at Tweed Vineyards of maintaining its staff of assistants by means of young journeymen gardeners, who, after a stay of a couple of years or so, have gained experience that enables them to take positions in good private establishments, where they find their acquired knowledge of grape culture a useful asset. Thus it is that throughout Scotland, and also in a good many places in England, one meets men who can look back with satisfaction to a pleasant and profitable sojourn at Clovenfords.

It must not be supposed that grapes alone are grown here, for in few nurseries are palms grown in such quantities. Several houses are devoted exclusively to them, and they are to be seen in all ages and sizes, from the tiny seedling just starting into active growth, to tall, stately specimens, ten, twelve, and more feet high, the demand for the larger sizes being constant, while plants in five-inch pots are disposed of in huge quantities. Kentia Belmoreana and K. Fosteriana are always useful, and the extremely beautiful Phœnix Roebelini has of late years become very popular, and it receives commensurate attention in these nurseries. Araucaria excelsa is another decorative plant that the Messrs. Thomson do well, and the crested nephrolpis, adiantums, Asplenium nidus, and other ferns are to be seen in large quantities. Tomatoes also are largely grown for market, and meet with a ready sale in the neighbouring towns.

At one time the late Mr. Wm. Thomson, jun., son of the founder of the firm, and father of Mr. W. H. Thomson, the present managing director of Messrs. W. Thomson and Sons, Lim., possessed an extensive collection of orchids, in which he took a very keen interest, but at present these plants are confined to batches of cœlogynes, cypripediums, odontoglossums, etc., for the supply of cut flowers.

Readers of the THE GARDENERS' MAGAZINE are familiar with the name of Thomson's Vine, Plant, and Vegetable Manure, and not a few are fully acquainted with its great value as an aid in the successful culture of both fruit crops and ornamental plants. Consequently there is full justification for a reference to it, because the health and productiveness of the grapes, melons, cucumbers, and tomatoes, and the luxuriant growth of the palms bear excellent testimony to the value of the manure, which is regularly used for all crops grown in the establishment.

VISITOR.

COLOUR IN GRAPES.

I have rarely seen better-coloured Muscat of Alexandria and Gros Colmar grapes than those staged at some of our big shows this autumn. The deep black colour of the last-named did not particularly surprise me, but the rich amber of the muscats did. Large, shapely bunches were exceedingly well finished, and not on one side of the bunch only, but all round. The finish was of a higher order than is usually seen, as very few berries showed signs of shrivelling. Madresfield Court, too, has been superior in many instances this year, the berries being large and well finished. It is often the case that large bunches of Gros Colmar are wanting in finish, but this year all I have seen have been perfect in this respect, and consequently of good flavour for that variety.

Bunches of muscat grapes, two feet or a little more from the roof glass, not too densely covered with foliage from the thinning stage, and as fully exposed as possible after the berries soften for ripening, have a richer amber colour than those kept too close to the glass and suddenly exposed after the seeds have hardened. Further, I have noticed that muscats grown in vineries in an open quarter colour better than others in a very enclosed place; also that those in high structures finish more satisfactorily than bunches in low houses, though why this should be is not an easy matter to determine.

In one district, where chalk abounds in the soil, the muscats are of very high quality every year, while the black grapes grown there are coloured with difficulty.

Gardeners often have many conditions to consider, and many obstacles to overcome before they can produce perfect grapes. Of course, we must not forget the fact that light cropping has a great deal to do with the finish of a bunch of grapes, and also that proper time must be allowed for ripening, therefore these two points must always receive full attention. G. B.

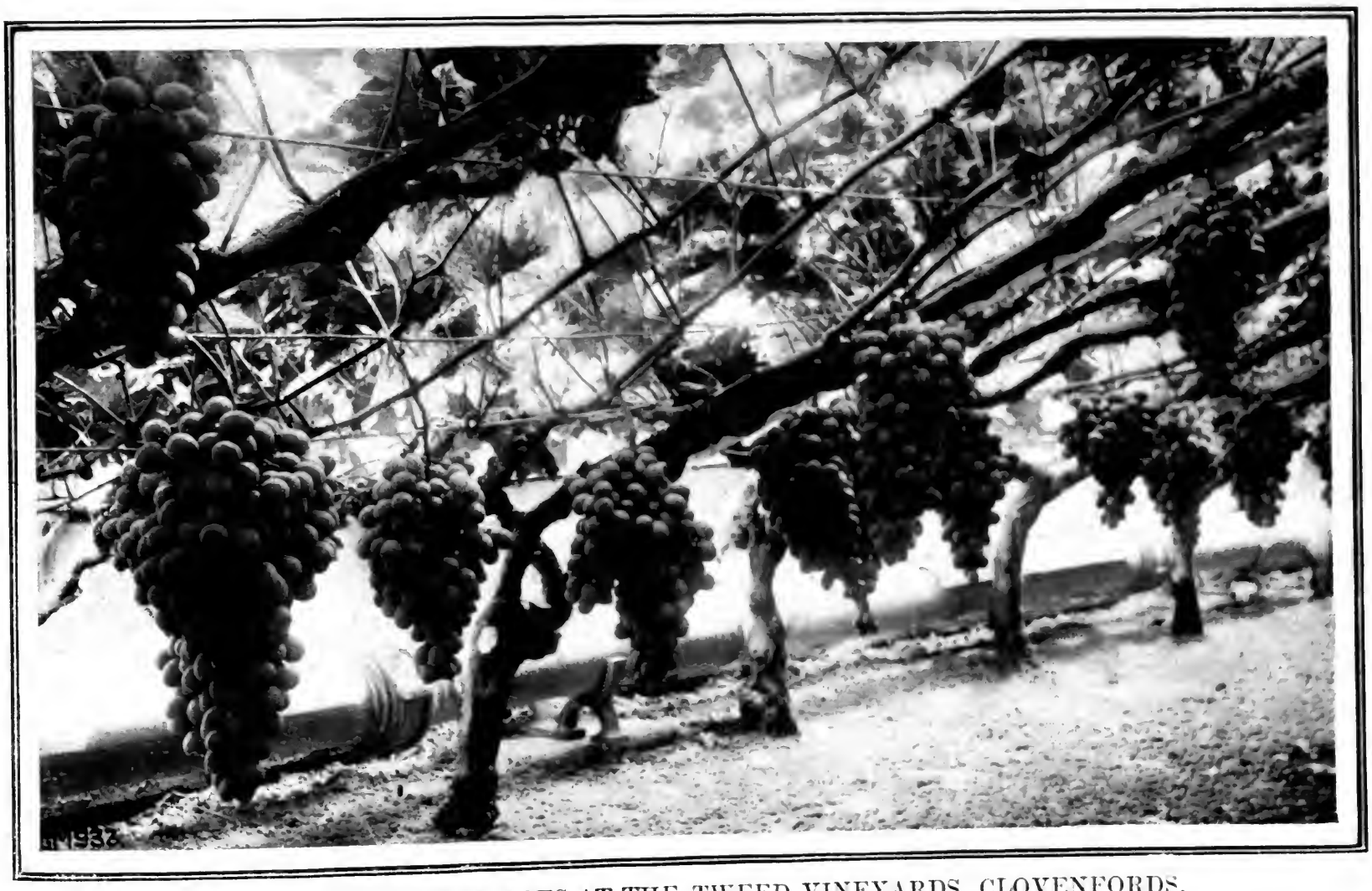
NOTES ON PEARS IN 1913.

It may be said there were no pears to make notes about in 1913, but most of us had a few fruits. The pear is one of the most capricious of fruits, and probably no other fruit reflects the peculiar conditions of a season to such an extent, and not only of the current season, but sometimes of the preceding one as well. On April 12, 1912, we had six or seven degrees of frost, when most varieties were in full flower, and yet it was an extremely good pear year. On April 13, 1913, when the blossom was not quite so far advanced, some of the later-flowering varieties not having begun to open, there were six or seven degrees of frost, with the results we all know. It seems a reasonable assumption that the remarkable summer of 1911 so ripened the fruit buds that they could withstand the effects of the frost, and that after the cool, damp summer of 1912 the blossom was not so strong, and succumbed to a frost of similar intensity. It is good to see the trees covered with fruit buds this autumn, and the resulting crop will be interesting as showing whether the fine autumn of this year has made up for the dull summer in maturing the fruit buds.

There is no doubt the later pears suffered from the general lateness in maturing. In 1912 nearly all pears were ready to gather by the third week in October, and so had time to finish; but this year they were at least a fortnight later, and as nearly all pears begin to shed their leaves at the end of October, irrespective of the earliness or lateness of the season, they did not have time to finish. I gathered some Oliver de Serres and Glou Morceau on October 30, and they were very hard to remove. Referring to the latter pear, I had an interesting illustration of the varying hardiness of the blossoms of different varieties last spring. In 1909 I put some grafts of Winter Nelis and Glou Morceau on the top of an old Marie Louise. Both varieties were in full flower at the same time last spring, the sharp frost of April 13 coming just before the blossom opened. I picked 26lb. of fruit from the Glou Morceau grafts and one specimen from the grafts of Winter Nelis. It could scarcely be a question of pre-potency of pollen, for last year both varieties fruited equally well, and there are no other varieties very near them which flower quite at the same time, as both of them are exceptionally late.

Birds have been extremely troublesome, as well as wasps, and probably most of the September and October varieties were gathered earlier as a consequence, though some of the later sorts escaped, owing to their green or russety appearance, or general lack of attractiveness to birds. A good pear is worth a good price considering the care necessary before it is put on the table in perfect condition. Large specimens are always worth the protection of muslin bags, as they are then secure against both birds and wasps; but where there is a large crop of ordinary fruit the paper-collar system is all the protection which can be given, failing the enclosure of the tree in a net, which is the most satisfactory way where wasps are not the trouble. A little care in protecting the fruit and in mulching the trees has been better repaid this year than in most years, partly owing to the value of the fruit in a poor pear year, and partly owing to the response during the long growing time, fruit swelling more in October in some cases than in either August or September. Alger Petts.

Essex.



VIEW IN ONE OF THE HOUSES AT THE TWEED VINEYARDS, CLOVENFORDS.
Showing heavy bunches of Muscat of Alexandria grapes growing quite close to the ground.

Plumbago rosea.—If treated as previously recommended the earlier batch will now be flowering, and will prove useful for the decoration of the conservatory if the structure is kept moderately warm, while for table decoration associated with light foliage it is one of the most useful subjects we have. Where pinching was continued until October the plants will be at their best about Christmas, and, with care, will last several weeks longer if required. A little plant food may be given weekly until the colour of the flower is seen, when only clear water should be applied.—H. Prime.

MIXED FLOWER BORDERS.

Mixed flower borders are of many kinds, and thereby show that there is a great diversity of taste in arrangement, and considerable difference of opinion as to the position which should be assigned them in the general scheme of garden decoration. In many instances these borders are planted with so much skill and taste as to present a most attractive appearance from the earliest stage, and retain their charm over a surprisingly long period. In some instances the effect produced is of a delightful character, but of short duration, owing to a failure to fully appreciate the importance of continuity in the plants selected.

On the other hand, there may be seen in a few gardens borders so wanting in taste and attractiveness as to suggest that they had been regarded chiefly as receptacles for the surplus plants, rather than as an essential part of a decorative scheme. Probably those who plant their mixed borders with such oddments that may remain at the close of other planting operations have a difficulty in raising stocks of the several kinds equal to their requirements; but that cannot be accepted as an excuse for unattractive mixtures where taste and beauty should attain a high degree. Difficulties associated with the flower garden, as in the case of all others, should be regarded as existing only for the purpose of being surmounted. The best means in this case of overcoming difficulties would be a more careful estimate of the number of plants of the several kinds and varieties required for carrying out the general scheme, which should be carefully considered and decided upon early enough for the plants to be raised under the best possible conditions.

If those who so far fail in their appreciation of mixed flower borders as to consider them undeserving of prominent positions, or of great care in planting are, comparatively speaking, few in number, they are more than sufficient to justify attention being called to the fact that so far from this being the case, such borders may be made one of the most delightful features of the flower garden. The mixed flower borders to which reference is now being made are not areas devoted to selections of hardy perennials or tender plants, but borders in which both hardy and tender kinds are grown in association.

The magnificent border, herewith illustrated, that flanks the northern half of the promenade at Hampton Court, may be taken as one of the finest examples that could be had of such borders. A border of this description is capable of considerable modification, for, while admirably suited to its environment in the great gardens of which, annually, it forms so delightful a feature, it may be adapted to the conditions that obtain in gardens of quite moderate dimensions without suffering any lack of interest and attraction. As so well shown in the illustration, the plants were arranged in rather large and somewhat irregular groups, and it will be seen that they chiefly represent subjects generally utilised for beautifying the flower garden during the summer months.

The value of mixed borders is not, however, limited to the summer—or, indeed, to any one season—for, by means of suitable selections of plants and careful management, they may be made to contribute liberally to the attractions of the garden from the opening days of spring until the autumn season is within a measurable distance of its close. We have ample evidence of this at Hampton Court, where the border glows with colour from the time of early tulips until the latest of the chrysanthemums are despoiled of their beauty by the unfavourable climatic conditions usually associated with drear November.

A BEAUTIFUL FLOWER BORDER AT HAMPTON COURT,
Composed of both tender and hardy plants.

The chief aim in management should be to maintain a continuous display of flowers over the longest possible period; and closely following this should be the endeavour to so arrange the subjects that they will be either in harmony with, or present a pleasing contrast to, each other. There is not, however, so much risk of unsatisfactory effects from weakness in the association of colours as is commonly assumed to be the case, because the leaves in their various shades have a remarkable effect in obliterating or toning down any defects arising from a failure to strictly observe the rules governing colour contrasts.

The arrangements for the production of a display of flowers during the spring

months should have special attention, and if this be given it will be found that bulbous plants must be largely employed in association with various fibrous-rooted subjects which flower from March until May, As it may not be possible to leave any considerable proportion of the bulbs in the ground long enough for the leaves to complete their functions, and the bulbs to attain their full development, the cheaper kinds should be taken full advantage of.

As in the case of the Hampton Court border, the several subjects should be arranged in irregular and relatively large groups, and it will greatly simplify matters if the spaces are marked out and the names written in on a plan before the planting is proceeded with.

For flowering early in the spring, eight or ten varieties of the Dutch tulips that bloom in succession to the Van Thols should be selected; and with them a similar number of daffodils, and half a dozen or so of hyacinths. For associating with the bulbs the single and double arabis, the perennial candytufts, Alyssum saxatile and its varieties, the compact-growing forms of Silene pendula, forget-me-nots, and wallflowers will be most useful. During May the chief display of flowers will be produced by the Cottage and Darwin tulips and the fibrous-rooted plants, and it is a very good practice, when it is not desired to keep the tulip bulbs for planting a second time, to arrange the Dutch and May-flowering tulips in the same spaces. Especially is this practice useful in the case of small borders in which it is desired to have as great a diversity of form and colour as possible.

It need hardly be said that when two sets of tulip bulbs are planted in the same area, the bulbs of each should be 60 or 70 per cent. farther apart than when grown separately. Should the leaves of the tulips become much crowded when the earliest of the varieties have flowered, cut these latter close to the ground; and when it is not necessary to do this, remove the flower-stems low down as soon as the blooms are over.

There is hardly any limit to the plants that may be utilised in the production of colour effects in the mixed border during summer. To mention but a few, there are the ivy-leaved and zonal pelargoniums, Calceolaria amplexicaule and C. Burbidgei, the former being unsurpassed in attractiveness when supported by neat stakes; lantanas, heliotropes, fuchsias, dwarf cannas, plumbagos, swainsonias, fibrous-rooted and tuberous begonias in variety, verbenas, antirrhinums, pentstemons, celosias, violas, and plants with grey and dark foliage. Some of the more beautiful annuals may be utilised with advantage, but as these do not continue in bloom throughout the season, it is necessary to arrange for them to precede or follow other short-lived kinds.

The preparation of plants for some parts of the border necessarily involves much thought and considerable additional labour, but this will be amply repaid by the increased charm and interest of the border. At Hampton Court some of the flowering trees and shrubs are grown in pots, and when coming into bloom are arranged in small groups with the pots plunged to the rim in the soil; and very beautiful is the effect they produce. Several of the liliums—notably, L. longiflorum—are also grown largely in pots, and arranged in bold groups. Specially-prepared early-flowering chrysanthemums are also extremely useful towards the end of the summer. Fortunately these can be grown in an open quarter in the reserve ground, and transferred to the border without receiving any considerable check, provided they are carefully handled and well watered in. G. G.

FULWELL PARK.

Lysons wrote that the neighbourhood of Twickenham had long been the favourite retreat of the scholar, the poet, and the statesman, and that nearly every house had "its tale to be told." Twickenham Park was once the home of Lord Chancellor Bacon, who considered it a fit residence for persons to study in. It is recorded that all the weeping willows in Britain originated from a tree which Mr. Vernon, a later owner, brought from the Euphrates and planted in Twickenham Park. But as other people imported trees the statement is not quite correct. Whitton Place, situate not far away, was more famous in arboriculture, for here Archibald, Duke of Argyle, made a noted collection of exotic trees. Many of these have gone the way of all trees, for only a small proportion of exotic conifers are long-lived in this country, and, like so many of the one-time famous demesnes of the neighbourhood, Whitton has passed under the auctioneer's hammer as a highly eligible building site.

FULWELL PARK, TWICKENHAM.
View from the windows of King Manoel's residence.

Considering the residence of Queen Amelie in the neighbouring royal borough of Richmond, and the associations of Twickenham, it is small wonder that King Manoel, when casting about for a home near London, fixed upon Fulwell Park, which, even though it does not possess any historic trees, is very pleasantly wooded. Here, on November 28, he brings his consort. For some time a small army of workmen have been busily engaged in the house, and due attention is to be paid to the garden for the purpose of making it beautiful. In the past, beds of roses and gorgeous summer flowers have been a feature of the Fulwell Park Gardens, and in the near future the favourite flowers of the Royal pair are to be planted extensively.

Cecil Aubrey.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

WINTER-FLOWERING CYPRIPEDIUMS are now at their best. The temperature of the house in which they are flowering should be rather lower that of late, and kept as even as possible. The moisture in the atmosphere should also be reduced, and especially is a drier atmosphere desirable towards evening when the lower temperature is reached. We have not now to consider only Cypripedium insigne and one or two others of the more robust kinds, for there are many of the newer kinds which are not so substantial in texture, and these are easily disfigured by damp when the atmosphere is heavily laden with moisture, and the cooler conditions outside cause a rapid fall of the temperature inside. It is also a good plan when cypripediums are required for house decoration, or exhibition, to see that the potting compost is reasonably dry before their removal. Plants rarely suffer from a few days' exposure in the house if treated thus, but when wet they suffer badly.

REPOTTING.—It is not desirable that plants of any description should be disturbed at the roots until the New Year, but where there are so many items calling for attention at a later period it is often necessary to pot any plants needing attention as soon as they have passed out of flower. Many will be found to be rooting now, and care must be taken that little injury is caused in turning out the plants and removing the old potting compost. I have on several occasions pointed out that the conditions under which cypripediums are grown has a considerable bearing upon the kind of compost they grow best in. In the immediate neighbourhood of London and other smoky districts, where the light is so poor during winter, it is generally found that very little, if any, loam should be used in the potting compost, for the reason that loam retains moisture over a long period, and the roots suffer considerably. In brighter and more favourable surroundings most of the green-leaved section of winter-flowering cypripediums may be grown successfully in nothing else but fibrous loam, with sufficient sand, charcoal, and broken crocks to render it porous, and with ample drainage below. The pots should be filled to about one-third their depth with drainage material, and whatever potting compost is considered most suitable; it should be made firm about the roots.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREEN-HOUSE.

CHRYSANTHEMUMS.—The main batch will now be passing out of flower, and the grower must make preparations for another season. Before propagation is commenced it will be wise to make a careful survey of the old stock with a view of discarding inferior kinds. There are so many really good varieties now in existence that it is folly to grow those which are poor from a decorative point of view. The single varieties undoubtedly find the most favour, and as these may be had both early and late, and there is such a diversity of beautiful colours among them, the bulk of the stock for conservatory decoration should consist of this section. As the plants pass out of flower they should be cut down and cleaned and placed in a cool, light structure as near the glass as possible.

PROPAGATION.—This may commence at once, provided suitable cuttings are available. The soil should be prepared, and allowed to remain on the potting shed bench for a few days before propagating commences. A suitable compost consists of loam, leaf-soil, and coarse sand. There is no better place in which to strike the cuttings than a box-frame erected on the stage in a greenhouse, as near to the light as possible. It is often the case that some of the choicest varieties are very shy in giving cuttings, and these should be placed in a warmer house—such, for instance, as a vinery or peach house, which has just been started.

CINERARIAS.—The earliest cinerarias are now throwing up their flowers, and, if necessary, they may be encouraged to flower a little earlier by placing them in a slightly warmer house. Plants in cold frames should be brought indoors now, as they are easily damaged by frost. They will need plenty of water, and stimulants may be given more frequently, and with increased strength. Lightly fumigate the house occasionally to destroy aphis, and keep a sharp look-out for the leaf-mining maggot.

FORCED SHRUBS.—A few shrubs suitable for forcing may now be potted up and placed in heat. Lilacs are among the most useful, and if a batch is grown in the open ground they may be forced successfully every second year. Lift the plants with a good ball of roots attached, and pot them, using ordinary garden soil. Ghent and mollis azaleas, prunuses, staphyleas, viburnums, etc., may all be forced now. A few plants of Azalea Deutsche Perle should also be placed in heat.

LILY OF THE VALLEY.—Until the turn of the year it will be wise to rely upon retarded crowns for a supply of lily of the valley. Afterwards clumps from outdoors may be forced. Where a large supply of flowers is required for cutting, well-established crowns may be dug from outdoors and placed over a moderately warm hotbed in a heated frame. Cover the roots with soil and water them with tepid water. Keep the frame covered with mats until the spikes are 4 or 5 inches high, then gradually expose them to light.—E. Harriss, Lockinge Gardens.

HARDY FRUITS.

PEARS.—These may be pruned in favourable weather at any time from now until March. When dealing with bush trees, keep the heads fairly thin, as nothing is more harmful that overcrowding with useless wood. All the main leaders will need to be shortened more or less; in the case of full-sized bushes they should be shortened to within a few buds of the last year's wood, and side shoots to within a couple of good buds. In the case of young trees, allow the fresh growths to remain 12 or 15 inches in length, cutting just above a bud pointing in the direction the next growth is required. When pruning, do not forget, if grafts are required, to take care of as many growths as are needed, keeping them true to name, and heeling them in on a north border until required.

ESPALIERS.—Remove a few of the old spurs each year along the main tiers, and thus encourage plenty of healthy fruit buds close to the main wood. Inferior varieties, if the trees are healthy, should be grafted in spring with more suitable kinds. In the case of good varieties, if the trees are somewhat old and the branches clothed with old and useless snags, they can be greatly improved by cutting away the branches near the main stems and training fresh shoots in their place. It is marvellous how well the new wood grows and produces large fruits for many years.

MORELLA CHERRIES.—We have finished the nailing and training of Morella cherries, as I like to get the work done before the cold weather sets in. Only young trees have been taken entirely from the walls. Older ones which were thoroughly overhauled last autumn needed very little fresh training, but have been carefully examined. The young shoots are kept straight and trained all over the trees, both for supplying good fruits and for filling up any gaps that may occur. A good dressing of lime will be applied over the roots of these trees, with the addition of loam and bone-meal. When dealing with young, newly-planted trees, allow plenty of time for the settling of the soil before finally securing them to the walls, then select suitable shoots and train them straight from the stem in the different directions to form an evenly-balanced head, shortening them more or less as required. When once the framework is properly set there should be very little further trouble in maintaining good, fruitful trees.

STRAWBERRY BEDS.—Most of our old beds have been well mulched, and the younger stock will be by this date. I know some gardeners do not recommend early mulching, but much depends on the nature of the soil and the situation in which the strawberries are planted. Should very severe weather set in, mulching may prove valuable.—H. Markham, Wrotham Park Gardens.

THE KITCHEN GARDEN.

DIGGING AND TRENCHING.—Advantage should be taken of every favourable opportunity to prepare the soil for next season's crops; if this matter is left over until late in the season, the presence of other work often causes it to be done in a hurry, to the detriment of future crops, and disappointment of the cultivator. It is advisable to carefully plan out the positions to be occupied by the various kinds of vegetables during the forthcoming season, and deal with each plot so as to meet the requirements of its prospective occupants. By following this method, confusion and much unnecessary labour and trouble will be avoided. A few instances may be noted. Carrots, parsnips, and beet do best on land that has not been freshly manured, and usually these root crops follow celery. Plots prepared for early potatoes should have very little strong manure, or the haulm will be unduly large, and the tubers proportionately small. The onion crop is an important one, and should have liberal treatment in the way of manure and deeply tilled soil. The position assigned to cauliflowers should be well manured, and either double-dug or bastard-trenched, particularly so if previously occupied by any of the Brassica family. Light and porous soils may be treated without difficulty unless there be snow or frost. On the other hand, heavy soils require careful treatment, and, if possible, should be dug or trenched when reasonably dry—at all times leaving the surface in a rough condition. It is a good plan to throw the soil into ridges, running from north to south, so as not to have a wet side and a dry one; a liberal addition of road scrapings, well-rotted garden refuse, and ashes from the rubbish fire, will materially help to make the soil more friable.

TURNIPS.—If roots of the later sowings have reached normal size, they should be lifted and laid closely together in trenches, covering them with soil; some strawy litter or bracken placed over them will facilitate lifting if severe weather sets in.

PARSNIPS AND JERUSALEM ARTICHOKES.—These are best left in the ground and lifted as required, but it is often advisable to take up and store away sufficient for two or three weeks' demand during mid-winter; this means a saving of labour should the ground be frostbound.

LETTUCE AND ENDIVE.—Vacant spaces in frames and pits should be filled up with outside-grown plants. They must be kept perfectly free from decaying leaves, and have the soil lightly stirred between them; admit air daily, the lights being removed in dry, bright weather. Seeds may be sown thickly in boxes once a fortnight to provide material for cutting in the young state.—W. Messenger, Woolverstone Park Gardens.

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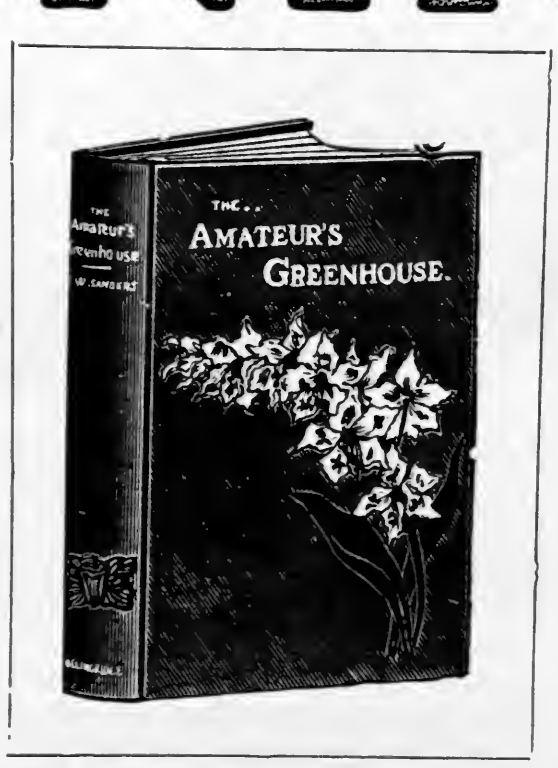

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EXHIBITIONS AND MEETINGS.

Newcastle.

The ninth annual exhibition was held in the Concert Hall and Corn Exchange, Town Hall, Newcastle, on November 19 and 20. The entries were more numerous than usual and the general quality of the exhibits superior to that of any previous year. It is also satisfactory to record that the attendance was large, and should assure a financial success. The Hon. Lady Parsons opend the show on the first day.

CUT FLOWERS.

For a dozen vases of Japanese blooms, not less than twelve varieties, three blooms in a vase, a silver cup, value £5 5s, and £5, was offered as first prize, and this was won by Mr. H. Smith, gardener to R. D. Marshall, Esq., Castlerigg Island, Keswick, with a grand lot of blooms, comprising Mrs. F. N. Vallis, Frank Payne, Reginald Vallis, Lady Conyers, W. Rawlings, F. T. Mew, W. Turner, Master James, Lady Talbot, Mrs. G. Drabble, Queenie Chandler, Frances Jolliffe, F. Rowe, and Sir F. Crisp; Mr. R. Addison, gardener to the Countess of Ravensworth, Cresswell Hall, Morpeth, second, with fine blooms of F. Rowe, Lady Talbot, Algernon Davis, Edith Jameson, Eclipse, Frances Joliffe, and Mrs. G. Mileham; Mr. J. Kerr, gardener to Dr. J. B. Simpson, Bradley Hall, Wylam, second; Mr. C. L. Cawkill, gardener to F. Straker, Esq., Angerton, Morpeth, third.

In the class for six vases of Japanese blooms, not fewer than six varieties, there was a good competition, and the flowers generally were of good quality. Mr. H. Smith led again with William Turner, William Rawlings, Algernon Davis, Hon. Mrs. Lopes, Mary Poulton, Kara Dow, Lady F. Ryder, Sir F. Crisp, and Mrs. Drabble; Mr. J. Askew, gardener to the Right Hon. W. Runciman, Esq., M.P., Doxford Hall, Chathill, second his blooms of Mrs. A. T. Miller and Pockett's Crimson being very fine; Mr. A. W. Appleton, gardener to C. Lacy Thompson, Esq., Brampton, third.

For four vases of Japanese blooms, four varieties, Mr. H. Smith was again first, W. Turner and Lady Talbot being particularly fine in his set; Mr. A. W. Appleton second, with larger blooms, which were past their best; Mr. T. Swan, gardener to Major Innes Hopkins, third. For three Japanese blooms (white), Mr. Smith led with White Queen; Mr. J. Thomas, gardener to the Right Hon. Viscount Allendale, Bywall Hall, Stocksfield, second, with W. Turner; and Mr. Appleton third with Purity. For three Japanese blooms (yellow), Mr. Appleton led with F. S. Vallis; Mr. T. Eldin, gardener to F. R. A. Sheel, Esq., Leazes Hall, Burnopfield, second. For three Japanese blooms, any other variety, Mr. R .Addison was first with F. Grun; and Mr. Elsdon second with George Hemming.

Mr. J. Askew led for four vases of incurved blooms with Ethel Thorp, Clara Wells, Buttercup, and Mrs. G. Denyer; Mr. J. Thomas, second. For two vases of incurved blooms, Mr. Askew was first, and Mr. Dodds, Sandeford Park, Newcastle, second. For six vases of single chrysanthemums, Mr. Thomas was first, Sylvia Slade, Florrie King, and Mrs. Pulling being very fine in his stand; Mr. J. Kerr second; and Mr. C. L. Cawkell third.

In the classes confined to Northumberland and Durham, Mr. J. Askew was first for four vases of Japanese blooms with Mrs. A. T. Miller, Frances Jolliffe, Mrs. W. Blackwood, and Lady Talbot; Mr. Thomas second, F. S. Vallis being the finest in his set; Mr. Jas. Kerr third. In the local class, confined to within three miles of Newcastle, Mr. J. Hale, gardener to Mrs. Hunter, The Grange, Wickham, led; Mr. J. E. Fairlie, gardener to W. Higginbottom, Esq., coming second. For two vases, Japanese, Mr. J. Henderson, gardener to the Right Hon. Sir E. Grey, Bart., K.G., M.P., Fallodon Hall, Lesbury, was first, his J. H. Silsbury and F. S. Vallis being very fine blooms.

GROUPS AND PLANTS.

For a group of chrysanthemums, arranged with other foliage and foliage plants on a space 10ft. by 6ft., Mr. H. Hillier, Green Park, Darlington, was first. His chrysanthemums were very fine, grouped with foliage plants, orchids, and cyclamen, and the whole was very effectively displayed. Mr. T. Bell, gardener to A. E. Bambridge, Esq., Lynwood, Jesmond, was a close second; Mr. J. Hetherington, gardener to C. T. Kendell, Esq., North Shields, third; and Messrs. Carnegie and Co., fourth.

The best table of single chrysanthemums, 5ft. by 3ft., arranged for effect, was from Mr. W. Lambert, gardener to Earl Grey, Howick Hall; Mr. Cawkell second, and Mr. T. Swan third.

The bush plants, both in the open and local classes, were a feature of the show, nearly one-half of the centre of the Corn Exchange being filled with well-grown specimens from leading prizewinners already named.

The ten-guinea challenge cup for the best floral table decoration was won by Mr. J. Kerr, who used winter-flowering begonias, croton foliage, etc.; Mr. Lovett, Lilburn Towers, second, and Mr. W. H. Lambert third.

FRUIT AND VEGETABLES.

In the fruit classes, for two bunches of white grapes, Mr. R. Elliott, Binton, was first with Muscat of Alexandria; Mr. T. Bell, Jesmond, second. For two bunches of black grapes, Mr. J. Hetherington led; Mr. Thos. Elsdon was second; and Mr. A. Paxton, Ryton, third. For the best six dishes of dessert apples, Mr. H. G. Lloyd, gardener to Dr. Stewart, Hischam, came first, his Charles Ross and James Grieve being very fine; Mr. D. Mackie, gardener to Mrs. Bambridge, Felton, second. Dr. Stewart was also first for culinary apples.

For twelve dishes of outdoor-grown apples Mr. Lloyd was first, his Newton Wonder, Bismarck, and Peasgood's Nonsuch being particularly fine; Mr. Jas. Hale, Hexham, second.

Mr. T. H. Bolton, gardener to the Earl of Devon, Powderham Castle, Devon, sent an honorary exhibit of thirty-six dishes of apples, which was awarded the North of England Horticultural Society's plaque.

The vegetable classes were well filled, and for a collection of ten kinds, Mr. R. Shield, Swalwell, was first; Mr. W. Telford, West Wylam, second; Mr. J. Forrester, Whitby Bay, third.

In the leek classes the local colliers were very keen; the three leeks shown by Mr. G. Robly, Fourstones, contain edible blanched stem, amounting to 182.2 cubic inches; Mr. Thomas, Bywell Gardens, second. For three heads of white celery, and also for three heads of red celery, Mr. W. Telford was first.

There was a keen competition in all the vegetable classes, and the new class for six dishes of potatoes brought out a large entry, Mr. J. Kerr coming first; Mr. A. Cowe, Kelso, second; and Mr. Askew third.

TRADE DISPLAYS.

Gold medals were awarded to Messrs. Finnys, Granger Street, Newcastle, for a fine display of forced lily of the valley, winter-flowering begonias, floral designs, and sundries; to Mr. W. Lawrenson, Yarm and Newcastle, for conifers, heaths, cyclamens, and other flowering and foliage plants; to Messrs. Kent and Brydon, Darlington, for a collection of hardy fruits, spiræas, liliums in variety, etc.; and to Messrs. Michie and Co., Alnwick, for a fine collection of apples.

Silver-gilt medals were awarded to Messrs. W. J. Watson, the Tyneside Seed Stores, Newcastle; Messrs. Cooper and Nephews, Berkhampstead; and to Messrs. Stuart and Mein, Kelso.

Eccles Horticultural Society.

NOVEMBER 7 and 8.

The annual show of this society was held at the Town Hall, and the number of exhibits was in excess of former years. As a result the committee were compelled not only to refuse trade exhibits, but a restriction had to be placed on the entries in the competitive classes.

For the half-circular group of chrysanthemums there were six entries, the leading ones being admirably arranged with bright, fresh blooms, generally a mixture of Japanese and singles. The leading awards were made in favour of Mr. H. Palethorpe, gardener to Miss G. Agnew; Mr. E. Pollitt, gardener to J. Smylie, Esq.; and Mr. W. D. Wilson, gardener to Miss A. M. Phillips. For three plants of Japanese, Mr. W. Balson, gardener to James Brown, Esq., led with well-flowered examples; this exhibitor also obtained premier honours for three specimens of incurved varieties. In the class for three singles, Mr. W. Holmes, gardener to W. S. Forbes, Esq., was successful in taking the first place; and for three plants not disbudded, Mr. A. E. Fox, gardener to T. C. Ansdell, Esq., proved successful, as also in the class for the six plants of decorative kinds. Mr. E. W. Dew was successful in securing the Mayor's silver challenge cup for three specimens of single varieties.

Mr. W. Foster had the leading table plants, Mr. D. Sweeney staged the best Roman hyacinths, and Mr. A. E. Fox was first for Begonia Gloire de Lorraine.

The section devoted to cut flowers showed a marked improvement throughout. The prizes for twenty-four blooms, twelve Japanese and twelve incurved blooms, brought three excellent entries, in which Mr. C. Goves, gardener to Sir Gilbert Greenall, Bart., maintained his last year's position by winning with a grand set. Especially fine were the blooms of F. S. Vallis, W. Turner, and Lady Talbot among the Japanese; and the most noteworthy incurved were Godfrey's Eclipse, Lady Isabel, Clara Wells, Mrs. G. Denyer, and Yellow Hygate. Mr. J. Stoney, gardener to Lieut.-Colonel Gaskill, was second; and Mr. J. George, gardener to Thomas Henshaw, Esq., third. In the class for twenty-four Japanese, not less than twelve varieties, the awards were made in favour of Mr. C. Goves, who was again in strong force; Mr. J. Copper, gardener to H. Belk, Esq.; and Mr. J. Stoney. For twelve incurved, twelve Japanese, and for twelve consisting of equal numbers of incurved and Japanese, Mr. Goves was first; and in each class Mr. J. Stoney was second.

Bouquets were excellent, and for three Mr. A. Porter scored, utilising with much taste choice orchids. This exhibitor was also first for a bouquet of chrysanthemums and for a table epergne. In the class for baskets of chrysanthemums, Mr. J. Roberts, gardener to Miss A. M. Lightbourne, was successful with a pleasing arrangement; Mr. J. Copper had the best sprays; and Mr. J. M. Hodson the first prize button-holes.

In the section open to exhibitors resident within eight miles of the Town Hall, Mr. W. Balson was first for the best dozen Japanese; Mr. J. Roberts obtained premier honours for the same number of incurved. Mr. W. Holmes was successful in the three classes for twelve blooms comprising six Japanese and six incurved. Mr. J. Ridgway occupied the first place for six vases of Japanese varieties, distinct, three blooms in each. Mr. G. W.

Byrom, gardener to Lord Brackley, was successful in securing the handsome challenge vase presented by T. C. Ansdell, Esq., staging finely developed blooms. Mr. A. E. Fox proved the winner for six vases single chrysanthemums.

Mr. W. Elkin contributed some fine specimen palms not for competition. The arrangements were ably carried out by Mr. W. Elkin, chairman, Mr. F. Blower, secretary, and the committee.

Norwich.

On November 20, 21, and 22 the Norfolk and Norwich Horticultural Society held its annual show of chrysanthemums, fruit, and vegetables in St. Andrew's Hall, and it was a remarkably fine show in every respect. Norwich had a great show week, and, simultaneously, the fat stock show, a poultry show, and a bull dog show were being held. But despite these counter attractions in the city there was a capital attendance at the chrysanthemum show, and everybody seemed well pleased with what they saw. There are still a good many growers of large chrysanthemums in Norfolk, and they support the society well, and the fruit and vegetable exhibits were probably the largest and best the society has yet had. Entries were nearly a hundred in advance of last year, and the whole show bore witness to the fact that horticulture in Norfolk is progressing.

PLANTS.

A circular group of chrysanthemums and foliage plants formed the opening class in the schedule, with three entries. A challenge cup, accompanied by 60s. cash, went to the winner, Mr. T. Notley, gardener to E. G. Buxton, Esq., Catton Park, Norwich. The group was attractively arranged, and, in spite of the orthodox circular form, there was a touch of originality that we admired. There were no big specimens, but all were of useful size, the well-grown plants carrying a number of moderately sized flowers. A few good singles were used, and the colours ranged from pure white through yellows and bronzes to deep crimson. Variegated abutilons were freely used, but a novel idea was the introduction of young grape vines showing all the rich tints of their autumn foliage. Second prize was secured by Mr. A. Bentley, gardener to the executors of Sir R. Beauchamp, Bart., Langley Park. In this group there were a number of specimen blooms of Japanese varieties, together with small-flowered singles; aspidistras and Dracæna australis were the principal foliage plants, and there was evidence of taste in the blending of colours as well as the design of the group. Mr. D. Cockerill, gardener to G. E. White, Esq., Eaton House, Norwich, was placed third.

BIG BLOOMS ON BOARDS.

The Norwich Society has not altogether discarded the show boards for big Japanese and incurved flowers, and there is still a good deal of enthusiasm among the exhibitors, and the classes for forty-eight, thirty-six, and twelve blooms make a great show. Mr. H. E. Strudwick, gardener to Sir S. Neumann, Bart., Raynham Hall, Norfolk, was the winner of the Lord Mayor's prize for forty-eight blooms. His stand was remarkable for uniformity and even quality. It was not a question of pointing to a bloom or two as the best, but rather of saying all were good; Mrs. G. Drabble and Wm. Turner were the chief whites, and an unnamed seedling yellow was rich in colour and of good form. Mr. E. Leach, gardener to W. H. Palmer, Esq., Ormesby, secured second prize, and in this case there were some particularly fine blooms, but others were somewhat weak. Mrs. G. C. Kelly was splendidly shown, H. E. Converse and Mrs. W. Iggulden also being good. The lead for thirty-six blooms was taken by Mr. A. Bentley, Langley Park. He was strongest in the darker reds and crimsons, such varieties as His Majesty, T. Chandler, and Reg. Vallis being among the best; Mr. Chas. Nichols, gardener to T. A. Rising, Esq., Manor House, Ormesby, took second prize, his leading varieties being Mrs. G. Drabble, F. S. Vallis, D. B. Crane, and W. Rawlings. Mr. Joshua King, gardener to Geo. J. Hacker, Esq., Great Ormesby, was placed third, there being four entries in the class.

J. F. Gaymer, Esq., Millfield Cottage, North Walsham, was first for twelve blooms, Japanese, and some of his flowers were very fine; Splendour, D. B. Crane, Marie Loomes, and F. S. Vallis deserve special mention. Second prize in this class went to Mr. R. Nicholls, gardener to Sir G. Lacon, Bart., Ormesby Hall; Mr. A. Gipson, gardener to Sir Edward Mann, Bart., Thelveton Hall, being awarded third prize. In a strongly contested class for six blooms of any one yellow variety, Mr. H. E. Strudwick's half-dozen of F. S. Vallis stood right away from the rest, and they were magnificent blooms; second prize went to Mr. A. Bentley, Langley Park, his variety being Willie Rawlings. The best six whites were Mr. J. F. Gaymer's set of W. Turner, beautiful, compact, and rich-looking blooms.

Mr. T. J. Broom, gardener to Miss Langworthy, Gays House, Holyport, Berks, secured the leading award for incurved varieties with a dozen shapely, reasonably large flowers that showed expert culture; Mr. W. Chettleburgh, gardener to Colonel Rous, Worstead House, Norwich, received second prize, but his Ethel Thorpe were large and coarse. Mr. Bentley, Langley Park, had the best half-dozen incurved varieties; and Mr. Broom scored with six of one variety, showing Chas. Pacque.

VASE CLASSES.

A fine effect was produced by a class for a display of cut chrysanthemum blooms on four feet run of tabling. Mr. Chas. Nichols, Manor House, Ormesby, was the successful exhibitor, showing some beautiful blooms, and just sufficient foliage to show them off well. Mr. R. Nicholls, Ormesby Hall, was the winner of second prize, and while we liked his blooms we did not admire their arrangement; Mr. A. Bentley was placed third. Five entries were staged. Twelve vases of naturally-grown chrysanthemums brought forward three entries, but it seemed a pity they should be so crowded on a small table as to practically destroy their decorative value. It should have been a pretty class, but was simply a jumble. Mr. M. Evans, gardener to Mrs. W. R. Mills, Brooke House, near Norwich, took the lead, showing some good serviceable flowers; second prize went to the credit of Mr. E. F. Greene, gardener to Edmund Reeve, Esq., The Grange, Old Catton. Mr. M. Evans was again successful with six bunches of single chrysanthemums in a well-filled class.

MISCELLANEOUS CUT FLOWERS.

There was a class for a group of cut carnations, and here the first prize winner was Mr. Wm. Allen, Gunton Park, Norwich; Enchantress, Carola, Lady Alington, and Mary Allwood figured among the varieties used. Mr. J. D. Cockerill, Eaton House, secured second award.

A touch of variety was supplied by a class for twelve bunches of miscellaneous stove and greenhouse flowers; Mr. H. Rogers, gardener to Lord Rendlesham, Rendlesham Hall, was awarded first prize, and he had poinsettias in grand form, and some good zonal pelargoniums, cypripediums, and other orchids. Second prize was awarded to Mr. J. Hilsoe, gardener to Sir Fredk. Adair, Bart., Flixton Hall, Norfolk, who had some very choice and somewhat uncommon flowers; Isoloma hirsuta, Plumbago rosea, Browallia speciosa major, and Calanthe vestita rubra were a few of the best subjects in a set that must have run the winner closely.

Chief among the miscellaneous plants were some beautiful examples of Begonia Gloire de Lorraine, and Mr. T. Notley was awarded first prize for three fine specimens; Mr. E. F. Greene's second prize lot were a little larger, but not so evenly flowered; Mr. R. Woodhouse, Old Catton, was third. Mr. E. F. Greene was foremost with three plants of Begonia Turnford Hall, Mr. R. Woodhouse securing second prize. Cyclamen, primulas, salvias, and other pot plants were not particularly strong features.

FRUIT.

A separate hall of great size was set apart for the large quantities of fine fruit. A challenge bowl was offered for a collection of twelve dishes of dessert fruits, and Mr. Wm. Allen was the recipient of this coveted award. His Muscat of Alexandria grapes were of good colour, but just beginning to show signs of shrivelling; Gros Colmar were superb, and Mr. Allen also had splendid Ribston and Cox's Orange Pippins, and Beurre Alexandre Lucas and Marie Louise Pears. Second prize was secured by Mr. J. Hilson, Flixton Hall, who was strong with Peasgood's Nonsuch apples and Charles Ernest pears, but lost points on grapes. Mr. Wm. Chettleburgh, Worsted House, won third prize. Mr. Allen took the lead for three bunches of black grapes, showing Alicante, very well finished and of good size; and he repeated his success in another class for three distinct varieties of black grapes, showing Gros Colmar, Melton Constable, and Alicante. Mr. Allen's three bunches of Muscat of Alexandria took the leading award, and the same exhibitor won in the single bunch class.

Ten varieties of dessert apples, outdoor growth, made a good class, and Mr. Wm. Allen scored with Allington Pippin (of good size and bright colour), Charles Ross, Cox's Orange Pippin, Gascoyne's Scarlet, Rival, Mabbot's Pearmain, Ribston Pippin, Blenheim Orange, and King of the Pippins, King of Tomkin's County completing the set. Mr. J. Hilson received second prize for fruits of good quality and colour; the third prize winner was Mr. Wm. Chettlenburgh. For the smaller collection of dessert fruits there were six entries, six dishes being the number staged by each competitor; Mr. H. S. Strudwick, gardener to Sir S. Neumann, Bart., Raynham Hall, was the winner of the first prize, a dish of American Mother included in his set being very fine in colour; second prize was secured by Mr. F. J. Endersby, gardener to J. H. Gurney, Esq., Keswick Hall; and third prize by Mr. T. Jones, gardener to E. G. Cubitt, Esq., Honing Hall, Norfolk.

Mr. Jones claimed the highest place for nine dishes of culinary apples with some grand examples of Peasgood's Nonsuch, The Queen, Lord Derby, Bramley's Seedling, Warner's King, Lane's Prince Albert, and other excellent varieties; Mr. G. D. Davison, gardener to Colonel B. J. Petre, Westwick, Norwich, was second in this class, and it was very difficult to detect any point wherein the apples in his exhibit were inferior to those of the first prize lot.

First prize for six dishes of culinary apples was won by Mr. J. Hilson, who was followed by Mr. H. Wolterton and Mr. E. H. Starling. For a collection of six varieties of dessert pears, Mr. Davison won first prize, and the R.H.S. Affiliated Societies' Silver-gilt Medal; Durondeau, Marie Louise, Doyenne du Comice, Emile d'Heyst, Beurre d'Avalon, and Pitmaston Duchess were the varieties staged; Mr. W. Allen, Gunton Park, was awarded second prize.

VEGETABLES.

These were a very strong section, and, although accommodated in the vaults beneath the hall, they were of sufficient interest to attract most of the visitors, not excepting the ladies.

A class for a collection of twelve dishes brought eight entries, and some of the produce shown was splendid. Premier award and silver medal was won by Mr. E. A. Starling, gardener to the Right Hon. Sir A. E. Fellowes, K.C.V.O., Honingham Hall. His Ailsa Craig onions were weighty and shapely, while leeks were of capital size and quality, as also were Intermediate carrots, Tender and True turnips, Blood Red beet, and Duchess of Cornwall potatoes; Mr. T. J. Broom, Holyport, Berks, ran the winner very close, and secured second prize; Kohl Rabi, mushrooms, French beans, and

BIRMINGHAM CHRYSANTHEMUM SHOW FOR 1914
Will be held at BINGLEY HALL,
10th, 11th, and 12th, November.
ALFRED NOAKES, Secretary.
148, Bristol Street, Birmingham.

PERPETUAL-FLOWERING CARNATION SOCIETY.

THE 15th EXHIBITION
will be held at
THE ROYAL HORTICULTURAL HALL,
WESTMINSTER,
on WEDNESDAY, December 3rd, 1913.
Open 12 noon to 5 p.m. Admission, 1s.
Schedules and other particulars from the Hon. Secretary,
T. A. WESTON, Floradale, Orpington.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

artichokes were included in this exhibit. Mr. Edgar Chambers, gardener to Captain H. H. Francis, Long Stratton, received third prize.

Potatoes were very largely shown, there being a long list of classes, several of which were for six dishes of six tubers each. The names of Mr. Edgar Chambers, Mr. A. Woodhouse, Mr. F. Wilby, and Mr. E. Dix figured prominently among the winners of first prizes. Onions, parsnips, celery, and all other seasonable vegetables had classes to themselves, which were well filled.

NON-COMPETITIVE.

Messrs. Sutton and Sons, Reading, put up an extensive and pleasing exhibit of choice vegetables decorated with single chrysanthemums. Gourds of various forms and colours were used, and the whole exhibit bore the stamp of high quality. Messrs. Daniels Bros., Lim., Norwich, filled a large space with exhibits of single chrysanthemums, poinsettias, liliums, and other flowers, and a table of fruit; the firm also showed bouquets and other examples of floral art.

An extensive and fine exhibit was made by Messrs. Hobbies, Lim., Norfolk Nurseries, Dereham; single-flowered chrysanthemums, disbudded, and of considerable size, were shown in mounds. Merstham Jewel, bronze; J. B. Lowe, brilliant crimson; Silvia Slade, maroon; and Sandown Radiance, scarlet, were among the most noticeable. There were a few collarette dahlias, and some good blooms of Lilium nepalense on this stand, which occupied half one side of the hall. A group of carnations from Messrs. Stuart Low and Co., Bush Hill Park, Middlesex, included Sunstar, Gorgeous, Carola, and other popular varieties arranged with good taste.

In front of the band-stand Mr. G. W. Miller, Clarkson's Nurseries, Wisbech, exhibited a collection of orchids, prettily arranged, the tricolor form of Saxifraga sarmentosa making a nice edging to the group. Messrs. Pipers, Bayswater, London, had a stand of decorative chrysanthemums, among which Golden King, A. J. Balfour, Hortus, and other cheerful varieties were prominent. A small group of fine big blooms from Messrs. W. Wells and Co., Lim., Merstham, included superb flowers of Mrs. Gilbert Drabble, Queen Mary, H. E. Converse, and, of course, Daily Mail.

Messrs. W. Seabrook and Sons, Chelmsford, staged a very good collection of apples arranged in flat baskets; many varieties carried bright colour, and some were of immense size, while all were of high quality. Mr. Thomas Ward, The Graperies, Bishop Stortford, exhibited cut chrysanthemums of good market value. Messrs. Clibrans, Altrincham, made a feature of single-flowered chrysanthemums, among which one named Mrs. J. S. Crawford appealed strongly to us by the distinct formation of its petals, which flattened out at the ends and made a very attractive flower. Their bank of bright, freely-flowered begonias was a very attractive feature of the show.

MEDAL AWARDS.

Gold.—Messrs. Sutton and Sons, Reading; Messrs. Daniels Bros., Lim., Norwich.

Silver. — Messrs. Seabrook and Sons, Chelmsford; Mr. G. W. Miller, Wisbech; Messrs. Clibran, Altrincham; Messrs. Hobbies, Lim., Dereham; Messrs. W. Wells and Co., Lim., Merstham; Messrs. Stuart Low and Co., Bush Hill Park; and Mr. Thos. Ward, Bishop Stortford.

Hull Chrysanthemum Society.

NOVEMBER 19 and 20.

Thirty years have elapsed since this society held its first exhibition, and it is therefore a matter of much interest that we are able to record the fact that the show which was held in the City Hall on the 19th and 20th inst. was the finest of the long series of magnificent displays that have brought fame to the town as a centre of chrysanthemum culture. Not only was the exhibition of great magnitude and surpassing beauty, but the interest evinced in it by the townspeople was so great that the large hall was well filled within a quarter of an hour or so of the doors being opened at noon. By half-past twelve o'clock, when the Mayor of Hull, with the members of the Corporation, ascended the platform to take part in the opening proceedings, the building was packed, and abundant evidence was forthcoming that the visitors were in full sympathy with the society and its work. It was interesting also to find that a large proportion of those who assisted in establishing the society are still actively engaged in its management, these including Mr. Dixon, one of the co-honorary secretaries. Unfortunately Mr. Dixon was unwell, and the whole of the secretarial duties fell upon Mr. E. Harland, who may be heartily congratulated on the success he achieved. The City Hall buildings comprise a magnificent hall, and several minor halls of various dimensions, and of these the first-named was devoted to cut blooms and groups arranged for effect, and the others were set apart for examples of the decorative art, fruits, vegetables, and non-competitive exhibits. The groups formed a distinct and highly effective feature, and cut blooms were staged in immense numbers and in splendid style, while fruits and vegetables were admirably represented.

CUT BLOOMS—OPEN CLASSES.

No finer blooms of any one of the sections have been shown this season than those which were staged at Hull, and the competition was so keen that to obtain a high position on the prize list was no light honour. The leading class in this section was that for twenty-four blooms of Japanese in eighteen varieties, and there were four entries—all more or less good. Mr. A. Chandler, gardener to Arthur James, Esq., Coton House, Rugby, was successful in obtaining premier honours, staging splendidly developed blooms of Lady Talbot, W. Mease, Queen Mary, T. Lunt, Purity, Valerie Greenham, Bob Pulling, Francis Rowe, Miss M. Fox, W. Turner, December Gold (a bold flower remarkable for its rich colouring), Fred Green, F. S. Vallis, Bessie Godfrey, His Majesty, and Mrs. G. Drabble; Mr. F. J. Fleming, gardener to S. M. Hewitt Weekley, Esq., Old Hall, Grimsby, came second.

Next in importance in the classes open to all was that for eighteen incurved, in not less than twelve varieties. The entries were numerous, and blooms highly meritorious. In this Mr. G. Wilson, gardener to Mrs. Eyre, Bishop's Burton Hall, Beverley, occupied the first place with flowers comparatively large in size, even in outline, and finely finished. Of exceptional merit were the varieties of F. Palmer, G. F. Evans, W. Pascoe, Godfrey's Eclipse, Lady Isobel, Calypso, Buttercup, Duchess of Fife, L. Peyron, and Eva Smith. Mr. G. W. Musk, gardener to Captain J. F. Laycock, Wiseton Bawtry, followed closely for second place; and Mr. A. Chandler was third with an excellent stand.

The classes for blooms shown in vases were remarkably well filled, and the flowers were superbly developed. For two vases of white Japanese, seven blooms in each, Mr. G. W. Musk was first, and Mr. A. Chandler second, with magnificent examples of Mrs. G. Drabble and W. Turner; Mr. F. J. Fleming, who was third, also had finely developed specimens. In the corresponding class for yellow Japaneses there were fifteen competitors, and not an indifferent vase among the thirty staged. Mr. A. Chandler obtained premier honours with F. S. Vallis and Lady Talbot in grand form, and was closely followed by Mr. G. W. Musk and Mr. G. Wilson for second and third places. The awards for six blooms of any one Japanese variety were made in favour of Mr. A. Chandler, Mr. F. J. Fleming, and Mr. G. W. Musk, the first prize six being Lady Talbot; and W. Mease was shown by the second and third prize winners.

Decorative and single varieties in vases were so largely shown as to constitute a distinct and attractive feature. With so large and interesting a display of these varieties it was unfortunate that so many exhibitors should have considered it unnecessary to name their flowers. Fifteen entered into competition for the prizes for twelve vases of single chrysanthemums in not less than nine varieties, three stems of one variety in each vase. The flowers were closely matched in point of merit, and the premier award was made in favour of Mr. G. Bennett, gardener to Mrs. Nightingale, Cliffdene, Bridlington; Mr. M. Stather, Arlington Nursery, Cottingham; and Mr. W. R. Tranmer, Alma Nursery, Cottingham, following. There were nine competitors in the class for six vases of single varieties, disbudded to one bloom on a stem, and five blooms of one variety to be shown in each vase. The successful competitors were Mr. M. Stather, Mr. W. R. Tranmer, and Mr. A. Drewery, gardener to H. Hildyard, Esq., Cherrygarth, Cottingham. The class for six vases of decorative varieties, disbudded to one flower on a stem, contained six entries, all possessing much merit, and the prizes were awarded to Mr. W. R. Tranmer, Mr. A. Drewery, and Mr. H. Taylor, Preston, Hull.

CUT BLOOMS.—LOCAL CLASSES.

The competition was not less keen in the classes limited to cultivators resident within twenty miles of Hull than in those open to all, and the blooms were, on the whole, of much merit. The prizes for eighteen Japanese brought a keen contest, and at the head of the several exhibitors was Mr. G. B. Burrows, gardener to Miss Bennett, Westlands, Grimsby, who had grand blooms of well-known varieties. Mr. J. W. Backhouse was a capital second, and Mr. C. Storry, gardener to the Right Hon. T. R. Ferens, M.P., Holderness House, Hull, was a close third. In the class for twelve incurved, Mr. T. Hardcastle, gardener to A. S. Ayre, Esq., Tower Hill, Hessle, occupied the post of honour with remarkably well-finished blooms; and Mr. G. B. Burrows and Mr. J. W. Backhouse, who were second and third, had flowers of high quality. The prizetakers for six incurved were the exhibitor last named, Mr. T. Hardcastle, and Mr. J. Beet, 12, Church Lane, Hedon. There were thirteen exhibitors in the class for six vases of naturally-grown single chrysanthemums, and those successful were Mr. W. R. Tranmer, Mr. H. Taylor, and Mr. W. S. Drewery, 64, Hallgate, Cottingham. For the prizes for six vases of decorative chrysanthemums, disbudded, there was also a keen contest, and especially fine were the flowers shown by Mr. W. R. Tranmer, Mr. A. Drewery, and Mr. J. E. Gibbins, Halcyon Avenue, Hessle.

The amateurs exhibited with much success in the classes provided in this section, there being from ten to twelve entries in each class. Mr. T. Lazenby, 21, Beverley Road, Hessle; Mr. D. Wyllie, 3, The Limes, Hull; and Mr. J. A. Tholander, Anlaby Park, Hull, were the most successful exhibitors of Japanese. Mr. H. H. Barlow, Devonport Avenue, Hessle; Mr. W. Grasby, Studley House, Plane Street, Hull; and Mr. J. Bilton, Paisley Street, Hull, had the best incurved. The chief prize-takers for decorative and single varieties were Mr. J. A. Tholander, Mr. T.

Lazenby, Mr. J. Cummings, Holderness Road, Hull; Mr. W. Smith, Arnold Lane, Hull; and Mr. C. J. Mudd, South Street, Cottingham.

GROUPS ARRANGED FOR EFFECT.

Groups, which from the first have been a strong feature at the Hull shows, were of quite exceptional merit, and the eight or nine arrangements converted the floor of the great hall into a delightful flower garden. The chrysanthemums had to be arranged in a square, ten feet by ten feet, and to be interspersed with fine foliage plants. Artistic arrangement had to be the primary consideration in making the awards, but the exhibitors did not lose sight of the fact that high quality is also an important factor. The conditions of competition did not allow of any great variation in design, but there was a considerable difference in detail, and a remarkable freedom from sameness. In all cases the chrysanthemums were arranged to form a pyramid of flowers and foliage, rising to a height of nine feet, surmounted by a feathery palm, with a fringe of fine foliage plants at the base, and small groups of flowers and foliage at the corners. Japanese varieties predominated throughout, but singles were used, and their lightness added much to the general effect.

Councillor T. M. Petch, St. John Street, Bridlington, was successful in obtaining the premier award, which included a handsome silver cup, presented by the President of the society, with an arrangement that was singularly beautiful. Mr. H. Walmesley, gardener to Mrs. R. Molescroft, Beverley, was a very close second with an effective arrangement, and Mr. G. Jarvis, gardener to Mrs. Whitaker, Cliff House, Hessle, and Mr. W. Smith, who were third and fourth, also had arrangements in which both taste and cultural skill of a high order were well represented.

The competition for the prizes for mirror groups was even more keen than last year, and the ten or eleven arrangements placed in front of the pillars supporting the galleries produced a delightful effect. Mr. G. C. Coates, gardener to E. H. Holmes, Esq., Shalem House, Hull, was a capital first; the sides of the mirror were lightly decorated with single chrysanthemums, the top surmounted by medium-sized plants of choice nephrolepis, and at the foot was a group of various flowering plants. Mr. G. Wilson was a close second, the chief decoration being finely-grown poinsettias; and Mr. C. Storry, who was third, employed calanthes and cattleyas with good effect.

FLORAL DECORATIONS.

These, as usual, constituted an important feature, and received a full share of attention from the visitors. Seven ladies competed in the class for a table completely laid out for dessert, and much taste was evinced in the several arrangements. Mrs. Edwin Robson, Tower Grange, Hull, was successful in winning the first prize, which consisted of an epergne and a sum of money, Mrs. C. M. Bilton, Eastwood, Hull, following closely for second place. Mrs. R. Leech, Victoria Avenue, Hull, and Miss E. F. Harland, The Sycamores, were the most successful of the competitors in the class for an epergne, and for a tasteful arrangement of cut flowers in a table space of nine square feet the exhibitor last-named obtained the premier award. In competition for the prizes for a demonstration of the decorative value of chrysanthemums, Mr. M. Slather was successful in winning the five-guinea silver cup. Mr. H. Taylor contributed the best of the thirteen baskets of single chrysanthemums, and also the best hand bouquet.

FRUIT AND VEGETABLES.

Fruit was plentiful and good, the grapes being highly meritorious. Mr. McPherson, gardener to the Earl of Londesborough, Market Weighton, was first for white grapes with well-finished Muscat of Alexandria; and second and third prizes were awarded Mr. A. Mayfield, Beverley Road, Hull, and Mr. W. Boyes, Middleton-on-the-Wolds. Mr. Blakley, gardener to G. H. Shaw, Esq., Howden, York, scored for black grapes with finely-finished Alicante. Mr. McPherson staged splendidly-finished fruit of Peasgood's Nonsuch, Charles Ross, Gascoyne's Scarlet, Ribston Pippin, Cox's Orange Pippin, and Caville Blanc for first place in the class for six dishes of apples, three each of cooking and dessert. Mr. G. W. Musk was a good second. These two exhibitors were first and second also for three dishes of pears; and Mr. McPherson was first for a single dish of pears, staging Beurre Diel at its best.

Vegetables were represented by fine collections of eight kinds, and the best were those staged by Mr. A. Blakley, Councillor Petch, and Mr. J. Beet.

Bolton.

NOVEMBER 21 and 22.

This twenty-seventh exhibition was held in the Town Hall, and the system of arrangement underwent some slight alteration, which did not add to the attractiveness of the show. The groups of chrysanthemums gave way to a table, 8ft. long, 6ft. wide, and 2ft. high, and, with the exception of the winning exhibit, but little taste was shown, and the drapery required considerable modification.

Groups are usually excellent, and in fair numbers, but this year a considerable falling off was noticeable, especially in the 12ft. group, described in the schedule as "an artistic arrangement." The prizes are £10, £6, and £4, with a silver challenge cup added to the first prize. Only one exhibit was staged, and between four to six o'clock on the first day no prize card was on the group; but we gathered that the display was staged by Mr. H. Shone, gardener to J. W. Makant, Esq., and that there had been some difference of opinion as to what the award should be, and it was generally supposed that only second prize was awarded, the first prize being withheld. There were four judges, but how many adjudicated upon this entry we do not know. The group in question could not be compared to Bolton's best efforts, but it was an open question whether such drastic action was not too severe; at any rate, the popular opinion appeared to side with the exhibitor, and with it we agree. The group was a flat one, relieved by numerous dot plants, and with an arch having a twelve-foot span. Crotons were good in colour, and fairly numerous; palms, ferns, and dracænas were fresh and bright; oncidiums and Roman hyacinths were the most prominent flowers.

For a semi-circular group of chrysanthemums, Mr. B. Hardy, gardener to Gerard S. Peck, Esq., led with a bright, telling arrangement; Mr. E. Wilson, gardener to Miss Anne F. Phillips, second. Mr. H. Shone was well ahead, both in quality of flowers and lightness of arrangement, for a table of cut chrysanthemums. Mr. J. McCartney led for orchids, and Mr. J. Entwistle for carnations.

Mr. W. Foster had the leading primulas, Roman hyacinths, and dinner-table plants. Mr. W. Austin, gardener to Lever Tillotson, Esq., led for begonias, and Mr. D. Wilson had the best palms.

Mr. H. Wainwright was successful for two large-flowering chrysanthemums, three singles, one Japanese, and one single specimen, showing moderate plants throughout.

When it was generally known that Messrs. C. Chandler, C. Goves, G. Haigh, and C. Jones were likely exhibitors of cut blooms, a keen competition was anticipated, and this anticipation was fully realised, although the flowers were not equal to those staged at earlier shows. For twenty-four blooms, twelve incurved and twelve Japanese, Mr. C. Goves, gardener to Sir Gilbert Greenall, Bart., maintained his high position with a good, even stand, the best varieties being Lady Talbot, F. S. Vallis, and W. Turner; Mr. G. Haigh, gardener to Sir W. H. Tate, Bart., second, with good blooms; and the remaining award fell to Mr. A. Chandler, gardener to A. James, Esq. For thirty-six Japanese blooms, the prizemen were Messrs. C. Jones, A. Chandler, and G. Haigh; there were three good stands, and only a moderate margin divided them; the best flowers were F. S. Vallis, W. Mease, Mrs. G. Drabble, and W. Turner.

For six vases of singles, undisbudded, the prize-takers were Messrs. R. Tyrer, J. Nixon, and J. Parkinson, all of whom staged large bunches. Messrs. R. Tyrer, J. Parkinson, and H. Shone scored for six vases of decorative varieties.

Other first prizemen were Mr. S. Grundy, stove and greenhouse cut flowers; Mr. S. Lowe, table of orchids; Mr. W. Astley, two orchids; and Mr. W. Byrom, gardener to Viscount Brakley, three vases of single blooms.

Mr. H. Shone led with a finely-finished pair of Alicante, followed by Mr. W. Burgess, gardener to W. J. Harewood, Esq., in the class for black grapes, while for white grapes Mr. J. Wright, gardener to Edmund Lord, Esq., led with Muscat of Alexandria, with Mr. Thomas Barclay second.

Blackburn.

NOVEMBER 21 and 22.

The Town Hall looked especially bright and attractive on the occasion of the seventeenth exhibition of this society, and the Staging Committee deserve much credit for the able way in which they arranged the exhibits. In front of the platform three large groups of chrysanthemums were staged, the centre one of single varieties, and the two others of Japanese blooms. With a width of 30 feet, and ten feet in height, these gave an imposing effect. The other end of the hall contained a charming bank of orchids eight feet in width, supported on either side by mirror groups.

Cut blooms are overshadowed at this show by the orchids, yet good stands were staged. For twenty-four Japanese, distinct, Mr. H. Boyd, gardener to Captain Feilden, was the leader, with a box of good blooms, his best being Lady Talbot (which secured the certificate for the best bloom in this section), and Mrs. G. Drabble. Mr. J. Pimlott, gardener to T. Mitchel Eccles, Esq., was a close second. For two doxen incurved varieties, Mr. R. H. Jones, gardener to A. E. Troop, Esq., was to the fore with good blooms, and his Mrs. J. Hygate took the certificate for the best incurved bloom in the show; Buttercup and Golden King were also noteworthy. Mr. J. Pimlott was again second.

For twelve Japanese, Mr. H. Boyd still held his own, and for six blooms Mr. C. Samways, gardener to J. Thompson, Esq., took the lead; while for a dozen incurved, Mr. R. H. Jones led the way; and in the smaller class Mr. R. C. Bullock, gardener to Mrs. Astley, was the chief winner.

For one vase of Japanese blooms, Mr. H. Boyd scored; and for three vases of singles Mr. R. McCullock led. In two distinct classes for one vase of carnations, Mr. H. Boyd, and Mr. W. Wilkinson, gardener to J. Duckworth, Esq., won firsts.

Orchids are undoubtedly the feature of the show. In the class for a table of plants, already referred to, Mr. J. Lupton, gardener to Colonel J. Rutherford, M.P., well known as a grower of repute, won with a delightful blending of oncidiums, odontoglossums, lælias, etc., in many choice kinds. This exhibitor had clean wins for a table of cypripediums, three cypripediums, three hybrid orchids, four orchids, three oncidiums, and one orchid (Vanda cœrulea with two spikes of large flowers), the only exception in the case being Mr. W. Hough, gardener to Miss Armistead, who beat Mr. Lupton for one cypripedium.

For a table of begonias, Mr. C. Samways won, whilst Mr. Bradburn had the leading six Primula obconica, a splendid strain; and Mr. J. Bartlett, gardener to H. Shutt, Esq., won for Roman hyacinths.

In the class for an oval-shaped group of miscellaneous plants (nurserymen only), Mr.

Thomas Berry proved the victor, and utilised good heaths and orchids; Messrs. Edward Ledge and Son second. The best group of large-flowering chrysanthemums came from Mr. H. Bradburn; and Mr. J. Pimlott was second with good, but smaller flowers. For a group of singles, Mr. C. Samways was the only exhibitor, but staged a fine exhibit that merited the first prize.

Mr. H. Bradburn continued his successes for chrysanthemums in pots, winning for six pots (singles), four pots (large-flowering), two Japanese, one Japanese, one incurved, and one single, and the N.C.S. Silver Medal for the best plant in the show for the variety Miss Alice Finch. This exhibitor proved the leader for four salvias and three bouvardias, but Mr. R. McCullock led for cyclamen, Mr. H. Boyd for begonias, and Mr. C. Samways for amaryllis.

Some tasteful arrangements were made with cut flowers, and Mrs. Pimlott held the position of honour with a charming basket of chrysanthemums; Miss Hilda Howard leading for autumn foliage and berries, and Mrs. H. Arthur for a table centrepiece.

Mr. W. Eastwood, gardener to H. H. Bolton, Esq., proved the winner for two bunches of black grapes, and Mr. J. Wright, gardener to Edmund Lord, Esq., scored for white grapes.

Mr. H. Wells, gardener to A. T. Walker, Esq., had the winning set of eight dishes of vegetables and the finest onions.

Newport (Mon.) Chrysanthemum Society.

This society's annual show on November 1, held in the Gymnasium, Newport, was most successful. The cut blooms were not quite so good as they have been sometimes at Newport, but they were, nevertheless, excellent. There was an increase in the number of exhibitors, the classes generally were well filled, and the attendance satisfactory.

GROUPS.

Only one entry was made in the class for a group of chrysanthemums and foliage plants, arranged on 50 square feet, and it was from Mr. W. Pearce, gardener to H. Oakley, Esq., who arranged an effective collection of well-grown plants, including Japanese and single chrysanthemums, crotons, dracænas, palms, etc., a background of papyrus, and an edging of ferns and panicum, the whole crowned with a fine specimen of Phœnix rupicola. In the class for a group of chrysanthemums, to fill 40 square feet, only one exhibitor put in an appearance, viz., Mr. R. Long, gardener to W. F. Dawson, Esq., who had a fine exhibit, well arranged, with colours nicely blended, and splendidly furnished with foliage.

There were four groups of single chrysanthemums, and Mr. W. Pearce had the best, though the plants were somewhat large, and were crowded; Mr. S. Rumney, gardener to G. H. Ingham, Esq., was a close second with a group containing similar defects; Mr. Harris, gardener to E. Phillips, Esq., third, with well-grown plants, too thinly arranged. In the class for a group of chrysanthemums, arranged on 20 square feet, Mr. J. H. Broom led with a pleasing arrangement of large, finely-coloured blooms; Mr. F. J. Richards was a good second, and Mr. W. Shipton, jun., third.

PLANTS.

Three bush plants, single varieties, made a good class, as three sets were staged, Mr. R. Long taking the lead with large, freely-flowered plants of excellent varieties; Mr. F. S. Daniels, gardener to F. Phillips, Esq., with still larger plants, but the varieties not being so good, was placed second. In another class of the same description, Mr. Daniels was an easy first with capital plants carrying good blooms and well clothed with foliage; Mr. R. H. Smith followed with smaller plants. For two plants Mr. F. J. Richards was placed first, and Mr. R. H. Smith second; and for a single plant of any variety, Mr. J. H. Broom was first, and he also scored for a single variety.

CUT BLOOMS.

Three splendid sets were staged in the class for eight vases of Japanese varieties, three blooms in each vase. Mr. E. J. Spencer, gardener to H. A. Tipping, Esq., led with large, deep, and finely-coloured blooms of F. S. Vallis, Mrs. H. Stevens, Lady Talbot, Mrs. G. C. Kelly, H. E. Converse (fine), Mrs. Gilbert Drabble (extra good), and Splendour; Mr. R. Long was a very close second, being only one point behind Mr. Spencer with Maud Jefferies, F. S. Vallis, Mrs. Gilbert Drabble, Fred Chandler, F. T. Mew, etc.; Mr. Daniels third.

Of four vases of Japanese blooms there were four exhibits, and Mr. S. J. T. Grinter scored with fresh, solid blooms of W. Turner, Lady Talbot, W. Mease, and F. S. Vallis; Mr. W. H. Hollingdale was a close second, and Mr. S. Rumney third. Mr. Luffman was the only exhibitor of two vases, Japanese, and staged Mrs. G. Drabble and W. Turner in fine condition. One vase, Japanese, brought four entries, among which Mr. E. W. Kirby took the lead, Mr. A. H. Jones being second.

The classes for single varieties were very popular. The one for four vases found Mr. J. Matthews taking the lead with Mensa, Mrs. Buckingham, Metta, and Kitty Bourne; Mr. R. Fry was second, and Mr. Smith third. Mr. Sharratt, gardener to J. E. Webb, Esq., was placed first in a class for six vases of single varieties, and staged Metta, Coronation, Altrincham Yellow, Mrs. Hartley Bills, Mrs. H. S. Berens, and Snowflake in fine condition; Mr. Long second, and Mr. Wiggins third. Mr. Long secured the lead for three vases of singles, staging Crown Jewel Improved, Kitty Bourne, and Metta.

Apart from the vases the chief class was for twenty-four Japanese blooms, and here there were three exhibitors, the leader being the Manor House Nurseries, Lim., Cardiff. Fine, weighty blooms were staged, chief of which were Lady Talbot, Master James, Mrs. Drabble, W. Turner, John Howe, A. Robertson, Mrs. R. Luxford, Mrs. G. C. Kelly, Fred Green, Rose Pockett, and Miss Annie Nicoll. Mr. F. S. Daniels was a good second; and Mr. J. B. Greening, gardener to the Rev. W. M. Willett, third. There were seven competitors in the class for a dozen Japanese, distinct, and here Mr. Long led with a good set, including Mrs. F. S. Vallis, Fred Chandler, W. Turner, Lady Talbot. Mr. F. S. Vallis, and Bessie Godfrey; Manor House Nurseries, Lim., second, and Mr. King, gardener to Dr. J. Cropper, third. Twelve Japanese, not less than four varieties, found Mr. S. T. Collings taking the lead. For six blooms, Japanese, Mr. E. W. Kirby led, and he also secured the National Chrysanthemum Society's Certificate for the best bloom in the show, with a perfect example of W. Turner; and Mr. J. H. Broom secured a similar award for the best plant. Both these exhibitors are cottagers.

ORCHIDS.

Two fine groups of orchids were arranged, the best coming from Dr. Brooke Gratte, who had oncidiums, odontoglossums, cattleyas, cypripediums, and cymbidiums as principal subjects; Mrs. C. D. Phillips (gardener, Mr. J. Massie) second. For three plants, Mr. Massie scored with well-bloomed examples of Oncidium varicosum Rogersi, O. Forbesi, and Cypripedium Leonie; Mr. E. Fowler, Pontypool, second, with Cattleya Portia and Oncidium Forbesi.

In the floral decoration section Mrs. Preece, Miss Greening, Mrs. R. Long, Miss A. M. Harding, and Mr. G. H. Holbrook were the chief prizewinners.

FRUIT.

Mr. George, gardener to H. F. S. Freeman, Esq., was first for black grapes with Alicante, Mr. Daniels second with Gros Colmar. Mr. Daniels led for white grapes with Muscat of Alexandria, and Mr. George came second. Mr. G. Griffiths was first, and Mr. T. Hutchins, gardener to Colonel Wallis, second, for a collection of fruit. Mr. Griffiths scored for pears, and Mr. Hobbs for apples.

Chester Paxton Society.

NOVEMBER 18 and 19.

This society's annual chrysanthemum show was held in the Town Hall. Fruit, as usual, occupied a large amount of space, and the quality generally was well up to the average.

FRUITS.

Mr. R. Jones, gardener to J. Amplett, Esq., secured the leading award for two bunches of black grapes with large, well-finished bunches of Alicante; Mr. H. W. Bromley was second with the same variety; and Mr. W. Pilgrim, gardener to Sir George Merrick, third, with Appley Towers. For two bunches of white grapes Mr. W. Pilgrim and Mr. R. Jones were first and second, both staging Muscat of Alexandria, the winning set being of fine colour.

For six dishes of dessert apples, Mr. J. Shaw, gardener to G. Fitzhugh, Esq., led with a highly-coloured set, Rival and Cox's Orange Pippin being excellent; Mr. G. Bridgewater, gardener to E. Porritt, Esq., was second; and Mr. J. Thompson, gardener to H. E. Welbraham, Esq., third. The best twelve dishes of kitchen apples came from Mr. R. R. Saleman, with Mr. J. Fleet second. For six dishes of kitchen varieties the prizetakers were Messrs. J. Weaver, T. Day, and R. Jones.

In the class for a collection of twelve dishes of kitchen apples, six of dessert apples, and six of dessert pears, there was a fine display, and Mr. W. Pilgrim proved the victor by staging excellent Peasgood's Nonsuch, Warner's King, Mère de Ménage, Charles Ross, and King of the Pippins apples, and Beurre Diel, Charles Ernest, and Doyenne du Comice pears. The remaining awards went to Messrs. G. Bridgewater and R. Jones. Messrs. J. Fleet, G. Bridgewater, and T. Gilbert were placed as named for six dishes of dessert pears.

In the single dish classes the most noteworthy were Cox's Orange Pippin, from Mr. J. Shaw; King of the Pippins, from Mr. J. Thompson; Peasgood's Nonsuch, from Mr. W. Pilgrim; Chas. Ross, from Mr. G. Bridgewater; James Grieve, from Mr. A. Billington; Loddington, from Mr. C. C. Dennis; and Warner's King, from Mr. B. Kerr; Beurre Diel pears, from Mr. W. Dodd; and Catillac pears, from Mr. W. Pilgrim.

Mr. H. Bayfield was first for boxes of fruit, as packed for market, with King of the Pippins.

GROUPS AND PLANTS.

For a group of single-flowering chrysanthemums, Mr. F. Berry, gardener to J. R. Samuel, Esq., was first with masses of colour; Mr. J. Martin second. For a group of naturally grown chrysanthemums, Mr. T. Gilbert, gardener to T. Gibbons Frost, Esq., was the winner with finely-coloured blooms artistically arranged.

Mr. J. Fleet took the lead for six pots of single chrysanthemums with excellent plants carrying an abundance of bloom. For six table plants the prizemen were Messrs. W. May, A. Billington, and F. Berry.

CUT FLOWERS.

The best eighteen blooms, Japanese, three blooms in a vase, were set up by Mr. T. Winkworth, gardener to R. Brocklebank, Esq., and he was well ahead with good examples of F. S. Vallis, W. Turner, and Lady Talbot; Mr. E. Bennett, gardener to J. E. Gordon, Esq., and Mr. W. Dodd, gardener to E. Peter Jones, Esq., followed in order. For a dozen Japanese blooms, set up in five vases, Mr. T. Winkworth maintained his position; and for five blooms Mr. J. Fleet led the way. For five incurved, distinct, Mr. T. Winkworth was again to the fore, staging good Clara Wells and C. H. Curtis.

For twelve Japanese blooms, staged on boards, Mr. W. May, gardener to W. Dronsfield, Esq., had the best set; and for six vases of naturally-grown flowers, other than singles, Mr. T. Sanders, gardener to Captain W. G. Townsend, won with a grand lot; while for the six vases of single varieties, A.

D. Pitcairn Campbell, Esq., took the lead with a charming exhibit.

For the best table of naturally-grown chrysanthemums, Mrs. Willett led with a pleasing arrangement; and for a table of flowers, chrysanthemums excluded, Miss N. Denson was to the fore with carnations and lily of the valley.

NON-COMPETITIVE.

Mr. G. Porter, gardener to A. Hanmer, Esq., was awarded a gold medal for a table of choice orchids in great variety. The British Columbia Government also secured a gold medal for a large collection of highly-coloured apples. Mr. W. E. Sharp, gardener to W. Richardson Moss, Esq., was awarded a silver medal for a table of plants. Messrs. Dicksons, Chester, had a fine bank of chrysanthemums, liliums, and begonias; and Messrs. McHattie set up a collection of chrysanthemums, carnations, etc.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE.—November 4.

Present: Mr. E. A. Bowles, M.A., in the chair; Sir Everard im Thurn, Messrs. C. E. Shea, J. T. Bennett-Poë, R. H. Pearson, A. Worsley, E. M. Holmes, J. Fraser, G. Wilson, G. Gordon, and F. J. Chittenden (hon. sec.).

DECAISNEA FARGESI FRUITING.—Mr. R. W. Wallace exhibited fruits of Decaisnea Fargesi from a garden in the East of England. The curious bean-like, but fleshy fruits of this berberidaceous plant are produced frequently in the West of England, but this is the first instance known to any member of the committee of their ripening in the open in the East.

SCENTED-LEAVED PELARGONIUMS.—Mr. J. Fraser continued his observations on the history of these plants in gardens, illustrating his remarks as usual by means of beautifully dried specimens from the Wisley collection.

QUILLED CHRYSANTHEMUMS. — Mr. Worsley showed flowers of quilled chrysanthemums from his garden, where he had none hitherto, these having been raised from seeds ripened there, and apparently from plants not crossed with any quilled form. Mr. Shea remarked that chrysanthemums rarely set seed without cross-pollination, and suggested that the pollen may have been brought by insects from a neighbouring garden. The earliest drawing of a chrysanthemum was exhibited, and apparently showed traces of quilled flowers, so that the early-introduced plants no doubt brought this character with them.

CARNATION - CHRYSANTHEMUM GRAFT.—A correspondent from Greenock sent chrysanthemum flowers from plants which he had grafted on carnation stocks, and said that the flowers varied from those of the plants from which the scions were taken. The committee were unable to see whether the grafting had actually occurred, or whether the scions had produced roots, and sought further information.

MULTIPLE PEAR.—Mr. Druery showed a multiple fruit of a pear formed from a summer flower in a garden at Acton. It appeared to consist of parts of four pears in close contact, but was no doubt derived, partly at least, from the cortical tissues of the lower parts of the flower-stalk.

PELORIC CATTLEYA.—Mr. G. Wilson showed a peloric form of Cattleya labiata alba, remarking that peloric forms of albinos were decidedly rare.

IRESINE SPORTING.—Mr. Longmine, of Clapham Common, showed a shoot of Iresine acuminata, in which the normal red foliage had been replaced on one side of the shoot by green leaves, yellowish along the veins. The leaves and shoots were arranged so that alternate leaves on the one side of the stem were green, while the intervening leaves were half green and half red. The shoots in the axils of these leaves were green, or half green and half red respectively. Shoots propagated came true to these variations.

Edinburgh Royal Botanic Garden Guild.

This newly-formed guild of past and present employees of the Edinburgh Royal Botanic Gardens, celebrated the end of its first year of existence by a dinner in the Royal British Hotel on the evening of Friday, the 14th inst. Mr. W. W. Smith, Assistant Keeper of the Gardens, occupied the chair, in the unavoidable absence of Prof. Bayley Balfour, the hon. president of the Guild. After an excellent repast, and honouring the loyal and patriotic toasts, Dr. Borthwick proposed the toast of "Our Honorary President, Professor Balfour," so widely known for his great botanical and horticultural attainments, and who was worthily keeping up the long-known fame of the gardens. He had done much for the practical and theoretical education of the young men under his charge, and was warmly in favour of the formation of a guild to bind together in the bonds of brotherhood the large number of past and present employees. The toast was honoured with great enthusiasm. Afterwards the guest of the evening, Mr. J. Mc.Hattie, the popular City gardener of Edinburgh, proposed "The Guild," in a neatly-expressed and apropos speech, wherein he urged the young men to secure every educational advantage the garden afforded, and to equip themselves for life by study in the many educational institutions of Edinburgh. They were the future horticulturists, and should see they were thoroughly able to maintain the fame of the Edinburgh gardens. Mr. R. L. Harrow, the Curator, replied to the toast. Other toasts, including that of "Our Guest," were honoured, and with songs and speeches a very pleasant evening was spent.

The Horticultural Club.

On Tuesday, the 18th instant, this club held its usual monthly dinner at the Hotel Windsor under the presidency of Sir Frank Crisp, Bart., and there was a good attendance of members and guests.

Subsequently to the dinner, Mr. Reginald Farrer gave a lecture entitled "Not about Switzerland," explaining that the vagueness and widely-extended implication of the title was due to the fact that he was always being asked about Switzerland, to the exclusion of other Alpine regions, and desired to give some indication that the other mountain ranges had floras of their own with which he had ventured to make some acquaintance.

In eloquent language he gave many details of his travels and researches in connection with alpine plants in the extensions of the Alpine ranges beyond the Swiss limits, and the peculiarities which he had noted in his travels with regard to the plants he discovered, and the failures and successes which eventually attended the transference of these plants to the lowland conditions of his home collection. Amongst other things he combated the general opinion that the whole of the primula family required moist and protected environment, as most of them, he found, did well in positions well exposed to the sun, and not always in a soaked soil. The general essential condition of a long and uninterrupted resting period was treated of. He also dealt with botanical differentiation, challenging in several cases the correctness of the specific names often given to simple varieties of one and the same species or the confusion of one species with a really distinct one. In order to have a fair opportunity of widening his experience of alpine plants, he was on the point of going to Thibet to familiarise himself as far as possible with the Asiatic alpine flora in its native habitats, and promised on his return to give the club an account of the results, a promise received by the audience with great gratification.

In the subsequent discussion Sir Frank Crisp, and Messrs. Bilney, Hoog, C. Pearson, and Clarence Elliot participated, giving their own particular experiences in connection with the fascinating study of the alpine flora under cultivation and in its native homes, all those who had seen it under the latter conditions agreeing in their high appreciation of its wondrous beauty, variety, and frequent abundance. The counsel was given, and approved by all, that it is not advisable to collect long-established plants for transference, but that young ones should be chosen, the roots of the former often penetrating so deeply in course of time as to render extraction impossible, the result being failure.

Sir Frank Crisp proposed a very cordial vote of thanks to the lecturer, and expressed the hope that his journey to Thibet might prove a very successful and enjoyable one, and that his promise of an eventual lecture might be fulfilled.

Bournemouth Gardeners' Association.

A very interesting and instructive lecture on zonal pelargoniums for summer and winter flowering was given by Mr. G. H. Heath, Glenfallock Gardens, Bournemouth, on Tuesday, November 18, before a good attendance of members.

Twenty-four dishes of splendid apples were sent by Messrs. George Bunyard and Co., Lim., Maidstone.

At the close of the lecture the members bought the fruits, the money resulting being sent to the Gardeners' Orphan Fund. A hearty vote of thanks was passed to Messrs. Bunyard for so kindly sending the apples.

In the "points" competition class, cypripediums were shown by Mr. Smith, gardener to the Dowager Lady de Tabley; zonal pelargoniums by Mr. Heath; and crotons, ferns, and a pandanus, by Mr. C. Pearce, gardener to Mrs. Ormond, Astney Firs; Mr. Heath also staged nine vases of distinct varieties of pelargoniums, with their own leaves, and the effect was very good.

The lecturer is a very successful cultivator of zonal pelargoniums, and he advised lovers of this flower to strike cuttings in July for summer-flowering, and in August for autumn and winter-flowering. For a general compost he recommended turfy loam three parts, leaf-soil one part, with a sprinkling of old lime and a small quantity of bone-meal. Firm potting was essential. The plants should be topped when small, and again when potted into their flowering pots. A small quantity of sulphate of ammonia intensified the colour of the blooms, but the lecturer said he mainly used potash, and phosphatic manures. Nitrogen produced large leaves. A free discussion ensued, and very hearty votes of thanks were accorded the lecturer, and Mr. G. Garner, who presided.

Morley Paxton Society.

This society held its ninth annual chrysanthemum show in the Alexander Hall at the Town Hall on Saturday last, and broke all previous records in the number of exhibitors and the number of exhibits, also in the quality of the blooms.

In the cut blooms Sir Wm. Bass, Bart., took first place both for Japanese and incurved, and obtained the National Chrysanthemum Society's certificate for the premier bloom with Mrs. G. Drabble; Miss Bennett, of Grimsby, was second for Japanese, and Mr. John Thornton, of Drighlington, second for incurved. In the classes for singles, Mr. John Hartley, of The Knowle, Morley, followed up his successes at Leeds and Bradford by taking firsts in almost every class.

A feature of the show was the number (10) of groups put up in the local classes, four being from cottagers, W. Lassey winning outright the Ward Brook silver challenge cup, having won it three times in all; he was followed closely by Mr. E. Ambler, who had won this cup on two previous occasions.

The Borough Gardener added to the attractiveness of the show by a magnificent display of chrysanthemums and foliage plants arranged in a mass in front of the wide platform, and plants and liliums on the platform.

The attendance of the public was phenomenal, the great crush being the only drawback to a most successful show.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notifications of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming, or opinion, should be sent to the Editor of THE GARDENERS' MAGAZINE, 2, Adelaide Road, Brentford, Middlesex, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

BLOTCHED CAMELLIA LEAVES.—E. G. C., Dover: Kindly tell me what causes the unsightly blotches on the camellia leaves enclosed. For some years we have annually seen leaves similarly blotched, and though no great harm appears to be done, even a few damaged leaves make a plant ugly.—The blotches are due to the presence of a fungus named Pestalozzia Guepini, a disease which, fortunately, does not do much damage to camellias, though we believe it has been the cause of considerable loss in some tea plantations in India. The best means of checking it is to remove and burn all diseased leaves, and keep the plants scrupulously clean at all times of the year.

CLIMBING ROSES FOR A NORTH ASPECT.—J. K., Northampton: Please let me know, through your columns, whether any climbing roses are really suitable for cultivation against a wall facing north; and, if so, the best varieties.—The best roses for cultivation in a north aspect are Ards Rover, Bennett's Seedling, Climbing Aimée Vibert, Felicite et Perpetue, and Gloire de Dijon, respectively H.P., Ayrshire, noisette, sempervirens, and tea-scented varieties. You may try these with every prospect of success provided suitable preparations are made for them, and a first-rate rooting medium is provided.

BEETLES IN HOTHOUSES.—H. C., Leicester: I am sending, in a tin, some beetles which infest our hothouses. We were not troubled with them until about seven years ago, and I think they must have been introduced with some cocoanut fibre refuse, as the first specimens found were in the fibre on some lily of the valley we were forcing, and the bulk of which the pests ate away. They are most destructive things, and nothing in the form of vegetation comes amiss to them. They are far worse than woodlice, even attacking hard-wooded plants, and barking the crotons. We have tried the usual remedies, such as pouring boiling water in their haunts, and trapping with hollowed potatoes, and thought we had got rid of them, but find, like the poor, they are always with us. I shall be very grateful for any suggestions you can give me for clearing out these unpleasant creatures. You will notice, perhaps, that the beetles bury themselves instantly in loose material if frightened, and, I may add, that they mostly frequent a hot, dry place, where there is loose plunging material.—The pests seem to be allied to the cockroaches, and we noticed how speedily they bury themselves in loose soil. Any and every method should be adopted to eradicate them, and must be carried out regularly until there is no further fear of damage from them. Baits composed of arsenic or phosphorus paste may be used, provided household pets are not likely to eat them, and they will speedily answer for many of the beetles. Some of the proprietary articles should be tried, as well as the traps offered by the horticultural sundriesmen who advertise in our columns. We remember how, some years ago, we trapped hundreds of somewhat similar pests by filling shallow, stout tin boxes with the decayed fibre-refuse in which they seemed to delight; having filled the tins, they were buried in infested places, or placed wherever the beetles mostly gathered. About every third day the tins were removed, and their contents thrown into the furnace fire; this means, and the use of phosphorus paste, eventually relieved us of unwelcome guests.

THE NARCISSUS FLY.—E. G., Potters Bar: Will you kindly tell me whether there is any Governmental publication, either from Kew or the Board of Agriculture, dealing with the Narcissus Fly, as I am anxious to get together all the information possible concerning this pest?—In the October issue of the "Journal" of the Board of Agriculture there is an illustrated account of the Narcissus Fly (Merodon equestris), by Dr. R. S. MacDougall.

REMEDY FOR CARROT FLY.—J. M., Weybridge: In our district it is a very difficult matter to obtain good crops of carrots; the seeds seem to germinate all right, but before very long the young plants sicken, and even if a few roots do come to any size they are grub-infested, and practically useless. Can you suggest any means whereby the carrot crop may be safeguarded next year?—In the case of carrot crops suffering from attacks of the Carrot-Fly (Psila rosæ) little can be done to remedy the trouble, but a great deal of good will result if proper preventive measures are adopted. Where carrot crops have been infested with the carrot-fly the ground should be heavily gas-limed at once, and then deeply trenched, the surface soil being placed in the bottom of the trench, so the hibernating pupæ which escape the gas-lime are buried out of the way. The carrot-fly has a strong dislike to paraffin, and so it is an excellent plan to mix about a quart of paraffin with a small barrow load of finely-sifted dry wood ashes, and apply a dressing of the mixture over the plot as soon as the carrots have been sown. A similar dressing should be given when the carrots are two inches high. When thinning the carrots, promptly fill up the holes from whence carrots are drawn with fine soil; thinning finished, draw a little soil towards the rows, and follow with a good watering. By these means the efforts of the carrot-fly to deposit her eggs are frustrated. In badly infested districts we should give a third dressing of the paraffin and ashes directly after the thinning and watering.

COLOURED SYMPHORICARPUS BERRIES.—Mr. W. Judd, Arnold Arboretum, Mass., U.S.A., writes: "Referring to one of your October issues, may I point out to a correspondent that the fruits of Symphoricarpus vulgaris are not white, but red. Here, around Boston, the plant is very common, and is locally known as the Indian Currant. It looks particularly beautiful in early November, with its long, arching sprays of red fruits."

HOW TO DEAL WITH A HOLLOW IN THE TRUNK OF AN EVERGREEN OAK.—E. P., Margate.—I have a large evergreen oak, and about 3ft. from the ground it branches into three main stems, and in the fork there is a hollow, capable of holding about a gallon of water, and this fills up during wet weather. The tree is beginning to present an unhealthy appearance, which I attribute to the water standing in the hollow. Will you kindly tell me how I can best fill up the space, and what material to use?—Remove the water from the hole with a sponge, and scrape the wood quite clean, clearing away decayed matter and filth with a chisel, or old pruning knife. The hollow must then be left for a few days to dry, with a waterproof sheet, or other suitable material over it, to prevent water entering the hole. When quite dry, tar the inside of the hole thoroughly. Use gas tar, and take care to apply it to the wood only, and not to the bark. Allow this to dry, covering as before to keep out the wet. After a few days fill up the hole with a mixture of Portland cement and sand, bringing it up high enough to prevent water remaining in the hollow formed by the forked trunk. To make the surface more closely resemble the bark of the tree, mix a little lamp black, or soot, with the outer coating of cement.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

L. G. E., Hexham.—1, Browallia speciosa major; 2, Amaryllis aulica; 3, Euphorbia splendens; 4, Calanthe vestita rubro-oculata.

S. K., Norwich.—1, Oncidium varicosum Rogersi; 2, Cypripedium insigne Cobbianum; 3, a very poor form of Vanda cœrulea; 4, Fittonia argyroneura Pearcei.

S. S., Taunton.—1, Pelargonium Radula; 2, Origanum dictamnus; 3, Sibthorpia europæa; 4, Cupressus Lawsoniana Allumi; 5, Azara microphylla; 6, Cypripedium Maudiæ.

M. M., Windlesham.—1, Pernettya mucronata; 2 and 3 are the same species, but show different colouring in the berries; seedlings show this difference, and also some variation in habit.

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NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

K. W. S., Reigate.—1, Bess Pool; 2, King of the Pippins; 3, Sturmer Pippin.

H. P., Aylesbury.—1, Fearn's Pippin; 2, Bismarck; 3, Royal Russet; 4, Adam's Pearmain.

F. F., Cirencester.—1, Blenheim Pippin; 2, Alfriston; 3, Lane's Prince Albert; 4, not recognised.

R. S. N., Tiverton.—1, a small Cox's Orange Pippin; 2, not recognised; 3, Mère de Ménage; 4, probably Betty Geeson; 5, Emperor Alexander; 6, Sturmer Pippin.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. NOVEMBER 16 TO NOVEMBER 22.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 16—Sunday	0 36	47	45	56	43
,, 17—Monday	2 0	55	54	58	47
,, 18—Tuesday	2 18	54	54	57	43
,, 19—Wednesday..	4 36	45	42	50	38
,, 20—Thursday....	—	50	47	55	45
,, 21—Friday.....	—	52	50	53	50
,, 22—Saturday.....	6 24	37	37	47	36
	(total)				
Means	15 54	48	47	53	45

DATE. 1913. NOVEMBER 16 TO NOVEMBER 22.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Nov. 16—Sunday	trace	46	49	51	35
,, 17—Monday	trace	48	49	51	44
,, 18—Tuesday.....	0·01	50	50	51	50
,, 19—Wednesday..	—	48	50	51	23
,, 20—Thursday...	—	47	49	51	33
,, 21—Friday.....	0·68	49	49	51	46
,, 22—Saturday....	trace	48	49	50	24
	(total)				
Means ...	0·69	48	49	51	37

CATALOGUES RECEIVED.

DICKSON'S, CHESTER.—A very neat catalogue comes from Chester, devoted to ornamental and forest trees, shrubs, tools, and sundries.

GEORGE PRINCE, LONGWORTH, BERKS.—A boldly-printed rose catalogue, with the varieties fully classified, numerous illustrations, and a list of the firm's chief successes at exhibitions, including the D'Ombrain Trophy for tea roses won at the N.R.S. Show seven times in succession.

BERTRAND W. DEAL, BROOKLANDS, KELVEDON.—Mr. Deal is an extensive cultivator of seeds on wholesale lines, but in the matter of sweet peas he is a retailer as well as wholesaler, and in his new catalogue he lists a number of sweet pea novelties, as well as the general collection.

HERD BROS., PENRITH.—In addition to the descriptive list of forest trees, ornamental trees, fruit trees, etc., offered, and grown from 600 to 800ft. above sea level, this firm makes a special feature of offering collections of a hundred conifers, and a similar number of roses, of standard flowering and foliage trees, of flowering shrubs, and of herbaceous plants, at fixed rates.

JAMES DOUGLAS, GREAT BOOKHAM, SURREY.—The twenty-first annual catalogue issued from the Edenside Nurseries, Great Bookham, is worthy of the name it bears. In it carnations are classified, described, and, in some few instances, figured; there is an illustration of the Cartwright Cup won by the firm five years in succession. Auriculas and German irises are also included in the list.

R. WALLACE AND CO., KELNFIELD GARDENS, COLCHESTER.—Three catalogues from this Colchester firm prove interesting reading. One lists hardy bulbs, tubers, and rhizomes; another is devoted to hardy plants and alpines, while the third is a delightfully illustrated booklet on garden design, indicating the firm's work and successes in creating new and improving old gardens.

FORTHCOMING ENGAGEMENTS.

NEXT WEEK.

MONDAY, December 1.—National Dahlia Society; Annual Meeting at the Hotel Windsor, Victoria Street, Westminster, at 4 p.m.

TUESDAY, December 2.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Informal Garden Design," by Mr. Edward White; Scientific Committee at 4 o'clock.

Horticultural Club Monthly House Dinner at the Hotel Windsor, Victoria Street, Westminster, at 6.30 p.m., to be followed by a lecture, illustrated with coloured lantern slides, entitled "A Ramble along the West Coast of Vancouver Island," by Mrs. Julia L. Henshaw.

WEDNESDAY, December 3.—Perpetual-flowering Carnation Society's winter exhibition at the Royal Horticultural Hall, Westminster; Conference at 3 p.m., when Mr. G. H. Lawrence will read a paper on "Carnations for Amateurs, by an Amateur"; Annual General Meeting at 6 p.m.

THURSDAY, December 4.—Linnean Society meets.

SATURDAY, December 6.—French Horticultural Society of London.

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PUBLISHERS' ANNOUNCEMENTS.

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INDEX to Volume LV. may be obtained through any Newsagent, price 2d.; or 2½d. post free from the Publisher.

BINDING CASES for binding the 12 months' numbers, green cloth, ornamented in gold, price 2s., post free.

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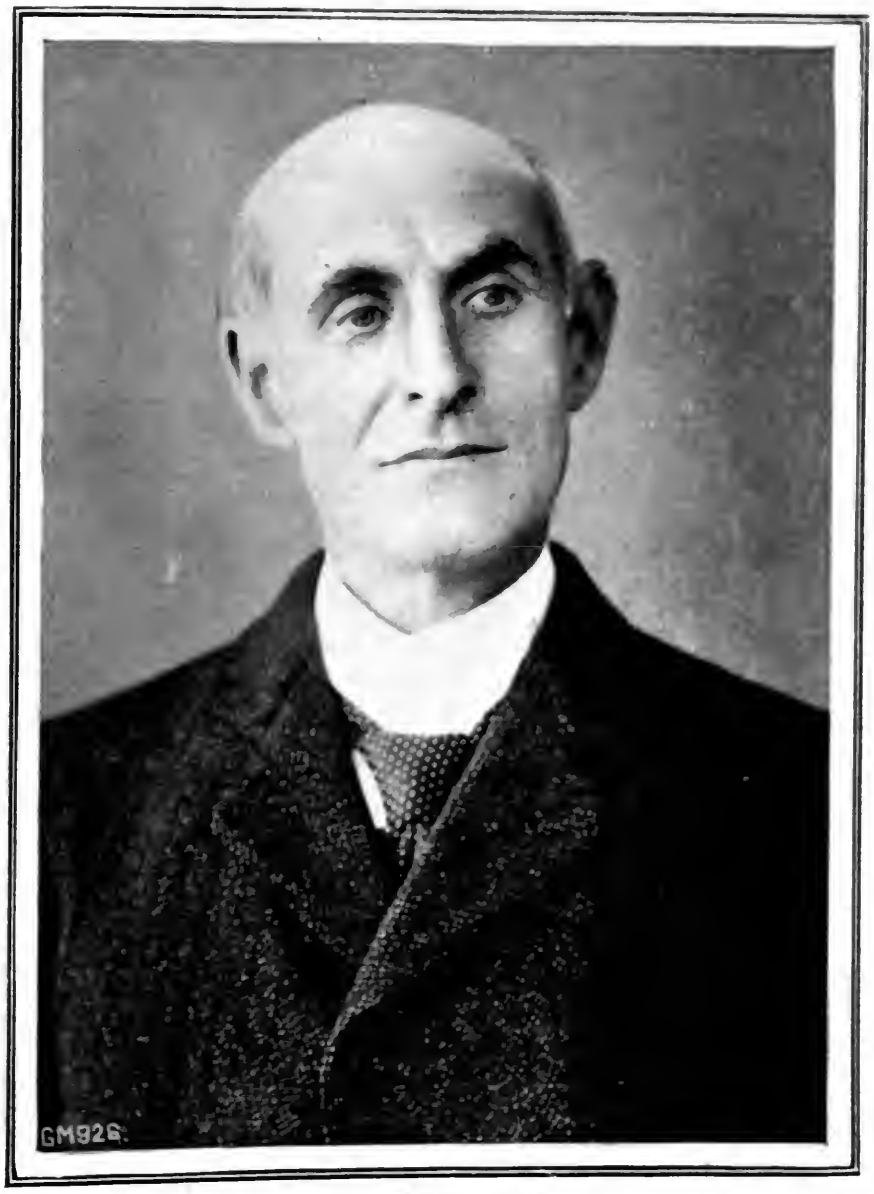
THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Protection for Horticultural Novelties.

Very many suggestions have been put forward from time to time for the purpose of arriving at a solution of the difficulties which always beset the raisers or introducers of horticultural novelties, but, so far, without success. It is interesting, therefore, to notice that a very powerful organisation is being formed on the Continent to take measures to secure to the raisers of such novelties the exclusive right of profiting by their new introductions for a definite period, much in the same way that authors of books and producers of works of art are protected under the Copyright Acts, national or international. This matter has more than once been raised at meetings of the Royal Horticultural Society, but, however much the desirability of such protection has been recognised, the fundamental differences between plants and books were too clear to admit of any probable solution of them, or of bringing the law to bear on anything like parallel lines. The first difficulty is that a novelty in the horticultural sense is not altogether the outcome of a human inspiration but a gift of Nature, no matter how far the cultivator may have formed an ideal beforehand, and by careful hybridisation, cross-fertilisation, or selection, attained it, or an approach to it which he deems worthy of note. Many other specialists may be simultaneously working on similar lines, and, as has often happened, reaped similar successes. Even with natural sports, as with Cytisus Andreanus, the red-flowered Broom, and some chrysanthemums, they may crop up at various places and be found introduced by several people at or about the same time. The organisation referred to aims at establishing priority in such cases, and, this established, would, we presume, prevent other raisers or finders from putting their prizes on the market. Would this be just? To secure such protection the distributor or raiser would have to exhibit his plants with as little delay as possible, and obtain a certificate long before he had any stock to dispose of, or, maybe, before its actual cultural value was established. Having obtained it, he might fail to raise any stock at all, but still the priority certificate would debar others from profiting by their labours, as their plants would be useless commercially, except by agreement with the holder of the certificate, to whom, in fact, they were not indebted at all. If, on the other hand, he, like a business man, and as is now done, refrained from putting his novelty forward until he had a stock to dispose of, he would then, of course, run the risk of a subsequent discoverer, or raiser, forestalling him. With the copyright of a book, or a work of art, the position is entirely different; a copy of the book is deposited, and is easily distinguished from every other book by the peculiarly individual features of the work itself, the author's name on the title-page, and, presumably, by the printer's name somewhere else, to say nothing of the publisher. With a plant the only thing that could be secured would be the name; but how could an authentic specimen associated therewith be registered also? Much, therefore, as we admire the object of the new organisation in question, we greatly fear that its main object can never be attained, and that it will find immense practical difficulty in getting the requisite regulations accepted by the trade, whose object it is to effect the freest possible circulation of the plants they deal in without creating an atmosphere of doubt and distrust, which strict legal regulations, affecting not only the seller but also necessarily the buyer, would create. We foresee, too, endless complications. Take the case of a protected chrysanthemum, which is distributed far and wide. Presently, if, as is the habit of the plant, it sports again in fresh hands, what would be the priority man's rights over the new progeny? And supposing these lapse so far as that is concerned, what will happen if some of the sports revert to his protected form, and are found out by him? Will the then owner be liable to prosecution? Truly, these be hard questions to answer.



MR. A. BASILE.

Mr. A. Basile, head gardener at Woburn Park, Weybridge, is well known as an tremely capable grower of fruit and vegetables, and of sweet peas, but it must be acknowledged that, though he is best known for his successes with these objects, Mr. Basile is one of the best general practitioners we have. He is a Belgian, and his first lessons in gardening he had from his father, who, for forty years, was head gardener to the Burgomaster of Tirlemont, in the province of Brabant. At fourteen years of age Mr. Basile became a pupil of M. H. Mellet, one of the most celebrated of Belgian horticulturists; here he remained five years, and during that period took his diploma at the Government School of Horticulture at Vilvorde. When twenty years of age he took up his first appointment as gardener at Rebec, Rognon, and a year later was offered, and accepted, the post of head gardener at Jette St. Pierre, near Brussels, where he stayed for five years. Following this came a period of six years as chief gardener in the Agricultural School belonging to the Josephite Fathers, at Grammont, in Flanders. It is thirty years since Mr. Basile first came to England, to take charge of the gardens and grounds at Woburn Park, then recently purchased from Lord Petre by the Josephite Fathers, and opened as a secondary college for the education of boys. Mr. Basile has enlarged the kitchen garden until it is now over three and a-half acres

in extent. He has planted thousands of ornamental trees and shrubs in the gardens and grounds, and seen many of the trees grow to considerable size. He has also planted many hundreds of fruit trees, and grows seventy-four varieties of pears, chiefly as pyramids and single cordons, and forty-six varieties of apples, in bush and standard form. Two large herbaceous borders and twenty-six large flower beds claim attention, in addition to the routine work of a large place. Mr. Basile has to his credit a record of over eight hundred prizes, chiefly for fruits and vegetables, including four silver cups and twenty-eight medals, among the latter being the Champion Gold Medal won at the Crystal Palace in 1899. Mr. Basile is always ready to give others the benefit of his wide knowledge and experience, but he is so modest that few know him except by reputation. The Rev. T. L. McMurdie, the present president of the college at Woburn Park, is himself a keen amateur gardener, and takes a close interest in Mr. Basile's work, and at all times is delighted to show his friends and visitors round this interesting place.

Cottage Gardens in Munster.—About three years ago Sir Bertram C. A. Windle, President of University College, Cork, conceived the idea of increasing the beauty of cottage gardens throughout Munster by the distribution of plants and seeds to labourers and cottagers. Large numbers of plants, etc., were distributed from the College Gardens, and others were contributed by Sir Bertram's friends. During the first year no fewer than 400 parcels were distributed, and altogether nearly 2,000 packages, each containing a dozen plants and a packet of seeds, have been sent out, with the result that interest has been created, enthusiasm excited, and the cottage gardens of the province greatly beautified. Sir Bertram is at present asking for surplus herbaceous plants, etc., so that larger distributions may be made in the near future.

Protection of Wild Birds.—Lovers of wild birds will be glad to learn that a committee has been appointed by the Home Secretary to consider whether any amendments are desirable in the Wild Birds' Protection Act, and whether improvements in the administration of the Act are necessary. The Committee is composed of Lord Lucas, Messrs. Frank Elliott, E. G. B. Meade-Waldo, W. R. Ogilvie Grant, and Hugh S. Gladstone, F.Z.S., with the Hon. E .S. Montagu, M.P., as chairman, and Mr. H. R. Scott, of the Home Office, as secretary, to whom all communications concerning the enquiry should be made.

The French Horticultural Society of London.—The annual Bulletin of this society has just appeared, and contains the usual record of the past year's work. Our old friend, Mr. George Schneider, is to be warmly congratulated on the progress the society still continues to make, and we hope he may be long spared to carry on the beneficent work he inaugurated so many years ago on behalf of his young fellow countrymen. The Bulletin this year contains 180 pages of text. For frontispiece there is a good portrait of Mr. Rudolph Barr, who took the chair at the last annual dinner. The usual literary matter is given, such as the rules, library catalogue, list of members, accounts, reports of monthly meetings, and of the annual dinner. There are also a number of papers read by the members on various subjects connected with horticulture. We note some on Kew Gardens, English cucumber culture, Guernsey horticulture, the Royal International Show of 1912, at Chelsea, a visit to Messrs. J. Carter and Co.'s at Raynes Park, S.W.

"Amateur Gardening" Christmas Number for 1913 lacks nothing in beauty or interest when compared with similar issues in previous years. The outstanding features are the delightful illustrations in colour, representing roses and garden scenes, and all reproduced from colour photographs. There are seventeen of these, and they alone are worth the 6d. charged for an issue which contains about two dozen other illustrations, and is full of information interestingly given. "Flowers of Magic," "Flowers of Romance," "Garden Herbs," "A Flame in Flowers," "In a Winter Garden," and "About Curious Pods," are a few of the principal articles in an issue that does credit alike to the Editorial staff, the Printers, and the Publishers. As such a splendid sixpennyworth is sure to sell well, readers desiring copies should promptly send their orders to the Publisher, 148 and 149, Aldersgate Street, E.C.

Sheen Common in Danger.—A proposal is on foot to convert Sheen Common into a sports ground. This little common, near Richmond, in Surrey, is a beautiful bit of wild nature, and to cut down trees and undergrowth, and lay out tennis courts, bowling greens, etc., would spoil it for ever. There is plenty of land available for sports in the neighbourhood, and so, naturally, many residents are opposing the loan of £800 proposed for the purpose of transforming the common. Every effort should be made to preserve, not convert, such a charming bit of wild country as Sheen Common.

The National Hardy Plant Society.—The annual meeting of this society will be held at the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, S.W., on Tuesday, December 9, 1913, at 4 p.m. The report and balance-sheet will be presented, officers for the ensuing year elected, and propositions brought forward affecting the policy and future working of the society. It is felt that progress has not been so rapid as it should have been, and the committee is therefore anxious to devise a plan of action that shall enable the society more fully to justify its existence, and accomplish its mission in the horticultural world.

A Plant Collector for the Royal Horticultural Society.—On many occasions a hope has been expressed that, when funds would permit, the Royal Horticultural Society should once more send out a qualified collector to some unexplored country for the purpose of adding to our store of useful garden plants. This subject, discussed somewhat freely in the pages of a contemporary, has drawn a letter from the Rev. W. Wilks, in which he writes that the "proposal for a collector is only one out of an almost innumerable number of suggestions for spending money which are constantly being brought before the Council, and they find a real difficulty in discriminating as to their relative merits."

Retirement of Mr. James Forbes.—Mr. James Forbes, head gardener at Overtoun, Dumbarton, for over 40 years, has just retired from active service, and is now resident at Milngavie. He served under three proprietors—Mr. James White, his son, Lord Overtoun, and the present proprietor. Both in Mr. White's and Lord Overtoun's time extensive alterations were made in the gardens and grounds, and these were all carried out under Mr. Forbes' direction. Mr. Forbes, who is one of the leading horticulturists in Scotland, is a native of Kincardineshire, and began his gardening career at Fasque, at that time the property of Sir John Gladstone, brother of the late Mr. W. E. Gladstone. His first head charge was at Beechwood, Partick, where he remained till he was appointed to Overtoun. Mr. Forbes has the unique distinction of having visited both the great International Horticultural Exhibitions in London, in 1866 and 1912. He is a member of all the leading horticultural societies north of the Tweed, and he has been a member of the Royal Scottish Arboricultural Society for a considerable number of years. His many friends and acquaintances will heartily join in the wish that he may be long spared to enjoy his well-earned retirement.

The Gold Hogg Memorial Medal is a rare award, and has only been granted on two occasions. About two years ago, this medal, which commemorates the late Dr. Hogg, a famous pomologist and writer, was awarded to the Agent-General of British Columbia for a superb display of fruit, staged in the Royal Horticultural Hall, Westminster. On Tuesday last the second gold medal was awarded by the Royal Horticultural Society to the Hon. Vicary Gibbs for a splendid lot of fruit, finely grown and finely exhibited by Mr. Edwin Beckett, V.M.H., the well-known gardener at Aldenham House, Aldenham, Herts.

Royal Gardeners' Orphan Fund Election.—Our readers should bear in mind that all nominations for the election of the Royal Gardeners' Orphan Fund must reach the Secretary, Mr. Brian Wynne, 19, Bedford Chambers, Covent Garden, W.C., on or before December 16, otherwise candidates will not be eligible for election on February 6, 1914, when the annual general meeting takes place at Simpson's, 100, Strand, W.C.

A Huge Chrysanthemum is reported from America. It is a specimen seven feet high and sixteen feet in diameter, and carried two thousand blooms. The name of the variety does not appear, but we learn that the plant was grown in the gardens of Mr. Samuel Untermeyer, a New York lawyer, and it has been on exhibition at the New York Museum of Natural History.

The Kew Seed List.—Each year the Kew authorities issue a "List of Seeds of Hardy Herbaceous Plants and of Trees and Shrubs," and the 1914 edition is before us. The names of available kinds fill twenty pages, and represent a very wide range of hardy plants. These seeds, mostly ripened at Kew, are available only for exchange with Botanic Gardens, and with regular correspondents of Kew.

Improvement of the Victoria Tower Gardens.—Everyone knows the great Victoria Tower of the Houses of Parliament, Westminster, either through personal observation, or by means of illustrations, but comparatively few know the Victoria Tower Gardens close to the House of Lords. A number of slums and wharves have been cleared away recently, and the site presented to the Office of Works by the London County Council; this means the addition of a piece of land, 300 yards long, to the Victoria Tower Gardens. Already the work of laying-out this new area and planting it with trees and shrubs is in progress, and when planting and railings have been completed the gardens will form a delightful open space in a position where it

is much needed. In the older portion of the gardens, Rodin's famous group, "The Burghers of Calais," will be set up, and the Victoria Tower will form a background for it. The unveiling of the group is expected to take place in March, 1914.

Takings at Norwich Chrysanthemum Show.—We learn that the total receipts at the Norwich Chrysanthemum Show were £220 17s. 5d., as against £259 0s. 5d. in 1912, the falling-off being attributable to the incessant rain on Friday, November 21. As the Norwich Horticultural Society depends largely upon its takings at the November show to "pay the way," this loss is a serious one, and unless the garden and estate owners of Norfolk and Norwich swell the list of annual subscribers, there will be considerable difficulty in holding spring and summer shows in the future.

Scenery and Disfiguring Advertisements. — Mr. Richardson Evans, chairman of the Committee of the Scapa Society, reminds us of the power which local authorities possess under the Advertisements Regulation Act, 1907. In many districts magistrates have lately directed the removal of advertisements which disfigure the natural beauty of a landscape or views from public parks and promenades. He points out that next year, in Westmorland, the power of general prohibition will become effective, and as the term of five years' grace allowed by the Act to existing advertisements expires in other districts, for which the local authorities have been wise enough to make by-laws, the eyesores will completely disappear. Pressure should be brought to bear on local authorities to avail themselves of the provisions of the Act. Unfortunately the statute of 1907 gave no adequate power of protecting the dignity of city "prospects" or the quiet beauty of villages and small towns. Mr. Evans hopes the Bill prepared by the Scapa Society, of which Captain Murray is in charge, will become law next Session, and that means will then exist for satisfying all the reasonable requirements of local opinion.

Violet Kaiser Wilhelm. — Mr. Thos. Johnson, of Motcombe House Gardens, Shaftesbury, sent us about three dozen splendid blooms of the deliciously fragrant violet named Kaiser Wilhelm. The stems were long and sturdy, and the flowers well over an inch broad, with rounded, violet-purple segments and a small white centre. Mr. Johnson tells us that he grows violets largely in frames, and we can certainly say that, if the blooms sent are a fair sample, he grows them exceptionally well.

Raspberry November Abundance.—The article on "Autumn-fruiting Raspberries," which appeared on page 827 of our issue of November 1, has inspired Mr. A. K. Turner, Orwell Park Gardens, Ipswich, to send us the followed particulars, together with some fine clusters of luscious fruits of November Abundance raspberry: "The autumn-fruiting raspverry November Abundance does remarkably well here on the East Coast, but I admit ours is a sheltered garden. We have been gathering first-class fruits of this variety for over three weeks, and hope to continue for another week, weather permitting. I find this an indispensable variety to follow October Red and October Yellow, as it carries us well into November, and provides excellent fruit for breakfast dessert. I find these late raspberries enjoy a rich and fairly heavy loam, and to procure the very best results a new row should be planted every spring, to last for three years. Plenty of young plants are always procurable from the older rows, and a new row every year pays for the trouble it gives. I noticed, two years ago, that the variety October Yellow failed to produce many fruits, although treated precisely as the other autumn varieties, which bore well. Having made a note of it, I cut back some of them half-way last spring, instead of almost to the ground; they produced lateral growths, and have fruited on the laterals splendidly this year. I am wondering if this is an exception to the rule, and whether anyone else has tried the plan?"

Seeds which are Like Insects. —The Royal Horticultural Society's Scientific Committee recently had before it some curious seeds, sent up from the Orchid Committee, to whom they had been sent as insects which infested an orchid house, without, however, any damage being traceable to them. They were considered to be the seeds of some plant, probably an oxalis, which had scattered them over the house, and bore a distant resemblance to minute beetles, minus legs.

Serious Damage by Insects. —According to the "Excelsior," the damage caused by insects in the vineyards in Bordeaux district amounts to £1,600,000 annually.

NEW PLANTS AND FLOWERS.

PRIMULA MALACOIDES PLENA.

This is a delightfully elegant plant with double flowers, but the dainty blossoms are not so heavy or so much doubled as to spoil the grace so evident in the type. The colour varies a little, as in the case of the single form, but is usually of a soft rosy-lilac or pale mauve. Evidently these flowers last longer than the single ones. A.M., R.H.S., December 2. Messrs. Bees, Lim., Liverpool.

CATTLEYA MAGGIE RAPHAEL, THE DELL VARIETY.

This glorious variety of an increasingly popular hybrid is one of the finest of catt.

PRIMULA MALACOIDES PLENA.

A beautiful double-flowered form of a popular plant; the blossoms are dainty, and of a pale rosy-lilac shade. A.M., R.H.S., December 2. Messrs. Bees, Lim., Liverpool.

leyas seen this year. The specimen shown was very finely grown, and had a spike of four superb blooms. The pure white sepals and petals formed a striking and contrasting background for the large, purple-apexed lip, with its wide area of gold shading and veining running into the throat, and a pale and wavy margin all round, that was almost white. F.C.C., R.H.S., December 2. Baron Bruno Schroder (gardener, Mr. Shill), The Dell, Egham.

CHRYSANTHEMUMS.

Commodore.—A superb single chrysanthemum with all the beauty of form and fine substance which characterises that splendid variety Mensa. It may be said to be a brilliant crimson-red counterpart of the latter,

but we understand it is not a sport, but a seedling, raised by Mr. Tom Page, of Hampton. A.M., R.H.S., December 2. Mr. Thos. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone.

Cardinal.—This brilliant single variety has flowers of medium size, and of the richest scarlet-crimson imaginable, with a large yellow disc, surrounded by a very narrow yellow zone. About 2½ft. high, and free-flowering, it should become popular, especially as the flowers show up well under artificial light. A.M., R.H.S., December 2. Messrs. Jas. Veitch and Sons, Chelsea.

Mauve Beauty.—This is a very distinct, closely incurving Japanese variety of good size and fine substance. It has broad, pointed florets, a fine stem, and ample foliage. The lower florets are of deeper, rosier hue than the bulk of the flower. It appears to be a variety that would travel well, and it grows about 5ft. high. II., 2, b.; Commendation, N.C.S., November 24. Messrs. W. Wells and Co., Merstham.

Bertha Lachaux.—A charming decorative Japanese variety with graceful, narrow, and reflexing, semi-drooping florets of a lovely shade of mauve pink. The blooms are of fair size, borne on slender, but stiff, stems, furnished with medium-sized, deep green leaves. A beautiful variety for late decorations. II., 1, b.; F.C.C., N.C.S., November 24. Messrs. W. Wells and Co., Merstham.

AGATHIS VITIENSIS.

An interesting conifer, which is endemic in mixed forests in the Fiji Archipelago, where it is known as the Dakua, and is abundant in the islands of Vanua and Viti Levu. It also occurs, but less plentifully, in the Islands of Ovalau and Kaduvu. In Ovalau some remarkably fine specimens have been found, one with a trunk having a diameter of five feet, and some with a height ranging from eighty to one hundred feet, with clear stems up to sixty feet. The bark is described as peeling off, in much the same manner as that of the Australian gum-trees, and the wood, which serves much the same purposes as deal, is used by the Fijians for house floors and for masts, booms, and spars. The tree exudes a gum which, in the interior of the larger islands, has been used for burning in place of cocoa-nut oil. The species has been grown at Kew since 1881, the first sixteen years in the tropical palm house, and since then in the Mexican house, and the tree has now attained a height of twenty-five feet. In 1911, it produced female cones, which are globose, 3¾ inches long, 3½ inches wide, and of a bright green colour. Bot. Mag., t. 8,512.

ROSA FOLIOLOSA.

A distinct and attractive species, indigenous to North America, which has been described as the South-Western Prairie Rose, owing to its apparent restriction to the prairie region of Arkansas, Northern and Central Texas, and the Indian territory. This special has a dwarf habit and running root-stocks, and bears fragrant single flowers about 1½in. in diameter, and of a rich carmine colour. It was originally discovered by Nuttall during his visit to Arkansas in 1818-20, but was not published by Torrey and Gray until twenty years later, and after it had been met with in Texas by Berlandier and others. It is stated that, according to a manuscript list of the trees and shrubs in cultivation at Kew, prepared in 1880 by Sir Joseph Hooker, it was then in the Kew collection, but as late as 1890 it was considered a rare plant at Harvard, Massachusetts. The plate published in the "Botanical Magazine" was prepared from a flowering spray produced by a plant in Canon Ellacombe's garden at Bitton, where it blooms as late as the end of August. As a garden rose the species possess much value, for the elegant single flowers are attractive in colour, and it is readily increased by division. It appears to be well deserving the attention of hybridists who are anxious of breaking away from conventional lines. Bot. Mag., t. 8,513.

BLACK CURRANT MITE.

Having read your articles on the above subject, and being very interested in the matter, it occurred to me that readers of THE GARDENERS' MAGAZINE might like to know that I have adopted Mr. A. H. Pearson's method of trying to eradicate Black Currant Mite. I wrote to Mr. Pearson in the early spring, asking his advice as a large grower of black currants, and he very kindly sent me full particulars (as set forth by him in your columns) of how to set to work to try and remove the pest. As I had some very fine Boskoop Giant black currant trees, I was anxious not to grub up or destroy them, or yet cut them down to the ground, so as to make them break up afresh, and thus try to eradicate the mite. By following the Pearson system I now feel confident I may, in a season or two, clear my trees of the pest. Already they look more promising, and I propose in the early spring of 1914 to again follow out his directions.

There is not the least doubt that if anyone wishes to keep either his apples, pears, currants, gooseberries, etc., clean, and have fruit of good appearance, he must spray the trees every season. To carry out the work for one season only is a waste of time and money. I know we have great difficulties to contend with, as very often our neighbours cannot see the necessity of spraying. They seem to think that because our forefathers never sprayed their fruit trees we need not do so now. Fruit of a certain class is easily obtained, and it realises a certain price on the open market, but I know for a fact that my fruit, from my sprayed trees, will realise a more satisfactory figure than theirs. Why is this? One need not look very far to find the reason. Comparing my fruit with theirs, it has not only a better appearance, but is larger in size. The extra value therefore pays for the expenditure of spraying. My advice to all growers of fruit is to spray, both winter and summer.

If the Board of Agriculture would take up this subject in the same energetic way as it has American gooseberry mildew, it would be a very good thing for the country. The Board should enforce spraying. Meanwhile, let us all try and produce as good fruit as our foreign neighbours, for unless we take care we shall be left behind—simply because we will not put enthusiasm and keenness into the work, but leave others to do the pushing.

E. J. WOOTTEN

Fairoak, Eastleigh, Hants.

In recent issues of your valued paper I have read a good deal about Black Currant Mite, its prevention and cure. While I cannot say anything for or against Mr. Pearson's remedy, not having put it to a proper test, I nevertheless mean to follow his advice from this season onwards.

I think, however, that those who wish to grow this most useful and excellent fruit satisfactorily had better make up their minds to grub up their old trees every sixth year at the latest, as I am almost convinced that without proper treatment the trees will not keep clean longer than the period mentioned. It might, perhaps, be wiser in the first instance, when, say, four acres are to be planted with black currants, to commence by planting two acres only, and fill the remaining space three years after. The grower would then always have a good stock carrying a full crop, and younger plants to take their place when grubbed up.

My experience is as follows: Seven or eight years ago, I planted a batch of Boskoop Giant, which, at the time, had the reputation of being exempt from the mite; and this proved correct until last winter, when I found a fair number of big buds all over my trees, and these I carefully removed myself and burned, afterwards spraying the trees as recommended by Mr. Pearson. Doubtless, I was too late in removing the big buds, as this autumn, after the leaves had fallen, I noticed big buds were infinitely more numerous, and so I decided to uproot all the infested trees and burn them.

Since then I have planted Seabrook's Black, which, up till now, has a clean record.

While, therefore, I am quite a believer in Mr. Pearson's remedy, and intend to follow the instructions given by him in your columns. I am convinced that without treatment the trees have only a short clean life, and consider that all growers have to face the expense of buying fresh stock every few years if they have not space to grow fresh stock from healthy cuttings.

Only last season I planted a few fresh clean plants of Boskoop Giant close to the mite-infested older trees, and, to prove what I have said, these young ones have not a single big bud on them.

R. MORTON.

Grange Dene, Woodside Park, N.

PÆONY-FLOWERED DAHLIAS.

I see, on page 885, a correspondent states he cannot understand how it is that the pæony-flowered dahlia has become so popular; in fact, it appears to strike him as a mystery how this particular section of the dahlia has forced its way into the front rank of late summer and autumn-flowering plants, in place of the popular cactus forms. Now, I fail to see anything mysterious about the matter, for the pæony-flowered varieties were launched on the dahlia world just at the time the cactus varieties were being decried because of their bad stems and lack of decorative effect in the garden.

The new-comers did not receive a hearty welcome; in fact, they were abused almost on all sides, except by the people who had seen them in the garden, which is their proper place. They had no claims as a florists' flower, neither have they now; and I take it they are merely exhibited to draw the attention of the public to their claims as autumn-flowering plants, and I trust the day will be far distant when they are drawn into the hard and fast regulations of an old-time florists' flower.

Your correspondent seems to require a standard of perfection drawn up, as in the case of the show dahlias. At the same time he quite overlooks the fact that no such standard has ever been drawn up in the case of the cactus varieties. It was the hard and fast rules as to form which killed the popularity of the double dahlia as a garden flower, and anything approaching strict formality will act in a like manner in the case of the section under notice. Your correspondent will have no difficulty in making a selection of varieties with clearly defined "eyes," or those possessing a centre of short florets; he may describe them as confused, or he may regard them as charming, according to his taste. In either case, I trust we shall avoid the florists' rule.

I take it the aim of the raiser should be to obtain a pleasing flower that is freely produced, and, above all, with a good stiff stem that carries it well above the foliage, so that when the blooms are gathered for decorative purposes they remain erect, and do not "flop" all round the hand of the gatherer. After all, it is a matter of time, and that a short one, too, when the varieties with weak stems will be eliminated. I noticed that the Joint Committee of the Royal Horticultural Society and the National Dahlia Society, during the season just passed, would not look at a pæony-flowered variety that was supported by wires, or that did not possess a good stiff stem. I trust it will not be long before the cactus varieties come under the same unwritten law, for such holds good now, so far as the Garden Cactus dahlia is concerned.

Under no circumstances should the pæony-flowered dahlia be restricted to any particular form, for we have already three or four types, each good in its particular way, and it is quite a matter of opinion as to which type is best. The pæony-flowered varieties were never intended to be exhibition flowers. Their proper place is in the garden, where they have already asserted their right to be placed as decorative plants.

R.

THE HORSE CHESTNUTS.

Exactly why two such very distinct trees as the Æsculus and Castanea should both bear the popular name of Chestnut is not very clear. Admittedly, there is some resemblance in the spiny husks and shining brown fruit or seeds, but here the likeness ends. Not only do the Horse Chestnut and the Sweet Chestnut belong to different genera, but they are members of widely distinct natural orders, Æsculus to Sapindaceæ and Castanea to Cupuliferæ.

Æsculus.

Among large ornamental-flowering trees growing in our pleasure grounds and parks first place must be given to the Common Horse Chestnut. As a specimen tree, several trees planted to form an imposing mass, and as an avenue tree, when in flower the Common Horse Chestnut is unequalled. While the ornamental character of the tree is such a strong point, quite the opposite is the case if it is considered for close woodland and coppice planting. The distinct, wide-spreading habit of the branches renders the tree worthless for close planting. The timber is not of much commercial value, while for firewood its worth is, perhaps, explained by saying that our men here seldom carry it home, preferring any other wood of the larger timber trees, except that of the Sweet Chestnut.

Ten species of æsculus are in cultivation, half of which are natives of North America, four natives of Asia, and one a European species. As well shown in the illustration, some species have spiny fruits, while those of other species are quite smooth. A second peculiarity is that several species have four and others five petals. These characters were formerly used as a generic distinction, those with spiny fruits and five petals being known as Æsculs, or Horse Chestnuts, and the species with four petals and smooth fruits as Pavia, or Buckeyes.

The cultivation of the Horse Chestnuts presents no difficulties. The trees, even when a fair size, transplant successfully. All are perfectly hardy, with the possible exception of the Asiatic species, which, though they occur at fairly high elevations in a wild state, should, except in the south and west, be planted in fairly sheltered positions. Seeds form the best and a ready means of increasing stock. These should be sown as soon as ripe, or, at any rate, be kept during the winter in damp sand, for if kept dry they soon lose their vitality. The hybrids and the double variety are increased by grafting or budding, the Horse Chestnuts on stocks of Æsculus Hippocastanum and the Pavias on Æ. flava or Æ. glabra. It is important when grafting or budding to use the wood at the base of the young shoots where the eyes or buds are small.

With regard to soil, a rich loam, moist rather than dry, is the most suitable, but it must be a very bad soil if the Common Horse Chestnut fails in it. On the other hand, if available, as the trees are gross feeders, mulches of manure prove very beneficial, particularly on light soils.

Æ. californica.

Commonly referred to as the Californian Buck-eye, this species grows wild on the banks of the Upper Sacramento River, California, and the western slopes of the Sierra Nevada mountains. Though first introduced as long ago as 1855 by the Messrs. Veitch, of Exeter, where it first flowered three years later, the Californian Buckeye is but very little known. It forms a large shrub or very spreading tree, the diameter of the branches being almost invariably greater than the height. A tree at Kew is 15ft. high, and 20ft. through. The tallest specimen recorded in this country is in the Isle of Wight, where it is said to be 20ft. high.

The leaves are noteworthy as being the smallest of the family, 3in. to 5in. long, generally in fives. The flowers are white, ¾in. in diameter, closely disposed on a compact raceme some 6in. to 7in. long, with conspicuous orange-coloured anthers. The flowers are fragrant. The fruits, as shown in the illustration, are spineless, brown in colour, in shape resembling a small pear, 2in. to 3in. long. A most important trait in the character of this buck-eye is the fact that the flowering season lasts for two months, a succession of flowers opening from June to August. Æsculus californica is useful to plant as a lawn specimen and in the shrubbery. Its value for the former purpose may be seen at a glance on referring to the illustration of a tree, growing at Kew, in the Gardeners' Magazine of 1912, page 577.

The fact that most of the trees of A. californica in this country are growing in gardens of the south and west suggests that in other parts of the country the most sheltered positions available should be chosen.

[Photo: C. P. Raffill.

HORSE CHESTNUT FRUITS.

1, Æsculus Pavia; 2, Æ. carnea; 3, Æ. californica; 4, Æ. flava; 5, Æ. glabra; 6, indica; 7, Spineless hybrid from Æ. Hippocastanum; 8, Æ. Hippocastanum.

Æ. carnea.

The red or scarlet Horse Chestnut is reputed to be a hybrid between the Common

Horse Chestnut and Æ. Pavia. Circumstances, however, at one time seemed to point to some doubt about this, as seedlings have been raised which came true; but against this, another raiser reports seedlings resembling the Common Horse Chestnut. Whatever its origin, no one can dispute the value of Æ. carnea as an attractive flowering tree. The average height of the mature tree is about 30ft., with spreading branches, generally forming a rather formal, round-headed tree. At Barton, in Suffolk, an unusually tall specimen is recorded 50ft. in height.

Æ. carnea is, perhaps, the best of all flowering trees of moderate size for planting in town and suburban gardens, public parks and open spaces, the ordinary smoky atmosphere having little effect on its beautiful flowers.

The leaves of the Red Horse Chestnut are not quite so large as, but much darker green than, those of Æ. Hippocastanum. The inflorescence is 6in. to 10in. long with rosy-red flowers; each petal is blotched at first with orange-yellow, but this disappears with age. The fruits are slightly spiny. Even more showy than A. carnea is the variety Brioti, which has richer red flowers. It is a seedling raised from Æ. carnea, in France, about the middle of the last century. There are also two varieties with variegated foliage—aureo-marginata and folius marginatis.

Æ. Hippocastanum.

The Common Horse Chestnut is a native of Northern Greece and Albania. It has been so freely planted, and trees form such beautiful objects in our pleasure grounds and parks, that everyone must be familiar with its attractive character. In habit the Horse Chestnut forms a very large, round-headed tree 50 to 70ft., occasionally reaching 100ft., in height, and, owing to the wide-spreading nature of the branches, it is usually as much in diameter. No better example of the value of the tree for avenue planting could be wished for than the famous Chestnut Avenue in Bushey Park. As a specimen tree for the pleasure grounds, or several together forming a large group in the park, the Common Horse Chestnut is unrivalled.

In public parks, open spaces and as a street tree it is unfortunate the fruits are so attractive when ripening that it is difficult to prevent boys throwing sticks and stones to knock down the nuts. To obviate this difficulty in public places the double variety, flore pleno, may be planted. This does not produce nuts, is as free in growth as the type on which it is budded or grafted, and the flowers last longer on the trees.

The Horse Chestnut thrives better than most large-growing trees in the smoky atmosphere of large towns. When the flowers first open a yellow patch of colour is present at the base of the white flowers, which, with age, changes to red. It is worth noticing that, though each upright panicle produces quantities of flowers, comparatively few spiny fruits mature on each. Close examination reveals the fact that many of the flowers are incomplete, which is evidently Nature's method of preventing the trees from being over-taxed with heavy crops of fruits. In addition to the double one, half a dozen or more varieties have been given distinctive names, which, as a rule describe how they differ in foliage or growth from the type; e.g., crispum, folius aureis variegatis, laciniata, digitata, and pyramidalis—the latter an upright-growing form, deserving of attention as a street tree.

A. OSBORN.

(To be continued.)

AUTUMN AND WINTER-FLOWERING HEATHS.

At all seasons of the year some greenhouse members of the great Heath family may be had in bloom, but collections are rarely to be met with in gardens. Time was, however, when every garden of any pretensions whatever had a structure devoted to the culture of heaths and allied plants. Nowadays a few kinds are still popular, and are grown in large quantities by nurserymen who make a speciality of their culture.

Of autumn and winter-blooming kinds the first to flower is Erica gracilis, a neat, bushy little plant, with tiny, rosy-purple flowers borne in great profusion. The colour of the blossoms is, to a certain extent, influenced by the amount of exposure the plants have undergone; those that are left out in the sun and air longest being the deepest coloured. Apart from these considerations, there are some well-marked varieties; namely, nivalis, in which the flowers are usually white but sometimes tinged with pink; rosea, with blossoms of a clear rose tint and scarcely any trace of purple; and vernalis, much later in blooming than the others, and more sturdy in habit. Erica gracilis and its forms are more easily grown than most greenhouse heaths.

A dwarfer kind, somewhat in the same style but rather later in blooming, and with white flowers, is Erica caffra.

The showiest heath that can be had in bloom at Christmas is Erica hyemalis. Of this, delightful little bushes, laden with blossoms, may be seen in the florists' shops of London. These heaths are grown by the few nurserymen who still make a speciality of hard-wooded plants. The flowers, with their pretty rose and white colouring, are borne in great profusion for some distance along the erect shoots. There is a variety, superba, of a richer colour than the type, and also the pure white form, alba. This last is remarkably chaste and very generally admired.

An old species that has come a good deal to the front within recent years is Erica melanthera. It may be grown into goodly specimens, but is usually met with as bushy plants in pots five or six inches in diameter. The tiny blossoms are of a distinct mauve shade, with conspicuous blackish anthers. The flowers have a slight but pleasing perfume.

Though Erica hyemalis is so generally grown its early history seems to be unknown, a remark which also applies to the somewhat allied Erica Wilmoreana, which comes into bloom early in the New Year. After this come many others, notably, Erica persoluta and E. persoluta alba, E. colorans, E. candidissima, E. Spenceriana, etc. These heaths are usually grown in pots five or six inches in diameter, but another system has been adopted lately, and little, flowering examples in tiny pots, and full of bloom, form a prominent feature of many florists' shops, and, what is more, they meet with a ready sale.

When the different heaths are employed for indoor decoration particular care must be taken that they are not allowed to become dry, otherwise they will quickly suffer. The ball of earth contains, as a rule, a dense mass of roots, and therefore quickly dries. One is often consulted as to the treatment that should be given to these greenhouse heaths after flowering. The best way is to cut them back moderately hard, and, as soon as the young growths have started, then repot in some good sandy peat. The soil must be pressed down very firmly. Grown for the first part of the season in the greenhouse they may, as the season advances, be stood out of doors to ripen their growth, and so ensure the formation of flower buds. Careful watering is at that time particularly necessary.

S. W.

TWELVE BEST PERPETUAL CARNATIONS FOR PRIVATE GARDENS.

It is not an easy matter to select twelve varieties of perpetual-flowering carnations and say that such a set is the best for private gardens, but after considerable experience and due consideration I record the following as the best dozen for amateurs' greenhouses—or, indeed, I might say they are the best twelve in cultivation for every grower:

Triumph is much the best crimson variety, as it is easily grown, makes an extra good plant, and carries large flowers. It is very free flowering, the stems are always stiff, and the blooms keep well. I consider Triumph the best seedling that has yet been raised in England.

Scarlet Glow is, so far, the best true scarlet, being an "easy doer" and free bloomer. The medium-sized flowers are borne on very stiff stems, and growth is clean and healthy.

In my estimation White Wonder is the best white, because it is a rather quicker grower than White Perfection, and gives more flowers of the largest size. Either this or White Perfection should be in every collection.

Lady Northcliffe, a lovely salmon-pink flower for dinner-table or other indoor decoration, is unequalled in its class, and I strongly recommend everyone to grow it.

May Day, another lovely pink variety, slightly paler than Lady Northcliffe, is a true amateur's carnation, because it is the freest flowering variety I have ever grown.

Washington stands at the head of the rose-pink section, and it is a tip-top variety in every respect, being identical in every way, except colour, with Enchantress.

In Mrs. C. W. Ward we have a very fine variety of the old Lawson colour. It is not quite so free flowering as some varieties, but every bloom is good, and it is one of the very best growers I have ever handled.

Enchantress is still the best blush-pink carnation, and, though some experts regard it as played out, I have not found its superior yet. It has been very fine this autumn everywhere I have seen it, and so I strongly recommend everyone to stick to Enchantress a little longer.

Mrs. A. F. Dutton is grand; it is a lovely apple-blossom pink variety with very large flowers, and an extra good grower. It varies a little in colour, but, nevertheless, is the best pink carnation I have ever grown.

The stock of Salmon Enchantress, sent out by the Messrs. Allwood Brothers, is easily the best of its colour. I thought very little of the variety when I saw it at the exhibitions last year, but it has easily surpassed all my expectations and hopes.

Mikado remains the best mauve carnation for amateurs, and although Fairmount gives a larger flower it is not so free with me. Geisha I find disappointing, and so still regard Mikado as the best of its colour.

Sunstar is a very near approach to a yellow carnation, and but for a few pink markings would be a pure yellow. It is the best keeper I know, for I have kept blooms of it three weeks; therefore I strongly recommend everyone to try it.

A. E. USHER.

Ranston Gardens, Blandford.

FLORAL DECORATIONS FOR THE DINNER TABLE.

In most private establishments the decoration of the dinner-table is an important matter on special occasions, and necessitates the cultivation of a variety of flowers. The style of decoration that finds most favour in a gentleman's residence is very different from the displays so frequently seen at flower shows. As a general rule table decorations possess a great similarity, and so it is often desirable to break away from conventional lines as far as is consistent with good taste. Employers invariably appreciate a novel arrangement and a change in the usual mode of decoration.

It is customary to keep the decorations fairly low, as diners prefer to see one another across the table; but if some of the flowers are to be arranged on a higher level the vases used should be tall enough to admit of an uninterrupted view beneath them. When decorating a large table it is desirable to place an imposing arrangement in the centre, and in the case of a very long table a series of such displays is essential, while the intermediate spaces should be filled in with low vases.

Various receptacles are utilised for the flowers; and bowls and narrow vases are the best. As a rule the latter should be about seven inches high, and they may be of plain glass, silver, or silver-gilt, and the flowers must be chosen to give the best effect with whichever kind is used. A bright colour, like scarlet, is especially effective, but when it is used plain glass or silver vases are most suitable, and the latter are preferred. When silver-gilt vases are employed colours of a fairly soft shade will be found most pleasing.

The arrangement of flowers in bowls is a difficult matter without the assistance of some artificial means of support, and for this purpose small vases or test tubes packed lightly in the bowls with moss answer admirably, and are much better than the use of a wire framework. Lightness of arrangement is most essential, and it is important to have the blooms on different levels to heighten this effect. When dealing with flowers which have rather short stems it is necessary to wire some of them, and the green zinc tubes on long wires are a useful aid. Very frequently the foliage belonging to the flowers employed can be used, but when this is not possible Asparagus Sprengeri and maidenhair fern are suitable to associate with most indoor flowers.

A table decorated with one colour only is always effective, but mixed colours are often employed with excellent results. As a general rule it is not advisable to use more than three colours together, unless a selection of outdoor flowers and foliage is available, when a decorator with artistic tastes can blend a combination of colours in a pleasing and effective manner. If only two colours are used it is well to produce a direct contrast—such, for example, as red and white, or pale pink and mauve, which could be carried out either in carnations or sweet peas.

The way the vases are placed on the table is almost an art in itself, and it is astonishing how different is the effect produced according to the manner of the arrangement. Avoid straight lines and overcrowding, or the decorations will be deprived of their full beauty and charm. Whether flowers and foliage are used on the cloth or not is largely a matter of taste; in certain cases it is a decided improvement, but not in others. When tracery on the cloth is practised it is desirable to let it be quite informal in character, and it is better to use a very little rather than err on the side of extravagance.

Begonia Gloire de Lorraine and other winter-flowering begonias are especially suitable owing to their bright colour and free flowering habit. When these are used whole plants should be placed in silver cups, and their pots hidden with fresh moss. Calanthes are among the most glorious of winter-flowering subjects, and they make a really handsome table decoration, but should only be used when the table is of large size. Some good spikes of Asparagus Sprengeri should be intermixed with the flowers, and a little smilax placed on the cloth is an improvement. Tulips in variety form an effective decoration, and are improved if lily of the valley is used with them.

THE DOUBLE-FLOWERED HORSE CHESTNUT.
(Æsculus Hippocastanum flore-pleno.)

We find perpetual carnations extremely useful for table decorations during the winter and spring months. Tables decorated with blooms of one colour, or with mixed colours, are almost equally attractive, and no other flower meets with greater appreciation. A little carnation foliage should always be used with the flowers, together with any other greenery that is required. Some of the best single chrysanthemums are eminently suitable for table decorations, and so are several of the more showy decorative varieties. Salvias make a bright display and associate very well with Roman hyacinths or lily of the valley. Pelargoniums are popular with some, but unless they are very carefully arranged they are inclined to be stiff and heavy.

Poinsettias make a splendid table for Christmas time, but when they are cut plunge the stems in hot water to prevent bleeding. A little holly should be placed on the cloth, and besides using small sprays of it a novel plan is to take single leaves, place berries on the spines, and lay them on the table in an informal manner. Few people care to use foliage plants for the table now, but symmetrical flowering plants are a great help at times, and may be used on unimportant occasions.

A table decorated with coloured foliage in the autumn is invariably admired, as it is a departure from the usual style, and some of the colours rival the most brilliant flowers.

J. GARDNER.

Batsford Park Gardens.

THE COTONEASTERS.

(Continued from page 884.)

As previously stated, the majority of the species are natives of the Himalaya and China, those from other countries being of little consequence so far as our gardens are concerned. There are, however, two or three European species, and one has been connected with the British flora. The genera most closely allied to cotoneaster are pyracantha and mespilus, and a few species have been included in mespilus by some botanists, while the plant often grown as C. augustifolia is now considered to be a pyracantha. A few species have also been included with cratægus. With one or two exceptions the species have been introduced within the last ninety years, the Himalayan kinds being brought to light during the second quarter of last century, when several botanical expeditions visited the mountains of Northern India, and the majority of the Chinese kinds are part of the spoils secured by Mr. E. H. Wilson between 1899 and the present date.

C. accuminata was one of the earliest kinds to appear from the Himalaya, the date of its introduction being given as about 1820. Growing from six to ten feet high, it is of erect habit, with ovate, deciduous leaves, varying from three-quarters of an inch to two inches in length, and covered with fine soft hairs. The small, pinkish flowers are borne several together from short, axillary growths. They are not very conspicuous, but are succeeded by scarlet fruits.

C. acutifolia, a native of Mongolia, is also represented by varieties in other parts of the Far East, notably villosula and pekinensis. The leaves of these two varieties vary considerably in size, those of the former being up to four inches in length and two inches in width, whilst those of the latter range from half-inch to one and a-half inches in length. In both cases the young wood and undersurface of the leaves is pubescent. The leaves of the type are ovate, about one and a-half inches long, and the fruits are large, oval, and bright red in colour.

C. adpressa forms a compact bush, scarcely a foot in height. Its frondose branches are clothed with small, ovate leaves, which bear some resemblance to those of the better-known C. horizontalis. The flowers are small, solitary, and sessile from the leaf axils, and they are followed by small red fruits. It is an excellent subject for planting on rockwork. A native of China, it was first grown in Europe by M. Vilmorin, at Les Barres, about fifteen years ago.

C. amœna is a new species, which was sent to Messrs Veitch from Western China early in the present century. An evergreen shrub, it has somewhat of the general habit of C. buxifolia, with similar-sized, but paler, leaves. The leaves are ovate, rarely more than half an inch long, the undersides, together with the shoots, being densely pubescent, the upper surface less so. The small, inconspicuous flowers are borne, a few together, in axillary clusters, and are succeeded by showy red fruits, which ripen in September.

C. baccillaris is one of the largest-growing of Himalayan species, for it sometimes attains a height of twenty feet or more, whilst it commonly grows twelve to fifteen feet high, with a wide spread. Its secondary branchlets have a peculiarly graceful poise, and they are clothed with dark green, ovate or oblong deciduous leaves, which vary from one and a-half to three inches in length. The small white flowers appear freely in flattened heads from the leaf axils, and are very effective when at their best. The fruits are dark purple, or almost black, and ripen in September. The variety affinis has purplish or reddish-purple fruits.

C. bullata is one of the most showy of the new Chinese kinds. Forming a bush four or five feet in height, it has ovate, wrinkled leaves, which are downy on the undersurface, and vary in size from one and a-half to three and a-half inches in length, and up to two inches in width. The flowers are small, and of little importance from a decorative standpoint, but they are succeeded by drooping panicles of scarlet fruits. There appears to be some reason for including this and C. moupinensis as the same species.

C. buxifolia.—This is a well-known evergreen species from the Himalaya. Growing at least ten feet high, it forms a large, wide-spreading bush, clothed with small, dark green, box-like leaves, showy white flowers in May, and small red fruits later in the year. It should be given a position where it can spread freely without interfering with other plants.

C. denticulata, an interesting species from Mexico, is probably not in cultivation in this country. The chief point of interest attaching to it is the dentate-margined leaves, the leaf margins in cotoneaster generally being entire.

C. Dielsiana is more familiar under the name of C. applanata, the name by which it was originally distributed in this country. It is one of Mr. E. H. Wilson's Chinese introductions, and is known as an elegant bush four to six feet high, with ovate deciduous leaves, often less than an inch in length, covered with grey felt on the undersides. The flowers are not very conspicuous, but they are succeeded by showy, bright red fruits, several often appearing together from each leaf axil.

C. divaricata has somewhat of the habit of C. horizontalis, but the growth is more vigorous, and leaves larger. A native of China, it forms a rather low, spreading bush, about two feet high, with ample leafage, small flowers, and red fruits. The leaves are about three-quarters of an inch long, and rather more than half an inch wide.

C. Francheti, a Chinese and Thibetian shrub, was introduced to France about eighteen years ago, seeds being received in 1895 by M. Maurice Ld de Vilmorin from Abbé Soulie, Thibet. Growing to a height of eight or ten feet, it is peculiar by reason of the young shoots and ovate leaves being covered by a dense mass of felty hairs. The flowers are borne in clusters from short, axillary shoots. They are not showy, but are followed by scarlet fruits, which, in the young stages, are also pubescent. C. frigida, a native of the Himalaya, is, perhaps, the most vigorous and most showy member of the family. Although often met with between twelve and eighteen feet high, it sometimes exceeds thirty feet in height, with a similar spread. The deciduous leaves are more or less oblong or obovate in outline, up to six inches long and two inches wide, pale green above, and greyish beneath, by reason of a dense pubescence. The white flowers appear in large axillary inflorescences in May, and are succeeded by bright red fruits, which last for a considerable time during autumn. Bunches of fruit are often from four to six inches in diameter. A form with orange-coloured fruits is known.

C. Harraviana is a new Chinese species, with slender branches, clothed with evergreen leaves from one and a-quarter to two inches in length, and up to one inch in width. The flowers are not very showy, but they are succeeded by red fruits.

C. Henryana is another of Mr. Wilson's Chinese introductions. Of loose habit, it grows five or six feet high, bearing lance-shaped or oblong leaves up to four and a-half inches long, with revolute margins. The leaf surface is light green and wrinkled, and the underside grey and hairy, with conspicuous veins. The white flowers are small, in axillary clusters, and are succeeded by small scarlet fruits. It appears to require a sunny position to furnish the best results.

C. horizontalis, a species from China and the Himalaya, has been known for upwards of thirty years. Grown in the open, it forms a low, spreading bush about one and a-half or two feet high, with a flattened branch system, but against a wall it may attain a height of twelve feet. The elliptical leaves are usually half an inch or less in length, though they sometimes grow larger, and are borne with considerable freedom. They are dark green in summer, but change to scarlet and gold previous to falling. The flowers are small, but the scarlet fruits are conspicuous. When grown against a wall both fruit and coloured leaves are seen to better advantage than when the plants are grown in the open.

W. DALLIMORE.

(To be continued.)

A USEFUL EVERGREEN WINTER SHRUB.

Among the plants that will enliven and beautify the flower garden in winter Pernettya mucronata claims much consideration. Yet it is rather astonishing how often this plant is overlooked by writers treating on the claims and values of decorative shrubs for the garden in winter. This forces the thought to my mind that it cannot be very well known. However that may be, it is, I venture to assert, one of the most useful ornamental evergreens we have. Of dense, low growth, it makes a capital winter bedding subject, used en masse, or it forms a good edging to a shrubbery. My experience has shown it to do best in partial shade, though it will thrive in sun or shade, providing the sunny position has a good moist root run, and in either situation it will respond most healthily where the soil is light and rich.

The pretty, myrtle-like foliage is accompanied in summer time by an abundance of small, whitish flowers, which, in turn, are followed in winter by clusters of pink berries. In some plants the colour of the berries varies slightly, but creamy-white to reddish-purple would describe the colour of all the varieties, and it is these varying shades of colour which relieve the dulness and give a more cheerful tone to the landscape in winter.

Besides being helpful in the ways suggested, pernettyas are good pot plants for the cooler houses, and their propagation is quite easy, namely, by seeds, cuttings, or division of root stocks.

C. TURNER.

Ken View Garden, Highgate, N.

SUCCESSIONAL DESSERT PEARS.

One of the most important details that should be given attention when the pears are being planted in private gardens is choosing the varieties to secure a regular and sufficient supply of choice fruit throughout the pear season. It is therefore expedient to make selections of the best pears which ripen at suitable seasons, and this can only be done satisfactorily by those having a thorough knowledge of varieties. Though it is most unpleasant to have a glut of ripe pears at any time, it is nevertheless inadvisable, unless restrictions of space necessitate it, to endeavour to maintain a supply by dependence upon the least possible number of varieties. If this restriction is attempted, interruptions in the supply, even in years similar to that of 1912, when pears generally cropped heavily, will assuredly occur, because one or another of the sorts will prove disappointing.

Pears grown in open quarters are unreliable croppers, and any variety is liable, at times, to failure, or to produce an unusually large crop. For instance, this season, when the pear crop was unusually bad, and when here all other varieties have been either fruitless, or nearly so, Souvenir du Congrès has carried heavy crops of fine fruits.

Although the pear is an uncertain bearer it has been considerably improved in this respect, and also in its earlier development. Formerly it was stated that "the man who plants pears, plants for his heirs"; but proficiency in culture, and improvement in the stocks employed for grafting, double grafting, and root-pruning, have quite revolutionised that state of affairs, and those who are careful to secure skilfully prepared trees, plant them properly, and subsequently carefully attend to them, need not dread unprofitable results.

Reference has been made to the occasional glut and consequent waste, but it is better to plant duplicates of the most valuable varieties, such, for example, as Doyenne du Comice, Thompson's, Marie Louise, and Louise Bonne of Jersey, than to risk having a short supply. Moreover, it is advisable to prolong the season of such sterling sorts by planting trees in different positions, and likewise by gathering the fruit at suitable intervals, or by storing it under varied conditions of temperature.

Some readers may think these notes wanting in value unless they contain a definite list of the least number of varieties that would give (provided they all carried crops) an unbroken supply throughout the season. Such a list, I regret to say, I do not feel qualified to give; but will conclude by venturing the names of those pears I believe will fulfil the end in view; but, as has been previously remarked, it is not advisable to depend upon a strictly limited number of varieties.

Though there are a few earlier kinds, I will commence my list with an August variety, viz., Jargonelle, and follow on with successional varieties—William's Bon Chretien, Souvenir du Congrès, Beurré d'Amanlis, Fondante d'Autômne, Marguerite Marrillat, Beurré Hardy, Louise Bonne of Jersey, Beurré Superfin, Marie Louise, Emile d'Heyst, Charles Ernest, Doyenne du Comice, Conference, Thompson's, Princess, Beurré d'Anjou, Glou Morceau, Winter Nelis, Le Lectier, President Barabe, Huyshe's Victoria, Josephine de Malines, Easter Beurré, Marie Benoist, Nec Plus Meuris, Bergamotte d'Esperen, Oliver de Serres, and Beurré Rance.

THOS. COOMBER.

The Hendre Gardens.

CROWN ANEMONES.

Notwithstanding their great beauty, the varieties of Anemone coronaria, variously known as Poppy or Crown anemones, are not very well represented in gardens, except in the western and south-western districts and through the fen-lands. No doubt a moist root run and a moist atmosphere are both conducive to success, but the former can be provided by any skilful cultivator, who, if he provides also a rich soil for the plants, will not find the effect of a dry atmosphere, such as prevails in the suburbs of large towns, so great as is generally supposed. The robust St. Brigid strain provides a wonderful variety of colouring, and this and the selected forms may be obtained and planted any time from October until April to secure a succession of flowers. There are double and single forms, all of great beauty, but one of the most useful and charming is

ANEMONE CORONARIA THE BRIDE.
A lovely variety with large white flowers.

The Bride, which has large white flowers eminently suitable for cutting and use in the home, as well as for garden decoration.

MONTANOA BIPINNATIFIDA.

Some half a dozen years ago a group of this montanoa was shown at one of the winter meetings of the Royal Horticultural Society, when an Award of Merit was given it. As a winter-flowering plant it was almost unknown, though it had been long used in subtropical bedding under the name of Polymnia grandis. It may be flowered freely when from three feet to six feet in height, and is valuable for grouping purposes. Montanoa bipinnatifida forms a stout, erect stem of a half-shrubby character, clothed with large, oppositely arranged, much divided leaves, the divisions, in their turn, being deeply cut, hence the specific name of bipinnatifida.

The flowers, somewhat suggestive of a single dahlia, are freely borne on the upper part of the plant. They are about three inches in diameter, the florets being white and the central disc yellow. It is a plant of easy propagation and culture, and the fact that it flowers in the winter is a great point in its favour. S. W.

SOLOMON'S SEAL AS A POT PLANT.

Those who have never tried them will scarcely believe what useful pot plants Solomon's Seal will make, but, though they look well even in the conservatory when forced in January or February, it is their use as indoor plants for those who have little or no greenhouse accommodation which constitutes their principal value, for they will last as foliage plants for six or eight weeks. The tubers should be lifted from October to December, and prepared for potting by cutting them into lengths of two to four inches—retaining, of course, the crown ends for potting—for without cutting it is impossible to get enough crowns into a medium-sized pot, say, a 24 or a 32, to make a presentable specimen.

Besides this, if whole lengths were put into large pots the resulting growth would be so tall that they would be too leggy for success as indoor plants, whereas by growing them half their normal size under good conditions, and having a few small ones mixed with them, a nice bushy group is obtained.

As many pieces should be put in a pot as it will hold, and fine soil shaken down between them, after which the pots may be set in a cold frame or buried in cinder ashes. They may be brought into a warm house and forced from Christmas onwards, or, if no such facilities exist, grown naturally for bringing indoors as soon as the flower buds begin to show. A succession may be obtained by putting the first two or three pots in a warm corner in the frame or greenhouse to start them, keeping others under a north wall.

When done with as pot plants in May or June, the plants may be put out whole in any out-of-the-way place, or even kept as they are for a second season, but the latter course implies attention in the matter of watering all the summer.

ALGER PETTS.

PINKS FOR THE ROCK GARDEN.

Among the dianthuses, or pinks, which await the specialist in this exquisite genus of plants we have an embarrassing choice for those who only wish to cultivate a few of the best in their rock gardens or on their little rockeries. They are indispensable—or, at least, some of them—and they are always highly appreciated when in bloom. Even when not in bloom many of them are objects of pleasure to all who love their flowers.

They are not difficult to cultivate as a rule, and a light loam will suit the majority. Some, however, prefer the moraine, and practically every one of these beautiful plants desires plenty of sun. A few require a little lime in the soil if they are to attain their fullest beauty, and those with glaucous leaves are more particularly lime-lovers, delighting in the addition of some lime-rubbish or limestone chips to the compost.

Of the pinks for the rock garden none can well surpass the lovely Dianthus alpinus—the Alpine Pink—which, when happy, makes spreading tufts of glossy leaves surmounted by glowing rose-coloured flowers of the most charming hue, and only raised some two inches above the shining carpet of green whence they spring. A charming plant is this, and one which is most at home on the limestone rocks, or in loam with lime mixed with it, or in the moraine. It is a sine qua non, and all rockeries or moraines should possess it.

Equal in value, in the estimation of the writer, is Dianthus neglectus, but it must be added that this is a variable species, and some of the plants supplied are from seeds and are of different grades of merit. It grows to some three inches in height (or a little more with some inferior varieties), and affords us a supply of brilliant carmine flowers which, in the true species, are coloured buff on the outside. But there are many poor plants of this pink in cultivation; some are poor in colour, some are taller and less refined; and the reader should seek in the nurseries for a compact, low-growing plant, with grassy leaves, and large, brilliant carmine flowers. It grows readily in loam and grit. Some find it does well in the moraine, but others have a contrary experience.

The Cheddar pink, Dianthus cæsius, as we see it in gardens is a variable species. Many of the plants appear to be hybrids, and only a small proportion have the neat habit and the pretty pink flowers of the native Cheddar pink of the famous cliffs. It makes good masses, however, and wants to be kept poorly fed if it is to be neat and compact as we would like to have our plants in the choice rockery. It has a companion in D. suavis, which resembles it considerably.

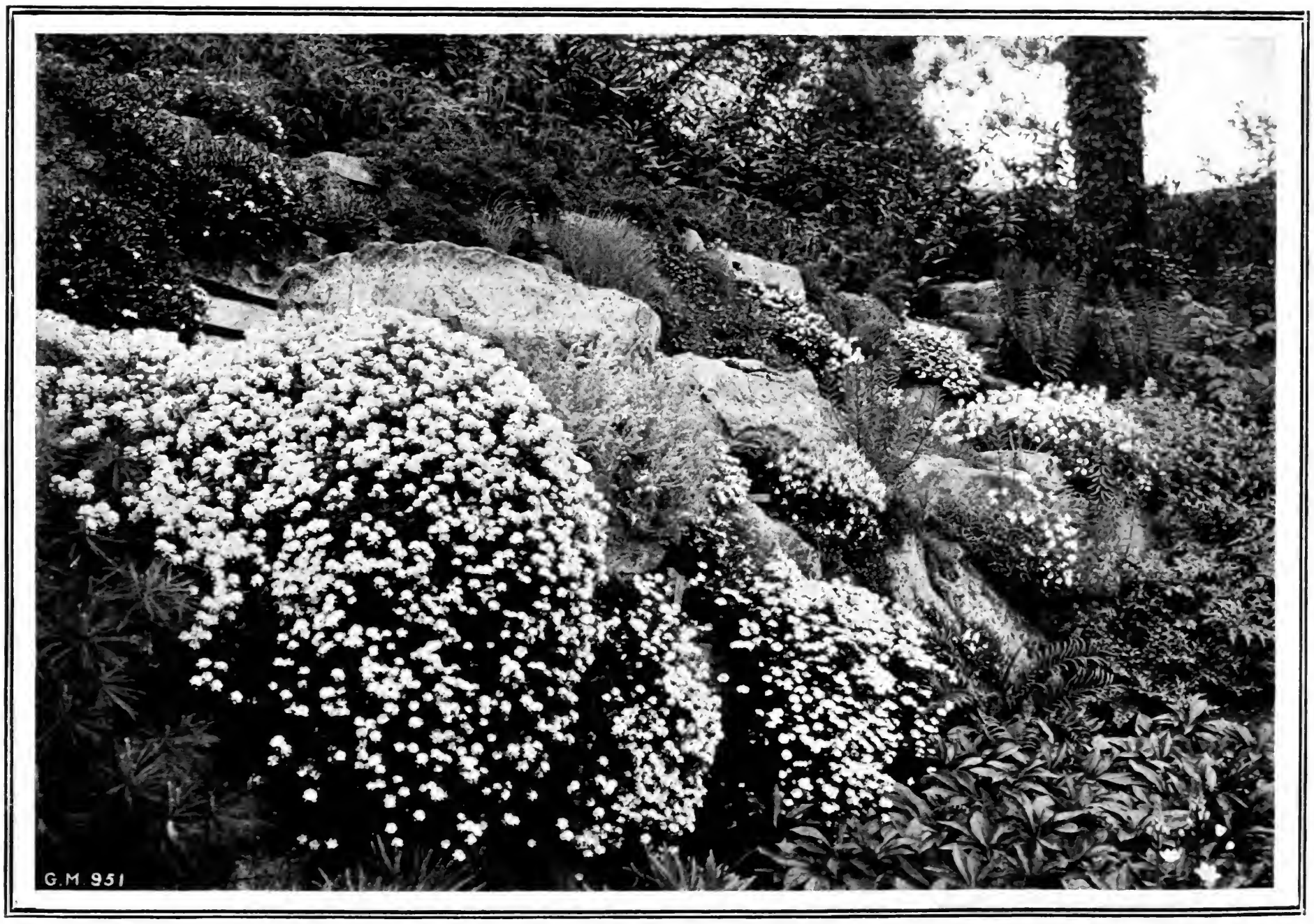
As for the Glacier pink—Dianthus glacialis—we may say that it is a fair maiden of a coy temper when on the rockery. It likes a moraine best, and there will generally prove itself less testy and capricious, and be more likely to thrive, and to raise above its glossy leaves its solitary rosy flowers on stems two inches high.

In D. Freyni we have a little gem, dear to the heart of the lover of the tiniest and daintiest alpine flowers. It has tiny leaves, almost close-set on the soil, or forming tiny mounds. Thence rise little rose or rose-purple flowers. It has near allies in D. Lereschi and D. microlepis. In a dry, gritty compost of loam, sand, and grit, and surfaced with an inch of fine grit, these all thrive well. But on no account must they be parched by drought. Should they be threatened with this, some water should be given at the roots of these dainty gems.

Practically everybody loves the Maiden Pink, D. deltoides, with its tufts of green leaves and its rose or white flowers, prettily zoned with a deeper tone. It has a glorified sister, in the shape of D. Graniticus, the Granite Pink, which is taller and has bigger flowers. These will do almost anywhere, in sun or partial shade.

Dianthus squarrosus is a pleasing little pink, making a close carpet of grey leaves, and giving an abundance of fragrant, fringed blooms. D. frigidus is another nice dianthus with handsome pink flowers on short stems. It is a form of D. sylvestris. A charming flower, but not one of the easiest to grow, is D. callizonus, which delights everybody who sees it. Its flowers, on two-inch stems, are very large for such a plant, and are brilliant crimson, zoned with deep crimson spots in a fascinating way. It likes a rather peaty soil, but full of stones, and best enjoys partial shade.

A pretty pink of considerable beauty is D. arvernensis, the Auvergne pink, which is a miniature Cheddar pink, and suited



EVERGREEN CANDYTUFTS FLOWERING IN A ROCKERY WALL.

(See opposite page.)

for a rockery in a small garden; while D. superbus is about six or eight inches high, and gives rose or white flowers. It is often highly praised, but to the writer appears less worthy of our admiration than some of its sister flowers. There are many more—such as the fringed, white-flowered D. integer, and the dainty hybrid Spencer Bickham. S. ARNOTT.

Dumfries.

EVERGREEN CANDYTUFTS.

The evergreen candytufts form a charming little group of free-flowering shrubby plants, suitable alike for the rock garden, the margin of the shrubbery, or the herbaceous border; nor must their merits be overlooked when any scheme for a spring display in the flower garden is being drawn up. Propagation is best effected by means of cuttings, taken soon after the flowering season has passed, and inserted firmly in sandy soil. In most gardens it is advisable to shelter the cuttings in a cold frame or under handlights, choosing a site open to the light, but which does not receive direct sunshine. A border on the north side of a wall will generally be found a suitable position. Given reasonable care such cuttings will soon develop into neat little tufts, which will give a good account of themselves when they blossom in May and June.

Both Iberis saxatilis and I. semperflorens very frequently flower in late autumn and early winter, or even early in the year, as well as during the spring, provided the weather is kind; and one may find I. semperflorens in bloom at present in many gardens. The best of the evergreen species are Iberis saxatilis, which, with I. semperflorens, commences to bloom in March in an ordinary season. The first-named is about six inches high, but I. semperflorens will often reach eighteen inches. I. sempervirens is particularly hardy and a fine subject for a wall garden or the steep places in a rock garden, for under these conditions it, and its variety Garrexiana, become long, drooping masses of greenery, and, at flowering time, sheets of snowy blossom. Compact, large-flowering varieties of I. sempervirens are Climax, Little Gem, Perfection, and superba; Little Gem and superba are capital plants for borders, and are also excellent in suburban gardens. All these evergreen candytufts have white flowers.

C. K.

Garden Suburb at Tottenham.—In the development of the White Hart estate at Tottenham, the London County Council will expend about £23,468, so that the district may become a garden suburb instead of a dense mass of houses.

ALPINE PHLOXES.

The value of the dwarf alpine phloxes for the rock garden or the flower garden cannot well be overestimated, therefore, without entering into a long discussion upon their respective merits or their specific differences, it is important that garden lovers should be reminded of these exquisitely beautiful and easily grown subjects. Perry's variety of Phlox Laphami is a giant as compared with those named below.

A dozen or so of first-rate varieties, all of which are listed and described in hardy plant catalogues, will serve to show the range of colouring available, but there are others besides for those who desire to make a collection. P. annulata, pale blue; amœna, pink, a lovely shade; atropurpurea, deep rose-purple; Daisy Hill, rich rose; G. F. Wilson, mauve, sometimes nine inches high; lilacina, deep lilac; nivalis, pure white, very compact; procumbens, a lilac-flowered, purplish-leaved trailer; Seraph, mauve, with dark eye; Sprite, rose, with crimson eye; frondosa, a dark-eyed pink form of P. subulata; The Bride, white, with pink eye; Triste, self pink, violacea, lilac; verna, rose-red, a closely-creeping form; and Vivid, bright pink or rosy-carmine, with crimson centre. These will form a very pretty collection. The last-named variety is herewith illustrated as growing at the Feltham Nurseries of Messrs. T. S. Ware, Lim. B.

ALPINE PHLOX VIVID.

A beautiful dwarf garden form, with carmine, crimson-eyed flowers.

CLERODENDRONS.

In few genera is such a marked difference of form shown as in clerodendron. The species differ considerably in habit, cultural requirements and many other features.

The Japanese Clerodendron trichotomum, and the nearly allied C. Fargesii, are quite hardy, and form large shrubs, or almost small trees. Another hardy species is C. fœtidum (or C. Bungei; as it is often called). This, though classed as a shrub, dies almost to the ground during the winter, in the manner of a herbaceous plant.

A great many species are climbers, principally natives of tropical Africa, and are seen at their best in the stove or intermediate house, while several of those that come from tropical Asia are of more or less shrubby character.

Of the climbing kinds the best known is Clerodendron Thomsonæ, which, however, is far more generally met with under the specific name of C. Balfouri. This is of free growth and forms a delightful feature when trained to roof or rafter in a warm house. Under these conditions it will grow freely, and flower in great profusion. The blossoms, which are borne in large branching panicles, are of a bright crimson colour, and protrude each from a large, inflated, pure white calyx, which retains its freshness after the blossoms have faded. This large calyx is a more or less marked feature of several of the species. C. Thomsonæ was at one time very popular for growing into large specimen plants. There is a form of it in which the calyces are striped with red. C. splendens, which comes from Sierra Leone, is less vigorous than the preceding. It also requires the warmest part of the stove, where its large, branching panicles of rich scarlet flowers form a very striking feature.

Between the two species just named, a hybrid, bearing the name of C. speciosum, has been raised. The flowers are of a less pronounced scarlet than those of C. splendens, while the inflated calyx is of a ruddy hue. It is more free in growth than this species, and the plants from this parent will succeed in a somewhat lower temperature.

C. ugandense has a rambling rather than a climbing habit of growth. It is, as implied by the specific name, a native of Uganda, and is of comparatively recent introduction. A singular feature, in which it differs from all the generally cultivated clerodendrons, is that the flowers are of a blue tint. In this clerodendron the flowers are borne in loose terminal panicles, and of a distinct shade of pale blue, while the lowermost of the five segments is of a darker tint. It will grow under cooler conditions than the preceding, and is likely to prove a desirable rafter plant for the greenhouse. It can be readily raised from cuttings. C. cœrulea is another name for this species.

The clerodendrons which are more or less shrubby include some very desirable garden plants, the best known being the Javanese C. fallax. This is largely grown for greenhouse and conservatory decoration during the summer months, for, though it needs a moderately warm temperature during the growing season, it will thrive in the greenhouse during the summer. It is readily increased from seeds or cuttings, and, in order to have the erect panicles of deep scarlet flowers at their best, occasional doses of stimulants are necessary as the pots become well furnished with roots.

C. squamatum, also known as C. Kæmpferi, is a good deal like the preceding, and succeeds under the same treatment; the berries, when ripe, are of a pleasing blue tint.

C. fragrans, a very old plant in gardens, is generally represented by its double flowered form—C. fragrans flore-plena. In this, the flowers, which are borne in a terminal, rather compact, hemispherical head, are very double, white, flushed with pink. It will conform to the same treatment as C. fallax, and, like that species, may be used in summer for greenhouse decoration. Though the blossoms are so fragrant as to warrant the specific name, the leaves, when handled, have a very unpleasant smell.

C. myrmecophilum is an exceedingly distinct, shrubby species, and was first shown by Messrs. Sander and Sons on April 5, 1904, when a First Class Certificate was given it by the Royal Horticultural Society. It was, however, grown at Kew previously to this. This species forms an erect-growing plant that will flower when from eighteen inches to two feet in height. The leaves are lanceolate in shape, and larger than in most of the clerodendrons. The flowers, borne in an upright panicle, are disposed in a strictly pyramidal manner, and in regular whorls. They are about one and a-half inches across, and of a bright orange-amber colour. The long slender stamens are bright red, and, as in some other species they form a conspicuous feature of the flower. From its distinct colour it forms a very striking plant in the spring and early summer. It is a native of Singapore.

An old species, but one not often met with, is C. nutans, which used to be well grown by the late Mr. Head, when at the Crystal Palace, and an example shown by him was given a First Class Certificate by the Royal Horticultural Society in 1886. In this species the white, sweetly-scented flowers are borne in loosely-disposed pendulous panicles. They are, as a rule, at their best during the autumn and early winter months.

This list of tender clerodendrons might be considerably extended; but those named include the best, and most of them can be readily obtained from nurserymen.

Among the hardy kinds the first place must be assigned to C. trichotomum, which will attain a height of a dozen feet or more. If kept to a single stem it becomes quite tree-like in growth, whereas if left to itself it will often push up suckers and form a dense bush. The leaves vary a good deal in shape, but on old plants they are usually ovate. The flowers are at their best in early autumn, pure white, fragrant, and borne in rather dense panicles. A conspicuous feature is furnished by the large red calyces, which retain their brightness for a considerable time. The bluish-violet fruits sometimes ripen, and then form a pleasing additional feature. The warm reddish-purple of the decaying leaves is also very attractive.

C. Fargesii, much like C. trichotomum, of which it can scarcely be regarded as anything but a variety, is more shrub-like, but very free-flowering. The bright blue berries, when ripe, are very attractive, and two years ago some fruiting sprays found so many admirers that the species was given an Award of Merit by the Royal Horticultural Society.

C. fœtidum, another hardy species, but one that needs a warm spot at the foot of a south wall, dies nearly, if not quite, to the ground in winter, and in spring pushes up stout, erect shoots, four to five feet in height, furnished with prickles. The large heart-shaped leaves are rough in texture. The flowers are borne in closely-packed heads, and are usually at their best towards the end of the summer. They are of a bright rosy-crimson colour, and have a honey-like fragrance. The specific name of C. fœtidium is derived from the unpleasant odour of the foliage. This species is a native of China. W. T.

FRAGRANT ROSES.

When reading the announcement in THE GARDENERS' MAGAZINE of the splendid presentation by Messrs. Clay and Son, of a challenge cup, for the encouragement of roses possessing the fragrance of the old Cabbage of Provence roses, I could not help thinking how this offer would have delighted my old employer, the late Lord Penzance, for in all our experiments the one aim was to retain scent. Perhaps it may not be out of place if I note the various experiments in this direction. Firstly, it is well known that his Lordship was so struck with the delicious perfume of the common sweet briar that some three years before I entered his service he had commenced to hybridise the sweet briar with various roses of the hybrid perpetual and hybrid China section. I need not refer to the results, as they have been long before the public.

But there were other experiments that have not, to my knowledge, been chronicled. It was found that in trying to enlarge or to double the flower of the hybrid sweet briars by re-crossing them, although seeds and plants were freely produced, fragrance was entirely lost, both in flower and foliage; the leaves became like those of the H.P. or H.C., as the case might be, and the rampant growth of the hybrid briar was dwarfed to that of the hybrid perpetual. Secondly, in crossing the Provence rose with the gallica or Panachee varieties, or the latter with such H.P.'s, as Gèneral Jacqueminot and Madame Elise Taisson, Madame Boll, La Rosière, etc., roses of the type of the hybrid China were produced, like Chenedole, Paul Perras, etc., and in no single instance were any of them perpetual. Nevertheless, we always found in these results the most delicious fragrance imaginable.

There is one rose I would urge rosarians not to lose sight of in trying for delicious perfume, and that is the old Blairi No. 2, for I know of no other rose with such a lemon scent. Then, again, there are the Moss roses, so closely allied to the Provence, and most prolific seeders, but I am doubtful if any good is to be done in this direction; any number of moss roses may be raised, but among hundreds of seedlings I never saw one showing any advance upon its parents. The Musk rose lends itself very freely to the hybridist, combining with H.P. or T., or, I think I may say, any variety one feels inclined to favour it with. It produces large quantities of fertile seeds. I will here present a suggestion to anyone who may care to try it, and that is to procure a plant or two of Musk rose Princess de Nassau, and cross it with the pollen of Harrisoni, and I have good grounds for thinking the progeny will give a pleasant surprise, and start a race that will further help to beautify our gardens. But I am wandering from the subject of "The Clay Cup," and will not trespass further on your valuable space.

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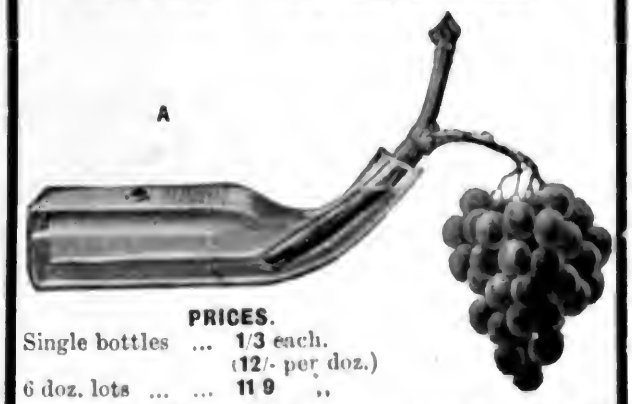

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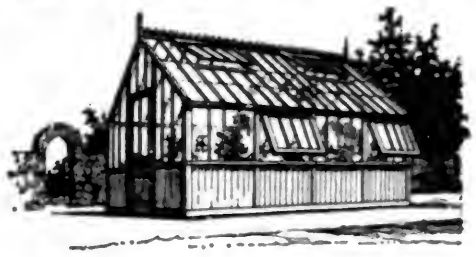

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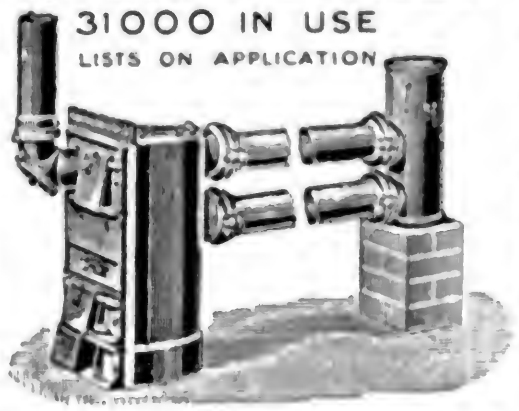

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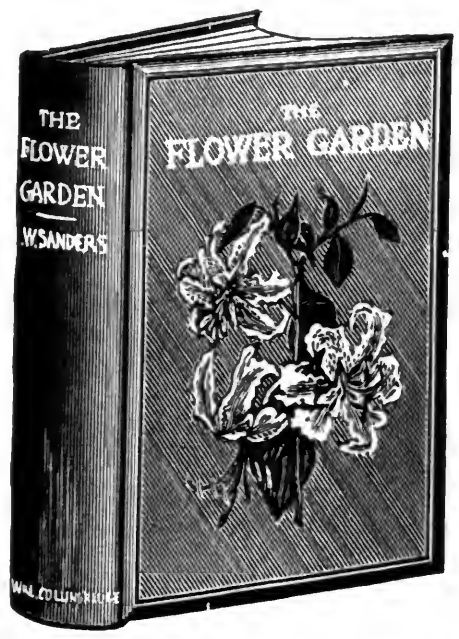

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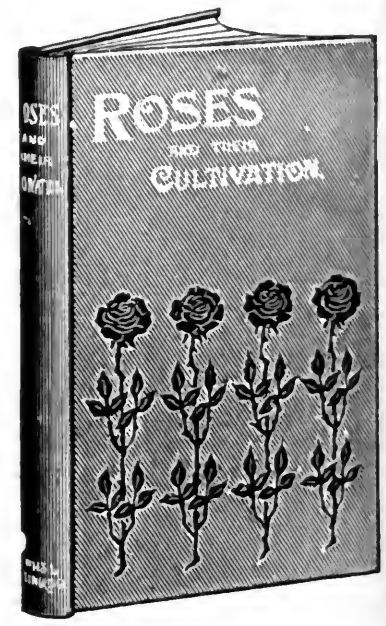

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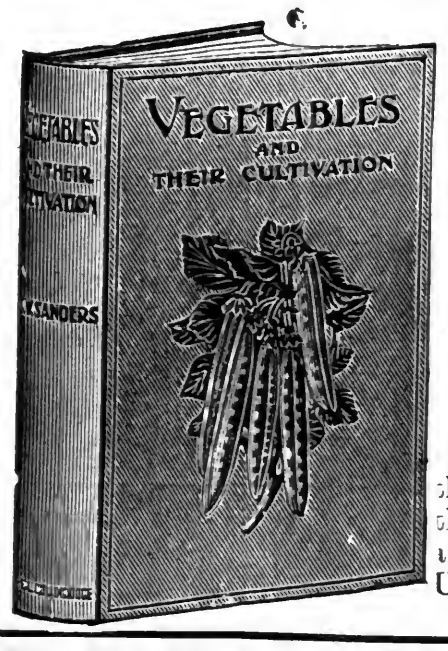

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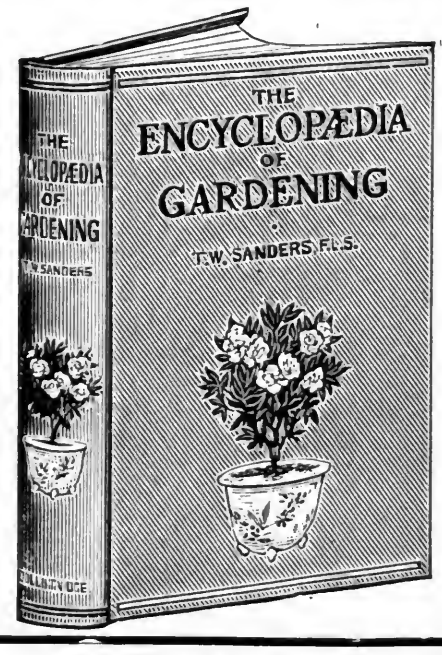

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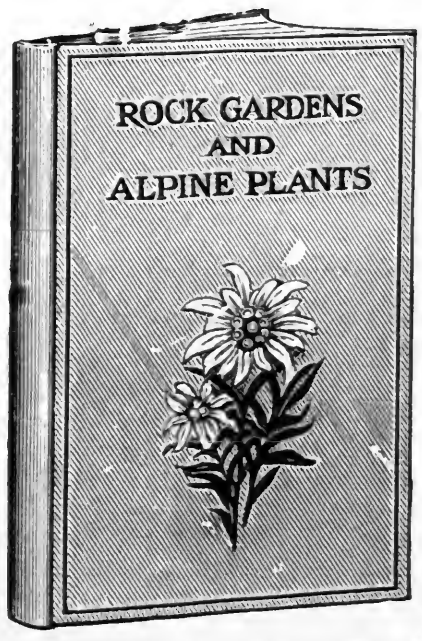

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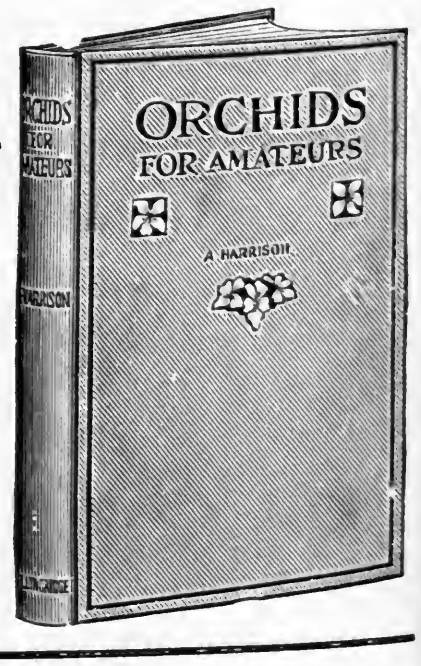

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ROSES FOR GARDEN DECORATION.

At a recent monthly meeting of the Cirencester Gardeners' Association Mr. Edward A. Jefferies read an interesting and highly instructive paper on "The Selection and Cultivation of Roses for Garden Decoration." Mr. Jefferies briefly referred to the rose gardens that were a source of disappointment to their owners, and said: In such a garden the roses were planted perhaps eight, ten, or fifteen years ago in badly prepared beds or borders, and have not been replanted since. The varieties planted were perhaps chosen from blooms seen exhibited in a first prize box at some show or other, and planted without any regard for the different habit of growth of the various sorts. The owner of the garden cannot imagine why some of his plants, although they make strong growth, never bloom. A casual glance shows that in this case the stock upon which the rose was budded has been allowed to overgrow and smother the poor rose. And probably in the same garden we shall find fault number four, namely, plants that are living and doing fairly well are all bare and leggy at the base and the growths crowded together at the top of the plants, the result of faulty pruning or no pruning at all. I believe more roses are ruined by their owners refusing to allow their gardeners to prune their roses as they should be pruned than from any other cause.

Bedding Roses.

In the case of rose gardens it is preferable to keep to one variety to a bed, the effect is certainly better both as regards colour and mass of bloom, and also you have an evenness of growth that it is difficult to obtain when planting three or more varieties in the same bed. As to the best varieties to grow, assuming that a rose garden has just been planned and made, and that the owner requires good bedding varieties, he will want roses that are continuous and free-flowering, of not too rampant a growth, not too addicted to mildew, and distinct in colouring; and, lastly, varieties that carry their flowers erect. The following varieties comply very closely with these conditions: Lady Ashtown, pure deep pink colour, and considered the best of the pink bedding roses; Caroline Testout, bright pink, a fine rose in all weathers; Mdme. Abel Chatenay, everyone knows this fine decorative variety, salmon pink best describes its colouring, particularly good in autumn; Madame Ravary, deep golden-yellow, perhaps the best yellow bedding rose, though Harry Kirk, bright sulphur yellow, and Lady Hillingdon, bright orange yellow, run it very closely, the bronze red colour of the young wood and foliage of Lady Hillingdon makes a very pleasing setting to the bright yellow blooms; Madame Jules Grolez, described as a deep rose-pink, but a colour unlike any other pink rose, it requires care in placing, for it clashes with other pinks, and should be put in a bed that is in the neighbourhood either of clear yellows or pure white roses; Antoine Rivoire, pale cream with deeper centre, a great beauty, fine early and late; Molly Sharman Crawford, eau-de-nil, white; Madame Melanie Soupert, pale yellow flushed delicate pink, excellent; Mrs. Aaron Ward, Indian yellow petals edged white, very attractive; Madame Antoine Mari, rose and blush white, foliage almost evergreen, especially good in the autumn; Richmond, glorious crimson, and flowers of perfect shape, very fragrant.

General McArthur, bright scarlet crimson, the best crimson bedding rose; Ecarlate, bright scarlet, an excellent bedding rose, always in bloom, but perhaps would not be chosen by everyone, as the individual blooms lack form, but the plant is so very continuous in flowering that this fault may be excused; Mrs. Alfred Tate, coppery salmon, shaded fawn, very lovely in the bud stage, one of the best; Pharisaer, rosy-white, shaded salmon, excellent in the autumn and good throughout the season; Joseph Hill, coppery-yellow, shaded apricot, charming foliage; Viscountess Folkestone, cream-white, shaded flesh, introduced as far back as 1886, but still one of our best bedding roses; Marie van Houtte, lemon-yellow, petals edged with rose; Betty, coppery-rose, shaded yellow, very pretty in the bud; Mrs. Wakefield Christy Miller, a charming rose, inside of petals soft blush, and the reverse of petals deep rose, a charming combination; Lady Pirrie, deep coppery-salmon, a delightful rose; Irish Elegance, a beautiful single flower, shades of apricot, and buds orange.

While referring to bedding roses I should like to mention two of the dwarf polyantha varieties, Orleans and Jessie, the former a vivid rosy-crimson, and the latter a cherry-crimson, both are excellent for bedding, and from the end of June until October beds of these varieties will be a mass of colour.

Of the foregoing twenty-four varieties, nineteen are hybrid teas, five are teas, and not a single hybrid perpetual amongst them, not that many of the H.P.'s are to be despised for bedding, for Hugh Dickson, that grand crimson rose, had my list extended to one more, would have been the selected one, and Frau Karl Druschki, Ulrich Brunner, Mrs. John Laing, Mrs. Sharman Crawford, Captain Hayward, to mention no others, are good bedding roses, but just miss, in my opinion, being amongst the best twenty-four for the purpose.

My list shows what a great change has been made in the rose world during the last twenty years, for, with two exceptions, none of them were in commerce in 1893, and by far the largest proportion have been sent out during the last ten years. Did you intend growing roses for exhibition my list would be a very different one, and of the twenty-four varieties I have mentioned, only Lady Ashtown, Caroline Testout, Molly Sharman Crawford, Madame Melanie Soupert, and Pharisaer would be suitable for competitive purposes, and though it by no means follows that exhibition varieties are not good for garden decoration (many are excellent for both purposes), yet an exhibitor will be obliged to grow such roses as Mildred Grant, Bessie Brown, William Shean, and Florence Pemberton, varieties which, had it not been for the exhibition boxes, would, I think, have disappeared from cultivation ere this.

The Making of an Ideal Rose Bed.

The rose-lover should not say that he cannot grow roses in the soil of his or her garden. I am prepared to say that the soil may be a heavy clay soil, a light soil, a sandy soil, a chalky soil, soil with gravel as a subsoil, or any other kind of soil, and with proper preparation you can grow good roses. Good drainage is essential, for roses will not thrive in a water-logged soil, but we must not forget that the rose is a moisture-loving plant, and therefore the soil must be made retentive.

The ideal soil for roses I should describe as two feet of rich loam of a greasy nature, a subsoil of clay, and good drainage beneath, and if we have not this in our garden (and few of us have) in making rose beds we must try and as closely approach it as possible. If yours is shallow land, on gravel, a light loam, or chalk soil, my method of preparation would be this. Dig out and put aside the top soil, which we will suppose is six inches deep, then dig out and take right away the next eighteen inches or two feet of gravel, brash, or chalk as the case may be. The drainage of these subsoils will probably be naturally good, so that beyond forking up the bottom nothing more will be needed to ensure perfect drainage. Having thus dug the bed out from two feet to thirty inches deep, I should fill up the bottom of the bed with a layer of clay to a depth of about six inches; upon this wheel in a layer of loam, or the top spit from a heavy pasture, then a layer of old cow manure, then again a layer of turf or loam and another layer of manure, and so on in this manner until the hole is filled up to within nine inches of the top. Then turn to the heap of soil that was taken out of the bed, and, if it is very poor, incorporate some leaf soil and a dressing of quarter-inch or bone meal, mix well, and fill in with the mixture. When filled the level of the bed should be quite six inches above the surrounding ground level to allow for sinking.

On a heavy clay soil the same preparation applies, except that it will be necessary to dig out the beds three feet instead of two, and fill up the bottom nine inches with stones, burnt clay, broken bricks, or clinkers to ensure drainage; upon this replace the clay, then the loam and cow manure in layers, and lastly the top soil as previously explained. If this top soil is very heavy it will be improved and made more friable by the addition of burnt earth and wood ashes, mortar rubbish, and road sweepings; but a word of caution about the latter—do not get the sweepings either from a tarred road or from a road much frequented by motors.

The rose bed or rose garden should be in the open, away from trees and walls, and for preference facing south or west. The shape of the beds depends very largely upon local conditions, but my ideal bed is one with a width of five feet, which will allow for three rows of plants. The length is unimportant, but the simpler the design of the bed the better the effect. I would always have the rose bed surrounded by turf.

The principal things to remember in planting roses are to make the hole large enough to take the roots easily, deep enough for the junction of the rose and the stock to be one inch below the surface, and to plant firmly, the latter being most important.

Pruning.

It is perfectly safe to make a rule that all roses the first spring after planting should be pruned to within three or four inches of the ground. Even climbing varieties should not have more than twelve or eighteen inches left of their strongest growth. It may seem a great pity to cut away four or five feet of growth that if left would seemingly furnish the arch or pergola with blooms the first year after planting, but harden your heart and prune, and the results the second and after years will amply repay you.

Pruning after the first year of planting will need to be varied according to the varieties and the purpose for which they are grown. Those intended for exhibition will need harder pruning than those for garden decoration. Strong growing varieties, as Hugh Dickson, Frau Karl Druschki, J. B. Clark, will only need shortening back to about eight inches from the base, whereas less vigorous growers will need to be pruned back to four or six eyes from the base. The shoots should always be pruned to an eye pointing outwards, and, of course, all dead or unripe wood should be cut clean away. Climbing roses should have some of their old shoots cut clean away each season directly after their first flowering. This encourages fresh growth from the base, and keeps the arch or wall well clothed at the bottom.

But rose pruning is a big subject to thoroughly master, and enough could be written to make a paper on this subject alone, so I will leave it with the remark that a little publication, called a "Handbook on Pruning Roses," published by the National Rose Society, will give you detailed information for pruning nearly every rose in commerce. It should be in the possession of every rose grower.

(To be continued.)

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEASONABLE NOTES.—In the cool divisions many orchids are completing their pseudo-bulbs, and the bulk of the plants are in an active state. It is only during the last few years that writers on cool house orchids have advocated an advance on the winter temperature of 45 degrees, formerly regarded as suitable conditions for odontoglossums. Under the old treatment the plants produced poor growths, and pseudo-bulbs generally much smaller than the imported ones. Latterly, cultivators have realised the same rule may be applied to the cultivation of odontoglossums as to all other classes of plants—that is, the period when they require the most encouragement is when they are most active—and the now general practice of keeping the temperature at night at about 53 to 55 degrees has proved in every way satisfactory. Not only have we stronger plants capable of carrying larger spikes of flowers, but, what is more important, we have been able to produce seedlings of both generic and bigeneric hybrids, which, until a few years ago, were considered almost impossible. With the warmer conditions at night, and with favourable outside conditions, more fresh air can be admitted to the houses, thus providing an atmosphere which will allow the potting compost to become dry in a reasonable time, and so do away with stagnation, which was a great bugbear under the older and cooler conditions.

CARE OF THE FLOWER SPIKES.—When the flower spikes make their appearance, slugs, snails, and woodlice will become busy. Small pieces of cotton wool wrapped round the base of the flower spike, form an obstacle difficult to surmount, and while it may not altogether prevent harm, it certainly helps to keep the pests away. Lettuce leaves spread about the stages and on the surface of the potting compost, and small portions of bran or brewers' grains laid on pieces of glass or broken crocks, make good feeding grounds, and, with the aid of a light during the evening and early morning, many slugs, etc., may be caught and destroyed on them. Where young plants are flowering for the first time at this season of the year the spikes may become drawn and weakly, especially in lofty structures; it is therefore a good plan to suspend such plants near the roof, or raise them up nearer the light.

THE ODONTIODAS are now a fine feature, and with a good selection of kinds it is possible to have their attractive colouring at all seasons; we find they are more vigorous than the odontoglossums, and they are grown under similar conditions. Thrips are the only insect pests that trouble the flower scapes, but fumigation or vaporising effectually keeps these pests in check during the winter season.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

BEGONIA GLOIRE DE LORRAINE.—The main batch of this most useful begonia is now at its best, and, with the object of keeping the plants as long as possible, the temperature should be somewhat reduced; 65 or 57 degrees on mild nights, and a little lower when the weather is cold, is sufficient. Damping down will be quite unnecessary, and a little air should be given by means of the roof ventilators in the day time, so long as the temperature is at 60 degrees. The latest batch should be allowed to flower, and will provide useful material well into the new year. Of the early batches, now past their best, the cleanest and healthiest may be lightly trimmed over, and given a month or six weeks' rest by keeping them rather dry in an intermediate house, after which they may be placed in the stove to provide the earliest cuttings.

THYRSACANTHUS RUTILANS is now fast elongating its pendulous racemes, and until the flowers show colour may continue to receive occasional applications of fertiliser. Water should be applied with care, and too close an atmosphere must be avoided, otherwise many of the leaves will fall. Brown scale is particularly partial to this plant.

ALLAMANDAS, where planted out and grown on rafters or trellising, may now be pruned to within an eye or two of the old wood; and until they are again commencing growth should be kept dry at the roots. Specimen plants in pots may also be pruned, and should be kept in a cooler house, and dry, until required for starting in the spring.

MARANTAS AND BERTOLONIAS, both remarkable for their beautifully marked foliage, and alike at home through the warm seasons in a close, moist atmosphere, should, through the winter, be kept at the warm end of the stove. Until the growing season arrives a judicious use of the water-pot will be essential.—H. Prime, Hatfield Gardens.

FRUITS UNDER GLASS.

GENERAL WORK.—During this month a quantity of leaves and stable litter should be collected in readiness for forming beds for the earliest melons and cucumbers. If composed largely of leaves so much the better, as the heat will then remain more steady and lasting. Have the melon and cucumber houses thoroughly cleansed, and every surface well washed with hot limewash, into which a handful of flowers of sulphur has been stirred. As soon as the chrysanthemums have been cleared from the general orchard house, no further time must be lost in making them ready for the trees. The weather has been too mild of late, therefore those who value their crop must be prepared, on the eve of a change, to house the orchard house trees. The most important point in the management of the latest trees is complete rest, not only before, but for some time after they are housed. Even with this careful management the buds are sure to be in advance of those in the open air, and when this stage is reached retarding is at an end, and a suitable temperature must be maintained. Continue to wash, prune, and otherwise cleanse the fruit houses as they become ready, and this work should always be pushed forward as much as possible before the end of the year, as pressure of work gradually increases after this date.

THE GRAPE ROOM.—If the grape room has not been cleansed, and freely ventilated afterwards to expel any moisture, the work should be done at once. Thin-skinned grapes may be cut, as not only will they keep better in bottles but the vines will have a longer rest. The same rule holds good in regard to Lady Downes and other late grapes. A dry, calm day should be chosen for cutting the bunches with all the wood that can be spared, to ensure the stem passing well down into the water. A close watch must be kept at first, as the bunches will absorb water freely, and faulty berries can be easily overlooked in a badly-lighted room.

STRAWBERRIES.—If the first batch has not been placed in position, no further time should be lost. Up to now it has been difficult to keep the temperature down to the proper level, and liberal ventilation has been necessary night and day, but as fresh air from the time the plants are introduced until the fruits begin to swell is important, no harm will have been done. Maintain a genial atmosphere by damping the paths and other available spaces, and keep the roots moist, but not wet. When the plants are lightly plunged in a bed of leaves (and this is an ideal way to start them) they will soon begin to grow, and as soon as the flower spikes are discernible, remove the plants to a shelf close to the glass, and give them a temperature of 50 to 55 degrees. Do not exceed the latter figure until the plants are out of bloom and the fruits set. Introduce fresh batches from the open every fortnight or so, according to demand. If pit accommodation is not available, shelves in peach houses and similar positions may be made use of for starting strawberries. Examine each plant, wash the pots, pick off dead leaves, and see that the drainage is clear. Syringe well underneath the foliage, and fumigate the plants at least once or twice before the flowers open.—F. Jordan, Warter Priory Gardens.

THE FLOWER GARDEN.

SHRUBBERIES.—With but few exceptions deciduous trees and shrubs are now completely devoid of foliage, and the outer portions of the pleasure grounds and shrubberies, where it is not found necessary to clear away leaves until all are fallen, should now be receiving attention. It is very important that sites containing bulbs be taken in hand first, before the bulbs have made sufficient growth to handicap the workers, through fear of damage. It is a well-known fact that clearing away leaves deprives shrubs of much natural food, and although the practice of placing collected leaves in the leaf yard to form leaf-mould is excellent, it is not often that any quantity of the leaf-mould finds its way back to the shrubbery borders, so unless some recompense is made an unsatisfactory condition will result in course of time. This may be overcome by applying a dressing of soil from the refuse heap, or rotten manure, afterwards forking it in. It is not necessary that all borders should be so treated each season, and the work can be determined by the nature of the occupants, the choicer and less vigorous kinds receiving most encouragement. Moving the surface soil by forking amongst the shrubs keeps down weeds, and where only a slight accumulation of leaves occurs these are easily turned under as this work proceeds.

PLANTING.—During open, mild weather planting of all hardy deciduous trees and shrubs and herbaceous plants should be proceeded with, for, although such work is carried out with a certain amount of success until the early spring, no effort should be spared to complete as much as possible of it before the end of the year. Some evergreens, such as rhododendrons, move satisfactorily in the autumn, but it is not advisable, if it can be avoided, to disturb them during the next few weeks, as should a prolonged frost set in they would probably suffer. For several seasons the winters here have been exceptionally mild, and it has been possible to move most evergreen shrubs and trees all the winter through. Nevertheless, it is unwise to take undue risks in this respect, as we may not be far removed from a season of sufficient severity to cut down established evergreens, and in that case recently moved ones would be certain to succumb. The practice of mulching newly-planted subjects with some light, rotten manure should be followed.

COLD FRAMES.—Various subjects connected with the flower garden are occupying cold pits or frames, and require close attention. Generally, these have made good progress this autumn, owing to the favourable weather. It will be necessary when admitting air to act cautiously, avoiding cold draughts. Frames containing the more tender subjects should be well covered up at the least suggestion of frost, as the temperature falls rapidly at this season.—T. B. Field, Wych Cross Place Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

In view of the carnation show, to be held on the following day, there were large exhibits of carnations at the Royal Horticultural Hall on December 2. Besides these, orchids, winter-flowering begonias, and chrysanthemums were the leading floral features, and there was an unusually large number of big exhibits of fruit. The attendance was greater than usual at this time of year.

CARNATIONS.

Cecil F. Raphael, Esq. (gardener, Mr. Grubb), Porter's Park, Shenley, Herts, contributed a magnificent bank of carnations. In the background large stands of Carola, White Wonder, Mary Allwood, etc., served as a good foil to the large collection of the very fragrant Mrs. C. F. Raphael. The flowers throughout were of extra size, and the foliage of the pot plants had that glistening silveriness which tells of high culture, and is a credit to a grower. Mr. A. F. Dutton, Iver, Bucks, set up very many carnations in pots. These were all really good plants of the general saleable size, and were growing in 5in. pots.

Messrs. Young and Co., Cheltenham, included such sterling varieties as Winsor, Sunstar, White Wonder, Rose Dore, and May Day in their excellent collection of fresh carnation blooms. Mr. C. Engelmann, Saffron Walden, Essex, had an immense group of magnificent carnations. The prominent feature was a collection of such vivid crimson and scarlet varieties as Beacon, Commodore, The Herald, Scarlet Carola, and Scarlet Glendale, which glowed with rich colouring and harmonised with the flanking stands of pink, yellow, purple, and white blooms.

Mr. H. Burnett, Guernsey, staged a more sober hued, but a valuable collection, in which the blooms were fresh and fragrant, and borne on the desirable long stout stalks. Messrs. Stuart Low and Co., Bush Hill Park, Enfield, showed an immense collection of cut carnations arranged in a manner which permitted easy inspection. A large central group was composed almost solely of Gorgeous, the variety which recently received an Award of Merit. Besides very many of the standard varieties, there was a large vase of an unnamed seedling, much after the style of May Day, but of a softer shade of colour, which will probably become very popular.

Messrs. Wm. Cutbush and Son, Highgate, made a large display of the brilliant carnation Mrs. Lucy Mackinnon, in their fine group. Their valuable exhibit of winter-flowering begonias included Winter Perfection, Beauty of Hale, Winter Cheer, and a beautiful little batch of varieties of Gloire de Lorraine. Mr. Wm. Lawrensen, Yarm-on-Tees, showed many desirable carnation blooms, notably R. F. Felton, Britannia, Mandarin, Congress, Lady Northcliffe, and similar varieties in fresh and good condition. Messrs. Allwood Bros., Haywards Heath, contributed a collection of fresh and dainty-looking carnations, which included Mary Allwood, Salmon Enchantress, Mrs. T. M. Crook, Scarlet Glow, Calypso, and many other equally good varieties.

GREENHOUSE PLANTS.

Messrs. Sutton and Sons, Reading, staged a large number of plants which illustrated the great improvements which have been effected with Primula obconica. These represnted their grandiflora strain, and included a pure white form, and many shades of colour from blush to deep red. In floriferousness and habit the obconica hybrids closely rival the stellata varieties of P. sinensis.

Messrs. H. B. May and Sons, Edmonton, exhibited cyclamen, Erica hyemalis alba, Begonia Gloire de Lorraine, and, in a corner, many excellent poinsettias. Besides many plants of Poinsettia pulcherrimma with large heads of bright scarlet bracts, there was a group of P. pulcherrimma rosea, which is really of a terra-cotta shade, but pleasing withal. Mr. S. Mortimer, Farnham, showed the pure white stock "All-the-Year-Round."

Messrs. H. Cannell and Sons, Eynsford, made a dazzling display of single zonal pelargoniums in all shades of scarlet and orange, as well as mauve, white, and claret. Along the front many vases of violets supplied the fragrance which the showy pelargoniums lacked. Mr. H. Cole, Swanley, also showed zonal pelargoniums, and included plants of Salvia rutilans, ericas, and small ferns.

Messrs. Jas. Veitch and Sons, Chelsea, filled a length of staging with a splendid collection of winter-flowering begonias, derived from B. socotrana and tuberous varities. The plants now shown evidence an immense improvement on the original crosses. Now the colours are pleasantly varied, and the plants have a splendid habit. At one end of the begonia exhibit there was a large basket of Chrysanthemum Cardinal, the richly-coloured single variety which received an Award of Merit. Mrs. Mullens, Barrow Hills, Long Cross, Surrey, made a charming little display of a few large plants of Begonia Gloire de Lorraine and the white Turnford Hall variety.

CHRYSANTHEMUMS.

A good collection of chrysanthemums was staged by the Manor House Nurseries Company, Cardiff. This was especially strong in single-flowered varieties, and also included good blooms of Mrs. G. Drabble, H. E. Converse, and Manor House Gem. Messrs. W. Wells and Co., Merstham, set up a valuable collection of chrysanthemums. The large-flowered varieties were chiefly Mrs. G. Drabble, James Fraser, Mrs. W. E. Tricker, and Mauve Beauty. Of the singles the most attractive were Mrs. W. Prowting, Brightness, and Lady Furness. At one end there were a couple of vases of Antirrhinum Nelrose, of delightful pale terra-cotta colour.

Colonel the Right Hon. Mark Lockwood, C.V.O., M.P., sent from his gardens at Bishop's Hall, Romford, a great many chrysanthemums, all of the variety Maud Jeffries. These dainty little plants were growing in 5in. pots, and each sturdy specimen bore five or six good-sized pure white blooms, which illustrated the great success which Mr. G. Cradduck attains with this method of culture.

The Misses Price and Fyfe, Lee, gave an attractive display in the annexe, with many decorative chrysanthemums and carnations. Mr. T. Ward, Bishop's Stortford, showed a collection of single chrysanthemums in such varieties as Yellow Perfection, Royalty, J. C. Pillman, and Mrs. A. K. Bowshead. Messrs. Wills and Segar, Onslow Crescent, W., grouped such decorative plants as liliums, Indian azaleas, cyclamen, and lily of the valley.

HARDY PLANTS.

Messrs. Barr and Sons, Covent Garden, displayed many curious and interesting pigmy trees, flanked by Iris tingitana, Cyclamen ibericum in mixed colours, and the Giant Snowdrop (Galanthus Elwesii), besides pans of Roman hyacinths. Messrs. W. Cutbush and Son, Highgate, made an effective show of trees and shrubs arranged on a floor space; a large dormant weeping beech and several standard brooms served to enhance the value of the golden conifers and the berried shrubs.

Mr. L. R. Russell, Richmond, staged seasonable shrubs—chiefly of such berried kinds as Skimmia japonica, Aucuba vera, and Pernettya mucronata. Mr. G. Reuthe, Keston, Kent, had a small collection of uncommon plants, which included Berberis Bealei, Rhododendron Thomsoni grandiflora, and Desfortainea spinosa, as well as a choice set of alpines.

Messrs. Whitelegge and Page, Chislehurst, exhibited many alpines in pots and pans, and a number of conifers, chiefly of dwarf types suitable for rock garden planting. Messrs. T. S. Ware, Lim., Feltham, Middlesex, included charming little plants of Iris stylosa and the albino variety in a valuable collection of border and rockery plants. Plants of Rosmarinus prostrata, in full bloom, illustrated the vagaries of the season.

Mr. Clarence Elliott, Stevenage, continued to show small flowering plants of the rich blue gentian. Various rockery plants—saxifrages, androsaces, and the like—were also shown in small pots, and backed by a row of dwarf conifers. Mr. E. Heathcote, Williton, Somerset, showed ten vases of Violet Princess of Wales, which bore the characteristic large flowers on big stalks. Mr. J. J. Kettle, Corfe Mullen, Dorset, exhibited a splendid collection of double and single violets in many distinct varieties.

ORCHIDS.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, had several excellent plants of Phalænopsis Rimestadiana and P. amabile, Vanda cœrula of good blue colour, and Houlletia Bricklehurstiana in a noteworthy collection. Messrs. J. Cypher and Sons, Cheltenham, had nothing but cypripediums and masdevallias, but especially the former; they were many and of fine quality. Cypripedium Priam, C. nitens, C. Archimides, C. insigne Sanderæ, and C. Leeanum Clinkaberryanum are the names of only a few of the good sorts on view.

Messrs. J. and A. McBean, Cooksbridge, Sussex, had an attractive arrangement of Lælio-cattleyas, oncidiums, odontiodas, and cypripediums, of which the place of honour was given to the Lælio-cattleya autodoin, which received an Award of Merit. Mr. Harry Dixon, Wandsworth Common, also displayed an attractive collection of orchids.

Messrs. Hassall and Co., Southgate, London, had splendid plants of Cattleya Moira, C. Maggie Raphael, C. Sylvia, and several excellent varieties of Cypripedium insigne. Messrs. Charlesworth and Co., Haywards Heath, showed a magnificent Brasso-cattleya Veitchi, a fine form of Oncidium varicosum, and Odontoglossum crispum Madonna in a small but choice collection.

Messrs. Flory and Black, Slough, displayed such odontoglossums as O. Airworth, O. Perenltum, and O. Harryanio-crispum; with Cypripedium Snowdon and C. Floryi. Messrs. Sander and Co., St. Albans, included a large number of cattleyas and Lælio-cattleyas in a very select collection; of the latter, L.-c. Hon. Mrs. Astor, L.-c. Mauretania, and L.-c. luminosa were especially good. Large sprays of Zygopetalum Mackayi atro-violaceum, and of various oncidiums, hung gracefully over the other plants.

Sir George Holford and Francis Wellesley, Esq., also showed a few orchids, and the former secured a cultural commendation for Lælio-Cattleya Golden Beauty, finely grown by Mr. Alexander.

FRUITS AND VEGETABLES.

The Hon. Vicary Gibbs, Aldenham House, Aldenham, showed that the home-grown apples are equally as attractive as the imported fruits, and of even higher quality. On a whole length of tabling Mr. Edwin Beckett arranged many dishes of excellent apples, interspersed with an occasional dish of grapes, pears, or medlars, all of very tempting appearance. Messrs. H. Cannell and Sons, Eynsford, on the opposite side of the table, displayed a somewhat similar first-rate collection of apples, which, like the foregoing, was characterised by excellent style and high colouring; the golden colour of the Kentish apples was especially telling.

The Agent-General for British Columbia filled the end of the Hall with a monster collection of British Columbian apples. The bulk of the exhibit was in boxes—presumably as imported. There were 300 of them, and

40 varieties were represented. For colour, grading, and packing, it formed a valuable object lesson. Along the front, fruits of the same varieties were set out fancifully in baskets and in dishes. Many of these "foreign" apples were of intense colour, and diffused a strong perfume.

Lord North, Wroxton Abbey, Banbury, contributed a large collection of onions, which the head gardener (Mr. E. R. Janes) arranged with great taste and skill. The large bulbs included the indispensable Ailsa Craig, Cranston's Excelsior, and The Premier. Amongst those with red skins, Sutton's Crimson Globe, Red Italian, and Blood Red were conspicuous.

Messrs. J. Carter and Co., Raynes Park, exhibited a variety of capsicums, which ranged in size from the immense Chinese Giant to the tiny Chameleon, and their shapes and colours were almost as diverse. Messrs. Barr and Sons, Covent Garden, showed the wide variation of the garden kales. The rich green, narrow-leaved Northern Queen, Exquisite Green, and the Tall Scotch Kale, served as foils to those with purple leaves of many shades and the variegated sorts.

CERTIFICATES AND AWARDS.

First-class Certificate.—To Cattleya Maggie Raphael, The Dell variety, from Baron Bruno Shroder (gardener, Mr. Shill), The Dell, Egham.

Award of Merit.—To Odontioda Saturne violaceum, from Mons. H. Graire, Amiens, France; to Odontioda Latona, Goodson's var., from H. S. Goodson, Esq. (gardener, Mr. J. Day), West Hill, Putney; to Lælio-cattleya autodoin, from Messrs. J. and A. MacBean, Cooksbridge; to Cypripedium Goliath, and to C. Strelsa, from W. R. Lee, Esq., Plumpton Hall; to Lælio-cattleya Mrs. Temple, var. Dreadnought, from C. J. Phillips, Esq., The Glebe, Sevenoaks; to Chrysanthemum Maud Jeffries, from Colonel the Right Hon. Mark Lockwood, Bishop's Hall, Romford; to Chrysanthemum Cardinal, from Messrs. J. Veitch and Sons, Chelsea; to Chrysanthemum Commodore, from Mr. T. Stevenson, Woburn Place Gardens, Addlestone; to Violet Kaiser Wilhelm, from Mr. T. Johnson, Shaftesbury; to Begonia Rosalind, from Messrs. J. Veitch and Sons, Chelsea; and to Primula malacoides plena, from Messrs. Bees, Lim., Liverpool.

MEDALS AWARDED.

Gold Hogg.—To the Hon. Vicary Gibbs (gardener, Mr. Edwin Beckett, V.M.H.), Aldenham House, Aldenham, for fruit.

Large Gold.—To the Agent-General for British Columbia, for apples.

Gold.—To Messrs. H. Cannell and Sons, Eynsford, for fruit; to Mr. C. Engelmann, Saffron Walden, for carnations.

Silver-Gilt Knightian. — To Lord North (gardener, Mr. E. H. Janes), Wroxton Abbey, Banbury, for onions.

Silver-Gilt Flora.—To Messrs. Stuart Low and Co., Bush Hill Park, Enfield, for carnations; to Messrs. H. B. May and Co., Upper Edmonton, for poinsettias, etc.; to Messrs. James Veitch and Co., Chelsea, for begonias.

Silver-Gilt Banksian.—To Messrs. Wm. Cutbush and Sons, Highgate, for shrubs, carnations, etc.; to Cecil F. Raphael, Esq. (gardener, Mr. A. Grubb), Porter's Park, Shenley, for Carnations; to Colonel the Right Hon. Mark Lockwood, C.V.O., M.P. (gardener, Mr. A. Cradduck), for chrysanthemums.

Silver Flora.—To Mr. H. Burnett, Guernsey, for carnations; to Messrs. W. Wells and Co., Merstham, for chrysanthemums.

Silver Banksian.—To Messrs. J. Carter and Co., Raynes Park, for capsicums; to Messrs. Sutton and Sons, Reading, for primulas; to Messrs. Young and Co., Cheltenham, for carnations.

Bronze Flora.—To Mr. Lawrensen, Yarm-on-Tees, for carnations.

Bronze Banksian.—To the Misses Price and Fyfe, Lee, for chrysanthemums and carnations; to Mr. L. R. Russell, Richmond, for hardy plants.

SCIENTIFIC COMMITTEE.—November 18.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair), Messrs. J. T. Bennett-Pöe, W. Hales, G. Wilson, A. Worsley, J. Fraser, R. A. Rolfe, H. J. Elwes, A. W. Hill, and F. J. Chittenden (hon. sec.).

CHRYSANTHEMUM - CARNATION GRAFT.—The exhibitor of the flowers from this alleged graft now sent the plants from which they were taken, and careful examination of the lower part of the plant completely failed to reveal the least trace of grafting, while from the base of the stem from which the roots were derived a sucker was developing, clearly belonging to the chrysanthemum. It seems evident that, unknown to the sender, the scion used had rooted and produced a chrysanthemum plant, not perhaps exactly like the original plant, for sporting may occur, and frequently does, while colour varies in shade, at least according to the conditions under which it is produced; but to all intents and purposes this was a chrysanthemum pure and simple.

PELARGONIUM SPORTING.—Mr. A. Worsley showed Pelargonium Firedragon with a large-flowered double sport from it.

LYCORIS STRAMINEA, ETC.—Mr. H. J. Elwes showed a plant thought to be a hybrid, but which Mr. Worsley recognised as Lycoris straminea, a not very well characterised species allied to Lycoris aurea. Mr. Elwes showed also a three-flowered Cypripedium hybrid, C. concolor × C. superbiens = C. Arnoldianum.

HYBRID PELARGONIUMS.—Mr. Fraser continued his remarks upon the history of pelargonium hybrids, dealing with the forms of P. Radula and P. denticulatum.

CATASETUM MACROCARPUM. — Mr. R. A. Rolfe exhibited, from the collection of Mr. G. Rae Fraser, Letchmore Heath, Herts, an inflorescence of male flowers of Catasetum macrocarpum. Female flowers of the same plant have twice been shown before the committee, in October, 1910, and November, 1911, respectively. In the interval the plant has made two futile attempts to flower, but this year it has produced the male inflorescences shown, thus enabling the species to be identified with certainty. Both inflorescences are being preserved at Kew, and the plant is now being presented to the collection there, Mr. Fraser having another good specimen.

CYPRIPEDIUM INSIGNE WITH THREE LIPS.—Mr. Rolfe also exhibited from the collection of Mr. Albert Pam, Wormley Bury, Broxbourne, a twin-flowered scape of Cypripedium insigne, in which the upper flower was normal, but the lower had three lips, representing the condition of the well-known variety Oddity. In this case the two lateral sepals were developed separately, and diverge laterally, and the dorsal sepal is reduced in breadth, while the petals are metamorphosed into lips, which clasp the normal lip.

Dumfries and Galloway Gardeners' Association.

At a meeting of this association, held in the Wesley Hall, Dumfries, Mr. A. Hosking, of the Glasgow and the West of Scotland College of Agriculture, Glasgow, gave a lecture on "Plant Breeding." Mr. S. Arnott presided over a good attendance. Mr. Hosking gave a lucid and highly interesting lecture, which was followed with the closest attention. He discussed the principles of pollination, cross-fertilisation, and hybridising, dealing with these in a full and clear manner, and illustrating the lecture by means of various flowers, such as primulas, begonias, and calceolarias. Improving plants by means of selection was also touched upon, and such points as graft-hybrids and the Mendelian system were also mentioned. The lecture was full of information, and, on the call of the chairman, Mr. Hosking was accorded a cordial vote of thanks.

Perpetual-Flowering Carnation Society.

The winter exhibiton of this society, which was held in the Royal Horticultural Hall on Wednesday, December 3, was particularly successful. Most of the classes were well filled, and the exhibits reached a high standard of excellence. The entries were far larger than on any previous occasion, and amateurs and private growers turned out in force.

GROUPS.

Great interest centred in the competition for the Geo. Monro, jun., Challenge Cup, value 50 guineas, offered by Mr. G. Monro, jun., Covent Garden, for the best twelve vases of carnations, in as many varieties and twenty-five blooms of each variety. There were two competitors, and the cup was won by Mr. C. Engelmann, Saffron Walden, who scored with fine vases of Carola, Enchantress Supreme, Scarlet Carola, Harlequin, Fanny, Sunstar, Snowstorm, Pioneer, Elektra, White Perfection, Triumph, and Lady Northcliffe. The Messrs. Allwood Brothers, Hayward's Heath, staged a fine set, and were awarded a special gold medal as second prize. They used a black velvet background, and came within three points of Mr. Engelmann. Their varieties were White Wonder, Triumph, Mary Allwood, Wivelsfield Wonder, Enchantress Supreme, Rosette, Mrs. C. W. Ward, Empire Day, Mikado, La Rayonnante, Scarlet Glow, and Fairmount.

So far as we could discover there was only one entry in the class for a semi-circular display of cut carnations associated with foliage. Mr. Engelmann secured the first prize, a silver cup, offered by the American Florists, with a glorious exhibit in which huge vases of Sunstar, Carola, Enchantress Supreme, The Herald, Mikado, Pioneer, and Scarlet Glow were conspicuous, with a setting of asparagus and smilax.

Premier award for a group of carnations, as growing, fell to Mr. Holder, Adair Place, Englefield Green, and with this award went the beautiful silver-gilt cup, presented by Lord Howard de Walden. Mr. Holder had a capital display of fine blooms on healthy plants, and he showed popular varieties; Mrs. Bischoffsheim, Warren House, Stanmore, second; and Mr. Burbidge, gardener to Miss G. A. Fenwick, The Croft, Hillmorton, third.

For half a dozen plants of Mr. Engelmann's varieties, Mr. Usher held his own, and won the £4 prize with excellent specimens of Lady Northcliffe, Triumph, and Sunstar; Mr. Holder, gardener to Mrs. Adair, Adair Place, Englefield Green, second. Mr. Usher was also first for two plants of 1912 novelties with Triumph and Lady Northcliffe, and also in another class for a pair of plants, this time with Lady Northcliffe and Regina. Mr. Lloyd and Mr. Holder were second respectively.

OPEN CLASSES.

Premier award for three vases of twelve blooms, each of British novelties, distributed since January 1, 1911, was won by Mr. C. Engelmann, with the yellow Sunstar, the red-striped Fanny, and the rosy Pioneer; Messrs. Stuart Low and Co. second; and Messrs. Wells and Co. third.

The American cup, offered for the best three vases of twelve blooms each of American novelties, distributed since January 1, 1911, was won by Mr. C. Engelmann, Saffron Walden, who showed the bright pink Northport, soft pink Enchantress Supreme, and the pure white Wodenethe in fine condition; Mr. H. T. Mason, Hampton Hill, won the second prize with very bright blooms of Rosette, and he also showed White Wonder and Enchantress Supreme.

There were nine classes for twenty-five blooms of one variety of the various types. In the Enchantress type class the Newport Nurseries Company, Newport, Essex, won the first prize with large, bright blooms of Lady Meyer, and were closely followed by Mr. D. M. Collins, of Heathfield Nurseries, Swanley, with Enchantress. Mr. C. Engelmann led in the class for Mrs. H. Burnett type with

charming blooms of Lucy, and Mr. Collins was again second. Mr. Engelmann also showed the best rose-pink variety, his blooms of Pioneer being especially good; Princess Mary, shown from the Newport Nurseries, was second. Messrs. Stuart Low and Co. put up the brilliant Gorgeous, and won the first prize in the class for the Lawson type; Rosette, as shown by Mr. C. Engelmann, was placed second.

Six of the seven exhibitors showed White Perfection in the white varieties class, where the prizes were won by Mr. H. T. Mason and Messrs. P. Lovell and Co., Manor Nurseries, Worthing, in the order named. There was a greater diversity of scarlets, and here Scarlet Champion, from Messrs. W. Wells and Co., was placed first, followed by Scarlet Glow, from Mr. W. A. Sherwood, Hampton Hill. The Newport Nurseries led with Triumph in the crimson class, closely followed by Mr. C. Engelmann, who showed Carola. Three vases of Mikado, and the rose-coloured Mary Allwood, were the only varieties shown in the class for selfs not eligible in the above list, and Mary Allwood, from Messrs. Allwood Bros., won the first place. The only exhibit in the class for fancies was Sunstar, from Mr. C. Engelmann, and it received the first prize.

The best vase of twelve blooms of any registered variety not in commerce was that of Champion, a fragrant, bright scarlet crimson bloom, from Messrs. W. Wells and Co.; Gorgeous, from Messrs. Stuart Low and Co., being a good second.

The competition generally was not great in the classes for single vases of various varieties. Sir R. Baker won Messrs. Stuart Low and Co.'s cup with fine blooms of such varieties as Fairmount, Lady Alington, and Mrs. L. M. Crook, and also secured the silver challenge cup presented by Mrs. Norman for five blooms of British-raised seedlings. The first prize for Mr. Burnett's novelties was won by Capt. Weiner, who had splendid blooms of Mrs. C. F. Raphael, Calypso, and Mandarin. Lord Burnham (gardener, Mr. J. Johnson), Hall Barn, Beaconsfield, won the challenge cup offered by Messrs. W. Wells and Co. with Whitehouse and Woodnethe, and also the first prize given by Messrs. Young and Co. with six good blooms of Lady Audrey Neild. The class for twelve blooms of Messrs. Young and Co.'s novelties was won by Mr. Usher.

AMATEURS.

In the amateurs' section five flowers were required in a series of classes for varieties of a given colour. The competition was fairly keen in most classes. For a vase of a variety of the Enchantress type, Mr. H. Lloyd, gardener to Captain Weiner, Ewell Castle, Ewell, led with R. F. Felton; and Mr. W. Reid, gardener to the Countess of Derby, Cowarth Park, Sunningdale, came second with Enchantress.

In the Messrs. Burnett colour class Mr. J. Shaw, gardener to Oswald Hedley, Esq., Dilston Hall, Corbridge, led with Baroness de Brienen in fine form; Mr. Cullwick, gardener to Captain D. Macpherson, Westlaker, second. Mr. Johnson, gardener to Lord Burnham, Hall Barn, Beaconsfield, led in the rose-pink section with Rose Pink Enchantress; and Mr. W. G. Dance, gardener to J. S. Cross, Esq., Calthorpe Towers, Rugby, second.

Mr. A. E. Usher, Ranston Gardens, Blandford, scored with Rosette in the Lawson class, and Mr. Johnson came second.

For a white variety Mr. W. J. Reid led with White Wonder, and Mr. Usher came second with the same variety. Mr. H. Smith, gardener to Brodie Henderson, Esq., Elphine House, Little Berkhampsted, scored for a scarlet variety with Scarlet Glow; Mr. Usher second. For a crimson variety, Mr. Jackson, Danehurst, Epsom, scored with fine specimens of Carola; and Mr. Lloyd came second with this variety among nine competitors—indeed, there were eight or ten competitors in nearly all these classes. For any other colour than specified, Mr. Dance came to the front with Mikado, and Mrs. F. Norman, Moor Place, Much Hadham, second. In the fancy class Mr. Usher scored with Benona, and Mr. Lawrence, Rodstone, came second. Mr. Usher staged the finest five flowers of the beautiful Mrs. A. F. Dutton.

AMATEURS—SECOND DIVISION.

An interesting division is for amateur members who only employ a part-time gardener, and for such members, resident upwards of 50 miles from London, the blooms were staged by the society's officials. The classes were for three blooms of a variety, and the colours followed the arrangements in previous divisions. The chief first prize-winners and their varieties were Mr. G. H. Lawrence, Godstone, with Enchantress; Mr. A. Whitworth, Datchet, with Mrs. A. F. Dutton; Mr. T. C. Loosemore, Weymouth, with Mrs. C. W. Ward; Mr. Lawrence, with White Wonder; Mr. Loosemore, with Scarlet Glow, and also with Triumph; Mr. Lawrence and Mr. Loosemore equal for a self coloured variety with Mikado and Mary Allwood respectively. For a mixed vase of six flowers Mr. A. J. Digby, Kortleton Avenue, Weymouth, led.

In the division for those who had not previously won more than two first prizes, the chief winners were Mr. G. Pain, Hornsey; Mr. F. Ballard, Barcombe, Lewes; Mr. J. Mackenzie, Shooter's Hill; and Mr. L. E. Lacey, Hillcroft, Farnborough.

Lloyd), Ewell Castle, Surrey, a good second.

Mr. R. F. Felton, of Hanover Square, London, who used Mrs. Burnett carnations, sprays of Asparagus plumosus and of Pittosporum Colensoi, had the best bouquet; Mrs. Adair, Adair Place, Englefield Green, being second with a neat arrangement.

No fewer than twelve exhibitors competed in the vase class, and all the arrangements were of more than average merit. Mr. Joseph Shaw, gardener to O. W. Hedley, Esq., Dilston Hall, Corbridge-on-Tyne, won the first prize, rather for the excellence of his blooms than for taste in arrangement; the second prize vase, by Mr. T. F. Stannett, gardener to Frank May, Esq., Houndswood, Radlett, was more attractive.

NEW VARIETIES.

Awards of Merit were granted to the American varieties, Enchantress Supreme, Gorgeous, and Champion.

Similar awards were made to English varieties; Lady Fuller, 84 points, from Mr. C. Wall, Melrose Nursery, Bath; Queen Alexandra, 77 points, from Messrs. G. Clarke and Co., Leighton Buzzard; Cinderella, 75 points, from Messrs. George Fairbairn and Sons, Carlisle; Pioneer, 75 points, from Mr. C. Engelmann.

FIRST PRIZE GROUP OF PERPETUAL CARNATIONS.

Set up at the Royal Horticultural Hall on December 3, by Mr. C. Engelmann, Saffron Walden, who won, with it, the Fifty-guinea Silver-gilt Cup, presented by Mr. George Monro, jun., of Covent Garden.

FLORAL DECORATIONS.

First prize for a table decoration of perpetual carnations was won by Mrs. A. R. Bide, Guildford Road, Farnham, with a pleasing design in a variety very like Mary Allwood; Mrs. A. Robinson, Norhyrst, Carshalton, second, with a blush variety of the May Day type, thoroughly well arranged down the centre, but weak at the corners. Messrs. R. Felton and Sons, Hanover Square, third with pale salmon-pink flowers.

In another class for table decorations there were seven competitors. Mr. Usher, Ranston Gardens, came first with a light arrangement of Enchantress; Mr. Holder, Adair Place Gardens, second; and Mrs. A. R. Bide, Farnham, third.

The baskets of carnations were very charming, and the leading award went to Mr. R. F. Felton, who used the yellow Sunstar to great advantage; Mrs. Adair had a heavier arrangement of mixed colours. Mr. Felton also won with three ladies' sprays, where he was very closely followed by the Countess of Derby (gardener, Mr. W. J. Reed). The gentlemen's buttonhole flowers were also of great merit, and here S. F. Jackson, Esq., Danehurst, Epsom, won the premier prize, and Captain Weiner (gardener, Mr. H. S.

NON-COMPETITIVE.

All of the trade groups of carnations, and some of the general exhibits, to which attention is drawn in our report of the Royal Horticultural Society's show on Tuesday, were retained for the carnation show, and among these were displays by Messrs. Young and Co., Mr. H. Burnett, Messrs. Wells and Co., Messrs. Stuart Low and Co., Mr. A. F. Dutton, and Mr. Wm. Lawrenson. Messrs. Allwood Bros., Haywards Heath, added largely to their exhibit, and made a central feature of the beautiful Mary Allwood. Triumph, Wivelsfield White; Mrs. F. M. Crook, and Yellowstone were also shown in quantity. Messrs. Wm. Cutbush and Son, Highgate, re-arranged their exhibit of carnations which they showed on the previous day, making a beautiful arrangement of fresh blooms. Messrs. Geo. Fairbairn and Sons, Carlisle, showed their new Cinderella in a small collection.

Mr. C. Engelmann allowed most of his monster collection to remain, replacing the few fading blooms, and arraning an additional group on a floor space.

MEDALS AWARDED.

Large Gold.—To Mr. C. Engelmann, Saffron Walden.

Gold.—To Messrs. Stuart Low and Co., Enfield; to Messrs. Allwood Brothers, Haywards Heath; to C. F. Raphael, Esq. (gardener, Mr. Grubb), Porters Park, Shenley.

Silver-gilt.—To Messrs. Young and Co., Cheltenham.

Silver.—To Mr. H. Burnett, Guernsey; to Messrs. W. Cutbush and Son, Highgate; and to Messrs. George Clarke and Co., Leighton Buzzard.

Bronze.—To Mr. W. Lawrensen, Yarm-on-Tees.

National Dahlia Society.

The annual general meeting of this society was held at the Hotel Windsor on Monday, December 1. Mr. G. Gordon, V.M.H., the president, in the chair, and about thirty members present. The report and balance-sheet were adjourned until the next meeting; the financial statement, as read, was satisfactory, the society being able to meet all its obligations. Mr. J. A. Jarratt, Anerley, proposed a vote of thanks to the retiring officers, and this was seconded by Mr. W. J. Cramp, Streatham.

Mr. G. Gordon, V.M.H., was re-elected president unanimously; with Mr. J. Green as treasurer, and Mr. J. Cheal, V.M.H., chairman of committee. Mr. R. Cory was elected a vice-president; and Mr. J. B. Riding retains the secretaryship; while Mr. J. Woolman, Birmingham, Mr. J. A. Jarratt, and Mr. W. J. Cramp were elected to serve on the committee. The Publication Committee is formed by Mr. C. H. Curtis and the officers ex-officio. The members of the Classification Committee elected were Messrs. E. Doncaster, H. Shoesmith, S. Mortimer, J. T. West, J. Stredwick, and the officers ex-officio. Mr. G. L. Caselton is again hon. show superintendent; and the hon. auditor is Mr. G. Davidson.

A hearty vote of thanks was accorded to Mr. Gordon for presiding.

Woolton.

NOVEMBER 19.

This society held its fifteenth exhibition in the Church Hall. The plants, both trained and staked, were staged on the platform, running the full width of the hall, and made a most effective display. Possibly the plants created a record for quality and training, and the chief winners in this section were: Mr. J. Penlington, gardener to Alfred Fletcher, Esq., who led for three large-flowering; one Japanese, and one incurved; Mr. R. Hitchman, gardener to Mrs. Schintz; Mr. W. Wilson, gardener to W. Cunningham, Esq.

In the other plant classes Mr. G. Hodnett, gardener to A. G. Dent, Esq., palms; Mr. G. Haigh, gardener to Sir W. H. Tate, orchids, cyclamen, and lily of the valley; Mr. J. Litton, gardener to Miss Young, hyacinths; Mr. G. Lowe, gardener to Colonel J. P. Reynolds, foliage plants; Mr. J. Hunter, gardener to R. Gladstone, Esq., salvias; Mr. C. Price, gardener to Mrs. Clarke, cypripediums; and Mr. J. Stoney, gardener to Lieut.-Colonel J. B. Gaskell, begonias, were the chief prizewinners.

Cut flowers were up to the average in size, and Mr. G. Haigh, Mr. G. Lowe, and Mr. H. Howard, gardener to Alderman A. S. Mather, were first respectively for twenty-four, eighteen, and twelve Japanese blooms; Messrs. J. Stoney and H. Howard took the lead for eighteen and twelve incurved respectively; and Mr. Stoney's was an excellent set.

In the class for nine vases of single varieties, nine blooms in each vase, there was a keen competition, Mr. Hitchman securing the coveted position; some of the flowers exceeded seven inches in diameter, were of fine colour, and remarkably good shape. For six vases, six blooms in each vase, Mr. Haigh proved the winner. For four vases of incurved blooms, three in each vase, Mr. Haigh led with good examples, and also scored for six vases, four stems in each vase, and four blooms on each stem, the whole arranged for effect, but there was room for improvement in effective staging.

Two classes are allotted to under-gardeners, one for a bouquet and one for three sprays and three buttonhole flowers. That there is a healthy interest in this section may be gathered from the fact that nine bouquets and fourteen sprays and buttonholes were the result, and every exhibit was worthy of an award. Mr. G. Cowley, Highfield Gardens, led in the first-named class, and Mr. R. Hosker, Dove Park Gardens, in the latter.

Grapes were not quite up to the usual standard. Mr. W. Wilson won for two bunches of white grapes with Muscat of Alexandria, and Mr. J. McCole scored for black grapes with Alicante.

Mr. C. Price secured the leading award for a collection of vegetables, Mr. J. Gore scored for the farmers, and Mr. J. Radley for the cottagers in this division, and each received a silver challenge cup with the first prize.

Dundee Chrysanthemum Society.

The annual autumn show held by this society was opened by Lord Provost Urquhart, in the Kinnaird Hall, on November 21. The president, Mr. Walker S. Melville, presided at the opening ceremony, and, as has been his custom in the past, took a full share in the work of organisation, while the secretarial duties performed by Mr. W. F. Hill gave every satisfaction, and Mr. Alex Crighton deserves praise for the effective way in which the exhibits were arranged.

The Corporation Cup, given for thirty-six blooms in twelve vases, was won by Mr. Alex Duncan, Carbet Castle Gardens, who showed a very even lot of superior flowers of Hon. Mrs. Lopes, F. Penford, W. S. Thorn, Master James, Lady Talbot, J. H. Silsbury, F. S. Vallis, etc. Mr. J. Reid, Esk Park, Brechin, was second, his outstanding flowers being Fred Green, J. H. Silsbury, and Mdme. R. Cadbury. Mr. D. Keillor, Seaborne Gardens, was first for eight vases (twenty-four blooms), having grand flowers of F. S. Vallis, W. Mease, F. Chandler, Reginald Vallis, B. Pulling, Mary Poulton, and F. Rowe; Mr. R. McNaughton, Battleby, Redgorton, Perthshire, was second; and Mr. George Mollison, Territ, Cupar, Fife, third.

Mr. McNaughton scored well for the six vases and the Smieton memorial medal, which now becomes his property. His blooms of Queen Mary were a marvel, and certainly deserved the honour of being the best flowers in the show. Other varieties well shown were Mrs. A. T. Miller, Mary Poulton, W. S. Thorn, Hon. Mrs. Lopes, and His Majesty; Mr. David Keillor was second. Mr. T. C. Brown was first for four vases, Japanese; and Mr. James Hughes, Erigmore, Birnam, was second. Mr. Alex. Duncan was first for four vases, Japanese incurved, his flowers of Lady Lechworth, W. S. Thorn, and Elinor Duchess of Northumberland being particularly fine. Messrs. Keillor and John Fraser, Lochie, were the runners-up, as named. Messrs. T. C. Brown, Jas. Hughes, and John Fraser scored, as named, for two vases (six Japanese blooms).

For nine vases of decorative varieties, not disbudded, Ms. George Scott, Seathwood, Mr. James Beats, Binrock, and Mr. John Fraser, Lochie, won, as named, with creditable lots. For nine vases of singles, not disbudded, Messrs. J. Beats, A. Duncan, and G. Scott were the winners. For one vase of singles, Mr. T. C. Brown, Mr. D. Keillor, and Mr. James Bethel won, as named; while for one vase of singles, disbudded, Mr. Jas. Beats was the winner; and for one vase of chrysanthemums, arranged for effect, Mr. G. Scott was to the front.

Messrs. Scott, Beats, and Fraser scored, as named, for dinner-table decoration; and Mr. Scott, Mr. Beats, and Mr. W. Cook scored, as named, for a shower bouquet and a basket of blooms arranged for effect. For two dress sprays and two buttonhole bouquets, Mr. I. Margach was first, Mr. Jas. Bethel second, and Mr. Geo. Scott third.

In the plant section, Mr. Geo. Scott was first for nine plants in 6in. pots, and magnificent specimens they were. Mr. Jas. Beats was second, and Mr. John Fraser third with highly creditable examples.

Messrs. Beats and Scott scored, as named, for three pots of singles and three pots of decorative varieties, not disbudded. Mr. A. Duncan was first for Primula obconica and Begonia Gloire de Lorraine; and Mr. Geo. Scott first for Primula sinensis. Mr. Jas. Staward, St. Fort, was first for cyclamen. Mr. Jas. Bethel was first for a collection of vegetables, with Mr. James Staward second.

In the amateurs' section vegetables were, as usual, very numerous, and were highly creditable. Mr. D. Orchiston was first for a collection of vegetables, and also for leeks and Brussels sprouts. Mr. D. Smith proved a good runner-up, and scored first for red onions and celery. Messrs. Jas. Clark, Wm. Davidson, Wm. Robertson, Wm. Dodds, John Denholm, and John Keill were the most successful competitors met with in the pot plant section, always so popular with Dundee amateurs. In the cut flower section, open to amateurs only, in addition to winning the Watson challenge cup for twelve blooms, Mr. John Denholm, Blackness Road, annexed firsts for three vases of nine blooms, one vase of undisbudded and one vase of disbudded flowers, and for a vase of singles.

Trade exhibits were few, and, had it not been for the bright table of Begonia Gloire de Lorraine and single chrysanthemums set up by Messrs. Croll and Sons, the magnificent display of imported fruits and vegetables set up by Messrs. Harley and Sons, and the table decorations displayed by Mr. Arthur Edwards, Notts, one would have thought that the nurserymen and florists had gone on strike.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. NOVEMBER 23 TO NOVEMBER 29.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb	Day Hi h-est.	Night Low-est.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 23—Sunday	1 6	28	28	47	25
,, 24—Monday	3 12	45	43	48	29
,, 25—Tuesday.....	2 6	39	39	52	37
,, 26 Wednesday..	—	50	49	54	39
,, 27 Thursday....	—	40	39	53	36
,, 28—Friday.....	5 6	50	50	57	40
,, 29—Saturday.....	5 36	45	44	54	42
Means ...	(total) 17 6	42	41	52	35

DATE. 1913. NOVEMBER 23 TO NOVEMBER 29.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Nov. 23—Sunday	—	43	48	51	20
,, 24 Monday	—	45	48	50	28
,, 25 Tuesday.....	trace	44	47	50	27
,, 26—Wednesday..	trace	46	47	50	31
,, 27—Thursday....	trace	45	47	49	26
,, 28 Friday.....	—	47	47	49	40
,, 29 Saturday	trace	46	48	49	30
Means ...	(total) —	45	47	50	29

FORTHCOMING ENGAGEMENTS.

MONDAY, December 8.—United Horticultural Benefit and Provident Society; Committee Meeting at Royal Horticultural Hall.

TUESDAY, December 9.—National Hardy Plant Society; Annual Meeting at the Horticultural Club Hotel Windsor, Westminster, at 4 p.m.

WEDNESDAY, December 10.—National Chrysanthemum Society, Essex Hall, Essex Street, Strand, W.C.; Exhibition open at 1 o'clock; Floral Committee at 3 o'clock; Conference at 7 p.m.

North of England Horticultural Society meets at Leeds.

Midland Daffodil Society: Special General Meeting at the Queen's Hotel, Birmingham, at 2 o'clock.

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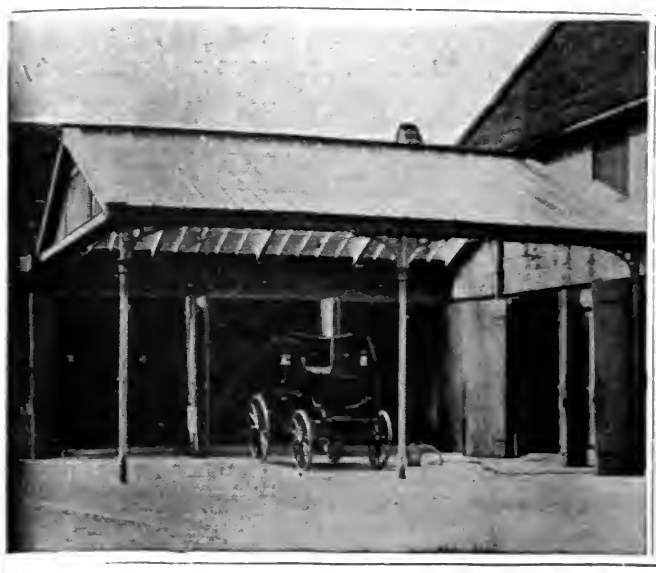

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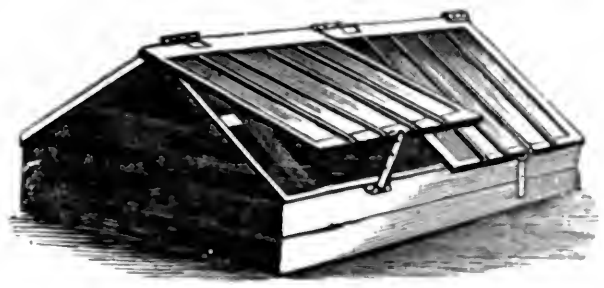

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ANSWERS TO CORRESPONDENTS.

Specimens of plants, flowers, and fruits for naming, or opinion, should be sent to the Editor of THE GARDENERS' MAGAZINE, 2, Adelaide Road, Brentford, Middlesex, and as early in the week as possible. All parcels must be sufficiently prepaid.

SCARLET OAK.—I. C., Bath: Information was recently asked and given respecting the production of sprays of scarlet oak foliage for decorative purposes. I would be glad if you can tell me the correct name of the scarlet oak, and whether the vivid colouration referred to has anything to do with sunshine, soil, or pruning. We have two scarlet oaks here, and in neither case does the foliage ever become anything more than a dull reddish-yellow.—There are several oaks which have their leaves coloured red or scarlet during the autumn, and the best of these are Quercus coccinea, Q. prinoides, and Q. rubra. The latter is popularly known as the Red Oak, but Q. coccinea or its varieties are often grown for the purpose of producing sprays of richly-hued foliage. One of the finest forms of Q. coccinea is Knap Hill Scarlet, which, besides assuming a brilliant colour, is notable for the length of time it retains its leaves, these often remaining on the boughs up to Christmas.

LIME DRESSING FOR LIGHT SOIL.—G. G., Enfield: Will you kindly tell me what quantity of quicklime I should use per square yard for dressing a medium or moderately light soil?—If the land has been well manured over a series of years, and therefore contains a good deal of humus, a good dressing of lime will prove useful in neutralising organic acids and setting free much of the plant food latent in the soil. Half a bushel of quicklime per rod is a fairly good dressing, but this amount may be increased by one-half if the soil naturally lacks lime. If you are at once working the soil it will be a better plan to use basic slag now, and then give a half-dressing of lime in the spring, a few weeks before sowing or planting. Lime is best used in a fresh state, and should be placed on the land in small heaps just as it comes fresh from the kiln. Cover these heaps with soil, and when the lime is slaked spread it evenly and lightly dig or fork it in.

POTATO BUTLER'S DEFIANCE. — A Grimsby correspondent is seeking for information concerning a potato given him under the name of Butler's Defiance. He cannot find such a name in any catalogue to which he has access. The tuber has a very rough skin, the stems are long, thin, and wiry, and the flowers pure white. Any information our readers can supply concerning the origin of this variety will be appreciated. We find no mention of such a name in the audit of the great potato show of 1905.

SPECIMEN COLEUS.—Tango, Essex: Could you inform me, through your columns, how I should proceed with coleuses? I wish to grow a few large specimens for exhibition purposes next year, and want to have them as well furnished and brightly coloured as possible.—The success achieved with coleuses will depend chiefly upon the conveniences at command and attention to a few simple details, for, after all, coleuses are among the easiest of plants to cultivate. As soon as possible in the New Year insert cuttings in tiny pots of sandy soil, and place them in a case where a temperature of 55 to 60 degrees is maintained. As soon as rooted, remove from the case, and in a few days pot into large 60-sized pots, using a compost of rich sandy loam. Pinch out the growing points quite early, and repeat this operation during spring and early summer as soon as each growth has made two or three pairs of good leaves. You will soon learn, under the conditions provided, how long a period should elapse between pinching and the development of new growths, and thus you will be able to time the specimens for the exhibition. A 24-sized pot will generally be large enough, but 16-size may be used if the plants develop freely, for, while free growth is essential during all the earlier stages, care must be taken to colour the foliage well, and this can only be accomplished if the plants are grown in a light and bright position near the glass, and the pots become thoroughly well filled with roots some time before the specimens are needed for exhibition, or the decoration of the conservatory. Feeding is rarely necessary until the final pots are packed with roots; then liquid manure and clear water must be given freely or the leaves will fall. We may add that the rather severe pinching suggested is for the purpose of securing large, bushy, and flattish specimens; less pinching is needed for pyramidal plants. In both cases some amount of training must be done, and at all times the plants must be kept clean.

GOLD RUST ON ROSES.—T. B., Stranraer: My roses have gold rust on the leaves, and though I have sprayed during the past summer with Bordeaux mixture, this has had no effect whatever upon the disease. Can you recommend any other spraying mixture which would help me, or should I treat the ground beneath the plants in any particular way? The leaves are now turning brown and falling.—In the absence of specimens we cannot determine the disease from which your roses are suffering, but probably it is the Rose Rust (Phragmidium subcorticatum). In certain seasons and districts this is a troublesome pest, and no means should be spared to eradicate it. We have quite recently referred to the disease in this column, but we may again point out that the winter spores appear on the leaves in the form of tiny black points, and these spores rest during the winter, commence growth again in spring, and produce secondary spores, which speedily infect the young growths and leaves of the roses, and so give rise to the yellow or orange coloured rust seen in the summer. From this you will gather that it is of the utmost importance no leaves or broken growths should remain on the soil, but should be gathered and burned promptly, because, if this is done, and all prunings are burned in the spring, the best means of checking the spread of the disease will have been taken. The fungus does not rest in the wood of the rose but broken shoots carry leaves to the ground. If the summer form of the disease has attacked the growths, treat the affected portions with methylated spirit and water, mixed in equal proportions. Just before the leaves expand next season spray the bushes with sulphide of potassium solution. It may be as well to follow with other sprayings as the leaves advance, but half an ounce of sulphide of potassium to a gallon of water will be strong enough at first, though later on, as the leaves become firmer, 2oz. in 3 galls. of water will be a better fungicide.

NAMES OF PLANTS.

F. F., Ilfracombe.—1, Pittosporum Tobira.

J. P., Bury St. Edmunds.—The leaves of Artemisia lactiflora.

S. A. N., Chislehurst. — 1, Eranthemum pulchellum; 2, Begonia socotrana; 3, Pelargonium denticulatum.

A. J. W., Ealing.—1, Abies Nordmanniana; 2, Choisya ternata; 3, Caryopteris mastacantha; 4, Linum trigynum.

H. C. H., Newcastle.—1, Cupressus Lawsoniana; 2, Iris speciosa; 3, Juniperus chinensis; 4, Sequoia sempervirens; 5, Erica gracilis; 6, Thryrsacanthus rutilans.

NAMES OF FRUITS.

C. L. D., Exeter.—1, Claygate Pearmain; 2, probably Newton Wonder.

E. M. E., Bushey.—1, Bismarck; 2, Ribston Pippin; 3, not recognised.

A. H., Salisbury.—1, Smart's Prince Arthur; 2, Dumelow's Seedling; 3, Lane's Prince Albert; 4, King of the Pippins; 5, Twenty-ounce—a fine set of specimens.

H. F., Grimsby.—1, Gravenstein; 2, London Pippin; 3, probably Golden Noble—a rather tall example; 4, Adam's Pearmain; 5, King of the Pippins; 6, not recognised, probably a local seedling.

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VOL. LVI.—No. 3,137. SATURDAY, DECEMBER 13, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Effects of Grafting.

Grafting is an operation by which a portion of a plant of one species or variety is inserted into or upon another and different one, and this is carried out on a very large scale for more reasons than one. In the first place, obviously a cutting or scion so introduced is provided at once with a root system by which, if the growths of the stock or rooted plants are suppressed, a far more rapid development is secured, and both fruiting and flowering is attained, it may be, in a single season, instead of a considerably longer period. A weakly-growing plant may also greatly benefit by its association with a robust one, and, in addition to this, grafting affords a means of propagating a rarity to any desired extent much more quickly than by cuttings, since simple buds will generally suffice, for budding is a form of grafting. Furthermore, while the progeny from seeds is often unreliable, the graft, as a rule, produces a perfectly true representation of its parental type. To the thoughtful mind, however, the fact that such association can be at all relied upon to cause no difference in the graft or scion, as it is termed, is a mystery. Every plant normally develops a root system which penetrates the soil, and selects therefrom the earthly salts necessary for its nutrition and the formation, when they reach the foliage, of the structural and other materials required for the development of that particular plant. With the water, also collected by the root system, the sap is formed and transmitted to the leaves, in which, under the influence of the sunlight, and in conjunction with the carbonic acid derived from the atmosphere, it is used by the wonderful leaf-green chlorophyl grains to create the materials aforesaid. With a graft, however, there is no direct connection with a root system of its own, but with an alien one which will have only collected the earthly salts proper to its own particular needs. Hence it is clear that at the point of junction the inserted bud or scion must presumably exercise a process of selection and exclusion as regards the material supplied to it by the alien stock and roots. On the other hand, as regards the stock, as all its own buds and shoots are presumably suppressed by the cultivator in favour of the scion, it is eventually the foliage of this latter alone which subsequently contributes its alien material to the development and strengthening of the stock and its root system below the point of junction. Thus there must be a reverse selective and exclusive action on the part of the stock itself, since, if any foliar growth is accidentally permitted on the trunk or from the root (in the form of suckers), these, as a rule, are unaffected by the graft, and exactly resemble those peculiar to the stock. These phenomena are so general

MR. JAMES CORNFORD.

in their occurrence that exceptions are very rare. In recent times, however, a suspicion has arisen, particularly in the case of grafted fruit trees, that both flavour and shape, and even general appearance, may be affected when fine fruits are grafted on common and inferior ones, and in the case we have in view as we write, it is fairly demonstrated that even poisons may be able to run the gauntlet, so to speak, of the selective cells at the point of junction, and, by analysis, give evidence of their presence in an otherwise innocent graft. In the "Revue Horticole" some well-authenticated cases are recorded in connection with a large number of experiments made in this particular direction. In the Solanum group, for instance, we have examples of the innocuous and nutritious potato and tomato, on the one hand, and of the deadly belladonna on the other, and as these belong to the self-same order it has been found possible to effect grafts between them. As the result of grafting the tomato on the belladonna it has been conclusively proved that the tomato fruit produced contained an appreciable quantity of an alkaloid so closely akin to atropine, the deadly principle of the stock plant, that it produced the same pathological symptoms of poisoning. Atropine, on the other hand, has also been found present in potato tubers derived from a potato stock, on which was grafted Datura Stramonium. From these results, and many others, it is therefore clear that the point of graft junction does not represent an absolute bar to stock influences on the graft growths, on the one hand, or of the grafts on the products of the stock or its root system on the other.

Mr. James Cornford, for 30 years head gardener to Colonel and Mrs. Powell Cotton, at Quex Park, Birchington, Kent, occupies a position in the front rank of cultivators, but he is at all times prompt to inform those who congratulate him upon his successes, that these would not be so numerous were it not for the very generous manner in which his employers deal with their gardens. Mr. Cornford's experience before coming to Quex Park was gained in such well-known gardens as those of Shoreham Place and Chatsworth. Since coming to Quex Park he has supervised a great enlargement of the pleasure grounds and created a new kitchen garden, 3½ acres in extent, enclosed by walls 12ft. high, all wired for fruit trees, and well furnished with peaches, nectarines, and pears. Mr. Cornford has been a most successful exhibitor, and among the thousand and more prizes he has won, over five hundred have been for chrysanthemums, including five silver cups (one valued at £50), one gold medal, and many silver medals. He has won many prizes at exhibitions of the Royal Horticultural Society, including two Hogg Memorial Medals, two silver medals, and a cup for hardy fruits. Mr. Cornford has been no less successful with vegetables, but, better even than his splendid list of prizes, the fine condition of the gardens and grounds of Quex Park testifies to his skill as a cultivator and organiser.

A Suggestion for the Royal Horticultural Society.—Mr. Percy A. Cragg, of the Merivale Nurseries, Heston, has no faith in criticisms which fail to include suggestions for improvement, and so, feeling that the Royal Horticultural Society does little for the advantage of market growers, he suggests that the Council be urged "to erect on an open spot two blocks of houses built exactly alike, and on

similar lines to a nursery. Various systems of heating could be tried, for instance pipes on ground level against those overhead; a few large pipes against more smaller ones; forced circulation against normal; sectional against tubular boilers; various settings of the boilers themselves; oil and gas against coke and coal; forced draught, etc., etc. The possibilities are infinite, and economy is sure to result if the trials are well carried out. Each year it becomes a necessity to produce goods more economically, so economy must be sought for in every way." We hope Mr. Cragg has also sent this suggestion, in writing, to the R.H.S. Council.

The "Orchid Review."—Our esteemed contemporary, the "Orchid Review," has just completed its twenty-first volume, and we find the title page for 1913 carries the inscription: To Sir Frederick W. Moore, M.A., F.L.S., Keeper of the Royal Botanic Garden, Glasnevin, one of our most enthusiastic and most successful cultivators, the twenty-first volume of the "Orchid Review" is cordially dedicated.

Mr. J. C. Newsham, for several years the successful master at the School of Agriculture and Horticulture, Old Basing, Hampshire, has been appointed Principal of the New Farm Institute, now established at Usk, in Monmouthshire. Mr. Newsham takes up his new duties directly after Christmas, and we heartily congratulate him upon well-deserved promotion.

Exhibition of Bottled Fruits at Shrewsbury, 1914. — The Royal Agricultural Society of England are proposing to offer prizes for bottled fruits in connection with their show to be held at Shrewsbury in 1914. The classification has been arranged so as to include competition by both the large grower and the smallholder. The fruit must have been grown in the United Kingdom, and the exhibitor must be the grower and bottler and bona fide owner of the fruit. Further particulars will be supplied on application to Thomas McRow, secretary, 16, Bedford Square, London, W.C.

Apples in Grass Orchards.—In the most emphatic language, we have protested time after time against allowing grass to grow right up to the stems of young fruit trees. Experiments have proved that trees with their roots grassed over, particularly in their earlier years, lack the vigour of those around which the soil is cultivated. Mr. G. H. Hollingworth, the Gloucestershire County Instructor in Horticulture, has written a pamphlet, published by the Gloucestershire Education Committee, and free on application to the County Education Office, Shire Hall, Gloucester, entitled "Apples in Grass Orchards; The Treatment of Young Trees." The author points out that common causes of failure are: (1) Neglect of early pruning; (2) allowing grass to grow over the roots of newly-planted trees; (3) damage by grazing animals, through inadequate fencing; (4) bad staking and rubbing of trees on stakes through insecure tying; (5) and selecting unsuitable sites, and planting in poor or badly-drained soil. Mr. Hollingworth rightly points out that every cultivator could, by the display of ordinary and reasonable care, avoid all these mistakes. But it is to the mistake of grassing young trees we would especially point, because Mr. Hollingworth, by measurements and by illustrations from photographs, shows the evils of grassing, and the value of cultivation. A staff, 4 inches in circumference, was placed beside each tree stem previous to taking the photographs, and serves as a basis of comparison. The figures are striking. In Mr. G. E. Lloyd Baker's estate at Hardwicke, cider apples and perry pears were planted in December, 1908, and, for the purpose of experiment, the turf was returned over the roots of a number of trees. The girths of the stems of trees grassed over are $3\frac{1}{2}$, $3\frac{3}{4}$, $3\frac{1}{4}$, and $4\frac{1}{2}$ inches respectively, while corresponding trees of the same varieties, practically identical at planting time, and hoed around twice a year since, have a stem girth at 4ft. from the ground of $5\frac{1}{2}$, $5\frac{1}{4}$, 5, $5\frac{1}{4}$, and $6\frac{1}{2}$ inches respectively, or a gain in girth of from $1\frac{1}{4}$ to $2\frac{1}{4}$ inches. The illustrations show conclusively that the vigour of the trees is in accord with the girth of their stems.

Saturday Half-holiday at the Royal Nurseries, Slough.—We learn with great pleasure that employees at the Royal Nurseries, Slough, have recently been granted the Saturday afternoon holiday. The men are so delighted with Mr. Arthur Turner's kindness that they have made special arrangements for keeping the nursery open, so that customers and visitors will always find one foreman and one deputy foreman to receive them on Saturday afternoon on behalf of the firm of Mr. Charles Turner.

A Register of Hybrid Orchids.—The President and Council of the Royal Horticultural Society, acting on the recommendation of the Orchid Committee, have decided to establish a Register of Hybrid Orchids at Vincent Square. Mr. R. A. Rolfe, A.L.S., of Kew, has been appointed Recorder. The register will include all known orchids. The President and Council accordingly invite orchid raisers and growers, amateur and professional, to bring their hybrids, when in flower for the first time (even though they may not then be sufficiently developed to enter for award), and to enter the name and parentage of the plant, together with the exhibitor's name and address, on a registration form, which can be obtained from the R.H.S. Office, Vincent Square, S.W. The registration form should be sent with the plant, and it will be placed before the Orchid Committee, who, after satisfying themselves that the name is in order, will enter it on the Register. Once so recorded the name must be recognised for all crosses of similar parentage when subsequently shown, unless valid reason can be otherwise produced.

The "City Diary" for 1914 reminds us that we are nearing the end of 1913, and engagements for the coming year are already accumulating so fast that a diary is essential, "lest we forget." This new issue, from the office of the "City Press," 148 and 149, Aldersgate Street, contains a vast amount of information concerning the City of London, its government, its schools and banks, churches, parishes, and hospitals, its companies, and its courts of justice. Besides all this, there is useful postal information, and an almanac. The diary proper has a week at an opening, and the pages are interleaved with blotting paper. The cost of the "City Diary" is 1s.

British Forestry.—Some little progress is being made in connection with forestry in the United Kingdom, but so much remains to be done that, unless public opinion is turned in the direction of this industry, and its needs and importance, our children's children may rise up to curse our apathy. Sir William Schlich, Professor of Forestry at Oxford, quite recently pointed out that, while we produced about three million tons of timber, we imported ten million tons, about a quarter of which came from our colonies. In his opinion, 90 per cent. of the timber needed for building purposes could be grown at home, provided steps were taken at once to convert about a third of the available mountain and heath lands to forestry. It is stated that we spend £30,000,000 a year on imported timber and wood pulp, most of which might be produced at home if waste lands were suitably planted.

Dates of Spring Flower Shows in 1914.—We are extremely obliged to the many friends who have sent dates of exhibitions for inclusion in THE GARDENERS' MAGAZINE Almanac for 1914, but, so far, we have received very few dates of daffodil and other spring flower shows. If secretaries will send us such dates, on a postcard, addressed to the Editor, at 148, 149, Aldersgate Street, E.C., their kindness will be greatly appreciated.

Calceolaria Stewartiana. — From America we learn of the début of a new hybrid calceolaria, raised in the Arnold Arboretum, and named in honour of Mr. W. J. Stewart. The parentage is given as C. rugosa and C. hybrida; a large specimen recently exhibited before the Florists' Club at Philadelphia, created quite a sensation. The flowers are clear yellow, and about an inch across. C. Stewartiana is propagated freely from cuttings, and the general opinion is that it will make a fine greenhouse plant. It remains to be seen how this new-comer compares with the series of hybrids raised lately in England.

Dahlia Jaurezi.—Mr. C. Turner, Kew View Gardens, Highgate, writes: "The reference in your issue of October 18 to this fine old dahlia served to remind me of its use at Eaton Gardens, Chester, some years ago. It was there planted, in conjunction with Acer negundo variegata, in some enclosures in the pleasure grounds which were in front of the house. The combination used to appeal to me as very effective, especially when viewed from the higher ground of the terrace. I have never seen these two subjects associated at any other time or place, but I suggest the arrangement is worthy of copying, in spacious gardens at any rate. The bright scarlet of Dahlia Jaurezi was quite telling, seen against the light variegation of the acer."

Independent Trials of Roses in America.—From time to time we have urged the desirability of holding an independent trial of roses in this country, preferably under the auspices of the National Rose Society, but we confess our efforts have not received much encouragement, and the chief argument against such trials seem to be the fact that certain varieties do well in one district and not in another, therefore a trial in any given locality would not be of real value. We are glad to find, however, that the American Rose Society is taking up this idea of an independent trial or test with great enthusiasm. It is proposed to establish a rose garden of two acres at Urlington Heights, with Mr. Mulford, of the Department of Agriculture in charge. Three members have been appointed to form a permanent rose garden committee, and this committee is preparing plans for the garden, and taking into consideration the arrangement of famous rose gardens in Europe as well as those already established in America. Professor L. H. Bailey is joining with the society in the consideration of a test garden for roses at Ithaca, in connection with the Cornell University. Minneapolis and New Jersey have similar projects in view, and the authorities are being urged to combine so that a general

scheme of useful work may be conducted. If our own National Rose Society does not give this matter its serious and earnest consideration, it will soon be following where it ought to lead.

A Newly-produced Flora.—Mr. N. Colgan has given in the "Irish Naturalist" some interesting particulars of the renascence flora of some areas on Killiney Hill, Co. Down. These areas were covered with old gorse, which was burnt out in July, 1911, and within three months of the fire there were growing on the burnt areas thirteen species of flowering plants, some survivals from old root-stocks, some immigrants from adjacent unburnt areas, and some probably the product of seeds that had retained their vitality throughout the fire. Observations made eighteen months after the fire showed that a renascence flora of sixty-four species, including nine cryptogams, had taken possession of the areas burnt clear of all vegetation. Of these species, forty-five had entered from adjacent unburnt areas, thirteen were survivals, and the remaining six are classed as of doubtful origin. The cryptogams covered a much larger area than the flowering plants, the most abundant species, dominating above all other plants in the burnt ground flora, were the mosses Funaria hygrometrica and Barbula fallax.

Tree Planting in Norway.—To assist in the work of re-afforestation and the planting of untillable areas in western Norway the Bergen Tree-Planting Society was founded thirteen years ago. At first it made small progress, but of late it has received Government aid, and the assistance of wealthy and patriotic contributors, consequently the prospects of the society are better, and there is a hope that it may yet carry out the enormous task it set itself. Already over 36½ millions of forest trees have been raised, and of these over 26 millions have been planted on 10,000 acres of land. A great encouragement for the society's work is to be found in the fact that since its inception no fewer than 144 other tree-planting societies have been established, chiefly in the Bergenhus counties.

Preservation of British Flora.—In a paper read before the Botanical Section of the British Association on "The Preservation of the British Flora," Mr. A. R. Horwood said so urgent had this matter become that it was important the Botanical Section of this Association should discuss the question with a view to the possibility of taking some preventive steps. It was established now that severe drought recurred in cycles. During 1911 several instances of the extermination of plants were communicated to him, and others were personally noted. If they were to be expected every few years some steps should be taken to prevent their effect being disastrous. Montane and ericetal species were particularly susceptible. Bog-pools were also liable to be completely dried up. Drainage was a great factor in disturbing the natural vegetation of the country. A single instance, the Fens, sufficed to show how great such an effect could be. Fortunately some parts of it remained to show the special type of vegetation, but these were disappearing. Peat-cutting in Ireland had an effect of much the same nature, and thereby bogs were turned into tussocky pasture of Juncetum communis type. Forestry had been much neglected in the past, and, apart from the effect on the moisture of a district, the neglect to plant trees, where they were cut, except where afforestation associations existed, destroyed the natural ground flora. Golf links were extremely detrimental to those plants that only grow on sand-dunes and contiguous tracts along the coast, limited in area, and also inland heaths, now few in number. He suggested that in every case where such causes (only a few had been mentioned) were at work an endeavour should be made to obtain in the case of an association of plants a reservation, and in that of a single station for a rare plant some adequate means of protection.

Arsenical Poisoning from Sprayed Apples. — In a recent issue of the Norwegian "Morgenbladet" Dr. Sopp, who is well known in Norway as a food bacteriologist, warns the public against the possibility of arsenical poisoning from eating apples imported from Canada and the United States. Dr. Sopp states that owing to indisposition after eating apples he was induced to examine a number of apples from these countries, and found on them, in the hollow near the stalk, a visible layer of a green powder. A microscopic examination showed that the green powder contained both copper and arsenic—more than sufficient to explain the symptoms if the apple was carelessly peeled. The presence of the poison is attributed to the practice of American and Canadian growers spraying the trees, in some cases after the fruit has set, the amount of rain between this time and gathering the fruit not being sufficient to wash away the spraying material from the eye and around the stalk. Careless spraying should, of course, be avoided, but, with ordinary care, there is practically no danger whatever of arsenical poisoning from apples.

NEW PLANTS AND FLOWERS.

PERPETUAL CARNATIONS.

Lady Fuller. — A new, large-flowered variety of fine form, with broad and fringed petals. Calyx and stem are both good, and the colour is a charming shade of salmon-pink. This belongs to the Mrs. Burnett group, but has larger flowers than that variety; 85 points. A.M., P.F.C.S., December 3. Mr. Chas. Wall, Melrose Nursery, South Down, Bath.

Queen Alexandra.—This rich salmon-pink sport from the famous Scarlet Glow gives the warmest tone of salmon-pink yet seen in carnations. A strong grower, bearing finely-formed flowers, this newcomer should be certain of considerable popularity. It gained 77 points out of a possible 100. A.M., P.F.C.S., December 3. Messrs. G. Clarke and Co., Leighton Buzzard.

Cinderella.—A bold and striking variety, already described in these columns. It has broad petals of a purplish-heliotrope shade, freely flaked with scarlet; 75 points. A.M., P.F.C.S., December 3. Messrs. George Fairbairn and Sons, Carlisle.

Champion—A superb American variety, bearing large, full flowers, composed of broad and fringed petals. The colour is a fine rich shade of scarlet, and probably this is the greatest advance yet seen in the scarlet section. So far as we could discover it possesses no fragrance. A.M., P.F.C.S., December 3.

Gorgeous.—A very fine new American variety, and considered by many to be the finest variety yet raised by Mr. Peter Fisher, of Lawson fame. The large, full blooms are

CARNATION LADY FULLER.

A fine, new salmon-pink perpetual variety, honoured by the Perpetual Flowering Carnation Society on December 3, when exhibited by Mr. C. Wall, Melrose Nursery, South Down, Bath.

shapely, and composed of broad, fringed petals. The colour is rich cerise, with salmon-scarlet, flushing at the base of the petals, stem and calyx good; slightly fragrant. A.M., P.F.C.S., December 3.

Enchantress Supreme.—A lovely carnation, and with better calyx than Enchantress, from which it is a salmon-pink sport. It makes up a grand flower, large and full, and borne on long, stout stems. A.M., P.F.C.S., December 3.

These last three varieties are of American origin, and, according to P.F.C.S. rules, the awards are not credited to any particular grower.

CATTLEYA MRS. TEMPLE, VAR. DREADNOUGHT.

An exceptionally large-flowered cattleya, and with unusually substantial sepals and petals. These latter are rich rose-purple, and the large, broad lip has a deep crimson-purple apex, speckled with white, and having a handsome gold veined throat and yellow side lobes. A.M., R.H.S., December 2. Mr. C. J. Phillips, The Glebe, Sevenoaks.

LÆLIO-CATTLEYA AUTO-DOIN.

The interpretation of this quaint name may be found in the fact that the plant is a hybrid derived from Lælia autumnalis and Cattleya Octave Doin. The hybrid is a good one, and has the extended inflorescence and habit of growth of L. autumnalis, modified by the influence of C. Octave Doin, which has very greatly enlarged the blooms. These latter have broad segments of a soft mauve-purple shade, and a lip exquisitely coloured with mauve-purple, gold, and white. A.M., R.H.S., December 2. Messrs. J. and A. McBean, Cooksbridge.

ODONTIODA LATONA GOODSON'S VARIETY.

The fascination exercised by the odontiodas grows steadily, and Goodson's variety of O. Latona, with its long spike and fair-sized, rounded flowers of rich orange-red colouring comes very near the ideal of a scarlet odontoglossum. The spike carried eleven expanded blooms, and there were five other flowers to open. Such robustness, beauty, and brilliance of colouring, will go far to increase the popularity of odontiodas. A.M., R.H.S., December 2. H. S. Goodson, Esq. (Gardener, Mr. Day), West Hill, Putney.

ODONTOGLOSSUM SATURNE VIOLACEUM.

Of modest growth, this interesting hybrid between O. nebulosum and O. crispo-Harryanum is attractive by reason of the bright red and red-brown colouring in the lip, and the spottings of similar colour on the white, rose-tinted sepals and petals. The rich orange-brown of the throat and the soft yellow column add to the effectiveness of the flower. Though not so rounded in form, this hybrid shows a distinct resemblance to O. nebulosum. A.M., R.H.S., December 2. Mons. Henri Graire, Amiens, France.

CYPRIPEDIUM GOLIATH.

A very large cypripedium with the general character of C. insigne Harefield Hall, which was one of the parents, C. Amy Moore being the other. The broad dorsal sepal has a white apex and purple-brown spots over the green base and centre. The petals and lip are green, shaded with cream and brown. A.M., R.H.S., December 2. W. R. Lee, Esq., Plumpton Hall, Heywood, Lancs.

CYPRIPEDIUM STRELSA.

A neat hybrid with very rounded flowers. The dorsal sepal is wide and short, white and green, with purple spots. The lip and petals are green and brown. The widening of the ventral sepal, the roundness of the upper sepal, and the comparatively small size of the lip give to the flowers of this cypripedium a very distinct and compact appearance. A.M., R.H.S., December 2. W. R. Lee, Esq., Heywood, Lancs.

BEGONIA ROSALIND.

A fine addition to the winter-flowering section, and derived from B. Socotrana and a white, tuberous-rooted variety. It is of sturdy habit, and has very large single flowers, carried on stout stems. The colour is rich rose with a distinct flush of carmine. A.M., R.H.S., December 2. Messrs. James Veitch and Sons, Chelsea.

CHRYSANTHEMUM MAUD JEFFRIES.

This is by no means a new variety, but it is a very useful late one of Japanese form. It can be grown well in small pots, and its pure white blooms at this season of the year are very welcome. We have illustrated the variety, as grown by Mr. Cradduck, in our pages, and also given Mr. Cradduck's system of cultivation. A.M., R.H.S., December 2. Right Hon. Colonel Mark Lockwood, C.V.O., M.P. (gardener, Mr. Cradduck), Bishops Hall, Romford.

VIOLET KAISER WILHELM.

This is a variety of outstanding merit because, while its flowers are of the largest size, the petals are broad and rounded, and the stems are long; these good qualities are coupled with the richest violet fragrance. The colour is rich violet-purple, with a small white eye. We have previously drawn attention to this fine novelty. A.M., R.H.S., December 2. Mr. T. Johnson, Motcombe Gardens, Shaftesbury.

PROTECTION FOR HORTICULTURAL NOVELTIES

The leader in the issue of THE GARDENERS' MAGAZINE for December 6 provides much food for thought, especially among those who are called, for want of a better term, "raisers." I think it must be admitted that at the present time, more so than in the past, raisers do not receive their fair share of the profits arising from any novelty they introduce to the public. This is certainly not as it should be, because a man who has used his brains, time, and money to some purpose, should surely reap the lion's share of the reward. Take, for instance, the raisers of new fruits. They must grow their novelties at least ten to twelve years before they secure a thorough test and can work up a stock; this means a very heavy outlay. With what result? Why, the moment the variety is introduced, down come the rest of the fruit tree growers and buy up all they can get, and it is immaterial whether the variety is offered in the trade or not. Neither does the price prove detrimental; the growers must have the novelty, and every bud is worked, with the result that plenty of trees are on the market long before the raiser has reaped his just reward. It is business, of course; business, nothing more or less.

The rose-raisers are in much the same position, for there are always thousands of stocks ready to receive the buds of a new variety when it is placed in commerce. Chrysanthemums, dahlias, and other flowers are treated in like fashion.

So far as I can see, the only way out of the difficulty is for the raiser to make every firm who buys his novelties sign an agreement that they will not cut prices for at least three years, and the raiser must retain the right to fix the price. I remember this sort of thing being done, in a modified form, in the case of a new strawberry, and, so far as I know, it answered very well. I also know of an instance where a chrysanthemum was sold under similar conditions, and I should imagine it proved satisfactory all round.

Other methods of protection have been tried, such as the registration of the name, but this evidently has not been a success; in fact, it would be very difficult to register a name and keep the stock as well. There are registered names of chrysanthemums, and the varieties have not been offered for sale under that name, but they are out all the same; certainly not under their proper names. Probably the general public would see little of interest in a variety advertised as No. 1 Yellow; but the trade recognises at once that it is a registered variety and cannot be sold as such, but when offered under a number it is safe to purchase what they know to be a really good thing. The stock has not been purloined in any way, for the flowers have been purchased in the open market, and stock raised from the stems; a perfectly legitimate proceeding.

If our continental friends can devise a scheme whereby the raiser has his due reward I have no doubt the traders in this country will be prepared to fall into line; but hitherto all general attempts at protection have been unsuccessful. But surely the difficulty is not unsurmountable, at least, I trust not. R.

I was very pleased to see the article in THE GARDENERS' MAGAZINE under the above heading. It was only on December 1st that I sent out a circular to all those members of the Perpetual-Flowering Carnation Society who trade in this particular flower, suggesting to them that we should co-operate with and generally support any grower who was fortunate enough to bring out a really good novelty. To a grower or raiser of any variety it means a very great expense to obtain that novelty. Having obtained it, he offers it to the whole world at a certain price. He not only offers it to the private grower, but he gives the trade an opportunity of purchasing, and making a small profit on it as well. What do the traders do the following year? In many cases, the variety is offered by them to the public at a much lower figure than the original raiser of the novelty is prepared to accept, and, under these circumstances, the originator has but a short run with the flower as a novelty. It is made too common.

Let us appreciate the trouble and expense he has been put to, and reward him by giving him all the support we possibly can. Let the novelty remain as such for at least two seasons. This will enable the raiser to secure some reward for the trouble he has taken, and encourage him to continue his work of improvement and the raising of further novelties. On the present lines the encouragement is small. All who trade in the carnation should co-operate in this matter, as it is only by co-operation that proper support can be given to the raiser of any novelty, no matter whether it be a carnation or any other flower. We in England seem to look upon our neighbour with suspicion. Let us cast off this suspicion, and look upon our neighbour as a friend, give him our hearty support, co-operate with him, and so secure for each other the best to be had in this world.

Fairoak, Eastleigh. E. J. WOOTTEN.

ESCALLONIA ORGANENSIS.

This distinct and uncommon species of escallonia has been several times of late shown at the Horticultural Hall, in the shape of cut sprays. This fact goes to prove that, like many other members of the genus, its flowering season extends over a lengthened period. It is a free-growing evergreen shrub, with firm textured leaves, about three inches in length, and half an inch wide, with much serrated edges. When in a young state the leaves are suffused with reddish-brown, while the same colour extends to the leaf stalks.

The flowers, which are borne in terminal corymbs, are of a deep rose colour, and very attractive. According to the "Hortus Veitchi" this species was first detected by the collector Gardner, but introduced by William Lobb, who sent seeds to the Messrs. Veitch, and the plants raised therefrom flowered for the first time during the summer of 1846. Like most members of the genus, this species can be propagated by cuttings taken in July or August, and placed in a close and shaded frame till rooted.

W. T.

PERGOLAS IN ENGLISH GARDENS.

The pergola is an exotic, and, that being so, its free use is to some extent restricted in English gardens. Its prevalent use as a means for supporting and giving effect to climbing plants, of which rambling roses, wistarias, polygonums, clematis, and vines are familiar instances, is so fully recognised that it is unnecessary to enlarge upon this aspect of the question at present. There is, however, a tendency, when the pergola is introduced indiscriminately, to destroy a certain amount of the repose that one instinctively feels should be a characteristic of a private garden, and this must inevitably follow when a pergola is built merely for the spectacular effect it will produce. When its relation to other features, more in sympathy with a typical English landscape, is ignored, it must frequently happen that, instead of proving a necessary part of a connected scheme, an ill-considered pergola is a source of offence.

Italy is usually regarded as the home of the pergola, and there its practical use is to afford a screen from the sun; we may rightly regard it as a lateral development of that art which has bequeathed us those faultless terraced gardens of the formal school, and as such its stone columns and paved covered-way would readily harmonise with the garden scheme. Its wealth of overhead growth would form admirable shade from the violence of the sun's rays, the stone pathway would impart a coolness not to be despised, while the beauty of the pergola, as seen from the mansion, would be considerable when we recollect that in the majority of instances it would be on a lower level.

It is not always possible to apply a rule literally, and this holds good with pergolas in our country. There are occasions when a simple structure of larch poles will give an element of beauty that we cannot fail to admire; the effect will be greatly heightened if we can bring the mast-like stems of conifers into the garden picture, in sympathetic harmony with the scheme; such an arrangement would give the most pleasing results in less formal parts of the garden. Some country houses are built on the half-timbered principle, and were a pergola thought desirable in proximity to such a house, then an arrangement of squared-oak vertical beams, with a lighter superstructure of the same material, would, in all probability, give good results.

A pergola arrangement of considerable beauty, herewith illustrated, forms an integral part of an extensive scheme of formal gardening, arranged on terraces immediately below the level of the mansion. The pergolas, of which there are two, are arranged as the flanking members of what is, roughly, a square; they occur on the intermediate level, so that from the highest terrace the spectator views the overhead portion; it is, therefore, possible to appreciate their beauty from different points of vantage. The rounded columns have square bases, with a square cap and moulded plinth, and rest upon a low wall; the ties between the columns are squared beams of dark oak, while the cross pieces are of the same material, but of a lighter build. The substantial nature of the structure gives an impression of strength and great spaciousness, features that are desirable where a broad effect is necessary.

As to the details of planting, the climbers carried up the columns and overhead are drawn from those genera previously mentioned, in addition to which the common ampelopsis is largely made use of, both on account of its luxuriant leafage in summer and the brilliant tints at the fall of the leaf in autumn. In the narrow borders that run parallel with the pergolas, on either side, an extensive scheme is carried out by the aid of Lilium longiflorum; the illustration gives some idea of the effect of what is practically an unbroken chain of white, although it conveys no idea of the subtle aroma that pervades this part of the garden during the period when the lilies are in flower.

PERGOLA AT COOMBE COURT, KINGSTON, SURREY.

The entrance to the pergola consists of broad steps of stone, leading upwards by easy "risers"; the ends of the steps are built into hollow brickwork, which is arranged on both sides in the form of ramps; each ramp makes a receptacle that is filled with soil, and in which plants of the common Lavender Cotton (Santolina) have been planted, and their light, fleecy, grey shoots form a most pleasing feature, while the plant emits a delicate fragrance whenever it is bruised or rubbed against. Although most special studies have chiefly a local application, it is generally possible to derive some suggestion, principle, or little detail from them, capable of elaboration under different conditions, and in various parts of the country.

THOS. SMITH.
Coombe Court Gardens, Kingston.

SELECT GRAPES FOR PRESENT PLANTING.

The renovation of old vine borders, making new borders, and planting new vines, are matters of present importance, therefore a note on the most desirable grapes to grow may be useful to intending planters. Although new varieties of many fruits, as well as flowers, are always appearing, I do not remember the addition of one new grape during the last decade, and even those introduced a few years earlier are not indispensable.

The newest variety, Prince of Wales, a sport from Mrs. Pince, is not popular, and this is probably due to ignorance of its special requirements. It is seldom we see satisfactory specimens and so one is forced to the conclusion that, good grape though it is when seen at its best, it does not find favour with growers. Lady Hastings, a sport from Madresfield Court, does not commend itself generally, and Melton Constable, although easier to colour than Gros Colmar, makes little progress in popular favour.

Black Hamburgh.

Black Hamburgh is, without doubt, the most popular of all grapes. It may be ripened with ease in April, and crops may carry the supply well into October. In any form it is suitable. It succeeds as well in a small vinery, or even a pit, as in a large house. Under warm treatment it is a success, and it thrives without artificial heat. As a grape for the amateur in his greenhouse or conservatory, it is as much at home as in the market-growing establishment. One vine will fill a house, large or small, with equal success. It has a strong constitution, is of free growth, and the wood produced is never excessive in size, and always ripens well under reasonable treatment.

Unfortunately many persons crop Black Hamburgh vines too freely, and this results in failure, or partial failure, the grapes refuse to colour perfectly under such conditions, and occasionally shanking takes place, which means a loss of crop as well as disfigurement. The bunches are of medium size, averaging from 1lb. to 2lb. each in a general way, with broad shoulders. The berries set freely under any method of culture, are large, usually round, though sometimes they are roundish-ovate, generally quite smooth, though occasionally they have a distinctly hammered appearance, which is regarded as a sign of high culture. The skin is deep bluish-black, covered with a fine bloom. We learn that the variety was imported from Hamburgh in the early part of the last century by a merchant, who established a vineyard in the neighbourhood of London. It has no fewer than twelve synonyms.

Madresfield Court.

Madresfield Court ranks next in popularity among black grapes. The strongly-marked muscat flavour is perhaps more appreciated than that of the Black Hamburgh, but as a vine it is not so useful, being less amenable to various forms of culture, and the grapes do not ripen so early. It is a valuable grape, however, now that its culture is better understood. At one time growers complained of the manner in which the berries split just as colouring commenced, and not a few gave up its cultivation. To remedy this weakness one must allow a more free growth of the laterals when colouring commences, and at the same time maintain a more buoyant atmosphere.

No grape succeeds better on the extension principle of increasing the number of rods yearly. Under this method one vine will quickly fill a moderately-sized house, and bear huge crops of excellent grapes, quite equal to those on vines restricted to one rod only.

In the corner of a cool peach-house this grape succeeds admirably, as its constitution is of the best. The growth is moderately strong, the current season's shoots invariably ripen well, and so the bunches are freely produced. The berries swell and ripen quite easily, and seldom exhibit signs of shanking; they are also extra large, ovate, borne on stout footstalks, and they set freely. The flesh is thick, greenish, very tender, sweet and rich. The late Mr. Meredith, at Garston Vineyard, near Liverpool, was the first to demonstrate how well this grape would grow treated on the extension system, and this style of training is followed up by Mr. Shingler, at Melton Constable, in Norfolk.

Alicante.

Alicante is the most easily grown grape, producing a heavier crop per rod than any other variety. The bunches average from 2lb. to 6lb. in weight, and are broadly shouldered, but, unfortunately, the quality of the grape is but moderate. The growth is strong, vigorous, and free. The berries set well, almost too freely, and render thinning a difficult matter. As an amateur's grape for a cool house it is valuable, being exceptionally free from disease, and not subject to attacks of red spider. As a grape to use about Christmas-time it is useful, keeping well when properly ripened, provided the berries are left wide apart when thinned, thus enabling air to pass freely among them and quickly disperse condensed moisture.

Lady Downe's is one of the most valuable of late grapes, as the bunches will hang on the vine until January, or even later, and then they may be kept until June in a grape-room. The bunches are long and narrow, with large, round berries, that generally colour easily and carry a dense bloom. The skin is thick, tough, and leathery. In flavour this variety is brisk and sparkling, sweet and rich. The vines carry a heavy crop of fruit, which seldom shows any tendency to shanking, but the berries are liable to scald if there is any lack of attention in regulating the ventilation of the vinery.

Appley Towers deserves more attention than it receives as a late grape, being much superior in flavour to Alicante, Gros Colmar, Gros Maroc, Alnwick Seedling, or even Lady Downes. In appearance, too, it is superior, as the bunches are shapely, with large, even berries that colour quite easily and keep well into the New Year. As in the case of all other late grapes the berries should be well thinned.

Muscat of Alexandria.

Among white grapes we have not nearly so much choice; indeed, few require more than one variety, and none more than two. The finest of all white grapes is, of course, Muscat of Alexandria, but as it does not ripen well before July, where grapes are required all the year round an additional variety is needed, and Foster's Seedling or Buckland Sweetwater are the two best early sorts. Neither of these stand very high in point of quality, however. The former grows freely, and produces huge crops of fairly good fruit in May and June. The flavour is certainly third-rate. Buckland Sweetwater does not succeed so well as the former; its bunches are larger, but irregular in shape and fewer in number, but the quality is superior to that of Foster's Seedling.

Muscat of Alexandria, when well cultivated, is perhaps the most esteemed of all grapes. The bunches should range from twelve to twenty inches in length, and from 2lb. to 6lb. in weight. The berries are large (according to treatment), but the variety is certainly a somewhat shy setter, and perhaps it is the most difficult of all grapes to grow really well. There is no doubt soil has much to do with the ease or difficulty experienced. The foliage, too, is much more robust in some localities than in others. It is rarely a success in a mixed collection, as a higher temperature is required for setting and to ripen the fruit than is necessary with any other grape, therefore it should have a house to itself.

No grape has been the subject of so much discussion respecting improved varietal forms, but, in my opinion, there is only one of real worth, and that is the original Muscat of Alexandria, grown in this country probably for two centuries. I do not even attach any importance to the Bowood variety, and having grown this, as well as the Escholata variety, I have found no difference between them and the type.

E. MOLYNEUX, V.M.H.

Bishops Waltham.

THE BEST-FLAVOURED NECTARINES.

Having been asked which are the best-flavoured nectarines for early, middle, and late season use, it has occurred to me that the reply might well be given through the columns of THE GARDENERS' MAGAZINE.

For early use, i.e., for forcing, preferably in pots, I recommend Early Rivers before Cardinal, for unless the last-named be well understood and carefully managed it is inclined to be a little "woolly" when fully ripe; in fact, it wants using immediately it is ripe, as it does not keep well. As a second, to succeed Early Rivers, I advise Lord Napier; this is a well-known and reliable variety. My third choice is Dryden, a very fine nectarine of high-class flavour, and one of the handsomest of all. Rivers' Orange would be a good substitute for Dryden.

The fourth, in my opinion, is Pine Apple, one that is well known, and one that keeps so well in good condition when it is ripe, and, moreover, one of the very finest in point of flavour. Humboldt I place fifth on the list. It is a superb nectarine, and if I had to choose between the two I should give it preference over the preceding, but it is later, under the same conditions. My last in a list of six is Victoria, which is one of the hardiest and, in my opinion, one of the best of the set.

This list is drawn up on the understanding that the nectarines will be cultivated under glass, but it would equally apply to wall culture outside, under the best of conditions as to aspect, etc.

JAS. HUDSON, V.M.H.

Gunnersbury House Gardens.

MELTON CONSTABLE GRAPE.

Unfortunately the handsome grape named Melton Constable has a rather bad reputation, because it appears that some canes of Gros Colmar were mistakenly distributed for it in the early days of its history. As growers did not want Gros Colmar under another name Melton Constable suffered accordingly. My father considers Melton Constable quite a fortnight earlier in commencing growth than Gros Colmar, and that under similar conditions it colours better, is of superior quality, and has a thinner skin. It certainly is a very handsome grape. I send this note because your representative drew my attention to both the varieties mentioned when at Norwich Show. A. R. ALLAN.

CARNATION MRS. C. W. WARD.

When a perpetual-flowering carnation obtains an Award of Merit from the Royal Horticultural Society and a First Class Certificate from the Perpetual-Flowering Carnation Society, it has passed the tests of two impartial and keenly discriminating tribunes, each familiar with new and old varieties under cultivation and at exhibitions. The variety herewith illustrated has secured these hall-marks of excellence, and, therefore, needs little further recommendation. Already this beautiful, free-flowering variety has become a favourite with those growers who cater for the cut flower trade, and this fact alone is of great importance, as a variety which can stand the commercial test is certainly a good one for the private grower, because habit, excellence of stem and calyx, size, substance, form of flower, and freedom must all combine in a first-rate market variety. The colour of Mrs. C. W. Ward is deep, rosy-cerise pink. The variety is of American origin. At the exhibition at Westminster on December 3 it was staged by many growers, but Messrs. Allwood Brothers, Wivelsfield, Haywards Heath, had an especially fine vase of blooms in their large competitive stand. The flowers attracted general attention by reason of their size, freshness, and beauty, and lady visitors greatly admired them. B.

CARNATION MRS. C. W. WARD.

A beautiful perpetual-flowering variety, with rosy-cerise, slightly fragrant flowers.

THE HORSE CHESTNUTS.

(Continued from Page 920.)

Æ. chinensis.

A Horse Chestnut peculiar to China has long been known, through the collection of dried specimens, to exist, and several attempts have been made by collectors to secure it. Mr. E. H. Wilson was successful in obtaining a Horse Chestnut during his travels in China, and this was thought to be the long-sought-for plant. Comparison with the original description of A. chinensis (Hurge), however, proves Mr. Wilson's plant to be another new species, which has been named A. Wilsoni.

It has been left to Mr. W. Purdom, one of the latest collectors in China, to introduce living specimens of the true Æ. chinensis, which he did last year when collecting, on behalf of Messrs. James Veitch and Sons and the Arnold Arboretum. In the hills west of Peking, where Mr. Purdom discovered it, the tree attains a height of 50ft. or more. It is, of course, much too early yet to attempt to say how the tree will behave in this country. Being an inhabitant of Northern China, we may reasonably expect the Chinese Horse Chestnut to be at least as hardy, probably hardier, than Æsculus indica, the Himalayan species. It differs from the latter in having narrower, more slender panicles, with rather smaller flowers and petals. There are also other botanical differences.

Æ. flava.

This is the tallest of the North American chestnuts or buck-eyes, attaining in that country a height approaching 100ft. A few specimens in this country range from 50 to 70ft. First introduced in 1764, it is popularly known as the Sweet Buckeye in the United States, where also the botanical name of Æ. octandra is preferred to the one at the head of this paragraph. The leaves consist of five or seven leaflets, light green in colour, up to seven inches long, and pubescent beneath. As the name suggests, the flowers are yellow, borne in panicles 5in. or 6in. long; stamens short, enclosed within the petals. The trees flower towards the end of May. The fruit is smooth.

Æ. glabra.

Also a native of America, this species inhabits the South-eastern and Central United States. It is known as the Ohio Buck-eye. The introduction of this species and Æ. turbinata suggested that the generic name of Pavia should be dropped in favour of Æsculus, as the flowers have only four petals, but the fruits are spiny, like the Horse Chestnuts, the reverse holding good with Æ. turbinata. In growth the tree resembles Æ. flava; the distinguishing characters are the stamens, which protrude some distance beyond the petals, and the spiny fruits, while the petals—at any rate, in some of the forms—are not so bright yellow as in the Sweet Buckeye.

THE INDIAN HORSE CHESTNUT.
(Æsculus indica.)

Æ. indica.

The Indian Horse Chestnut is a native of Kumaon and other parts of Northern India, growing at an elevation of from 8,000ft. to 10,000ft., where it is said to be quite as large and attractive as the Common Horse Chestnut is with us. The largest tree in this country is at Mildenhall, Suffolk. This was raised from seed sent home by Colonel Bunbury to his brother in 1851. It flowered for the first time in 1858, and is now about 70ft. high. The leaves consist of seven, rarely nine, leaflets, up to 1ft. long, rich dark-green in colour, with red stalks, giving the tree an almost tropical appearance. The leaves retain this luxuriant character until late in the season, hanging on the trees after most other chestnuts are bare. A most important point of value with this tree is that it flowers in June and July, when a great many of our most showy flowering trees are over or past their best. The panicles of flowers are as long as, or even longer than, those of the Common Horse Chestnut, sometimes exceeding a foot in length. The flowers are white, blotched at the base of the petals with yellow and red. The long cluster of upward curving stamens is prominent. Trees flower annually at Kew, and in favourable seasons mature the large brown, spineless fruits, which germinate readily if sown as soon as ripe. Previous reference to trees growing in this country show the tree to be fairly hardy, though, if good results are to be looked for in the Midlands and North, shelter is very desirable.

Æ. parviflora.

The bushy character of this Æsculus caused it to be named the Shrubby Buck-eye. In some catalogues the name of Pavia macrostachya is still used. A native of the South-eastern United States, it has been in cultivation in this country for nearly 150 years. Why such a beautiful hardy shrub, which flowers freely during late July and August, is not more generally grown is difficult to understand. Growing from 8 to 12ft. high, the bush spreads over the surrounding ground, and in time forms a large clump of slender branches. The leaves are dark green, and consist of five or seven leaflets. The white flowers are borne in narrow panicles 9in. to 12in. long, with prominent thread-like stamens. The fruits are smooth, and, during a favourable autumn, mature in this country. In addition to seeds, the Shrubby Buck-eye may be propagated by layering the branches, or by division of the clumps. Useful alike as a flowering shrub for large and small gardens, Æsculus parviflora may be planted as a lawn specimen or in the shrubbery border.

Æ. Pavia.

The Scarlet or Red Buck-eye hails from the Southern United States, and is usually a shrub, sometimes a small tree. Cultivated specimens in this country are usually the latter, being grafted on Æ. Hipposcastanum or Æ. flava. The numerous twiggy branches are inclined to be drooping, so that when grafted as a standard the trees form attractive lawn specimens. The leaflets are in fives, and are the last of the genus to fall in autumn. A June-flowering species, the red flowers are borne in panicles up to 6ins. long. The fruits are smooth. Numerous hybrids between the Red Buck-eye and Æ. flava are in cultivation, most of them raised in America, but we need not discuss these at present.

Æ. plantierensis.

With the exception of Æ. carnea this is quite the best of the hybrid Horse Chestnuts. It is said to have originated in the nursery of Messrs. Simon Louis, at Plantières, near Metz, as a chance hybrid between the Common Horse Chestnut and Æ. carnea. Characters of both parents can be traced in the hybrid, for while the trees are as vigorous as the common species, which is the seed-bearing parent, the flowers are an attractive shade of pink, showing the influence of the pollen-bearing parent. Though the tree flowers very freely at Kew no fruits are produced. Grafted on the Common Horse Chestnut, the trees are quite as free and fast in growth as that species. Too much can hardly be written in praise of this beautiful hybrid.

A. OSBORN.

(To be continued.)

ARTISTIC ROCK GARDENS.

Perhaps two-thirds of rock gardens, counting both the finest and the poorest, are spoiled by the similarity of size, if not of shape, found in the rocks employed. In Nature's rocky scenes the boulders are there as well as the cast pebbles, and all intermediate sizes are represented. To set up blocks, about a foot square, and make an artistic rockery is impossible, for the simple reason that Nature's achievements are not cut by machinery, like cube sugar! So the smallest rock garden, being consciously, or unconsciously, modelled on natural lines, should show stones of all suitable shapes and sizes. An alpine rockery is easiest to plant, as it can include a vast number of perennial species. However, there might be several other kinds—a South American sandy pass, between high rock banks, ablaze with poppies, eschscholtzias, etc., a South African craggy gorge, brilliant with ixias, stately with arums and gladioli; or a Chinese ascent, or rocky plain, radiant with its pæonies. A woodland rock garden would be fairest, because most in sympathy, near an English stretch of park; and primroses and bluebells are never so welcome, anemones so bewitching, or foxgloves as graceful as when occupying levels and slopes of varying heights, so that some flowers nod above the head of the visitor while others spring about his feet. Young silver birches and firs, catkin-bearing sallows, and a few young dark hollies, would be in place there among the carpeting turf, moss, and flowers, and the honeysuckles and single roses.

A rock garden to include water may be carried out on a large or a small scale. In the latter case it may consist only of one or two pools, with clay-beaten, not stone-rimmed sides, and of irregular shape. In the former case a wonderland of charm should result, glade leading into glade, flanked by silent water, bowered over by roses, with reeds, swamp lilies, and gorgeous phloxes in the moist places, shaded here and there by thickets of bamboos and polygonums; and, perchance, a quick stream with tumbling waterfall may be arranged.

Many years ago a writer in Chamber's "Edinburgh Journal" gave the following admirable hints on the making of a rock garden: "The rocky ravine, the mountain's brow, and the sea beach, are the most fertile sources of materials for a rockery; and it is necessary, in selecting them, to pay minute attention to the manner in which the various rocks are deposited in their several beds, and also to the mosses, heaths, and ferns which are congenial to them; for, in proportion as the selection shall succeed in imitating Nature, will he please his own eye and gratify his friends. The size of the stones should always be varied, but proportioned, upon the whole, to the intended size of the rockwork. A number of detached erections never look well; they are stiff and artificial. Rocks of the same kind and colour should be placed together; if intermixed they seldom wear a natural appearance. A dark cave, penetrating into the thickest part of the erection, is not very difficult to construct, and when encircled by ivy and inhabited by a pair of horned owls, which may be easily procured, it will form a most interesting object. Rock plants of every description should be profusely stuck around, and in one short twelvemonth the scene will exhibit an impress of antiquity far beyond anticipation. The whole should be enclosed by trees of large foliage, that the visitor to the scene may come upon it unexpectedly."

Just as, within a well-arranged museum, the stuffed birds, beasts, and reptiles are surrounded by branches, foliage, and blossoms, earth and stones, suited to their nature and habits, so the flowers should harmonise with the rocks, and the rocks with the trees. A convenient slab may be left bare here and there, to serve as a seat.

There is no reason why a rockery bed, six feet by four, should be inartistic, but, alas! many a suburban garden contains "a very incongruous heap of stones, chiefly irregularly-formed flints, the scoriæ of forges, and large bits of coke from the gas works, covered with house leeks, sedums, and other plants." The safe rule for the gardener is to take Nature always for his teacher; she who plants in perfect glades and groups offers a dozen different styles of floriculture in one county, and "paints the meadows with delight." M. H.

ÆSCULUS PLANTIERENSIS.

A fine hybrid between Æ. Hippocastanum and Æ. carnea.

JAPANESE MAPLES.

Among the changes which taste in gardening has undergone during the past quarter of a century, that which has had the effect of obtaining for the more beautiful hardy trees a degree of popularity more commensurate with their merits than was formerly the case stands pre-eminent. Especially is it gratifying to observe, in visiting gardens and nurseries in various parts of the country, that the many beautiful deciduous trees which in the past were seldom seen beyond the boundaries of botanic gardens and long-established nurseries are being extensively planted, and that the recent introductions are also being taken full advantage of by planters.

As the result of this change in public taste gardens are being rapidly made more interesting and attractive, and the labour involved in their maintenance somewhat reduced, for if trees and shrubs are unable to take care of themselves, they do not require such close and constant attention as do many rock plants and some of the hardy perennials that are grown in the mixed border.

Not only is increased attention being given to trees remarkable for the beauty of their flowers or leaves, or for their elegant aspect, but greater care is taken in making selections to pay due attention to the consideration of the dimensions of the garden, so that it may be possible to have a considerable diversity in the arborescent vegetation without the semblance of overcrowding. Consequently, the practice which in bygone years so generally obtained of planting in gardens, of even quite moderate size, trees that properly belong to the park and woodland is fast dying out, and not a few giant elms and chestnuts, etc., are annually felled to provide space for kinds of more moderate development, and in other respects better adapted to the adornment of gardens wherein the space is limited.

Prominent among the deciduous trees with ornamental leafage are the Japanese maples, which include some of the most distinct and effective of trees of moderate stature. Hitherto owners of gardens, and indeed, plants generally, have been somewhat chary of planting them otherwise than in small numbers, owing to the mistaken impression that there is a considerable risk of their being seriously damaged, if not killed outright, in a severe winter. Constitutionally they may not be sufficiently robust to bear the rigours of a winter of exceptional severity over the whole of the United Kingdom, but they can do so over a large area, as exemplified by the many fine specimens that may be met with in a widely-extended tour.

JAPANESE MAPLES GROUPED ROUND THE LILY POND AND FOUNTAIN AT CASTLEWELLAN, CO. DOWN.

Acer palmatum.

When the forms of Acer palmatum, with which alone we are now concerned, are injured in a severe winter, as sometimes happens, the damage is due more to the immaturity of the new growth than to the low temperature. A considerable number of specimens have come under my notice during the past two decades that have been subjected to a temperature several degrees below zero without receiving any harm. A few also have been met with that have been damaged by a frost of less severity, although growing in gardens within a few miles of those in which the specimens that had passed through the winters unscathed had their home.

While it is of importance to regard these Japanese maples as much hardier than they are generally supposed to be, it will be advisable to recognise the fact that they may suffer from very severe frosts if the conditions under which they are grown are unfavourable to the completion and ripening of growth before the autumn is far advanced. If this fact obtains due recognition it will be readily understood that plants should have a sunny, sheltered position assigned them, and that soil be free from stagnant moisture.

It is essential the positions be efficiently drained, and in the majority of cases this will be so, but if this be not the case arrangements for carrying off the surplus moisture must be made before proceeding with planting operations. In all cases the soil should be broken up to a depth of two feet by ordinary or bastard trenching, and in the process such material must be added as may be considered desirable, this being, in a large measure, determined by the character of the soil. These maples require for their full development a comparatively light, open, and rich soil. Therefore, if the staple is heavy and close in tetxure, add light soil, leaf-mould, and coarse grit in liberal proportions. On the other hand, light soils will be improved by moderate additions of good loam,

decayed vegetable refuse, leaf-mould, and well-decayed manure from the farmyard. In either case the materials should be well incorporated with the staple throughout the depth to which it has been broken up. As in the case of other deciduous trees, the planting operations may be carried out at any time between the beginning of November and the end of February, provided the soil is in a suitable condition.

These maples may be grown as medium and dwarf standards, and as bushes, and if the conditions are favourable to full development, they will be highly attractive whatever may be the form in which they are grown.

Selection of Varieties.

The remarkably fine bush specimen herewith illustrated of Acer palmatum atropurpureum, in the unique collection at the gardens of Castlewellan, Co. Down, Ireland, the seat of the Earl of Annesley, will give an excellent idea of the effectiveness of large examples grown in this form. In these famous gardens this and other of the dark-leaved varieties are grown to form broad belts around the fountain and lily pool, and the great masses of glowing deep red foliage present a contrast at once effective and pleasing to the golden-hued and other fine specimen coniferous trees with which they are surrounded. The number of varieties in cultivation is considerable, and in making a selection from them the following should have the preference.

Acer palmatum, known for a considerable period in gardens under the name of A. polymorphum, was first introduced to this country from Japan by Dr. Siebold in 1820. According to Loudon there were plants in the gardens of the Royal Horticultural Society in 1844, and an illustration is given in his "Arboretum et Fruticetum" of a shoot, with leaves, taken from one of the plants. It was re-introduced, about half a century later, by Mr. John Gould Veitch, with a number of varieties, of which the greater proportion are now in general cultivation. A. palmatum assumes the proportion of a small tree, rising to a height of about twenty feet, in Japan, has bright green leaves, and is decidedly handsome.

A. p. atropurpureum is unquestionably one of the most effective of the dark-leaved varieties. The leaves are rather larger than those of the type, and, with the young shoots, are deep bronzy-crimson, the rich colouring being retained throughout the season of growth.

A. p. dissectum, an exceedingly beautiful dwarf variety, has growths which are long and slender, with a tendency to droop, and the leaves are deeply cut, as also are the lobes. The foliage is of a bright green, and so graceful as to render the variety of much value for associating with cut flowers.

A. p. aureum is a handsome form, differing from the type chiefly in the colour of the leaves, which are of a yellow hue, changing to deep yellow and orange-red in autumn, when it is exceedingly beautiful.

A. p. linearilobum is a distinct variety of great beauty. The leaves are rather above the size of those of the type, and are deeply cut, the lobes being long, narrow, and slightly toothed. In the earlier stages the leaves are, with the shoots, suffused with red, but in process of development they change to bright green, with reddish margins, the leaf stalks retaining their red hue.

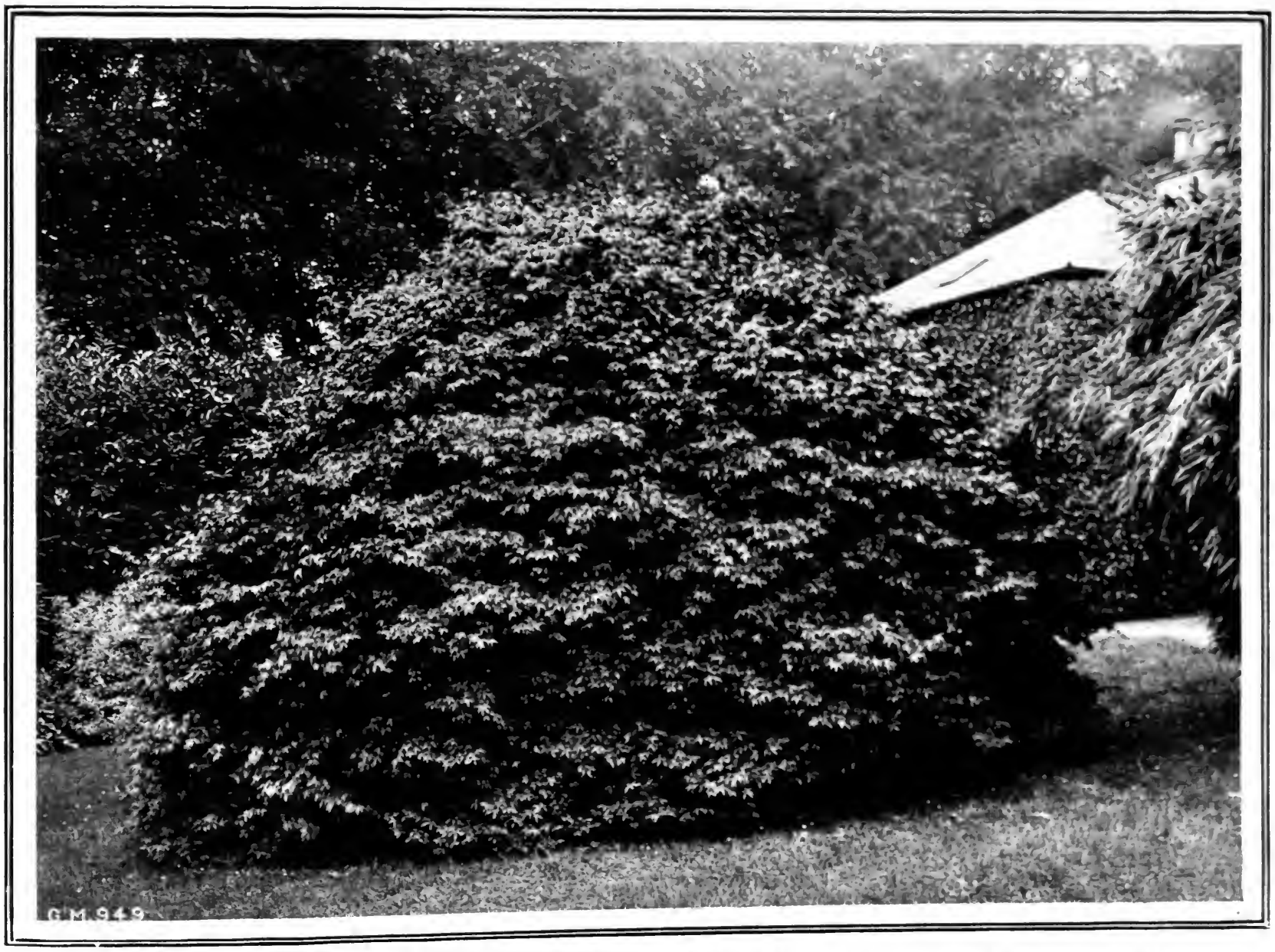
A. p. palmatifidum, an extremely elegant form, somewhat resembling A. p. dissectum, differs from it in colour, both the shoots and leaves being bright green. It is of much value, more especially as a distinct contrast to the highly-coloured varieties.

A. p. roseo-marginatum is a very pretty form, and the leaves are relatively small, and bright green, with a light rose margin.

A. p. septemlobum has leaves rather larger than those of the typical A. palmatum, which have 7-9 lobes. There is also a form known as A. p. s. atro-purpureum, with bronzy-red leaves, which is very effective, and deserves to be generally planted.

A. p. sanguineum is so distinct and remarkably effective that it deserves special attention, for the brilliant colour of the leaves, which, in large masses, as in the case of a well-grown specimen, is strikingly effective.

G. G.



A FINE SPECIMEN OF THE RED JAPANESE MAPLE AT CASTLEWELLAN, CO. DOWN.

FIRM SOIL FOR VEGETABLES.

The importance of firm ground in vegetable culture is a matter worthy of more consideration than it generally receives. Most of us have our pet ideas and fads, and no doubt we are apt to regard them through magnifying glasses, making them assume a value out of all proportion to their true merits. It is only when we glance over our neighbour's hedge, and find him turning out stuff equal to our own by methods flagrantly violating our cherished precepts, that we realise how it is possible to raise some minor detail to the eminence of an indispensable factor.

But there is nothing in the nature of a fad in my plea for firm ground in the vegetable garden; it involves a principle which must in every case be respected if the best results are to be achieved. By sowing or planting in loose soil the crop is laid open to dangers from various directions, simply because the very foremost of necessities in a rooting medium is disregarded. In their natural state, plants of the higher orders, such as we are discussing, send their roots down into the solid undisturbed earth, and

for many ages have found in it the most perfect conditions of anchorage and of growth. Now, although I admit that it is unsafe to urge too close a parallel with Nature in our dealings with horticultural subjects, I think that in the fundamental process of root-action the best soil conditions are those obtaining in uncultivated virgin earth, so far as the question of firmness is concerned. The further the cultivator departs from this standard of solidity, the further he departs from a perfect rooting medium.

But there are other aspects of soil preparation of very great importance tending to leave the garden ground hollow and loose. Soils of all kinds must be deeply dug and manured; clays must be improved by the plentiful addition of light, opening material; sandy soils must be bound together by the incorporation of pulverised clay or marl. These operations, if rightly performed, thoroughly disintegrate the staple, leaving it open to the beneficial action of frost, wind, and sunshine. Viewed solely as a preparatory stage, this looseness is highly commendable; the trouble begins when we plant upon a soil which has not had ample time to settle down and become really firm.

It would be too much to say that crops on such a soil are in danger of absolute collapse, but a few moments' reflection will show the disadvantages they have to contend against. Foraging rootlets, striking down into the soil, must needs be in closest possible contact with the moist particles of earth. They absorb their food entirely from solutions in the soil-water, and, besides this, the slightest suspicion of dryness is sufficient to destroy the tiny root-hairs by which nutriment is taken in. It is unnecessary to point out that loose soil, by the free admission it gives to the air, is likely to withdraw nourishment from the tender, newly-emitted roots, and to deprive them of their organs of assimilation at the same time. Again, the constant settling movement of the unstable ground is in itself a means by which roots are torn and mutilated. The more deeply the soil has been dug the more lasting and formidable do these several drawbacks become.

The destruction or starvation of a root here and there may not seem a great disaster, especially when a plant becomes established, but, believe me, it makes just that difference between a first-class production and a mediocrity. A check is occasioned by the tearing of the smallest piece of root, or by the loss of a single spongiole, and every check takes something from the quality and growth of the finished plant.

I believe, too, that there is a connection between hollow ground and the attacks of those malignant diseases which threaten some of our vegetable plants so sorely. Crops sown or planted in recently-dug plots seem unable to resist fungoid maladies or insect pests with anything like the same power as those put in where the ground has thoroughly settled. No doubt, this is attributable to the numerous small checks received by the roots in the unstable ground, which, lowering the standard of health, give a footing to various enemies.

These points come to my mind now the season of digging and soil amelioration is with us, and I would urge those who have trenching under hand to push on with it, in order to give the soil time to settle before planting.

We cannot get soil too solid by natural means, provided always that its mechanical character is correct, and in solidity lies one of the greatest safeguards to the health of vegetables.

J. E. SIMMS.

Elkington Hall Gardens, Louth.

DAHLIAS IN 1913.

The dahlia season just over has been, probably, one of the longest on record, for there were plenty of flowers on the plants in this district as late as November 20th. This lateness will surely assist in making the dahlia more popular than ever for garden decoration, because, where the plants were grown freely in their early stages, and planted out at the latter end of May or early in June, they commenced flowering in July. I am not altogether an admirer of the dahlia during the summer months, for it seems to me the plants are not very happy in hot, bright sunshine.

The Weather.

This season could not by any stretch of imagination be called an ideal one, for during June and July the weather was too dry, cold, and sunless for the plants to make much headway. It made watering a burden, even at the end of a hose pipe, and watering did not appear to help the plants very much. So, early in August, it seemed as though the dahlias would never reach the top of their stakes, and that we should have to view whole regiments of stakes, with a few flowers. But this was all altered early in September, for the warm nights, heavy dews, and welcome rain caused the plants to grow away as though they were taking a new lease of life, and constant tying was necessary throughout the month. I do not remember a season when there was so little damage by the wind; but this, I hear, did not apply to all districts. The absence of frosts enabled flowers to appear in competition with chrysanthemums at our autumn shows, and this was unfortunate for the latter, as they cannot compete against the brilliant colouring seen in the dahlia.

Popularity.

It has been said many times during the past autumn that the general public do not yet know the modern dahlia, and I am convinced that this is so from the remarks made at flower shows and other places. There is an idea that the dahlia is a plant which takes up an enormous amount of space in the garden, and produces heavy, lumpy flowers, quite useless for either cutting or decorative purposes; that flowering starts just before the frost cuts it down, and, above all, that it collects all the earwigs in creation! Just how long it will take to dispel all this it is difficult to estimate. The room a plant occupies depends entirely on the cultivator and the section of the flower chosen. There are dahlias that can be grown in a space two feet square, and grow only eighteen inches high. Now, as to the flowers themselves, I admit there are plenty of heavy lumpy flowers, but there are those which are light and graceful, and can be used for any decorative purpose. Even the flowering period rests, to a great extent, with the cultivation, and earwigs are no more troublesome to the dahlia than they are to the chrysanthemum, or many other garden flowers. Once the public becomes educated in the matter of dahlias I feel sure the family will become more popular.

The Duffryn Trials.

The year 1913 will long be remembered by dahlia growers all over the country in connection with the elaborate trials carried out by Mr. Reginald Cory, at Duffryn, near Cardiff. Mr. Cory is an enthusiast in all matters pertaining to horticulture, and he sought by these trials to demonstrate the value of the dahlia for garden decoration. With this end in view he planted all the varieties he could get together, and they were judged in September by a joint committee of the Royal Horticultural Society and National Dahlia Society. They were judged from a purely decorative point of view, and nearly a thousand varieties were represented. It was, perhaps, the finest collection of dahlias ever brought together, and although I am informed Duffryn was a sort of Mecca for those interested in the dahlia, and hundreds besides, it was a pity such trials could not have been seen by thousands, for there were whole beds of one variety, borders of a single section, dahlias on terraced banks, without stakes, dahlias as "dot" plants, in company with ordinary summer bedding plants, dahlias in the herbaceous borders, dahlias, in fact, in every conceivable position, and most successfully cultivated.

Other Events.

The Challenge Cup, known as the Cory Cup, presented by Mr. R. Cory to the Council of the Royal Horticultural Society for an exhibit of decorative garden dahlias, open to the trade, and a silver cup, offered for amateurs, excited the keenest interest. The traders turned out in strong force at Westminster, but the amateurs did not respond very well. Perhaps they were nervous, but I am given to understand this will not be the case next year, for there are already many stalwarts prepared to try their skill.

The National Show.

This was held at the Crystal Palace, and was well up to the average in point of entries, showing an increase on its predecessor. At the same time I do not think the flowers were quite up to the usual standard. It will be remembered that some parts of the country were deluged with rain, and swept with wind, a week before the show, and so some exhibitors were not able to stage in their usual form, while some amateurs failed to fill their entries. The improvement in the stems of the cactus varieties was a noticeable feature.

The New Varieties.

I may not be correct, but I am under the impression there was a dearth of really good new varieties. The show and fancy sorts failed to score a single award, while those in the most popular section, the cactus, certainly were not represented by so many new varieties as in former years, and there was nothing standing out beyond all else. I suppose it is now very difficult to obtain a really new colour. I also think the standard of perfection has become somewhat strained, thus making it exceedingly difficult for the raisers to obtain the coveted awards. The pompon varieties, what few there were of them, were distinctly good, and there were others in this section which might well have been honoured. Singles, too, were few in number, although some exhibited quite new shades of colour.

The pæony-flowered section continues to advance in spite of its critics, and is making far greater headway than some care to admit. The improvement in the stems was most marked, while the new varieties showed a greater refinement than their parents. The latest aspirant to popular favour, the Collerette dahlia, bids fair to take its place in the dahlia world in no mean spirit. This section secured more honours than any other. The varieties are improving rapidly, not only in colour, but in form and stem. The decorative varieties are not happily classed; some produce huge flowers, while others are small, yet they are all lumped into one section, and require re-classification.

J. B. RIDING.

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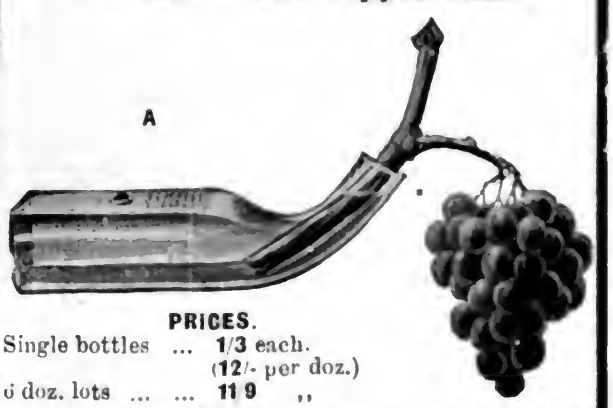

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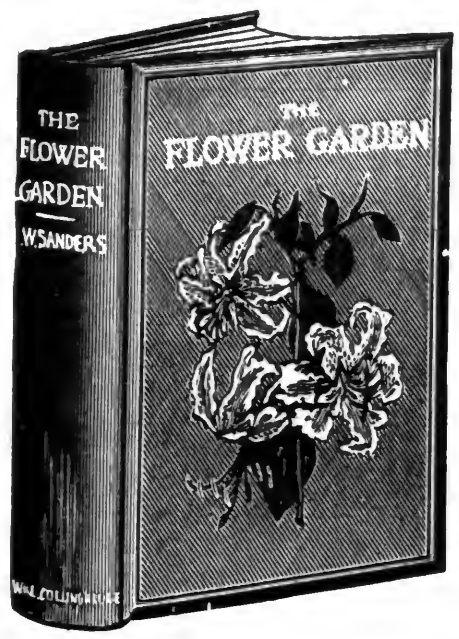

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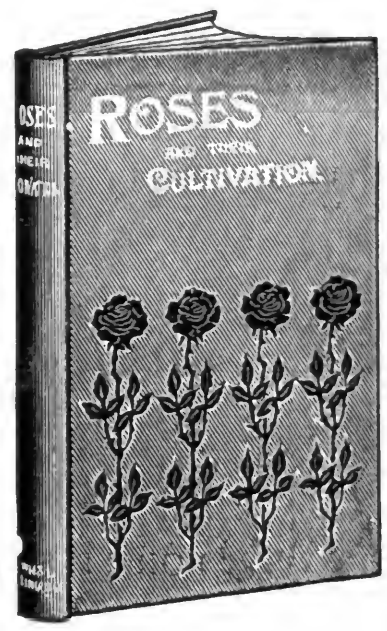

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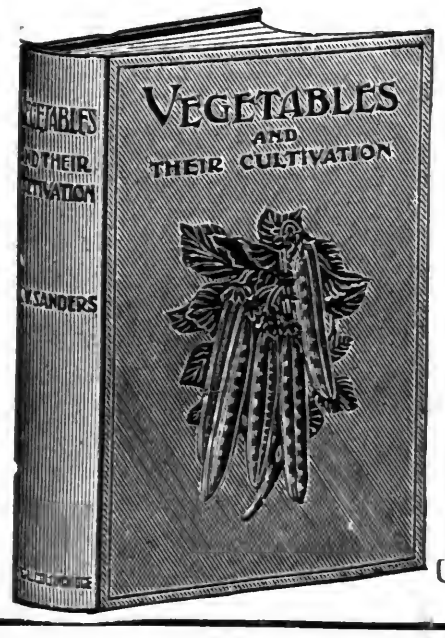

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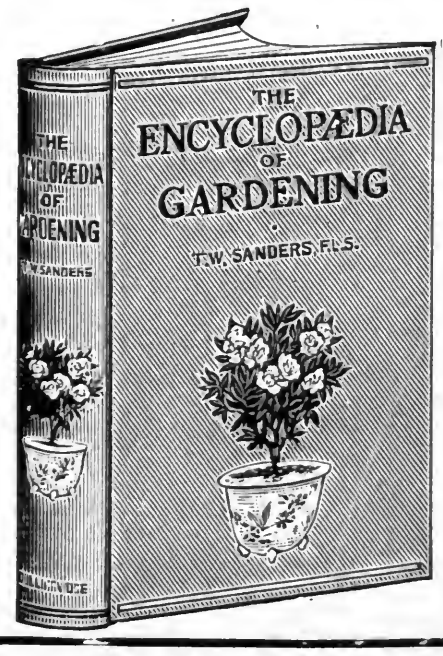

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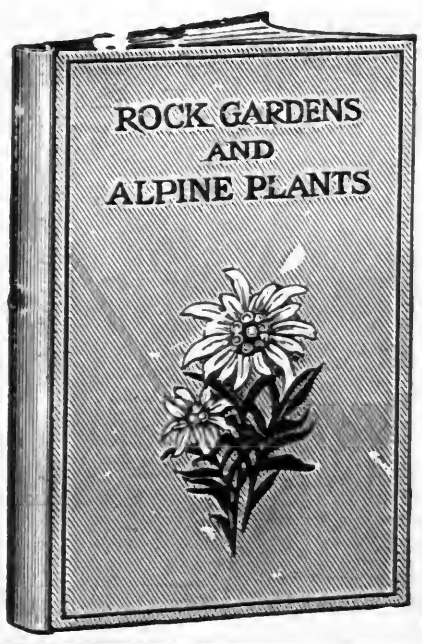

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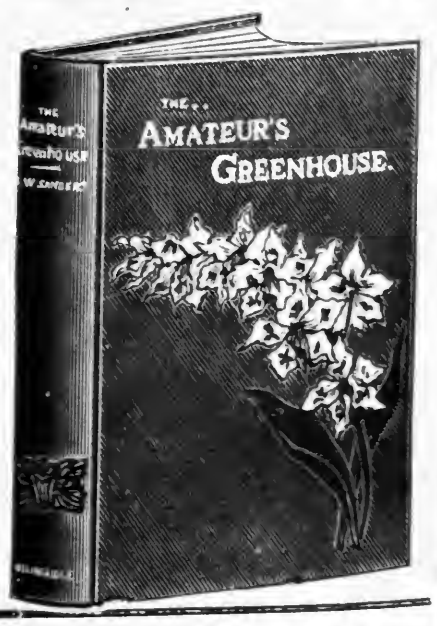

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THE LOWFIELD NURSERIES.

The art, science, and craft of gardening are united in a remarkable fashion in the extensive business conducted by Messrs. J. Cheal and Sons at the Lowfield Nurseries, Crawley. For many years past this firm has been steadily developing its landscape gardening department, until now it has works on hand in various parts of the United Kingdom and Ireland, and in some cases these are very extensive and important operations. Garden planning has been made a great feature, and the preparation of designs and plans now occupies a considerable staff, and proves one of the most interesting features of the nursery to anyone privileged to inspect it. With the growth of this department the provision of garden furniture became an important matter; eventually the Messrs. Cheal added a large workshop for its manufacture, and are now able to meet all demands for summer-houses, tea-houses, garden seats, and tables of all shapes and sizes, screens and treillage, gates, fancy fencing, etc., etc., and a few moments watching the men at work gives one a very good idea of the distinct advantage this addition must be to the firm.

During the late autumn the large and well-devised fruit room attracts attention, and its well-filled shelves testify to the influence of good cultivation and fresh air upon fruit production. The offices and methods followed to ensure promptitude in dealing with correspondence and orders all point to a large business conducted on the most up-to-date lines. Mr. Joseph and Mr. Alex. Cheal, with Mr. J. Cheal's two sons, take charge of various departments, but the arrangement is such that all things work together for the good of the firm and of the customers.

Fruit Trees.

Fruit tree culture has always been a large business with the Messrs. Cheal. Some years have elapsed since the writer visited the Lowfield Nurseries, but during that period the demand for hardy fruit trees has steadily increased, and now the firm has from 30 to 40 acres under their culture, and a finer lot of trees it would be a very difficult matter to find. Having seen the new Crawley Beauty apple, we were anxious to find out what kind of a tree this variety made. So far there is every indication of its success as a standard, and the original tree in the locality is further proof. It is a free-growing variety, makes a capital bush, and buds up so well all along the stems that it is also one of the best of apples for cordons. A fine late fruit, it is also a late-flowering variety, and is self-fertile, as it blooms when practically all other varieties except Court Pendu Plat, are over; indeed, in most seasons, the flowers fall about the second week in June. Altogether there seems very good reason for selecting Crawley Beauty as a variety well worthy of trial.

Cordon apples and pears are splendidly managed here, and trained trees of all descriptions are extensively grown. Customers can inspect the trained trees with the greatest of ease, as all are planted in regular, straight lines, instead of being trained just as and where they developed in their earliest stages of growth. Although the extent of the nursery is so considerable that anything like a full inspection is an arduous task, it must be allowed that the grass walks, and the regular blocks and lines of fruit trees, roses, etc., render inspection both pleasant and interesting.

In passing along the apple quarters we noted grand lots of Lord Derby, a variety that does well as a cordon; Lane's Prince Albert, very fine on the free stock as well as on the Paradise; Bramley's Seedling, notably fine in standard form; Grenadier, one of the best selling apple trees; Newton Wonder, splendid in every form, and superbly cropped here; Blenheim Orange, Bismarck, Emperor Alexander, Peasgood's Nonsuch, Chas. Ross, Rival, and other popular apples in quantity and in various forms of training.

Of special interest is the plot devoted to pyramid and bush trees, where about three trees each of a number of the best varieties are cultivated as though in a private garden. Some of the trees are of considerable size, and were planted fourteen years ago; others are small, and represent such new varieties as Rev. W. Wilks, Wm. Crump, etc. But the way the older trees crop, with every branch like a cordon, is an eye-opener. In most cases the branches had to be tied to each other for mutual support, and in several instances stout wooden props were requisitioned to support the heavy crops. Lord Derby, Jubilee, The Queen, Lane's Prince Albert, Schoolmaster, Sandringham, Newton Wonder, Bismarck, Gascoyne's Scarlet, and Chelmsford Wonder, are varieties that everyone would want to plant if they saw the trees carrying their wonderful crops as the writer saw them at the Lowfield Nurseries.

There has been an increasing demand for stone fruits of late, and the Messrs. Cheal are prepared to meet it, as they have peaches and nectarines of first-rate quality, well trained, and with capitally ripened wood; plums, too, are excellent, and cherries especially good.

Ornamental Trees and Shrubs.

Quite naturally, with increasing activity in the landscape department, the Messrs. Cheal have added extensively to their collection and stock of ornamental trees and shrubs. Whether we do or do not like topiary work, the fact remains that clipped yew and box are in great demand in connection with the more formal portions of newly-designed gardens, and so all kinds of quaint designs are manufactured at Crawley, and their evolution can be watched, if need be, for the firm has found so much difficulty in securing the right kind of tree at the right moment that it has been making its own for some years, and now there are all designs, from footballs to alligators, from teddy bears to suffragettes, from chairs to churches, and from barges to galleons and steamboats.

There is no intention of turning this notice into a catalogue, as the Messrs. J. Cheal and Sons issue departmental catalogues, which are models of conciseness and restrained descriptions; but a few of the ornamental trees and shrubs which arrested attention may be mentioned, and first of all there is Platanus Suttneri, a form with beautiful cream-coloured leaves, prettily blotched with green of several shades. It is a very handsome standard tree that deserves attention. Rhus typhina laciniata is not new, but its merits as a foliage plant are not yet fully understood. Cotoneaster thymifolia, with smaller foliage than C. microphylla, promises well as a small shrub for the rock garden; while Sequoia sempervirens albospica is a quite showy tree of considerable size. Standard trees for avenue planting are especially good, as they stand out clearly above lower subjects, and have well-developed heads; the Cornish elm, Acer colchicum, silver lime, the finer thorns, and sycamores appeared to be special lines.

Conifers are a great success, and frequent transplanting is followed so that in the fairly heavy soil at Crawley the root system becomes a dense rounded mass of fibres. Conifers for specimens in the garden and pleasure grounds are as much in evidence as the batches of various sizes for plantation work and for hedges. Cedrus atlantica glauca is finely represented, and yews are grand, including a block of plants clipped closely on two opposite sides so that when transplanted they make a dense hedge immediately There are also fine collections of ceanothuses, berberis, ornamental crabs, rhododendrons, mollis azaleas, and heaths.

Dahlias.

The roses, grown in quantity, must be passed over with merely a mention, although there must be hundreds of thousands. The dahlias deserve a few words, because the Crawley firm has for so long been intimately connected with the advance of these popular flowers. Their own introductions among pompon and single varieties are well known to fanciers, and there are those who appreciate the lowly-growing Tom Thumb series of garden varieties. The latter strain possesses a rather stiff habit, and will have to give place to the Mignon varieties, which is wonderfully free-flowering, and carries single blooms of great beauty on plants from 1½ to 2ft. high, furnished with very neat foliage. Here, surely, are dahlias for small gardens, and just the dahlias for bedding, or for association, as groundwork, with the taller cactus, decorative, and paony-flowering sorts. These dwarfs need no staking.

A wonderful sight are the dahlias at Crawley, as, besides pot roots and stock plants of special kinds, there were 2,500 named specimen plants planted in great blocks according to their sections, and a further range of 1,200 seedlings on trial. Viewing the several sections, block by block, one had to confess that for garden decoration the order of effectiveness appears to be collerettes first, paony-flowered and decorative sorts second, pompons third, shows and fancies fourth, singles fifth, and cactus varieties "also ran." The most effective and floriferous collerette sorts were Henri Farman, Maurice Rivoire, Diadem, and Mdme. Porrier, but there were others of almost equal merit Coronation, Mrs. Greville, Freedom, Niobe, Selma, Queen of Pinks, Mrs. Paton, and Mrs. Lonsdale were the best of the cactus sorts. All the pompons were good for garden decoration, although our own taste selected Nerissa, Regulus, Bacchus, Glow, Ideal, Jessica, Darkest of All, and Elsa The rounded florets of the modern single varieties were very pleasing, and if only the blooms lasted a little longer it is doubtful whether other sections would stand much chance in our gardens, and it is just here that the collerette varieties have the advantage. However, varieties like Vesuvius, Mrs. Joynson Hicks, Glencoe, Elaine, Miss Morland, Flora, and Owen Thomas are so meritorious that they are already popular

The seedling dahlias were wonderful, even in October, and we assisted in the selection of several sorts for further trial. The new decorative variety named Reginald Cory, red, white tipped, was very showy here, as at Duffryn. Near by was the old Glare of the Garden, not to be despised even now in colour schemes; and not far off was the new Crawley Star, a lovely semi-double pink dahlia with crimson bases to the petals; it is lasting, very graceful, of beautiful colour, and wonderfully free-flowering. A white counterpart of this distinct form has now been raised, and it promised to be as good as its forebear.

The half has not been told, but one must stop somewhere, and the glory of the dahlias may well be our last thought. C. K.

Potatoes.—The sets for forcing should now be placed in shallow trays or boxes, and be covered lightly with finely sifted leaf-mould; put them in a newly-started peach house to sprout. They may then be potted up in 8-inch or 10-inch pots, or in heated pits. Select for this purpose quickly maturing varieties, and those which make but little top growth. Sutton's May Queen and Sharpe's Victor are two excellent varieties for this purpose. It is of the utmost importance that the sets should have young shoots, slowly and sturdily made, before planting takes place.—W. MESSENGER, Woolverstone Park Gardens.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

MEXICAN LÆLIAS.—There are numerous species, and several natural hybrids, among the Mexican lælias that are easily cultivated, and suitable for the supply of choice bloom during the months of December and January. Where a small structure can be set apart for the cultivation of these lælias and other light-loving plants, there is little difficulty in producing satisfactory results, and, although some of the kinds may not flower so satisfactorily when grown under the same conditions as the cattleyas or in an ordinary plant stove, they are generally found to grow very well, even under such treatment.

L. AUTUMNALIS AND L. ANCEPS are the first of this section to commence flowering. The plants are usually imported in strong masses, and are procurable for a moderate outlay. There is considerable variation in colour, but the pure white L. autumnalis alba is a very rare plant. The coloured varieties of L. anceps immediately follow with their flowers, and they always succeed and usually flower well when grown under the same cultural conditions as the cattleyas, and given a position in the lightest part of the house. The white varieties, with the exception of L. a. alba, L. a. Dawsoni, and the pale L. a. Percivaliana, do not flower so freely, unless they are exposed to plenty of strong light. In the immediate neighbourhood of London and smoky districts, where the conditions are so detrimental to expanding flowers in general, the culture of these lælias is a hopeless business, as the least trace of fog injures the flower buds, and they rarely give satisfaction.

L. SUPERBIENS produces a flower scape several feet in length with a cluster of flowers at the apex. This species requires plenty of light, and should not be disturbed at the roots more frequently than is absolutely necessary. It always flowers best when baked by the sun and root-bound. L. albida is another species that flowers about the same time as L. anceps; its fragrant, white flowers are always appreciated. The natural hybrid, L. Gouldiana, derived from L. autumnalis and L. anceps, is exceedingly variable, and in its best dark-coloured forms it is one of the most attractive of the Mexican orchids. The miniature L. rubescens flowers later, and, when large specimens flower, it is very attractive. Plants of all these kinds must be carefully watched for insect pests.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

WINTER-FLOWERING CARNATIONS.—These are flowering very freely this season, owing, no doubt, to the exceptionally mild weather. Water the plants with care, but do not allow them to become really dry. Rain-water should be used for this purpose whenever possible. The plants are now well rooted and full of growth, so stimulants may be afforded frequently. Keep a sharp look-out for red spider, as unless this pest is checked in its early stages it will do considerable injury. Give plenty of air during favourable weather, always remembering that a close, stuffy atmosphere is favourable to the rapid development of carnation rust. If the main batch of cuttings has not been put in, no time should be lost, as the growths are in splendid condition. The weather has been favourable for the Malmaison varieties, as it has been possible to keep the ventilators wide open both day and night. Afford water sparingly, keeping the plants rather dry. If there is any sign of rust, dip the plants in one of the specifics recommended for this troublesome disease. The operation should be repeated every two or three weeks until the foliage is clean.

ANNUALS FOR POT CULTURE.—These must be repotted as required, and kept growing slowly in a cool house as near to the light as possible. Clarkias must be carefully handled for the next few weeks, as they are very subject to damping. Stopping is sometims recommended for clarkias, but I find they do better if allowed to grow unchecked. Aphis will do considerable damage to schizanthuses and clarkias, but a light fumigating is sufficient to kill this pest. Mignonette, which was sown in small 60-size pots in the autumn, should be potted into 48's in a compost of loam, leaf-soil, and coarse sand.

CYCLAMENS.—The early batch is now in full flower, and to keep the plants in good flowering condition over a long period requires careful treatment. Every favourable opportunity must be taken to admit air, but this must be done with due consideration to the conditions prevailing outdoors. Cyclamens are now in need of plenty of stimulants, but watering must be done with care, keeping the centre of the plants as dry as possible. Dead flowers and leaves must be regularly removed, and should be pulled out from the base to prevent damping.

HUMEA ELEGANS must be carefully handled for the next few weeks. I find the hardier they are grown the less liable they are to fail. During the winter months they should be stood on a cool ash or gravel base near the glass. If repotting is necessary it must be carefully done, and the plants must afterwards be watered with extreme care.

RICHARDIAS.—These appear to be flowering much earlier than usual, although they have been grown under very cool conditions. They are not, as a rule, required until the chrysanthemum season is over, therefore they must be retarded as much as possible. A house with a northern aspect is best for this purpose, and fire-heat must be given only to keep out frost. Now that the pots are full of roots, stimulants must be afforded more frequently, and at increased strength. —E. HARRISS, Lockinge Gardens.

HARDY FRUITS.

ORCHARDS.—If a constant supply of good clean fruits is to be expected from the orchard, the heads of the trees should be kept well open, so that both light and air can reach the interior. If the orchard is grassed, keep the grass grazed very closely, and feed liberally at intervals with rich farmyard liquid manure, especially if the soil is porous and well drained. Many of our old orchards where the fruits are poor, and the crops light, might be greatly improved by attending a little more to the roots, and thinning the branches annually. When pruning, first remove all crossing and interlacing branches, and it is better, when tackling large, neglected trees, to have two men to do the work, one using the saw, and the other directing which branches must be removed. When the pruning and thinning are completed, scrape the trunks and dress with lime, or spray them with caustic alkali according to directions given. All orchard and fruit plantations should be thoroughly drained, and screened from the north and north-east winds; belts of damson trees will answer for screens, and will also be profitable; plant them rather closely.

STAKES AND TIES must be thoroughly examined annually and made good, for if this work is overlooked much injury may follow. Keep the varieties correctly, named, and see that tree stems are well protected against sheep, hares, rabbits, etc. Mulch the roots of all newly-planted trees with a little strawy manure, and heavily top-dress older trees with rich farmyard manure, poultry manure, or anything that will assist them.

RASPBERRIES.—These root very close to the surface, so that deep digging among them must not be practiced. Good surface dressings of sweet loam and decayed manure along the sides of the rows will prove very beneficial to the old shoots and canes, and help to increase fruitfulness the following year. After tying out the canes, prick up the surface soil with a fork. The formation of new beds should also receive attention. Where the old beds are failing, select a good site, trench deeply and break up the subsoil. In the warmer districts raspberries succeed admirably when growing on a cool north border.

FRUIT ROOM.—Keep a sharp look-out for decaying fruits and remove them at once. When only just commencing to decay the fruits may be made use of for cooking purposes. Apples are keeping rather badly this year, excepting those allowed to hang on the trees until very late. With us, the fruits began to drop early, before they were fully matured.—H. MARKHAM, Wrotham Park Gardens.

THE KITCHEN GARDEN.

SEAKALE. It is the practice with many cultivators to force seakale on the outdoor beds, and, where it is possible, to procure a quantity of good oak or beech leaves to make up a mild hotbed. This method generally proves successful, and the quality and size of the heads is usurpassed under any other method of forcing. When raking leaves or rough grass the mixture of grass and leaves will give a sufficient temperature; but with leaves only it may be necessary to add some stable manure to obtain the required heat, which should be of a mild nature throughout, as an excess of heat will cause too rapid growth and thin, spindly heads. The seakale pots may be placed over the crowns some days in advance of the fermenting material. Stout sticks should be inserted to test the heat of the bed; snow or heavy rains will quickly affect the heat, and it may be necessary to add more stable litter to correct the deficiency. The permanent beds of seakale should have the foliage cleared away, and the surface soil well stirred with the hoe. A good dressing of kainit, as advised for asparagus, will prove beneficial.

ASPARAGUS.—As the season advances the crowns more steadily respond to mild forcing; further supplies should be introduced according to demand. The crowns should be lifted and placed on a mild hotbed made up in a pot where heat can also be obtained from hot-water pipes. When the heat of the hotbed has fallen to about 80 degrees, plant the crowns thickly together on a thin layer of soil, and cover them with another layer; any soil of a light nature will be suitable. Water with tepid water, maintain a moist atmosphere, and a temperature not exceeding 60 degrees.

EARLY CARROTS.—An early supply of small, succulent roots is much esteemed, and to provide these, a hotbed should be made up of leaves and stable manure. Ordinary wooden frames are suitable if the lights are well glazed and in good condition to prevent drip. Where the subsoil is porous it is a good plan to dig out a wide and deep trench, and in this place the fermenting material, making up the bed 18 inches above the ground level; tread the whole firmly as the work proceeds, place the frame in position and fill in with 6 or 7 inches of fine, rich soil. As soon as the heat has settled down to a comfortable warmth sow the seed, in drills 7 inches apart, for such varieties as Inimitable Forcing, Early Gem, and the well-known French Shorthorn type. As soon as the young plants are visible, admit air to the frame according to the condition of the weather. Steady, sturdy growth must be aimed at.—W. MESSENGER, Woolverstone Park Gardens.

TRIAL OF DECORATIVE GARDEN DAHLIAS AT DUFFRYN.

To the splendid dahlia trials carried ont at Duffryn this year on behalf of the Royal Horticultural Society and the National Dahlia Society we have already referred at some length, and we have published illustrations of certain features of the trials. The official report, drawn up by the two societies, has now been issued, and we have much pleasure in publishing such an interesting and instructive account:

By the kindness of Mr. Reginald Cory, these trials took place in his charming grounds at Duffryn to demonstrate the value of the dahlia as a decorative garden subject, and with this end in view all the rasiers in this country and some on the Continent were invited to send plants of every section of the flower they deemed to be valuable as decorative garden plants. The response was far in exces sof all anticipations, for nearly a thousand distinct varieties were sent in, some as pot roots, others as green plants, the whole number mustering between seven and eight thousand plants, truly a gigantic total; and when it is remembered what a strong point it is to make an early start and grow on without a check, so as to ensure early flowering, one can imagine how this vast number must have taxed even the glass resources of Duffryn, especially as the majority of the plants were potted on as they required it into six, seven, and eight-inch pots.

The trial was quite unique, inasmuch as it differed from the row-after-row type of trial, for they were planted in a series of gardens, in beds, on borders, as bank plants, and even as "dot" plants for summer bedding. The various sections were planted together as far as possible, while the shades of colouring were also associated harmoniously; the varying height of the plants was also studied, the whole producing an effect absolutely different from the usual trials of such subjects. The cultural details were more simple, for the soil appeared to be a good holding loam, which had been deeply cultivated, a light dressing of pit manure applied, and at planting time each plant was placed in a station of sifted potting mould. The necessary support to the plant was a single stake, to which the growths were looped up; thinning out or disbudding was strictly forbidden, so that all the varieties in their respective sections were on the same plane.

This briefly sums up the cultivation of the plants in this trial, except, of course, the watering of the plants necessitated by the dry season during their growing period, which was never neglected, needless to add, with the result that when visited by the Joint Committee of the two societies on September 3 and 4 they presented a glorious display, which called for unanimous thanks to Mr. Cory and for unstinted admiration of the excellent results achieved.

The cactus section was the largest in point of numbers, there being approximately two hundred and fifty varieties. They were, however, in the opinion of the committee, the least satisfactory section, for numbers of them did not possess the faintest conception of being decorative garden plants. As a consequence, only thirty-three were considered worthy of award. It should be added, however, that other varieties would no doubt improve at a later date.

Next in importance, as far as numbers are concerned, was the pæony-flowered section. This was represented by about two hundred varieties, and as a mass of colouring the plants were exquisite, but their unequal heights rather told against them, as far as the general effect was concerned. This might be avoided if the seasons could only be gauged, as the growth of individual varieties depends so much on the weather. This trial, however, demonstrated quite clearly that the newer forms possess better stems and more lasting flowers than those raised earlier. Thirty-two varieties secured the approval of the committee.

The collerette section was represented by about one hundred and fifty varieties, a formidable list for such a late aspirant to public favour; still, at the date of inspection they produced the greatest impression, for they were literally masses of flower, due doubtless to their free-flowering propensities, shy varieties being quite rare in their ranks. However, only twenty-three varieties were honoured.

The decorative section is very difficult to define, consisting as it does at the present time of all those varieties which cannot be placed in any other recognised section, and in this trial many large-flowering varieties had been sent, which would be handsome for vase decoration, but, as garden decorative plants, belied their description. Many were evidently late-flowering varieties, and quite unsuitable for such a trial. Nearly a hundred varieties were represented, but only twelve met with approval.

The single section produced a fine effect. There were about a hundred varieties, and at the time of inspection those were quite in their best form. Sixteen varieties were recommended by the committee.

The pompon varieties were represented by about sixty kinds, which were much admired for their decorative effect. These little Lilliputians had, however, overgrown their allotted space, and, unlike the other sections, were somewhat crowded. Nevertheless they secured twenty-six recommendations, the highest percentage in the whole trial, except in quite the minor sections.

The show and fancy varieties totalled fifty, and some of them, though somewhat formal when compared with other sections, were undoubtedly highly decorative as garden plants, and ten varieties (most of them old ones) secured the necessary number of marks for an award.

The pompon or miniature cactus varieties found the soil at Duffryn much too congenial for their requirements, and in most cases had produced flowers beyond their normal size. Five varieties, however, were recommended out of a total of twenty-five entrants.

The section entered as bedding varieties was rather misleading, as it included nearly all the types; the five, however, selected by the committee, were all excellent in their respective classes, though there were plenty of forms in the other sections that would be equally well placed under this category.

The Mignon section was quite a small collection, but a very noteworthy one, the flowers single, and growing about eighteen inches high, with bright, well-defined colours, each flower carried erect; a very fine section for bedding or massing purposes.

The giant single varieties did not meet with favour, for, although their individual flowers are handsome, they appear to lack the freedom so essential to decorative garden plants.

While the Star dahlias did not on this occasion secure the support of the committee, they certainly produced a blaze of colour in the garden, though of a somewhat bizarre character.

The Parisian singles and anemone types were not, as a whole, sufficiently advanced in growth to judge of their merits, with one exception. The continental varieties arrived so late that they had made little growth, and were not in flower on September 3.

(To be continued.)

HORTICULTURE AT THE ANGLO-AMERICAN EXPOSITION, 1914.

The Anglo-American Exposition, which will be held at the White City, Shepherd's Bush, next year, has for its object the celebration in a fitting manner of the hundred years of peace and progress between the English-speaking peoples since the Treaty of Ghent in 1814. It has been felt that no more appropriate means of celebration could be adopted than a magnificent joint display, showing the vast gains which have accrued to mankind through this peaceful development of Great Britain and the United States of America during the past century.

As becomes an exhibition illustrative, in the fullest possible sense, of the activities of two great nations famous for the prominent part they have taken in the advancement of the gardening art in its varied aspects, demonstrations of both American and British horticulture are being organised on as comprehensive a scale as possible. From what has already been accomplished, it is believed that these demonstrations will be equally remarkable for their beauty, interest, and usefulness, and will prove a great source of attraction to visitors from both sides of the Atlantic.

This section of the Exposition is being organised by the Committee of Horticulture, Arboriculture, and Forestry, which includes among its sixty members the foremost horticulturists, arboriculturists, and forestry experts of the present time, who have also had much experience in the organisation of exhibitions of the highest class. The committee has already made considerable progress, and formulated a scheme which there is good reason for believing will ensure a representation of horticulture, arboriculture, and forestry worthy of the two great nations interested.

Adequate provision has been made for the displays of rock and water gardening, which have of late years attained to so high a state of development, more especially in this country. A large area on the western side of the grounds will be placed at the disposal of those who are specially interested in this fascinating branch of the gardening art. Hardy herbaceous plants, now so popular with all classes of the flower-loving community, will not be less liberally provided for, and the spacious Court of Progress has been allotted to them and to English formal gardens and rhododendrons, and here the firms who devote special attention to these important classes of plants will show their taste in arrangement and skill in cultivation.

Roses, in view of their importance and popularity, will have much space devoted to them; and under the scheme the Elite Gardens will be almost wholly occupied by these fragrant flowers. Ornamental trees and shrubs, which have had so many valuable additions made to them, as the result of the explorations in Western China within recent years, should also constitute a great feature of much interest and usefulness. Indeed, arrangements are being made for the representation of many other classes of plants that can be successfully grown in the open during the summer months.

Forestry, which is now being recognised in this country as of immense importance, both to landowners and the general community, is receiving special attention, and the scheme that is now engaging the attention of a special committee of experts will, it is fully believed, ensure an adequate representation of the varied aspects of this great industry.

Four conferences will be held in the course of the summer, and as promises of support have already been made by the leading societies identified with the special subjects, these should be highly successful. These conferences are: Perpetual Carnation Conference, at the end of May; Hardy Plant Conference, about the middle of June; Rose Conference, at the end of June; Carnation and Sweet Pea Conference, towards the end of July;

Forestry Conference in August; and a Fruit Conference in September.

We may add that Mr. Owen Thomas is the Hon. Secretary of the Horticultural, Arboricultural, and Forestry Committee, and he will gladly furnish any information regarding the work and operations of his committee. Letters should be addressed to him at the Anglo-American Exposition, Shepherd's Bush, London, W.

AURICULAS.

In somewhat belated reply to Mr. Gibson's note in the "G.M." of October 18, I may say that it was no part of my object in writing to draw attention to little-known, expensive, or unprocurable novelties, nor was I writing for the information of auricula specialists.

My idea was merely to jot down a gossipy, timely kind of note on the flower of which I am fond, based on the appearance of my plants at the time of writing; and, incidentally, to give a list of decent, cheap, robust varieties that any beginner could scarcely fail with.

Wm. Smith and the other varieties Mr. Gibson mentions may be—and I hope they are—all his fancy pictures them, and the Collier's Grey-edge may be as good as George Lightbody; but if these cannot be obtained, or have yet to gain an assured place in the auricula world, what would be the use of my mentioning them?

It is nearly forty years since I first began to take an interest in auriculas, and I have seen, during that time, hundreds of novelties that were going to beat the varieties I named, but, for one reason or another, they have not done so.

It is certainly news to me that no one dreams nowadays of staging Ruby; it is a flower I do not like, but it will grow and increase well, is fairly correct, and the usual run of amateurs cannot yet safely dispense with it.

I did not mention Robert Traill, and I am not fond of Beauty or Acme, but they are the best and cheapest of the white-edges that will grow and increase easily. At the London show this year I noticed that Acme carried off the whole of the prizes in the class for single plants. At the same show Mr. Gibson staged Smiling Beauty and Rev. F. D. Horner, which are more obsolete varieties than any I mentioned. I was, at the same time, pleased to see that Smiling Beauty still existed, as it was raised here where I live, and if Mr. Gibson has a bit of it to spare I shall be glad to have it.

I do not know what length of experience Mr. Gibson has, but Messrs. Horner, Douglas, and Simonite can hardly be described as growers of twenty to thirty years ago, as they have all died recently.

In conclusion, I may say that I have seen, in past years, greens that beat Mrs. Henwood, greys that were as good as George Lightbody, and whites that were better than Acme; but where are, for example, Horner's Greyhound, Horner's Magpie, and Barlow's President Royds? New varieties are of no practical use unless they have certain properties; they must be good growers, increase well, and be fairly constant at blooming time. The Collier's Grey, though as good as George Lightbody, if it is "growing, very, very slowly, and will not increase," as Mr. Gibson writes, is of no practical use.

I welcome Mr. Gibson's "dressing down," as he calls it, but fail to see where he scores.

JAMES W. BENTLEY.

Stakehill, Manchester.

Crotons, Dracænas, and Acalyphas, which have been used for house decoration, and are past their best, may be shortened, cleaned and returned to the stove for stock purposes. Keep them rather dry at the roots; they will soon "break," and by early spring will afford a useful lot of growth suitable for cuttings.— H. Prime, Hatfield House Gardens.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Perpetual-Flowering Carnation Society.

At the close of the show on December 3 about forty members of the society assembled in the Lecture Room at the Royal Horticultural Hall, for the annual general meeting. Mr. J. S. Brunton presided. The report was taken as read, but the Chairman reviewed the work of the year, and said they had reason to congratulate themselves on the excellent progress made. Much of the credit was due to the carnation itself, which was undoubtedly forcing itself into favour everywhere. The wonderful increase in the number of registered varieties indicated that both trade and amateur growers were paying much attention to the delightful work of raising seedlings. The increase of membership was highly satisfactory, and he urged all members not to relax their efforts in securing more members. The Chairman then drew attention to the fact that they had two Belgian members with them, and he tendered a hearty welcome to both M. V. Bouchenooghe, of Ypres, and M. E. Draps Boudry, both of whom were large growers of carnations. They also had had the pleasure of the company of Mr. Collard, gardener to the King of the Belgians, that day. The Chairman also referred to the magnificent George Monro, jun., Cup, which had been won by Mr. C. Engelmann.

RECEIPTS AND EXPENDITURE FOR THE YEAR ENDING NOV. 8, 1913.

RECEIPTS.

			£	s.	d.
Balance, 1912			7	17	11
Subscriptions, 1913	186 12 8				
Subscriptions, 1914	17 11 6				
		204	4	2	
Donations	16 4 0				
Leamington Guarantee Fund	13 0 0				
		29	4	0	
Registrations		6	15	0	
Sale of Year Books		4	3	6	
Refunded		7	12	5	
Gate Money:					
December Show	10 5 0				
April Show	37 7 0				
		47	12	0	
Dinner Tickets: December	0 12 6				
April	1 16 0				
May	14 2 0				
		16	10	6	
Special Prizes		35	11	6	
Advertisements:					
In Schedule	18 10 3				
In Programme	2 6 0				
		20	16	3	
Sale of Programmes, Leamington Show		3	2	0	
		£383	9	3	

EXPENDITURE.

Prize Money	161 18 0				
Cup, Medals, and Engraving	42 0 6				
		203	18	6	
Show Expenses:					
December, Hire of Hall	12 19 0				
,, Sundry Expenses	1 11 6				
April, Leamington Show	23 12 11				
,, Judges' Fares	2 11 2				
		40	14	7	
Secretarial Expenses:					
January.—Mr. Hawes	7 2 0				
,, Mr. Weston	1 11 2				
		8	13	2	
Postages, including Year Book		24	18	9	
Sundries, Incidental Expenses	0 7 0				
Photographs	1 16 0				
Cup Insurance	0 12 6				
Commission on Advertisements	1 17 9				
Cheques and Bank Charges	0 14 0				
		5	7	3	
Printing and Stationery		26	13	6	
Publication of Year Book		23	15	0	
Advertising		5	15	0	
Dinner Expenses, May, 1913		13	12	0	
Hire of Committee Room		1	15	0	
Balance: At Bank	8 16 11				
In hand	19 9 7				
		28	6	6	
		£383	9	3	

Audited, November, 27, 1913,
RICHARD PINCHES.
E. F. HAWES.

The acceptance of the report was then proposed by the Chairman, seconded by Mr. W. A. Sherwood, and carried unanimously.

The Treasurer, Mr. Lawrence Cook, then read the financial statement, which was accepted as being very satisfactory.

Mr. M. Todd then proposed a vote of thanks to the retiring officers, which was seconded by M. V. Bouchenooghe, and carried unanimously. Lord Howard de Walden, as President, and all the vice-presidents, were re-elected. Mr. W. A. Sherwood and Mr. Tandevin moved the re-election of Mr. J. S. Brunton as chairman of committee, and the motion was carried with applause. The Chairman briefly responded, and said it was a pleasure to be associated with such a harmonious committee as the P.F.C.S. always had. During his association with the society, there had never been any strong dissension, but everything worked as harmoniously as could be desired. Mr. W. E. Page proposed, Mr. A. F. Dutton seconded, and it was carried that Mr. W. E. Wallace be re-elected vice-chairman.

On the motion of Mr. Wallace and Mr. C. Engelmann, Mr. L. J. Cook was re-elected treasurer. (Carried.) Mr. Cook returned thanks for the honour, and said that since Mr. Weston had become secretary his own duties had been greatly lightened. Mr. R. F. Felton and Mr. H. T. Mason moved the re-election of Mr. T. A. Weston as secretary, and each paid a tribute to Mr. Weston's ability and energy. The proposal was carried with applause, and Mr. Weston thanked the members for their appreciation of his services, and for the honorarium voted him. The duties were by no means light, but the committee and members generally had been exceedingly kind to him, and now he had fully gripped the work he ventured to promise that he would not be found wanting during the ensuing year. Mr. E. F. Hawes was re-elected show superintendent, and the ballot for members of committee resulted in the election of Messrs. A. F. Dutton, C. Engelmann, F. Fitch, F. W. Harvey, W. A. Sherwood, W. Lawrenson, Percy Mount, A. Smith, H. Taudevin, and W. Holder—all to serve until 1916.

The Chairman then referred to the subject of affiliation. From time to time this had been discussed, but nothing had been done, and it was now felt that the present was an opportune time to deal with the subject. Mr. T. C. Loosemore proposed that the General Committee be empowered to draw up a scheme whereby horticultural societies throughout the country could become affiliated for a fee to be decided upon; such societies to receive a medal, or some suitable prize, to be competed for by their own members. Mr. R. F. Felton seconded the motion, and proposed that the fee be £1 1s. Mr. A. E. Usher strongly opposed a fee of one guinea, and said the P.F.C.S. did not want a few select societies on its list but many of the small societies up and down the country. The big societies could look after themselves, and so he advocated a fee of 10s. 6d. Mr. F. W. Harvey supported Mr. Usher, and, as Mr. Felton withdrew his amendment, the original proposition was carried, and the Chairman said that 10s. 6d. would be the minimum fee for affiliation.

M. V Bouchenooghe, the senior Continental member, said he and his friends were amazed at the wonderful show they had seen that day. The quality of the blooms gave them much encouragement to go on with their work in Belgium. He appreciated the honour of being asked to act on the jury, and referred to Mr. J. S. Brunton, who, whenever he came to Belgium, talked carnations all the time, and it was due to him that they had such a wonderful display of carnations at the Ghent Show in May last, for which Mr. Brunton had been specially thanked by the King of the Belgians, who had since become a keen carnation enthusiast.

Mr. E. Draps Boudry, briefly endorsed his friend's remarks, and announced that he desired to present the society with the sum of two guineas, to be offered as a prize for

twenty-four blooms, an offer received with applause.

Mr. W. H. Page proposed a vote of thanks to their Belgian friends. He himself had been impressed by the unbounded hospitality shown when visiting Ghent, and anything the society could do to further the interests of carnations on the Continent he hoped they would do. Mr. Harvey, in seconding the motion, expressed the pleasure of meeting Mr. Bouchenooghe, who, he had learned, was an old Kewite. He hoped that the next dinner of the P.F.C.S. would not fall on the same date as the Kew Guild dinner, as he wanted Mr. Bouchenooghe to be at the Kew Guild celebration, while he himself wanted to be at the P.F.C.S. dinner. The proposal was carried with much applause.

A vote of thanks to the chairman brought the meeting to a close.

National Chrysanthemum Society.

This society held its winter exhibition at Essex Hall, Strand, London, W.C., on December 10, and, for so late in the season, the display was a charming one, the flowers fine and the colours especially good. The competition in the several classes was not very keen, but some non-competitive displays atoned for any failure here.

The Floral Committee granted First Class Certificates to Essie Walters, a terra-cotta single, from Mr. P. Ladds, Swanley Junction; to Commodore, a crimson single, from Mr. Thos. Stevenson, Woburn Place Gardens, Addlestone; and to Heston Pink (also a First Class Market Certificate), from Messrs. Cragg, Harrison, and Cragg, Heston.

Commendations were made to Ronald, a golden-bronze decorative variety, from Messrs. Cragg, Harrison, and Cragg; to White Wonder, a white Japanese variety, from Mr. David Ingamells, Covent Garden; to Louis Germ, an ivory-white sport from Sax Export, from Messrs. J. and J. Sax, Nordrecht, Holland; and to Orangeman, a yellow single, from Mr. B. Nash, Cheam.

The leading class was for eight vases of disbudded chrysanthemums, nine blooms in a vase, and here there were two competitors. Messrs. Cragg, Harrison, and Cragg, Merivale Nurseries, Heston, Middlesex, secured the premier award with vases of first-class blooms of Heston Pink, Russet, Mrs. J. Thompson, Godfrey's Crimson, Mrs. F. Judson, Matthew Hodgson, F. Pilon (a bright yellow incurved form), and December Pink; second prize went to Mr. J. Godber, Willington Nurseries, near Bedford, who showed Mrs. J. Thompson, Golden Thompson, Mrs. Judson, and Bronze Thompson in good form.

The best set of three vases of white blooms came from Messrs. Cragg, Harrison, and Cragg, who chose as their varieties Mrs. Judson, Mdlle. Pankoucke, and Mrs. J. Thompson, all finely represented; Mr. J. Godberg second, and Mr. T. Stevenson, gardener to E. G. Mocatta, Esq., third. The class for three vases of blooms, distinct varieties, found Messrs. Cragg, Harrison, and Cragg in the first place, with fine flowers of Heston Pink, Russet, and Yellow Thompson; Mr. J. Simon, gardener to W. W. Mann, Esq., Ravenswood, Bexley,, second; and Mr. J. Godber third.

Mr. Thos. Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone, led the way for three vases of singles with delightfully fine blooms of Mrs. Hubert Williams, Kathleen May, and Brightness; Mr. L. E. Lawrence, gardener to Mrs. Roger Gregory, Shoreham, second. Messrs. Cragg, Harrison, and Cragg annexed the first prize for a vase of disbudded singles, winning with the rich crimson Kathleen May. For partially disbudded singles, the same firm held premier position with Godfrey's Perfection; Mr. J. Clayton, Greycot, Addlestone, second; with Cecily Joyce Clayton, a red seedling.

Mr. Thos. Stevenson scored for a vase of a dozen blooms of single varieties, with a finely grown set, which included Kathleen May, Brightness, and Mrs. Hubert Williams; Mr. F. D. Humphries, gardener to F. B. Mildmay, Esq., Shoreham Place, Sevenoaks, second.

The best bloom in the show was a large example of Mrs. Gilbert Drabble, shown by Mr. R. B. Leech, Woodhall Gardens, Dulwich, in a large vase of big blooms associated with fronds of Woodwardia radicans. This vase was one of three large ones boldly filled with big blooms of Mr. Leech, and which made a charming exhibit to which a silver-gilt medal was awarded.

Messrs. Butler Brothers, Bexley Heath, were the only exhibitors of a group of dwarf plants in pots, and they secured the first prize with freely-flowered specimens in small 48's, grown in the usual first-class fashion common to this firm.

The finest individual exhibit, and one to which a gold medal was awarded, was set up by Messrs. Cragg, Harrison, and Cragg, Heston, Middlesex. This firm set up grand bunches of Matthew Hodgson, Manor House Gem, Yellow Princess Victoria, Well's Late Pink; Yellow Mrs. Thompson, Russet, Phœbus, Rosalind, and December Gold, all lovely decorative Japanese varieties; with such fine singles as Kathleen May and Crimson Queen. Four plants of Heston Pink, with some grevilleas, formed a good background for this display of nearly a thousand blooms.

Messrs. W. Wells and Co., Merstham, secured a large silver medal with their stand of the lovely pink Bertha Lacheau; the yellow James Fraser, an elegant new Japanese variety; Wm. Turner, Daily Mail, and Mauve Beauty, besides the singles Marjorie Harris, Mrs. W. Prowting, and Merstham Jewel.

THE ANNUAL DINNER.

There was a very large attendance at the Holborn Restaurant on November 28, when the National Society held its annual dinner, under the chairmanship of the President, Sir Albert Rollit, LL.D. After an excellent dinner the usual loyal toasts were honoured, and then Sir Albert distributed the principal cup and medals won at the Crystal Palace early in November.

The chief toasts, all enthusiastically received, were: "The Donors of Special Prizes," given by Mr. John Green, and responded to charmingly by Mr. J. R. Jackson; "The Exhibitors and Affiliated Societies," given by Mr. R. J. Frogbrook, and responded to by Mr. R. B. Leach; and, of course, "The National Chrysanthemum Society," proposed by the President in an able and humorous speech, and duly responded to by Mr. Thos. Bevan. Sir Albert pointed out that the society had a larger number of guinea members than ever before, and many of these moved in a high state of society; and that the income was larger than usual, and so the society was in a better financial position than for many years past. He made special reference to the value of the Society's Conferences, and to its publications, and to the great success of the society's November show, when 20,000 people passed through the turnstiles at the Crystal Palace.

Sir Albert had to leave somewhat early, and the toast of "The President" and that of "The Press" were honoured after he had left.

Among those present, not already mentioned, we noticed Mr. R. A. Witty, Mr. Prickett, Mr. E. F. Hawes, Mr. D. B. Crane, Mr. D. Ingamells, Mr. R. Ballantine, Mr. Hiehle, Mr. W. Wells, Mr. W. Howe, Mr. Emberson, Mr. Ladds, Mr. Schneider, Mr. G. Hunt, Mr. T. Stevenson, Mr. T. Bevan, Mr. C. H. Curtis, Mr. Cowley, etc.

National Hardy Plant Society.

The annual meeting of this society was held in the Horticultural Club Room, Hotel Windsor, Westminster, on December 9. Mr. J. Bonskell occupied the chair, but the attendance was quite modest. After the minutes had been passed, the annual report was read by the hon. secretary, Mr. A. J. Macselfe, and it covered the work of the society during the year, referring chiefly to the awards made by deputations at various exhibitions throughout the country where hardy flowers were prominently displayed—notably at Taunton, Shrewsbury, York, and Edinburgh. The financial statement, presented by the hon. treasurer, Mr. Robert Morton, showed a total turnover of just under £100, and included £31 expended on the society's "Year Book," and a balance of over £36 to be carried forward to the credit of the society. It was agreed, however, that the treasurer should keep the accounts open until December 31, meanwhile paying one or two outstanding liabilities, and endeavouring to secure some subscriptions still unpaid.

The Hon. Vicary Gibbs was requested to act as President for 1914. Mr. Bonskell was re-elected chairman of Council; Mr. A. J. Macselfe as hon. secretary; and Mr. R. Morton as hon. treasurer. The Council and the Executive Committee were re-elected, as were the Publications and Scientific Committees, with a few additions to fill up vacancies caused by resignation and death.

It was agreed that the society hold its competitive exhibition at the Royal Horticultural Hall, Westminster, on June 4, 1914, and also combine with the Horticultural Committee of the Anglo-American Exposition, at Shepherd's Bush, in 1914, for the purposes of holding an exhibition of and conference on hardy plants at the White City.

Numerous suggestions were made for furthering the purpose of, and increasing the interest in, the society, and most of these will be published in the society's "Annual." It was also agreed that the Executive Committee meet during the greater part of the year, at five p.m. on the first meetings of the Royal Horticultural Society each month.

The Horticultural Club.

The usual monthly dinner of the club was held on Tuesday, December 2, at the Hotel Windsor, Westminster, Sir Harry J. Veitch presiding.

After the dinner, as is customary, a lecture was given, the subject this time being "A Ramble Along the West Coast of Vancouver Island," illustrated by a large number of lantern slides, taken and coloured by the lecturer, Mrs. Julia L. Henshaw, at present on a visit to London from Canada.

About a year ago this lady favoured the club with a description of some of the Canadian flora and fauna, which was so much appreciated that a second lecture was solicited, and now gave, if possible, even greater satisfaction. By means of a map of Canada, thrown upon the screen, she demonstrated the peculiarly favourable position of Vancouver Island as regards vegetation, its position on the extreme South and its entire environment by the Pacific Ocean, imparting mild climatical conditions, not unlike those of our Western Coasts, or even milder still, though

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the existence of a range of snow-topped mountains in the centre provided such varied conditions as regards humidity that the rainfall ranged between 28 inches and 100 inches, while their slopes furnished nearly every zone of vegetation from the mild-temperate to the arctic.

The views, both of the coast and the interior, were charming, and the lecturer's own colouring, so well done that they were taken for nature prints, until she explained to the contrary. Grand views of deep and well-wooded villages, leading up to a range of snowy peaks, demonstrated clearly that, as regards picturesque and even grand scenery, Vancouver could well hold its own with many European resorts, Swiss and others, while, as she expressed it, they possessed in addition the subtle lure of the West and of the unknown. The slides depicting the varied flora of the locality were equally well done, peculiarly so indeed, their arrangement and perfect focussing giving a truly stereoscopic effect. One in particular, of Cornus Nuttalli, showed a tree over 60ft. high, and one mass of beautiful flowers hiding the foliage entirely, and this was followed immediately by a slide showing the individual beauty of the flower clusters themselves, and evoked special admiration, as in this country the species can only be developed as a shrub.

The slides followed in rapid succession, and were accompanied by most interesting remarks concerning native customs, adventures en route, peculiarities of habitat, etc., of the plants found at the very varied levels the mountains provided, historical data of the localities visited, and so on, which rendered the lecture one of the most instructive and amusing in the annals of the club.

After some remarks by Sir Harry J. Veitch and Messrs. Cheal, Druery, and others, to which Mrs. Henshaw replied, a most cordial vote of thanks to her was passed with acclamation, and the hope was also expressed that on a future visit to England the club might be favoured with another lecture, as it was Mrs. Henshaw's intention to devote herself still more to the research concerned.

Bournemouth Gardeners' Society.

Mr. Elfrod, of Winton, near Bournemouth, gave a very able and interesting lecture on "Border Carnations" before this society in Tuesday, November 4. Mr. Elford is an expert cultivator; he dealt with the cultivation of border carnations in pots, first, and then as border plants. His remarks were concise and to the point. Mr. Heath, gardener to G. G. Russell, Esq., Glenfallock Gardens, occupied the chair, and led the long discussion which followed the lecture.

In propagation, the lecturer advised the selection of sturdy shoots, the removal of the old soil to a depth of 1in., the use of a gritty compost, and slitting the stem up to the first joint from the insertion of the knife. The soil should never become dry. When well rooted, the young plants should be placed in pots 2½in. wide by 4in. deep. The pots and crocks used must be quite clean and dry. The secondary potting should be done in March; good loam cut and stocked the previous summer, with rotted leaves and a small quantity each of mortar rubble, and bone-meal added, being the compost recommended. Staking must be done when the flower stems become prominent. Referring to carnations grown in the garden borders, Mr. Elford said they rarely had fair treatment. Instead of being planted in good positions, they were often given odd corners and indifferent soil. He advised members to try the plants in rose beds, also in ground previously occupied by sweet peas. The following twelve varieties were named as being good standard sorts, when asked to name a dozen by a member present: Agnes Sorrel, Bob Acres, Old Clove, Duchess of Wellington Elizabeth Schiffner, Glory de Nancy, Linkman, Lord Steyne, Miss Willmott, Trogan, Mandarin, and Sir Galahad.

Smithfield Club.

The annual show at Islington, which opened on Monday, December 8, and continued until Friday, December 12, was, in general aspect, just like the shows of former years, and the seedsmen's stand and exhibits of implements in the galleries were for the most part such as we have seen time after time. The swedes, mangels, and sugar beet shown by the large growers, were of good, all-round quality, and potatoes were forthcoming in quantity, albeit we heard frequent remarks on the meagre crops obtained in many districts. From a commercial point of view, Smithfield Show is an event of great importance, and we are glad to record another successful exhibition of Britsh-grown produce at the Royal Agricultural Hall.

Messrs. Sutton and Sons' extensive stand was made attractive by means of a series of colour photographs, showing many kinds of flowers, vegetables, etc., both growing and in a cut state. Mounted specimens of injurious insects, and preserved examples of black scab in potatoes, with other exhibits of scientific interest, made the stand an object of educational value, and, it may be added, that the vegetables exhibited were of the firm's usual high standard .

Messrs James Carter and Co., Raynes Park, had their seed germinators on view, and there were also excellent tubers of many varieties of potatoes, with Ailsa Craig and Record onions and other vegetables. Messrs. E. Webb and Sons, Wordsley, staged a large variety of potatoes, some of the best sorts being New Provider, New Majestic, Stourbridge Glory, and Arran Chief.

Messrs. John K. King and Sons, Coggeshall, showed the quaintly-named potatoes Mighty Atom, and Rent Payer among other good sorts; and an excellent flat-bulbed onion, named Reading Matchless, was well shown. About sixty varieties of potatoes were exhibited by Messrs. C. Fidler and Son, Reading, a few varieties that stood out conspicuously being Dalhousie, Table Talk, Dreadnought, Dalmeny Hero, and Duchess of Cornwall. Messrs. Harrison and Sons, Leicester, as usual showed some good serviceable onions, beetroot, parsnips, and their round white potato Weight and See, a heavy-cropping second early. Mr. A. Findlay, Auchtermuchty, had fine tubers of the latest introductions among potatoes. One of the principal varieties was Majestic, which last year was shown as an unnamed seedling. It is a handsome potato of good size and shape.

Messrs. Kent and Brydon, Darlington, had Arran Chief potato in good form, other varieties being The Brydon, which yielded 16 tons to the acre this year, and The Darlington, a late variety, which is white-flowered, an unusual characteristic in late potatoes. There were several good exhibits of fruit, the extensive display from King's Acre Nurseries, Hereford, being replete with highly-coloured dessert and culinary apples. Messrs. W. Horne and Son, Lim., Cliffe, Rochester, also showed fruit and young trees, while other firms represented were Messrs. Dickson's, Lim., Chester; Messrs. W. and J. Brown, Stamford; and Messrs. W. Seabrook and Son, Chelmsford.

Tunbridge Wells Gardeners' Association.

The annual dinner of this association was held at the Friendly Societies' Hall, on Tuesday, December 2, when over 60 members sat down to an excellent repast. Mr. E. Charlton was in the chair, and, after the loyal toasts, presented the cups and prizes to those successful at the recent chrysanthemum show. After other toasts had been honoured and speeches made, the rest of the evening was devoted to a musical programme, over twenty local performers voluntarily contributing to the enjoyment of the gathering.

It is possible that the chrysanthemum show of 1914 may be held in the Pump Room, instead of the Great Hall, as a change of site may prove beneficial.

Scottish Horticultural Association.

The monthly meeting of this association was held in the Goold Hall, 5, St. Andrew Square, Edinburgh, on the 2nd inst. Mr. King, the president, was in the chair, and there was a good attendance.

The meeting was an open one, and devoted to the discussion of various matters connected with horticulture, including size in relation to quality in judging potatoes; the brighter colouring of the foliage of the scarlet or red oaks on the shoots produced from near the base, as compared with that higher up the tree; the covering of vine borders with straw at mid-summer; and the flagging of chrysanthemum blooms on the exhibition table. It was contended on one side that the brighter colour in the oak leaves was for protective purposes; on the other that it was due to better nourishment. It was generally conceded that medium-sized potatoes, with shallow eyes, of good shape, and of good quality, were to be preferred to larger tubers. An insufficient supply of water, due often to their being placed in too small vessels, was given as the most common cause of chrysanthemum flowers flagging; and there was diversity of opinion as to whether vine borders should be covered. A question relating to the best means of utilising the land had to be abandoned owing to lack of time to discuss it.

The exhibits were a collection of single and decorative chrysanthemums, displayed by Messrs. Dobbie and Co., Edinburgh; Chrysanthemums Miss Marion Raven, Margaret Gray, Mensa, Phyllis Bryant, Mrs. R. C. Cowan, and Miss E. L. Cowan, exhibited by Mr. W. G. Pirie, Dalhousie Castle, Midlothian; and spikes of Cymbidium Traceyanum from Mr. D. Halliday, Ascog, Buth. Each of the exhibitors received a Cultural Certificate.

It was intimated that the balance of receipts over expenditure at the Chrysanthemum Show was about £80, and that the drawings from the bazaar in aid of the Horticultural Institution Fund had realised over £800. November 19, 20, and 21 were fixed as the dates of the 1914 exhibition.

Dundee Horticultural Association.

Mr. William Christeson presided at the monthly meeting on December 5, when Mr. J. S. Chisholm again lectured, this time on "The Cultivation of the Apple." In dealing with the subject, the lecturer gave delight to his audience by the scientific and practical manner in which he discussed every detail regarding successful cultivation. His own conviction, "that Scotland might produce more and better fruits if land could be had in suitable localities," was endorsed by all present. Points emphasised in the lecture were the importance of lime, soil of a moderately heavy loam, a slight elevated site, with a south-western aspect, natural or artificial drainage, and the necessity of working on practical and scientific lines in regard to manuring, feeding, pruning, etc., always keeping a good natural balance between branches and roots, encouraging the latter near the surface, and restricting the former by summer pruning. The effect of spraying with approved sprays at various seasons, to ward off attacks of, and destroy insect and fungoid pests, was clearly demonstrated. He said bush trees on the English paradise stock, planted at 8ft. to 10ft. apart, were the most economical, coming quickly into fruit-bearing, and easily managed in regard to spraying and pruning.

After satisfactorily disposing of a few questions from members, the lecturer was cordially thanked.

Mr. James Staward, St. Fort Gardens, set up an exhibit of Begonia Gloire de Lorraine and a well-grown cyclamen. Mr. James Bethel, The Grange Gardens, showed blooms of a yellow sport from Western King chrysanthemum, which he fixed last year.

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This feature will be continued and, week by week, comparative and interesting descriptions of novelties will be published, and the important subjects illustrated.

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming, or opinion, should be sent to the Editor of THE GARDENERS' MAGAZINE, 2, Adelaide Road, Brentford, Middlesex, and as early in the week as possible. All parcels must be sufficiently prepaid.

Secretaries of horticultural societies are invited to send early notifications of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

LILAC SUCKERS.—S. G., Hendon: I am an amateur with a fairly large garden, and so have frequently to employ professional help. The man employed is very intelligent and has a far wider knowledge of plants and gardening than the average jobbing gardener, but I am wondering whether he is correct in wishing to root out all the basal or sucker growths from a lilac. We have a large tree with three main stems, and the flowers were very fine last season. Several sucker growths have appeared round the base of these stems, and, rightly or wrongly, I have not permitted their destruction. The point is, should they remain, or be destroyed?—In the case of fine varieties of lilacs, sucker growths should be removed, and the growth on the main stems should be pruned after flowering, the old flowering stems being cut out, and only sufficient new growths for where there is room, allowed to remain. Liquid manure or a mulching of rich manure should be given immediately after flowering is over.

A HUGE CHRYSANTHEMUM.—R. B., Roydon, very kindly sends us a cutting from a Denver newspaper referring to the huge chrysanthemum, and he writes that the illustration of this enormous plant reached him while he was reading our paragraph on page 916. There is no further information on this subject than we have already given, but our friend wonders whether the illustration could be produced.—We are much obliged to "R.B." for sending us the cutting referred to in his letter, and, though the illustration is quite useless for reproduction, this does not lessen our indebtedness to him for the trouble he has taken.

COMPETITOR'S QUALIFICATION.—Vectis, Newport: I shall be obliged if you will kindly give me your opinion of the following matter. At our chrysanthemum show, of which I enclose a schedule, we have a cottagers' section, and it is in connection with this I am writing. Rule 12 states: "No one will be allowed to enter as a cottager whose rent exceeds £15 a year, or who is a gardener's assistant." Rule 14 reads: "All specimens must be the bona fide property of the exhibitor or his employer, and have been under their cultivation at least two months previous to the show; and must be plants of one year's growth, and single plants in a pot. Each plant must show a clear stem above the pot. All plants must be grown on premises in the occupation of the exhibitor." A young man who exhibited lives at home, and pays his father a nominal sum of about £8 a year for a room and piece of the garden, and here he grows his chrysanthemums. The house and garden are rented at about £30 a year. This young man entered as a cottager, and some of us contend he has no right to compete in the cottagers' section. Unfortunately the committee seems inclined to let the matter slide, although an objection has been lodged against the young man.—We admire the energy and skill of the young man who so successfully grows chrysanthemums in his father's garden, but obviously he is not a cottager. A piece of ground in a large garden is very different to a fenced-in garden of the same size as the piece. We take it the premises on which the chrysanthemums were grown are in the occupation of the father, therefore the plants were not grown "on the premises in the occupation of the exhibitor," and such an exhibitor's claim to be a cottager within the reading and meaning of the society's rules, would not, as we understand it, be upheld in a Court of Law.

POTATO BUTLER'S DEFIANCE.—Our Grimsby correspondent who desired to know something about a potato named Butler's Defiance, will be glad to learn that our note on page 934 has brought an answer from Mr. W. E. Sands, of Hillsborough, Ireland, who has a very wide knowledge of potatoes. He writes: "Noticing the request on p. 934 of THE GARDENERS' MAGAZINE, for information concerning Potato Butler's Defiance, I hasten to say that this variety was introduced in 1912 by Mr. A. J. Butler, of Scotter, near Gainsborough, Lincs., who raised the varieties King George V. and King Edward VII. Butler's Defiance is a splendid potato, a good cropper, fine cooker, and of lovely shape, being a kidney variety with shallow eyes right on the surface. I have grown this potato for the past two seasons." We are obliged to Mr. Sands for his letter.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

M. E. J., Maidstone.—Pittosporum undulatum.

S. J. Bournemouth.—1, Pteris umbrosa; 2, Eranthemum pulchellum; 3, Aglaonema costata.

N. G. A., Alnwick.—1, Lilium nepalense; 2, Gazania latiflora; 3, Gaultheria procumbens; 4, Arearia balearica.

L. C. C., Emsworth.—1, Salvia Betheli; 2, Eupatorium ianthinum; 3, Phyllanthus glaucescens; 4, Cupressus funebris.

J. D., Ryde.—The specimen enclosed was Clematis cirrhosa; no flower of a salvia was sent, though your letter referred to one.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

G. C., Derby.—1, Blenheim Pippin; 2, a small Gascoyne's Scarlet.

T. C. A., Colchester.—1, Sykehouse Russet; 2, New Hawthornden.

R. H., Wye.—1, Newton Wonder; 2, Lane's Prince Albert; 3, probably Bramley's Seedling, a deformed specimen.

F. K. G., Tunbridge Wells.—1, Claygate Pearmain; 2, Smart's Prince Arthur; 3, King of the Pippins; 4, Kerry Pippin; 5, Fearn's Pippin; 6, Winter Nelis.

FORTHCOMING ENGAGEMENTS.

TUESDAY, December 16.—Royal Horticultural Society; Committees meet at 12 o'clock to consider novelties, but there will be no exhibition.

WEDNESDAY, December 17.—Royal Meteorological Society.

THURSDAY, December 18.—Linnean Society.

CATALOGUES RECEIVED.

VILMORIN-ANDRIEUX AND CO., 4, QUAI DE LA MEGISSERIE, PARIS.—A wonderful catalogue of seeds of hardy trees and shrubs, running to over fifty closely-printed octavo pages. Quite a dictionary of genera and species.

NORMAN DAVIS, FRAMFIELD, SUSSEX.—An autumn catalogue of unfailing interest to all lovers of chrysanthemums and Michaelmas daisies. Mr. Davis is a past master in raising and cultivating varieties of both these useful floral families.

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METEOROLOGICAL OBSERVATIONS

TAKEN IN THE ROYAL HORTICULTURAL SOCIETY'S GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1913. NOVEMBER 30 TO DECEMBER 6.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 30—Sunday	1 0	51	50	54	45
Dec. 1—Monday	—	51	50	52	49
,, 2—Tuesday.....	—	48	48	53	46
,, 3 Wednesday..	—	50	48	52	48
,, 4 Thursday....	3 6	39	38	44	39
,, 5—Friday.....	2 42	44	42	49	35
,, 6—Saturday.....	—	40	40	43	37
Means ...	(total) 6 48	46	45	49	43

DATE. 1913. NOVEMBER 30 TO DECEMBER 6.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Nov. 30—Sunday	trace	48	48	49	40
Dec. 1—Monday	0·18	48	48	49	43
,, 2 Tuesday.....	0·01	48	48	49	40
,, 3—Wednesday..	0·03	48	49	49	44
,, 4—Thursday....	0·03	47	49	49	34
,, 5 Friday.....	0·02	44	49	49	26
,, 6 Saturday	0·18	44	47	49	26
Means ...	(total) 0·45	47	48	49	36

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VOL. LVI.—No. 3,138. SATURDAY, DECEMBER 20, 1913.

THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

Silver-leaf Disease.

The ravages of the disease commonly known as Silver-leaf continue to spread with ever-increasing rapidity, and have now become so widespread as to annually inflict heavy losses upon the owners of fruit gardens and plantations, more especially in districts where plums are largely grown. This disease has long been known to fruit growers in this country from the silvered appearance of the leaves of the trees suffering from an attack. Not, however, until within a quite recent period has its direful effects upon plum trees been fully recognised by practical cultivators, or its cause otherwise than imperfectly understood even by the most advanced of plant pathologists. No farther back than fourteen or fifteen years ago the silvering of the leaves of the plum and some other fruit trees was believed to be chiefly, if not wholly, due to a deficiency of iron in the soil, and the remedy almost invariably recommended was sulphate of iron, applied in the form of a top-dressing, and well watered in. Now it is known to those who have devoted some share of their attention to the study of plant diseases that when a plum tree has leaves of a silvery-grey hue the tree is not suffering from an insufficiency of iron or other mineral essential to its healthy development, but is the victim of an attack by one of the most insidious of the fungi that prey upon fruit trees. One of the scientists to engage in the investigation of the Silver-leaf disease was Professor Percival, of the Reading University, and as the result of his well-directed efforts he was able to show, in a communication to the Linnean Society's Journal in 1902, that the disease was of fungoid origin. He was also successful in proving to demonstration that the fungus causing the disease is Stereum purpureum, which bears its fruits only on the dead wood of a tree killed by the attack. At first Professor Percival's conclusions were received with some doubt, but this has long since passed away, and they are now accepted by all who give attention to the experimental aspects of fruit culture. Mr. Spencer Pickering, whose work as Director of the Woburn Experimental Fruit Farm is well known, was one of the first to put Professor Percival's conclusions to a thorough test, and in the course of his investigations he obtained unquestionable evidence as to their correctness. He, as Professor Percival had done, found that the fungus could be readily studied in the various stages of its life history, and that the disease could be conveyed from an infected tree to one that is perfectly healthy without any difficulty by inoculation. The fungus, when it reaches the fruiting stage, forms flat discs on the surface of the infected branch, and it was simply necessary to take a portion of one of these, not exceeding double the size of a pin's point, and insert it in a small cut on one of the branches, to infect a healthy tree, and cause its untimely death. The

MR. J. R. TOOLEY.

facility with which disease can be conveyed from one tree to another is a point of considerable practical importance, inasmuch as it indicates the necessity of care in pruning, and the avoidance, as far as practicable, of injury to the bark. Careful pruning consists in cutting away dead or dying branches well below the indications of disease, and in avoiding the use of the same knife in pruning diseased and healthy trees without sterilising, previous to commencing to prune the latter. The spores of the Stereum are carried by the wind from one tree to another, and if they can effect a lodgment on an abrasion of the bark or a cut, they soon germinate and penetrate the tissues, through which they spread at a somewhat rapid rate. If, on the other hand, they alight on a branch with perfectly sound bark, the spores fail to germinate, and quickly perish. This fact suggests the desirability of not only preventing injury to the bark, but of covering the larger wounds made in pruning the trees with gas-tar, which at Kew is used with much success in coating wounds caused by the removal of large branches of ornamental trees, for Stereum purpureum is not the only fungus that can obtain access to the tissues of trees by means of cuts and other wounds. Mr. F. T. Brooks, of the Cambridge University, has also devoted much time to the investigation of Silverleaf disease, and in an important contribution to the current issue of the "Journal" of the Board of Agriculture he not only describes the scientific aspects of the disease, but makes special reference to the means by which it may be held in check. He suggests that not only should the infected branches be removed but that they should be cut back below the limit of the discoloured wood. Cases of natural recovery of trees which are slightly diseased are, as both Mr. Brooks and Mr. Spencer Pickering have found in their investigations, not infrequent; but trees that are badly silvered, and beginning to die back, should, in Mr. Brooks's opinion, be destroyed. Such trees should not only be cut down, but they should be removed from the plantation and burned. To allow dead trees to stand in the plantations, or to be piled up on their margins, is a practice by no means unknown; but it should be carefully guarded against, for each tree or pile of trees becomes a centre of infection. Improper grease-banding is regarded by Mr. Brooks as another factor which favours the development of the disease, for where the grease has been placed directly on the tree, or has soaked through the band, the bark frequently becomes torn and decayed, and such tissues offer every facility for Stereum purpureum to obtain ingress to the tree.

Mr. J. R. Tooley.—A native of Boston, in Lincolnshire, Mr. J. R. Tooley comes of a seafaring stock, but the ocean did not appeal to him, and at the early age of thirteen he was apprenticed for six years with Mr. J. Christie, in the Park Nurseries, Boston. After his apprenticeship Mr. Tooley decided to enter private service, and three years later he was at Waddesdon Manor, learning something about orchids under Mr. J. Jacques, but it was at Trent Park, New Barnet, under Mr. H. H. Lees, that Mr. Tooley acquired the taste for exhibiting which has never left him. During the seven years he stayed at this establishment the names of Trent Park and Lees were household words among lovers of chrysanthemums, and the young foreman was entrusted with the staging of many a winning exhibit in

England, Ireland, and Scotland. Mr. Tooley's first charge as head gardener was at Maesgwynne, in Wales, where he got together a very fine collection of rhododendrons, azaleas, and peat-loving plants. On the death of his employer he returned to England, and was engaged by Mr. Hugh Andrews as head gardener at Toddington Manor, in Gloucestershire. Here Mr. Tooley has had scope for the exercise of the splendid abilities he possesses as a gardener. He is a man of small physique, but abundant energy, and nothing comes amiss to him. This season he has added dozens of prize cards to his already big stock. Mr. Tooley is a man of many parts, however, and he grows vegetables that are good enough to win in the big open classes at Shrewsbury, and he is one of the most successful grape growers in the West of England. Those who saw the splendid collection of grapes exhibited at the Bristol Chrysanthemum Show from Toddington, not for competition, will testify to this; and amidst all his success Mr. Tooley is modest and unassuming, keen, and with an ambition that his brought him right into the front line of British gardeners.

A Successful Chrysanthemum Conference. — At Essex Hall, Essex Street, Strand, W.C., there was an audience of upwards of a hundred members and friends on Wednesday, December 10, when the National Chrysanthemum Society held a most successful conference. Mr. Norman Davis dealt with "The Evolution and Development of Outdoor Chrysanthemums," and he was followed by Mr. Thos. Bevan, who gave an especially instructive lecture on "Chrysanthemums for Outdoor Garden Decoration," and made his discourse doubly interesting by the free use of lantern views, showing how he grows his plants at the Marylebone Cemetery, East Finchley, and the manner in which he displays them in beds and borders for the creation of beautiful effects in the autumn. Mr. E. F. Hawes presided. It was evident from the numerous questions asked and the many points raised that the interest in chrysanthemums is as keen as ever, though, perhaps, the enthusiasm has passed on a little from the big blooms to the single varieties, and those grown for market and for outdoor decoration.

Sale of the Covent Garden Estate.—Seldom has a change in proprietorship caused such a sensation as the sale of the famous Covent Garden estate of the Duke of Bedford to Mr. Mallaby-Deeley, M.P. The estate covers about nineteen acres, and includes twenty-six streets, Covent Garden Market, and several of the largest hotels and theatres in London. It was on Tuesday last that notification of the sale became public, and since then many folks have guessed at the number of millions of pounds Mr. Mallaby-Deeley, M.P., is paying for one of the most valuable estates in London. It is in Covent Garden Market that we, as horticulturists, are most interested. Long years ago growers of vegetables and fruits, resident in the villages of Kent, Surrey, and Essex, used to gather to sell their wares in an open square, and so, gradually, the market became a recognised institution. In 1671 market rights were granted by charter to the Earls of Bedford by Charles II., and these have been most carefully preserved, and consequently the Russell family has a monopoly of the sale of fruits, flowers, and vegetables, on the Covent Garden estate. The present market was built in 1831, and additions have been made on several occasions, but even now the accommodation is insufficient for the proper conduct of the enormous business done daily in the market. When the estate passed into the hands of the Dukes of Bedford it was supposed to have had a yearly rental value of £6 6s. 8d. Some years ago it was admitted that tolls, etc., brought in £17,000 a year, and in later times the income from the market alone has risen to £25,000 a year. Covent Garden is generally supposed to be a corruption of Convent Garden, and in early times the property belonged to the Church, and part of it was used as a garden and burial ground by the monks. History shows that the Dukes of Bedford obtained grants of land from the monks of Westminster during the reign of Edward VI., the grants including Sevenacres, which evidently contained Covent Garden and Long Acre. The purchaser of the estate, Mr. Mallaby-Deeley, is member of Parliament for the Harrow division, and has been prominent in several large purchases of land in London; but the present deal is far and away his largest, and, indeed, the largest private purchase of land on record.

Public Bowling Greens at Glasgow.—The Glasgow Parks Department has just issued a schedule showing that the twenty-eight public bowling greens, in nine parks, have cost £15,414 13s. 11d. for formation and equipment. Of this amount the sum of £14,255 18s. 9d. has been met out of Parks Assessments, and the idea is to clear off the whole amount within five years from its being incurred, therefore we find a capital debt remains on only thirteen of the greens. The total revenue from the greens since the first were opened in 1903, up to May 31, 1913, was £12,515 18s. 2d., this sum including over £400 from the hire of rubber shoes. Against this has to be set an expenditure of £11,215 15s. 5d. During the season just ended there have been no fewer than 278,472 players on the twenty-eight greens, and the revenue therefrom amounted to £2,149 1s. 8d.; in May there were 24,620 players; in June, 68,620; in July, 88,392; in August, 64,932; in September, 30,868; and in October, 4,040.

National Diploma in Horticulture.—Readers will remember that in our issue of August 30 we published full particulars of a scheme for the National Diploma in Horticulture, to be awarded by the Royal Horticultural Society under a scheme approved by the Board of Agriculture and Fisheries. These particulars, together with the syllabus of the examination to be held in June next (exact date to be subsequently advertised), are now obtainable in pamphlet form on application to the Secretary, R.H.S. Offices, Vincent Square, Westminster. The preamble states: "It has long been felt desirable in horticultural circles that some diploma should be available for professional gardeners, the holding of which would be an indication of real professional ability. In 1912 the Council of the R.H.S. accordingly approached the Board of Agriculture on the subject, with the result that the approval of the Board was given to the proposal, and authority from his Majesty's Government was given for the diploma to carry the title "National." The examinations will, as far as possible, be held in the latter part of June of each year. Among those for whose benefit the diploma is established are the following: Florists, fruit growers, gardeners, horticultural inspectors, horticultural instructors, landscape gardeners, market gardeners, nurserymen, public park gardeners, and seedsmen. Horticulture is defined as follows: "Horticulture is a definite craft of itself, and not a department of agriculture. Horticulture, as differentiated from agriculture, includes the more intensive cultivation (as usually practised in gardens) of fruit, vegetables, flowers, shrubs, and ornamental trees."

The Gardeners' Magazine for 1914.—The announcement which appeared in our advertisement pages on December 13 to the effect that the GARDENERS' MAGAZINE would be issued at one penny per week on and after January 3, 1914, instead of twopence, has brought us shoals of congratulatory letters. Under the new regime the high quality of our illustrations will be maintained and their number increased, and nothing will be left undone to make the "G.M." increasingly instructive and interesting. We shall continue to cater for the professional gardener, but at the same time pay more attention to the needs of high-class amateur gardeners, and to the young men who are striving to rise in the world of horticulture. Famous contributors to these pages have promised to give us the results of their experience and skill, and numerous new writers, having a practical acquaintance with all that is newest in the science and practice of horticulture, will place their services at the disposal of our readers. We do not wish to labour these points now, because from time to time we shall announce special features. For the present we confidently appeal to our subscribers to show their appreciation of our intention to publish the GARDENERS' MAGAZINE at 1d. by telling all their gardening friends of this great event in our history—a history covering more than eighty years.

Lawes and Gilbert Centenary Fund.—Dr. E. J. Russell reminds us of the movement on foot to celebrate the centenary of the birth of Lawes and Gilbert by the erection at Rothamsted of a commemoration laboratory, at a cost of £12,000. The movement has been so far successful that only the sum of £2,500 remains to be obtained to complete the voluntary contribution of £6,000. The committees are therefore making a special effort to gather this in as early as possible. It rarely happens that so large an amount as £12,000 (£6,000 will be forthcoming as a grant if the other £6,000 is raised voluntarily) can be secured for scientific agriculture for so relatively small a sum as £2,500.

The Chief Attractions at Kew at present include a fine plant of Luculia gratissima, bearing numerous trusses of its sweetly-scented flowers, in the Temperate House; several Javanese rhododendrons are also flowering in the same house, and R. Diadem is especially bright. Some large specimens of cycads coning at the south end of the Palm House are interesting, and the bananas fruiting in the same structure attract much attention. The orchid houses are still very bright with cypripediums in flower, hybrids, of course, being in the majority; a few of the best are C. Maudiæ, C. gigas, C. Manchunian, and C. St. Alban, the latter of fine shape and colour. Many varieties of C. insigne are in bloom, and C. i. Harefield Hall is one of the best. Besides these orchids, there are Vanda suavis and V. s. Veitchi making a good display in the warm division, with a fine batch of Calanthe Bryan, and a few plants of the popular C. Veitchi. No. 4 house (the conservatory), which is always attractive, is very gay just now with chrysanthemums, and a batch of the hybrid Begonia Optima is producing a pleasing effect; while some epacris lend their grace

and beauty to the scene, mixed with winter-flowering heaths. Even out of doors there is much of interest, including the completion of the alterations in the Rock Garden; while the Witch Hazel is flowering, and numerous groups of the hybrid heath (Erica hybrida) are to be found in various parts of the grounds.

Climbing Plants at Nuneham Park, the residence of the Right Hon. Lewis Harcourt, M.P., are a fine feature, as has been shown in these pages during the year now closing, and we refer again to them because Mr. C. E. Munday, the head gardener, delighted the members of the Oxford Gardeners' Association, a few days ago, with a lecture entitled "Creepers, and Rock and Water Plants." Needless to say, Mr. Munday had a wide experience to draw from, and the gardens at Nuneham Park provided him with ample material for a long series of excellent lantern slides wherewith to illustrate his lecture.

Royal Trees at Chatsworth.—During their stay at Chatsworth their Majesties, planted thrifty young specimens of the Cedar of Lebanon to commemorate their visit. Chatsworth already possessed three royal trees—a goodly oak planted by Queen Victoria in 1832, when she was a princess; a Spanish chestnut, planted at the same time by the Duchess of Kent; and a sycamore, planted in 1843 by the Prince Consort. All these royal trees are in excellent health.

Gardener Killed by Falling Tree Limb.—A few days ago, while superintending the lopping of trees in the grounds of St. Michael's Vicarage, Grove Park, Chiswick, a gardener, aged seventy years, was warning passers-by of the possible danger of falling branches, when, it appears, a large branch fell upon him. He was rendered unconscious, and died shortly after his admission to the Chiswick Hospital. The deceased man's name was Mr. Harry Gardiner.

A Check to Fraudulent Exhibiting.—At the Stowmarket County Court a case was brought recently before his Honour Judge Eardley-Wilmot, by the Secretary of the Needham Market Horticultural Society, in which the Committee of the Society sought to recover prizes alleged to have been won with produce not grown by the exhibitor. It was stated the rules of the Society laid it down that all produce shown must be the property of and grown by the exhibitors. Evidence given in support of the Society went to show that the exhibitor in question had not grown the produce wherewith he won prizes in September. His Honour gave judgment for the Society, and ordered the prize in kind to be returned within a few days, and the prize money by instalments, with costs.

Cornish Wallflowers in the Market.—Although it is not at all unusual to find wallflowers in bloom in the late autumn during a mild and open season, it is unusual to find these fragrant flowers sent in some quantity to Covent Garden Market in December, as they have been lately from Cornwall.

Holly Berries are fairly abundant this year, though in some seasons the bright red fruits have been more numerous than now. However, there will be plenty of colour to go with the rich green leaves when decorations begin for the Christmas festivities.

NEW PLANTS AND FLOWERS

CATTLEYA PERCIVALIANA ALBA LADY HOLFORD.

This is a wondrously chaste and beautiful orchid; indeed, one of the loveliest plants seen for a long time. The specimen exhibited carried four flowers, each about five inches across, with sepals and petals of the purest whiteness, and a large lip that is white at the slightly-frilled apex, but rich orange-yellow at the base and in the throat, this bright colouring serving to throw up finely the clearness of the white in the rest of the flower. F.C.C., R.H.S., December 16. Lieut.-Colonel Sir G. Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury.

CYPRIPEDIUM BOURTONENSIS.

A very bold and stately hybrid obtained by crossing Cypripedium insigne Harefield Hall with C. Blanche Moore. Though unusually large, the flower is of fine form, the rounded dorsal sepal being 3¼ inches wide, with a green base, spotted with dull purple, and a broad white apex. The petals and the lip are light green with a little soft purple-brown shading. The lower sepal is as large as the dorsal segment, pale green and white, with a few purple-brown spots. One of the largest cypripediums known. A.M., R.H.S., December 16. Mr. G. F. Moore, Chardwar, Bourton-on-the-Water.

CYPRIPEDIUM CHARLESIANUM VAR. SMARAGDINUM.

Two yellow cypripediums have been combined in this hybrid, its parents being C. Sallieri Hyeanum and C. Leeanum aureum; so it will be readily understood that the newcomer is bright greenish-yellow, with a wide border of white at the apex of the rounded dorsal sepal. The flowers are bold,

CATTLEYA PERCIVALIANA ALBA LADY HOLFORD.

An exquisitely beautiful Cattleya with white flowers and orange-yellow colouring on the lip. F.C.C., R.H.S., December 16. Lieut.-Colonel Sir George Holford, Westonbirt, Tetbury.

large, and substantial, and they shine as though polished. A.M., R.H.S., December 16. F. J. Hanbury, Esq., F.L.S., Brockhurst, East Grinstead.

ODONTOGLOSSUM CLEOPATRA ROSEFIELD VAR.

Though not quite of the best shape, as judged from a florist's point of view, this is a splendid hybrid. The bold sepals and petals are deep Venetian red, with an iron-red tinge, a few very faint markings of pale-yellow and white tips. The lip has a deep rose-red base, and a large clear white apex, carrying a few red spots. The flowers have a breadth of 3¾ inches, without spreading. A.M., R.H.S., December 16. De Barri Crawshay, Esq. (gardener, Mr. Stables), Rosefield, Sevenoaks.

ODONTONIA LANGOWOYI.

This is a distinct and striking hybrid between Odontoglossum Uro-Skinneri and Miltonia Schroderianum. The flowers are of modest size, carried on a stiff and rather upright spike, and they are somewhat starry. Sepals and petals are deep red-brown, with darker and indistinct spotting. The lip has a wide white apex, a rose-red base, and a few rose-red spots on the white part. A.M., R.H.S., December 16. Messrs. Charlesworth and Co., Haywards Heath.

CARNATION PHILADELPHIA.

Another fine addition to the growing list of good perpetual carnations. The flowers are large, shapely, and of a bright rose-pink shade. Stem and calyx are both excellent, but we could not detect any fragrance in the blooms exhibited. A.M., R.H.S., December 16. Messrs. W. Wells and Co., Merstham.

CATASETUM MICROGLOSSUM.

An interesting species, discovered by Mr. W. Fox, growing on a dead stump near an Indian house on the River Igaraparana, a tributary of the Putumayo river in Peru. The species was presented to the Kew collection, and, placed in a tropical house, it has grown satisfactorily under the conditions suitable for other members of the genus. The flowers are borne in gracefully arching racemes, and are dull purple, a colour that is not particularly attractive. It is described as being rather closely allied to Catasetum barbatum, but differing from it and other members of the same group in having a greatly abbreviated and saccate lip, with, as a consequence, the aggregation of the appendages in a dense mass. Bot. Mag., t. 8,514.

IRIS MELLITA.

A hadsome iris, which has been presented to the Kew collection by the Hon. N. C. Rothschild, who states that it was obtained, in the first instance, from Messina, is Cilicia. It is pointed out that, "in referring to this Iris Mellita, it will be observed that Dr. Stapf applies the name, first employed by Professor Janka to a plant from Thrace, in such a way as to include the iris from Asia Minor, described by Mr. Baker as I. rubro-marginata, and at the same time yet another plant which, fourteen years ago, was introduced by the late Mr. Max Leichtlin under the name I. Straussi. In connection with the expression of this more comprehensive view, it may be remarked that Professor Velenovsky, whose local knowledge is so exhaustive, admits that I. rubra-marginata Baker and I. Mellita Janka are identical, and Mr. Dykes, in his recent authoritative review of the genus, does the same thing." It is further stated that "the plant figured is, then, a rubra-marginata, without any trace of the purple edging." The growth is dwarf, and the comparatively large flowers are lurid purple or yellow, veined and blotched with red. Bot. Mag., t. 8,515.

UTRICULARIA LONGIFOLIA.

A well-known and attractive bladder wort which has been in cultivation in this country between thirty and forty years, and has been grown with remarkable success in the Cambridge Botanic Garden. The species is a native of Brazil, and was first discovered by Professor G. Gardner, who found it growing in moist localities on Mount Pedra Bonita, near Tejuco, in the State of Minas Geraës. The leaves are long, slender, and remarkable for their elasticity, and the flowers are of a rich rose colour. Bot. Mag., t. 8,516.

SELECT GRAPES FOR PRESENT PLANTING.

Referring to Mr. E. Molyneux's article on the above topic on page 940, I am not out to criticise, but I should like to know why he did not include Golden Queen in his list of white varieties? I quite agree with all he says about Foster's Seedling and Buckland Sweetwater as early grapes, and, as everyone knows, Muscat of Alexandria is unsurpassed; but in my opinion Golden Queen is a valuable late grape, possessing a crisp and agreeable flavour, and it will hang for a long time. Mr. Molyneux says, in respect of Muscat of Alexandria, that it is rarely a success in a mixed collection. Just so, and this is where Golden Queen scores, for I have recollections of splendid examples of the grape grown twenty-five years ago in company with Lady Downe's and Alicante. The grapes I refer to were highly appreciated for dessert, and bunches from the vines won more than one prize in good competition.

My point is that there are many small establishments where late grapes are wanted, but there is not enough accommodation to enable a whole house to be devoted to Muscat of Alexandria. It is therefore grown in company with Lady Downe's and Alicante, and not often with great success. Still, it can hardly be left out, and, being used first, there are no white grapes when it is over. By including Golden Queen, however, there is a white grape of far better flavour than some black varieties grown to succeed the Muscats, and I have had them, with golden-yellow berries, keeping late with Lady Downe's, after being cut from the vines. Therefore, I wonder why our friend Mr. Molyneux will have none of Golden Queen when he mentions such coarse varieties as Gros Colmar and Gros Maroc, though I am glad to see he does not recommend them. The latter are hardly worth mention, but Golden Queen is worth growing.

G. H. H.

PROTECTION FOR HORTICULTURAL NOVELTIES

The Editor of THE GARDENERS' MAGAZINE is undoubtedly doing a great service to horticulture by allowing correspondence upon this most important subject to continue. If the raiser of new and improved varieties of plants is not safeguarded in some way his business will cease to be a lucrative one, and horticulture, to a large extent, will stand still, for, no matter how interested we may be in our pet subject, few of us are philanthropists. The whole matter is a difficult one, but something in the way of a patent right is necessary.

In carnation growing we calculate that the average is one good novelty in every 5,000 seedlings, but even if we have this number of seedlings, we are not sure of obtaining one of real value, so the expense and uncertainty of it all can be imagined, particularly so when we consider that, after obtaining a seedling of worth, we have to grow it for three or four years to work up sufficient stock and test its qualities. It is necessary to have from 10,000 to 15,000 plants of a sterling novelty the year you send it out, both for exhibition and propagation purposes, so there is some risk. It may develop disease at the last moment. It may not be popular, or some one else may send out a better or similar variety the year previously.

But the lot of the rose and chrysanthemum specialist is worse, because it is practically easy to market carnation blooms without risk of the variety being stolen, but not so with roses and chrysanthemums.

Another great advantage of protecting the raiser of new plants, beyond allowing him to get a fair and just reward for his labours, is that it would protect a man against himself. Anyone selling choice varieties of plants cheaper than the raiser is usually selling over-propagated, weakened stock which may condemn the plant.

MONTAGU C. ALLWOOD.

Hayward's Heath.

Regarding the question of "Protection for Horticultural Novelties," personally I do not think correspondence upon this subject will do much good, for, as we know full well, many of the raisers of sterling novelties do not care to have their names disclosed, and so we do not get the right class of people to take this matter up.

The two writers in THE GARDENERS' MAGAZINE of December 13 are certainly a little green on the subject or they would not write in quite the same strain as they do. The suggestion from "R." is out of the question, because, even if the trade signed an agreement not to reduce prices for a certain period, there are, alas, dozens of so-called amateurs who buy novelties, propagate them all through the season, and sell the plants. Your correspondents certainly have not taken the trouble to read advertisements wherein novelties are offered at low prices within twelve months of their introduction.

Merstham. W. WELLS, JUN.

NERINES.

It is with very great pleasure I find several firms are now seriously taking up the cultivation of the most interesting family of nerines, and I am sure anyone possessing a greenhouse will be well repaid for the little care and attention they give to nerines by the lovely heads of very pleasing flowers which most varieties carry in a free manner, and at a season of the year when greenhouses and conservatories are none too gay.

Unfortunately, with nerines, as with many other plants that are not now in the front rank of popularity, naming and descriptions have become lax, and it is for this reason that I am writing. Although very much interested in the article on "Nerines" written by Mr. Herbert Chapman, which appeared in THE GARDENERS' MAGAZINE of November 29, page 901, I certainly think that portions of it may cause trouble. Mr. Chapman writes: "The first of the species to open, and perhaps the handsomest of all, is N. Fothergilli." Well, I think the gentleman who buys N. Fothergilli may be annoyed to find that his neighbour has N. Fothergilli major in bloom a month or six weeks before him, and also that this variety bears much larger and brighter umbels of flower; the two plants will not stand comparison for a moment.

Again, Mr. Chapman writes: "N. sarniensis (or N. Corusca) comes a little later, bearing heads of orange-scarlet." This statement is very misleading, for, in the first place, N. sarniensis is totally distinct from N. corusca; the latter is orange-scarlet, while N. sarniensis is rosy-carmine. Further, if these two were compared with N. Fothergilli, which Mr. Chapman uses for comparison as regards time of flowering, N. sarniensis and N. corusca would be well over when N. Fothergilli came in—and N. sarniensis is the earlier of the two.

Another point I cannot accept is that N. flexuosa alba should ever be thought a "white form of crispa," as the two are about as wide apart in every sense as are any two nerines. N. crispa has rush-like foliage, and very thin and narrow petals; whilst N. flexuosa alba is probably the nearest variety we have to an evergreen, and is the parent of varieties now being used to obtain an evergreen section.

In conclusion, I would say that my sole reason for writing thus is that, having been interested in nerines for a great number of years, and having handled them in large quantities, I do not want anyone to write me to the effect that our stocks are wrong because they do not agree with Mr. Chapman's descriptions.

SARNIA.

LAELIA ANCEPS.

Where choice orchid flowers are in demand during early winter there is nothing that exactly takes the place of Lælia anceps and its varieties, as the long flower spikes render them suitable to any kind of floral decoration. A representative collection of the varietal forms of this species show great diversity of colouring, from the pure white L. anceps alba to the intense colouring of L. a. Chroderæ. All are beautiful, and worthy of cultivation.

The earliest flowers are now unfolding, and as the coloured varieties are the first to bloom the season extends over a considerable period. The white-flowered varieties, which flower later, include some of the most lovely flowers imaginable. In some cases these white L. anceps do not flower satisfactorily. This is attributable, perhaps, to improper treatment, such as growing the plants in too shady quarters during the summer months.

These Mexican lælias delight in an abundance of light, fresh air at all times, and, when in full growth, a large supply of water at the roots and in the atmosphere. They are sometimes grown on blocks and in baskets, but I prefer the ordinary half-pots or orchid pans as receptacles. No plant that it is possible to grow in a pan should be grown on a block. A healthy batch of L. anceps should carry green, sturdy leaves, as firm as leather. All the varieties of L. anceps succeed in an intermediate temperature, and where a house can be set apart for them their cultivation is simplified. It should be remembered that they flower most freely when allowed to become large specimens, and when cut up into small plants they are scarcely worth house-room.

In the numerous forms of L. anceps the differences are so slight that an ordinary observer can hardly find them. It is not necessary to give a detailed list of varieties, and it will suffice to state that L. anceps Chamberlainiana is the largest and best dark variety, and L. anceps Schroderiana the largest and best white variety. As previously remarked, all are desirable, but the employer's taste must be the rule as to which shall be grown. Perhaps, for the production of large quantities of flowers, the typical L. anceps is the best, as it blooms more freely than the larger and scarcer varieties.

While the plants are developing their flowers they must have water whenever the compost becomes dry, and when in bloom the atmosphere should be kept dry to prevent "spotting." After the flowers have faded only sufficient water should be given to keep the leaves and bulbs plump and healthy. A very dry condition at the roots at this season causes the leaves to turn yellow, and it is with the greatest difficulty they are brought back to a healthy state. It also causes the loss of valuable roots, but the other extreme (overwatering) brings about the same trouble.

When new roots are seen to be pushing from the rhizome of the last-made pseudo-bulb any necessary repotting should be done. After repotting water must be applied with extreme caution, only sufficient being given to keep the plant plump until the new roots have entered freely into the fresh material. The best compost ever put together is easily ruined by an excess of water at this stage. Any compost in which cattleyas succeed will suit L. anceps to perfection; the one I use is made up of equal parts of osmunda, peat, and polypodium fibres, with a small quantity of broken leaves and sphagnum moss, all well mixed together. To prevent this becoming sour all the small earthy particles should be removed, and the whole placed firmly in the receptacles.

When remaking specimen plants as many of the leads should be turned towards the centre of the receptacle as possible, and it is not advisable to leave more than three bulbs behind each leading growth. These back bulbs, having no active roots of their own, obtain their sustenance from the front portion.

During its season of growth the treatment of L. anceps is summed up as follows: warm days and cool nights, with a supply of fresh air at all times. As regards varieties, any orchid dealer's catalogue will give a list of them. J. T. BARKER.

CHRYSANTHEMUM MAUD LOUSADA.

Few of the new chrysanthemums which have appeared this season can compare with Maud Lousada in grace and beauty. It is in no sense a small flower, however, but up to full exhibition standard as regards size, and its long florets curl loosely and droop in a most charming manner, so that a well-developed bloom has great depth as well as breadth. The colour is silvery-mauve, with a paler reverse, and the softness of the shade cannot fail to please lovers of chrysanthemums, while it will also prove of great value to exhibitors in the arrangement of their blooms on boards or in stands. The variety was exhibited before the National Chrysanthemum Society on November 17, by Messrs. H. J. Jones, Lim., Ryecroft Nurseries, Lewisham, and on that occasion was granted a First Class Certificate.

CHRYSANTHEMUM MAUD LOUSADA.

A new, silvery-mauve Japanese variety. F.C.C., N.C.S., November 17. Messrs. H. J. Jones, Lim., Ryecroft, Lewisham.

PREPARING FOR WINTRY WEATHER.

The weather continues mild, and as yet there is no appearance of severe frost, but a change may soon come, and it is therefore a good plan to make preparations accordingly, or serious damage may be done. I remember, in 1879, the weather was very mild until the latter part of November, when severe frost set in and continued for several weeks. Many were not prepared for such a long spell, and, consequently, suffered. Sometimes we have quite mild weather until the turn of the year, and then cold piercing winds, with sharp frosts, prevail for several weeks in succession.

We have now a host of shrubs from the shrubs will often ward off the cold winds, and thus save the plants from harm.

For subjects growing against fences and low walls there should be no difficulty in providing protection. Here, wooden frames with a thatch of ling or straw will be found serviceable; these are very portable, and may be used for other purposes. The ling or wild heather grows in many parts of the country, and is readily procurable. Such coverings could be made ready when the weather is unfavourable for outside work.

Not only do shrubs suffer from the severe

STROBILANTHES GOSSYPINUS.

An attractive plant, worthy of consideration for its white, woolly foliage.

various parts of the world, and these will usually withstand the frost of an ordinary winter unprotected, but should weather of unusual severity visit us, and find us unprepared, many of these choice plants will, in all probability, suffer, particularly those newly planted, for where the soil has been moved quite recently the frost usually penetrates to a greater depth, and for this reason the ground around the roots should be mulched, and if this mulching is brought up round the stems it will protect them likewise. It often happens that frost does less damage than the cold penetrating winds that accompany it, and older plants suffer more than young ones as they are not so readily protected. Where there is a collection of choice shrubs special precautions should be taken for their protection.

In many districts the common bracken grows most luxuriantly, and where it can be readily procured there is no warmer material, or one more readily applied. Branches of spruce placed over and among frosts, but in some places herbaceous plants do so likewise. Where the soil is heavy and of a very retentive nature the crowns of tender plants should be covered with some light material, such as coal ashes, leaf-soil, or powdered moss litter. It is not often the frost penetrates light peaty soil to any considerable depth, therefore plants suffer much less when growing in material of that kind.

Vegetables, too, have to be considered. It is always advisable to have sufficient, turnips, Jerusalem artichokes, carrots, parsnips, and the like, in the store-room, in case severe weather should set in. We all know that such roots are sweeter when lifted from the ground just previous to use, but when sharp frost and deep snow prevail it is a difficult task to lift them. Parsley and other herbs should also be protected in readiness for use. There should always be a good supply of the former in a cold frame, where it may be gathered at any time. The early broccoli must also receive attention, especially those that are turning in. These should be lifted and laid in by their roots in a sheltered place, with their hearts facing the north; a covering of mats can then be thrown over them in case of severe frost, and litter of some kind may be used in very severe weather. In most establishments these winter broccoli are highly prized, and where there are not sufficient pits for their protection much trouble is often experienced in keeping up a supply. It is always advisable to have a supply of seakale roots in readiness for forcing. These should be lifted and laid in where they can be covered with litter.

Chicory and endive should also receive attention. Where the soil is light, and the situation a dry one, the latter will usually withstand the winter in the open, but in some places it is necessary to lift the plants and transfer them to a cold frame, peach house, or other structure.

H. C. PRINSEP.

THE HORSE CHESTNUTS.

(Concluded from page 943.)

Æ. turbinata.

This species is a native of Japan, attaining in that country a height of 100ft. In growth and foliage the small trees in this country show a resemblance to the Common Horse Chestnut, though the panicles of flowers are not so long, and the fruits are smooth. The flowers are creamy white. A tree, probably the first in this country, flowered in Messrs. Jas. Veitch and Sons' Coombe Wood Nursery in 1891. Even when leafless the clean straight branches of the young trees, and the brown bark, give the Japanese Chestnut a distinct and attractive appearance.

Æ. Wilsoni.

This new species was introduced by Mr. E. H. Wilson, in 1908, from Central China. He collected seeds in Western Hupeh and Szechuen, which were raised in the Arnold Arboretum, and a plant sent from there by Professor Sargeant is now in cultivation at Kew. As far as can be judged in a young state the leaflets are longer than those of Æ. chinensis, and in this respect they resemble Æ. indica, but, having a more southern distribution, it may not prove quite so hardy as Æ. chinensis.

Small trees of the following chestnuts are in cultivation at Kew: Æ. Buckleyi, Æ. Busi, Æ. Lyoni, Æ. Sanguinea, and Æ. Whitleyi. So far, their growth and characters suggest they are hybrids, probably between Æ. Pavia and Æ. flava. One or two show signs of proving useful small trees with red, or red and yellow, flowers, but it is too early yet to judge of their merits.

A. OSBORN.

STROBILANTHES GOSSYPINUS.

This is a striking and attractive bush when in full bloom, with its showy, white, woolly leaves. The flowers, borne in large heads, are pale blue or mauve, and very elegant. As with many other species of strobilanthes, S. gossypinus blossoms only once in a number of years, usually about seven years, i.e., when raised from seeds, as in a state of nature. The plant is, however, well worth growing in an English greenhouse or temperate house on account of its effective foliage. It is a native of Assam, being found at 3,000 feet to 6,000 feet elevation. In Ceylon it thrives best at altitudes of 4,000 to 5,000 feet.

H. F. MACMILLAN.

Peradeniya, Ceylon.

THE COTONEASTERS.

(Concluded from page 922.)

C. humifera is a scandent-habited plant from Hupeh. The trailing branches grow with considerable rapidity, quickly covering a wide area. The evergreen leaves are oval in shape, dark green, with a silvery reverse, and up to three-quarters of an inch in length. Its white flowers are succeeded by red fruits. There is no easier kind to increase, as the branches root readily without being detached from the plant.

C. integerrima, a native of the mountains of Europe, is said to have occurred in a wild state in North Wales at one time, notably on Great Orme's Head, but always rare. The deciduous, broadly-ovate leaves are from half an inch to two inches long, and up to one and a-quarter inches wide. The flowers are not showy, and the dark red fruits are less conspicuous than those of many species. It is sometimes called C. vulgaris.

C. laxiflora is a deciduous species from Siberia, of upright habit, with ovate leaves one to one and a-half inches long, which are intensely hairy on the under surface, and axillary clusters of small flowers, which are followed by dark purple, or almost black, fruits.

C. microphylla is, perhaps, one of the best-known of the dwarfer kinds. A native of the Himalaya, it is recognised by its compact growth and more or less prostrate branches. Planted in the open it grows to a height of one and a-half feet or so, but planted against a wall it attains a height of twelve or fifteen feet. The tiny, dark green leaves, white flowers, and red fruits are very attractive. With it may be included the Himalayan C thymifolia, as the two plants are very similar in many respects.

C. nutiflora may be recognised by its long, slender, drooping branches, clothed with ovate or rounded leaves, up to two inches long and one and a-half inches wide, by its clusters of white flowers and rather large red fruits. It is seen at its best after it has formed a definite trunk.

C. nummularia, a deciduous shrub, with rounded leaves, small, white, pink-tinged flowers, and red fruits, is sometimes planted, but is less generally useful than many other kinds.

C. pannosa, a Chinese species, was introduced from Yunnan about twenty-five years ago. Forming a tall, wide-spreading bush, it produces small, ovate or oblong leaves, often less than one and a-quarter inches long, pale green above and grey beneath, small-flowered, and a profusion of red fruits.

C. rotundifolia is one of the most satisfactory of all kinds for general cultivation. Attaining a height of four feet, it is well branched, bears small, dark green, box-like leaves, and a profusion of bright red berries, which often hang throughout winter until the end of March. For some reason birds appear less fond of the berries of this than of any other kind, and only take them when other food is scarce. The species is a native of the Himalaya.

C. Simonsi.—This is a well-known Himalayan species, easily recognised by its stiff, upright habit and profusion of orange-scarlet berries, which are larger than those of most kinds. It is a particularly useful kind for shrubbery planting.

C. tomentosa is an alpine species of little decorative merit.

W. DALLIMORE.

Kew.

ERINACEA PUNGENS.

This beautiful little plant is by no means a new one, as it was in cultivation in this country as far back as 1759; and yet it is still rare in our gardens of to-day. This rarity is partly due to the idea that it is not perfectly hardy in some of the colder parts of the country, but if it is planted at the foot of a warm south wall, or in a sheltered sunny nook in the rock garden, it may be grown quite successfully, and become an object of great charm.

It forms a dense, spiny, almost leafless little bush, producing flowers during April and May, which are arranged in clusters of five to eight, and of a bluish-purple colour. It is closely allied to the anthyllis, being at one time included under that genus, the flowers being very similar, and the chief difference appearing in the habit.

Seeds are produced very sparingly, even in its native country, and this is undoubtedly the chief reason why Erinacea pungens is somewhat scarce. Such seeds should be sown as soon as ripe. If cuttings of young shoots are put in sandy soil, and placed under a handlight, it is possible to secure a few plants, but a better method than this is layering.

The illustration shows an exceptionally good specimen in the Botanic Gardens, Cambridge, measuring 1ft. high, and 27in. in diameter. E. pungens is a native of Spain, and was first discovered by Clusius, who may well have exultingly termed it "A plant undoubtedly new, and full of beauty." It is extremely pretty when in bloom, and therefore deserves to be more widely known and cultivated.

F. G. PRESTON.

Cambridge Botanic Gardens.

ERINACEA PUNGENS.

A close-growing, bushy plant, from Spain; flowers bluish-purple, in clusters.

THE JAPANESE WINDFLOWER.

To Japan, that land of blossom, we are under a heavy obligation. Its flowering trees and shrubs are the glory of the garden in spring; a number of alpines of great beauty come from thence, and Japan gives us in Anemone japonica a plant of incomparable loveliness wherewith to grace our gardens in autumn. This remark applies most literally to the white form, for although the type was known to gardens as far back as 1844, it was some years later before the white variety originated as a sport, while at present probably quite a dozen or more forms have been given distinctive names.

The Japanese Windflower is a familiar subject. The leaves spring in whorls from the woody rootstock, and are ternate or triangular in outline, the lobes being unequal and the segments toothed. Above these, often to the height of three feet or four feet, rise the stiff, wiry stems that invariably carry a whorl of small leaves, which form a common centre, from whence spring the footstalks that carry the flowers. These latter are of good size, frequently three inches across, with the floral segments spread out. Their substance is wax-like and lustrous, and the cluster of anthers in the centre is like a boss of gold.

The rootstock of Anemone japonica spreads underground in a most insidious manner. As illustrating its capacity for increase, I came upon an old garden in Surrey this year where at least twenty yards of a border had become overrun from what was originally but two clumps. Any bit of root having a crown will grow, but it requires some years to establish itself and disclose its fullest beauty.

The Japanese anemone is a subject to conjure with in any scheme of garden decoration where a late display is wanted. I like to have it well in front in border planting, for it imparts that boldness and dignity that we commonly associate with the lupin and delphinium. For a like reason its presence is invaluable among shrubs, as the anemone flowers are well displayed against the flowerless branches. It is, however, when opportunity occurs for planting on a lavish scale, as in wild gardening, that Anemone japonica merits to the fullest its popular name of Windflower. Then it presents a spectacle of such beauty that one would travel far to see.

Under any of these conditions the ground should be deeply worked before planting, incorporating a moderate dressing of old farmyard manure, and some light material where the natural soil is inclined to heaviness. The ideal soil for Anemone japonica is a chalky one. I have known it flourish in this material, where soil, in the ordinary sense was conspicuously absent, and manure never deamt of; yet under these apparently adverse conditions it developed luxuriant masses of leafage two feet in height, and the flower stems were never less than four feet high.

Beside the type, with its flowers of rose-carmine, there are others in which this colour varies. Mont Rose has received the imprimatur of the Royal Horticultural Society, and it is practically a double flower of largest size, coloured silvery-rose, with lilac reverse; Koenigin Charlotte has semi-double flowers over three inches across, the segments coloured flesh-pink, and deepening to a pale shade of rose; Prince Heinrich is another semi-double form, not so tall as the type, but with larger flowers of a deep, rich carmine-red.

A BEAUTIFUL BED OF THE JAPANESE WINDFLOWER (ANEMONE JAPONICA).

The white forms are most chastely beautiful, as even in the bud stage these look like inverted pearl-drops. Alba, also known as Honorine Joubert, was the earliest white form, and is still worthy of a place in the garden, as it flowers freely, and continues right up to the time it is cut down by frost; Lady Ardilaun is one of the best, with large flowers, having thick segments of purest white arranged so as to form a faultless flower; Lord Ardilaun is also white, semi-double, compact in growth, and with darker foliage; Whirlwind is dwarf in habit, flowers semi-double, surrounded by green bracts; Geante des Blanches is a single white of the largest size, and regarded as one of the best of recent additions; Coup d'Argent has several rows of wavy segments, coloured creamy-white. Other kinds show slight variations, but those named embrace the best of the old and newer varieties. THOMAS SMITH.

Coombe Court Gardens.

ROSE MARECHAL NIEL.

I do not know of any yellow rose that can equal this in any way except in regard to flower stem. The weak flower stem, and the liability of the trees to canker are, undoubtedly, weak points, the latter being sufficient to deter many persons from growing the variety.

I know of one instance where canker did not kill or even lessen the flowering qualities of the tree. The specimen in question I saw growing in a greenhouse in Cheshire. The cankered portion of the stem resembled a very big cocoanut, and the owner informed me that the tree had been in the condition described for about twenty years, and yet it flowered so freely that he could gather blooms every week throughout the year. The tree appeared to be in very good health, notwithstanding its badly-cankered stem. The roof space covered measured nearly five hundred square feet.

I have grown this lovely rose under glass for many years and in various forms. The best crops of blooms were secured from plants on their own roots. Both these and worked plants cankered. Those on their own roots generally cankered about the seventh year; the worked plants a little earlier. In my cases, however, the trees lost vigour, and branches soon began to die after the canker was very pronounced. In order to have a regular supply of blooms I propagated cuttings every few years, and had good-sized plants to put out.

My plan was to grow the plants fan-shaped, thinning out surplus shoots every year. The system of growing these as cordons is a good one, and perhaps the best blooms are grown on the cordon or spurred system. The Marechal Niel is a splendid rose for forcing. I have propagated young shoots, with heels attached, in a mild bottom heat early in the New Year annually, and trained the resultant shoots to form a nice bush in a 9in. pot. At this stage, the second and third year from propagation, the plants forced well, bearing medium-sized blooms very freely.

GEO. GARNER.

LEONOTIS LEONURUS.

This striking South African labiate forms a notable feature in the greenhouse during the autumn and early winter months. In the extreme West of England it is hardy in some districts, but, generally speaking, it needs protection in winter. Introduced into this country some 200 years ago, Leonotis leonurus would, after a time, appear to have become lost until it was reintroduced about 25 years since, and is now fairly well known It is an erect growing plant, which, if stopped freely when young, will form an upright bushy specimen. The oblong, lanceolate leaves are of a pale green tint, and somewhat soft in texture. They are markedly serrated, from four to five inches in length, and about three-quarters of an inch wide. The flowers are borne in large whorls at the points of the shoots, there being a considerable space between each whorl. From their orange-scarlet colour they are very conspicuous. Propagation is an easy matter, as cuttings of the young shoots strike root readily in spring, and the plants may be given much the same treatment as a chrysanthemum during summer.

S. W.

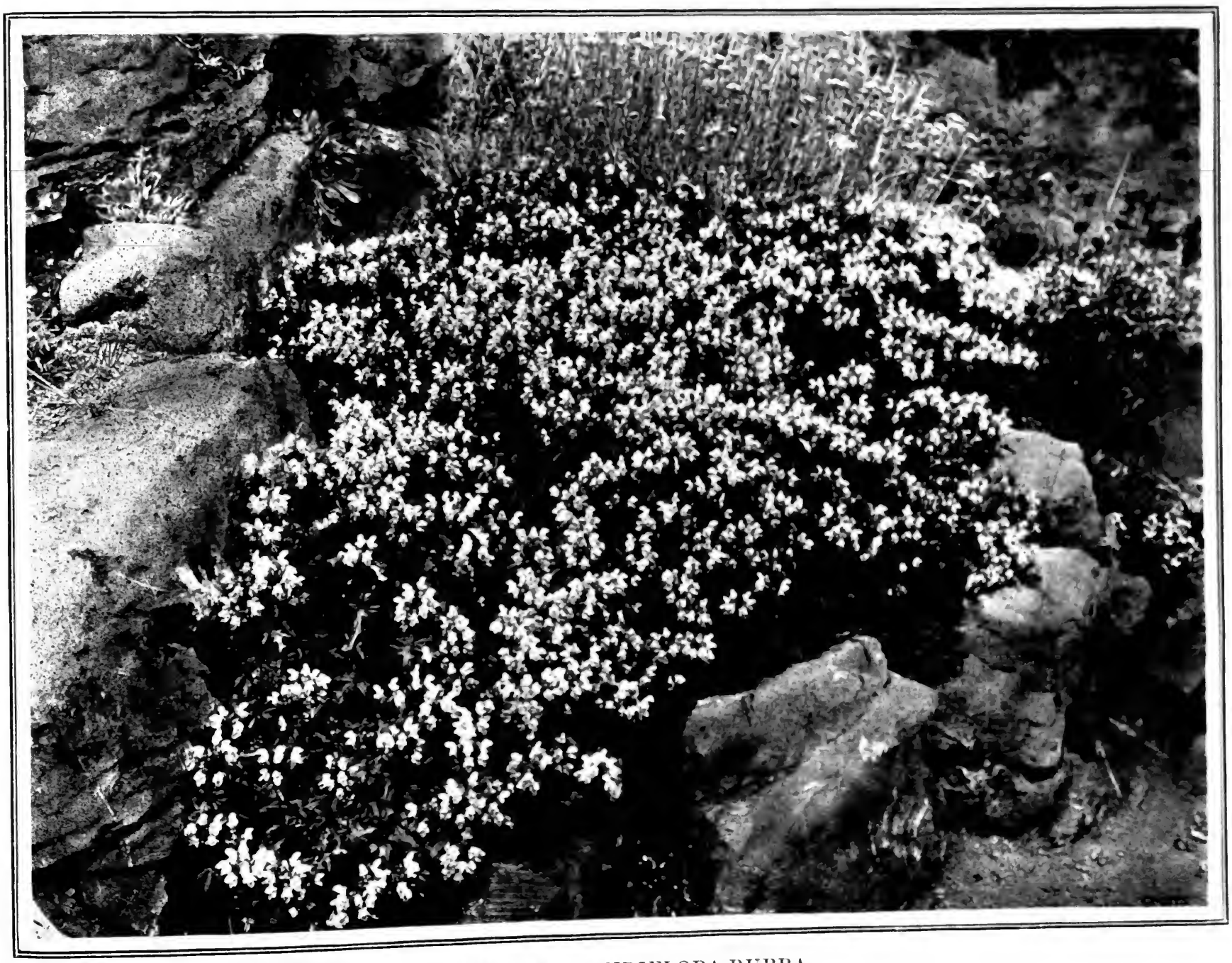
PRUNELLAS.

The members of the genus Prunella, commonly known as Self-heal, constitute a small family of dwarf border plants, some of which are also suitable for the larger rock gardens. They are quick growing, soon forming a dense carpet of creeping stems and foliage, with numerous erect spikes of somewhat attractive flowers, all through the summer months. Among the easiest of plants to grow, any light, rich, and well-drained soil will suit them, and they may be increased freely by means of division in autumn or spring, or by means of seeds, which most of them freely produce. The Common Self-heal (P. vulgaris) is a common plant in our pastures, and an unwelcome subject in any well-kept lawn. Apart from this native plant there are only two others grown in gardens.

P. grandiflora is a European species, with large, handsome, purple spikes, produced from June to September. It is the largest-flowered kind of all, and there are many varieties of it. P. g. rubra has beautiful red flowers, while P. g. Webbiana, a handsome plant of garden origin, has bright rosy-purple flowers. It is a most effective plant for the border or the rock garden.

P. laciniata, sometimes made a variety of P. vulgaris, is very distinct, with spikes of yellowish-white flowers. It is not so strong as the above, but is very free flowering. The Common Self-heal (P. vulgaris) has spikes of flowers varying in colour from deep purple to nearly white. In habit and foliage all the above are very similar, differing only in the lobing and size of leaf.

W. I.



PRUNELLA GRANDIFLORA RUBRA.

A showy herbaceous perennial with rich rose-red flowers.

TWO INTERESTING PRIMULAS.

The accompanying illustration of Primula pulchella depicts one of the newer species which are attracting so much notice at the present time. It is one of a number of charming novelties which have been introduced to our British gardens through the enterprise of Messrs. Bees, Lim., whose collectors have done so much splendid work in China and other parts of the globe. It was collected in Yunnan by Mr. George Forrest, and introduced in 1908, and only into gardens in 1911, and has, therefore, not yet found its way largely into cultivation. It belongs to an interesting section of the Chinese primulas—that of the Nicales—and has, so far, turned out to be one of the most easily-grown of this group.

As proved by one of the ablest cultivators of these primulas, Professor I. Bayley Balfour, of Edinburgh, damp is the chief enemy of this section, and the plants should be kept dry overhead during the wet months, deriving their moisture from beneath only. P. pulchella seems to be less susceptible to overhead wet than its allies, and should therefore do well in the drier districts of the United Kingdom, provided it is moist at the roots. It grows from about six to twelve inches in height, and has flowers of violet, pale purple, or lilac. The calyces of the plants in this section are usually coloured with purple, and a prominent feature in P. pulchella and others of the same section is the presence of farina (golden in P. pulchella) as a lining of the long calyx segments. The underside of the leaves, which are not at their full length until after flowering, is also coated with a charming golden farina.

P. pulchella makes a capital plant for growing in pots in a cool or cold house, where it may be planted in loam, peat, or leaf-soil or sand. In the open it should be grown on a rockery in a similar soil, and it is desirable to cover it with glass to throw off the rain in winter. It is as yet scarce and expensive. Propagation is effected by division, or by seeds if these can be ripened. P. pulchella flowers about the same time as P. sikkimensis, i.e., in early summer.

Primula sibirica.

Though our gardens are being rapidly enriched by the influx of new primulas from the East, we find that there are many of the older and longer-known species which have not yet found their way into places where we should expect to find them. Some of them are quite easy to cultivate, and they have about them a beauty and a charm which soon endear them to the cultivator.

Such a species is Primula siberica, which is well figured in the accompanying illustration from a photograph. It was introduced as far back as 1818, so that it is surprising that it has not been more largely cultivated, especially as it is by no means so difficult to grow as many primulas which are more frequently seen in gardens. It can be grown on the ordinary rockery, always provided that it has plenty of moisture during summer, but it prefers a moist, rather boggy position, and there will not only grow better, but will increase with more freedom, and will produce much finer flowers. It has been well said that P. siberica resembles the favourite P. involucrata, and this is the case, both with regard to its appearance and its requirements. It grows from three to six or eight inches high, and has pale green leaves without any farina, and rather elliptical or ovate leaves, which are either entire or are obscurely toothed. The scape or flower stem is slender, and bears a number of flowers in a loose umbel. They usually open with us about May, and are of a light lilac or rose colour.

The plant is rather variable in hue, and also in several other respects, and several forms have been described by different botanists. The principal variety is called P. sibirica var. integrifolia, which must not, however, be confounded with P. integrifolia of Linnæus, quite a different plant. The variety known as P. sibirica var. Finnmarchiana has dark lilac flowers, and has longer pedicles and lanceolate leaves. Another variety, P. s. arctica, has smaller flowers. P. sibirica is very widely spread in Nature, and extends through the Himalayas to China, where it is found in several provinces, and the Arctic regions of Europe, Asia, and America. It is easily raised from seeds or increased by division. A soil of loam and peat or leaf-mould, with a little sand added, will suit this primula well.

Dumfries. S. Arnott.

PRIMULA PULCHELLA.
One of the newer species, with violet-coloured flowers.

DAHLIAS AT CHRYSANTHEMUM SHOWS.

After twenty-five years experience on the committees of horticultural societies, I quite realise the difficulty of providing classes that will prove an additional attraction to cultivators and the public. Orchids, carnations, zonal pelargoniums, and winter-flowering begonias find a place in most schedules, in addition, of course, to the chrysanthemums, fruits, and vegetables. The last week in October and the first week in November are rather late in the season for staging dahlias, but there have been thousands of fine flowers as late this autumn, and I feel sure, if classes are provided, these flowers will be well staged. Cultivators will protect their blooms in adverse weather. To begin with, societies might provide an open class for a display of dahlias in a given space. Other open classes might be listed for cactus varieties, singles, and pompons, etc., as well as for local classes. I think the inclusion of dahlias would prove a great attraction and win a lot of extra support for our many chrysanthemum shows. Perhaps some of our expert growers will give their opinion.

Geo. Gardner.

EFFECTIVE HARDY PRIMULAS.

Primulas are coming to the fore for garden decoration, and my few general notes may serve as a reminder to garden lovers to use this splendid group of plants more freely. For beauty, attractiveness, colouring, and interest primulas are surpassed by few other plants, and the wealth of species and varieties in cultivation, and the splendid new forms introduced from the mountain ranges of Western China, suffice to create a keen interest in the family.

What I wish particularly to enforce are the splendid possibilities of the hardy primulas for creating delightful garden effects; and there is no reason why the more telling species should not be planted in masses, by the hundred or thousand, in the same way as polyanthuses and cowslips.

The one primula that has forced its way to the front in advance of its fellows as a subject for creating garden colour is P. pulverulenta. This is a grand plant, and as grown in large quantities at Easton Lodge, and elsewhere, there is nothing to equal it for effect at its season of flowering. For waterside, woodland, or wild garden planting P. pulverulenta is ideal.

The question arises, Can we utilise other primulas so freely, and, if so, what can we select? The answer is obvious, and there are many primulas we can choose for our purpose.

To take a few: The creamy-white form of P. pulverulenta, known as Mrs. Berkeley, should prove of distinct value. Lissadell Hybrid and Unique, two fine hybrids with the blood of P. pulverulenta in them, should become extremely popular. Another fine favourite will be P. Bulleyana, with its wealth of golden-orange blossoms and stout leafage, a grand primula of the greatest possible value for massing and contrasting. Grand, too, are P. Poissoni, rosy-mauve, with a golden ring at the eye, and P. Beesiana, which is splendidly floriferous, and produces its reddish-purple flowers in tiers, like most of the preceding forms.

The Himalayan Cowslip, P. sikkimensis, with its charming fragrance and drooping yellow blossoms, intermingled in a stream-side grouping with the rosy-purple P. vittata and the claret-hued P. secundiflora, provides one of the daintiest garden-pictures imaginable. The use of P. japonica and its varieties has much to commend it, but the grower would be well advised to discard weak colours and mottled flowers. The clear colours, particularly the pinks and the deep reds and crimsons, are simply splendid when the plants are well grown.

Primula rosea grandiflora is lovely in quantity, and few flowers can approach it in rose-pink colouring. Again, the Bulgarian P. deorum is a fine plant for massing in cool ground or by the waterside.

It will be noticed that the majority of the primulas mentioned are really moisture-lovers, and their cultivation is most successful when they are grown in a fairly deep, cool, and moderately rich soil. This is so, but I do not wish readers to lose sight of the mountain primulas, which delight in rock-garden conditions. A really good selection of alpine forms grown in masses on the slopes and in the bays of the rock garden, or even used for covering low, sloping banks, will provide a feast of interest and beauty.

In closing may I also urge the free use of showy primulas in beds cut out in the grass. In such cases one species should be grown in each bed, but if a succession of beauty is wanted a planting of montbretias, gladioli, or similar subjects will provide colouring during late summer.

Claeton. P. S. HAYWARD.

EVOLUTION OF WINTER-FLOWERING BEGONIAS.

Sir Harry J. Veitch recently exhibited a beautiful series of winter-flowering begonias before the Royal Horticultural Society's Scientific Committee, to illustrate the evolution of these useful and beautiful plants from the original forms. Begonia socotrana, a species discovered in Socotra by Professor I. Bayley Balfour, and brought to England by him under some difficulties owing to the Phylloxera orders in existence on the Continent, was crossed with one of the tuberous forms, which had been retarded for the purpose, by Mr. John Heal. B. socotrana, which was shown, flowers normally at this season, and it imparted this character to the seedling from the cross. The first of these was John Heal, a very floriferous variety with rather small flowers. This was crossed again with tuberous forms, and others raised, including Mrs. Heal, and later double-flowered forms and plants with quite large flowers and of a variety of shades, but none pure yellow or pure white so far. Along with the increase in size there was at first a drooping habit of floreseence, but this was corrected by crossing back on to the original species, B. socotrana, which carries its flowers erect. B. socotrana does not appear to have handed on its peltate leaves to its offspring, but its persistent floral leaves are seen in the new forms, which retain their flowers for more than a month, until they fade without dropping. The committee unanimously recommended a Certificate of Appreciation to Mr. John Heal for the remarkable and successful work he had accomplished in raising these decorative plants.

PRIMULA SIBIRICA.

A beautiful primula with bright lilac flowers.

WORK FOR THE WEEK.

STOVE PLANTS.

PROPAGATION.—When preparing for the winter work of cleaning the house, it will be necessary to get rid of surplus and worn-out plants, and although this is by no means the season for general propagation, batches of easily-rooted subjects, such as Panicum variegatum, Pilea mucosa, Fittonia argyroneura, etc., grown chiefly for edging purposes, may be inserted now. These will soon be nicely rooted, thereby liberating the propagating frame in good time for general propagation. Coleuses will also root easily, and inserted now will make a useful early batch.

STREPTOCARPUSES. — Where a very early batch is desirable a selection may be made of the young plants now in 54-size pots. Remove a little of the old surface soil and add fresh loam, leaf-mould, and sand, to which may be added a little fine bonemeal. They may then be transferred to a house in which a temperature of not less than 60 degrees is maintained. In these pots they will make a good display during early spring, or, if considered desirable, they may be given a shift when growth has well commenced.

GLOXINIAS.—A selection of the earliest ripened tubers may now be made to provide the earliest batch of these valuable stove flowering plants. First see that the drainage is in good condition, then, with a label or pointed stick, remove as much of the old soil as possible without damaging the tuber. Top-dress with fresh, rich compost. At this season no better place will be found for gloxinias than the stove shelf. Little water will be needed for some time.

GENERAL REMARKS.—Now that the days are short and dull, and even stove plants are more or less resting, it is advisable to guard against high temperature, and the unnatural conditions attached thereto. In the stove 65 degrees on dull days and mild nights is quite a sufficient temperature. Damping down will rarely be necessary, and should not be practised during a low temperature. Keep the intermediate house temperature a little lower, and take advantage of every opportunity for slightly opening the roof ventilators a little while in the middle of the day.—H. PRIME, Hatfield Gardens.

THE ORCHID HOUSES.

DECIDUOUS DENDROBIUMS.—Where the early-flowering species and hybrids of deciduous dendrobiums are required to flower early in the coming year, it is desirable that a selection of the most forward plants be made at once, and those selected should be placed where they may have the necessary encouragement. It is not always an easy matter to induce the plants to flower satisfactorily thus early in the season, for if the pseudo-bulbs have not matured and ripened properly there is generally a tendency to produce growth where flowers were expected. A sudden removal from the resting conditions to a warm, humid atmosphere is bad practice; when in the warmer divisions give only sufficient root moisture to keep the pseudo-bulbs plump until the flower-buds are distinctly distinguishable, then ample moisture may be afforded. Keep the plants in a position where they may have the full benefit of all available light.

IN THE COOL HOUSE, it is desirable that ample ventilation should be afforded. The mild weather up to the time of writing has been such that very little artificial heat has been needed, even in the North East of England. Watering and damping have had to be done with considerable discretion, and one would now welcome colder and drier weather, which would cause the atmosphere to dry more rapidly. The greatest trouble during such mild, moist periods is the spread of black rust or mould (Gloesporum Bidgoodi). No disease is more injurious to the foliage of orchids, and the rusty appearance is due to the presence of spores. There is no known cure for this trouble, and micro-photographs which I have by me (taken by the late Mr. John Bidgood, who first discovered its havoc among the plants) clearly indicate the destruction of cells, which can only end in the death of the leaf. It is therefore desirable, wherever this pest is discovered, to immediately cut off any affected leaves and burn them.—H. J. CHAPMAN, Oakwood Gardens.

FRUITS UNDER GLASS.

POT VINES.—If started as recommended some weeks ago the earliest pot vines will now be progressing fast. Let the forcing be conducted as much as possible during the day. Renovate the fermenting material if the heat has declined, as it assists the roots of the vines, and creates a more natural atmospheric moisture. Pay due attention to disbudding, and, as soon as the leaves have developed, cease syringing the vines, but continue to syringe the walls and other available surfaces. The temperature may now range from 55 to 60 degrees, according to the weather, until the vines come into flower, when 65 to 68 degrees should be maintained, with 5 to 10 degrees higher during day, with sun-heat. Keep the house considerably drier during the time the vines are in bloom, and take advantage of the maximum temperature for fertilising the flowers; cross-fertilisation is advisable, and a camel's-hair brush or rabbit's tail, with Black Hamburgh pollen on it, should be passed over the other varieties from day to day until the bunches have set. Tying down must be very carefully done, but there need be no hurry if the foliage is kept just clear of the glass, as the shoots may easily be tied into their proper position later, when all danger of breakage is past. Water the vines with tepid water, and with weak liquid manure and other stimulants as they appear needful, as these will play an important part in carrying the grapes to maturity. In the management of the rods and laterals it is most important that a good spread of healthy foliage be maintained. Stop all shoots at the first joint beyond the bunch, except where it is necessary to fill up some vacant space.

PERMANENT VINES.—Much of what I have recommended for pot vines applies to permanent vines, only that more attention is required in regard to watering the former. Disbud when ready, cease syringing the canes, and supply the necessary moisture by damping down all available surfaces. The first Muscat house should be closed this month to obtain ripe grapes next June.

LATE PEACH HOUSES.—These houses must be kept fully ventilated night and day, unless there is any danger of frost reaching the pipes. Pruning and cleaning should be pushed forward where time and labour will allow, or may be held over for bad weather, as such houses will be retarded as long as possible. Meanwhile, any alterations or additions to be made to the borders may be carried out in weather favourable to the disturbance of the roots. As the best month for planting has gone by, such work should, in most cases, be deferred until February; but so accommodating are regularly root-pruned peaches and nectarines that they may be lifted at any season, during mild weather, with every chance of the success of a crop the following season. Follow out the instructions given in my notes of October 11.—F. JORDAN, Warter Priory Gardens.

THE FLOWER GARDEN.

GENERAL WORK.—At this season of the year we expect wintry weather, and when this comes it at once puts a check to planting, turf laying, and, when very severe, to most ground work. At such times endless odd jobs should receive attention, so as to relieve the stress at busier seasons. When the elements make work outside an impossibility, stakes which were put away hurriedly can be re-sharpened, painted, graded, and tied into bundles; seedling boxes, labels, birch brooms, etc., can be made; while during spells of sharp frosts such operations as wheeling, squaring and turning refuse heaps, burning rubbish, tree lopping, and thinning, etc., usually afford ample employment.

VACANT GROUND.—There will now be many vacant plots of ground recently cleared of spring bedding plants, dahlias, annuals, and various summer-flowering subjects. The first opportunity should be taken to give these a good dressing of rotten manure, and have them well dug, keeping the surface as lumpy as possible, to allow free access of frost and air. Consideration must be given to the nature of the subjects which are to occupy the various sites during the coming season, as some will require to be specially treated. Quarters which are to be allotted to sweet peas must be deeply trenched and heavily manured; if it is decided to grow them in rows, and time and labour does not permit the working of the whole of the ground to the desired depth, take out trenches 3 feet wide and 3 feet deep, afterwards returning the soil, mixing with it a liberal supply of good rotten manure. For sweet peas in clumps, the stations should be prepared in a similar manner, taking out holes 3 feet to 4 feet in diameter. Dahlias respond to good cultivation, and their sites for next season should be trenched and well manured.

GARDEN PATHS.—Gravel paths may often be improved by turning the gravel, unless they are in such a state as to necessitate re-gravelling; the present time is an opportune one for giving attention to this work, as probably the paths that are to be treated can be isolated with less inconvenience at this season than at any other. When gravel is being turned or replenished, it is essential that a uniform surface is obtained before commencing to roll it down; round up the centre of the path sufficiently to throw the water to the sides and gratings. All traffic must cease over the freshly-rolled gravel until it has become consolidated. Much annoyance is often caused when paths are not provided with ample means for carrying off storm water, consequently, on level stretches, the gravel along the sides becomes discoloured and infested with moss and weeds. This should be remedied by increasing the number of gratings and catch pits, and providing enough fall towards the gratings to carry off all surface water. Such insufficient provision is, however, often most noticeable on steep paths, the surface of the gratings being too small to carry away a flush of water, and so the gravel is washed out of place after every storm.

SUMMER BEDDING PLANTS.—Fuchsias and heliotropes which are being grown to form specimens for bedding-out pusposes must receive every encouragement. A temperature of 55 to 60 degrees should be maintained by fire heat, and every advantage taken to syringe the plants overhead on all fine days. Occasional applications of soot-water will be most beneficial. Give due attention to staking, tying, and pinching the young growths. Subjects such as pelargoniums, lobelias, iresine, coleus, etc., must be given a light position, and kept in a dry condition until the days lengthen. Dahlias, Salvia patens, begonias, gladioli, etc., should be inspected occasionally—T. B. FIELD, Wych Cross Place Gardens.

ROSES FOR GARDEN DECORATION.

(Continued from 927.)

Lifting and Replanting.

Roses should be lifted and replanted at least once every fifth year, and for several reasons, perhaps the most important being that it enables the rose quarters to be remade and a further supply of the necessary rose food in the shape of manure and fresh loam dug into the beds. It is impossible to do this properly unless the plants are lifted. Another reason: by lifting and root pruning we encourage fibrous root growth. It is generally known that a mass of fibrous roots convey more food to a plant than a few strong coarse roots, owing to the fact that roots feed only through their root hairs, which are necessarily far more plentiful on a large number of fibrous roots than on a few coarse ones. It is obvious, therefore, that we should strive for fibrous roots, and the best way to obtain them is to lift and root prune. By so doing I am confident you will add strength and many years to the life of the rose plants. These remarks on lifting and replanting do not apply to climbing roses, which are best left undisturbed.

Other Ways in which the Rose May be Grown.

As isolated specimens, on the lawn or even in the foreground of a shrubbery, some of the stronger growing sorts are highly attractive. I would mention Gruss an Teplitz; the rugosa, Conrad F. Myer, Macrantha (charming single pure white), Mrs. Stewart Clark, Bardou Job, Beauté de Lyon, Zephyrine Drouhin, Maharajah, Hon. Ina Bingham, Commandant Jules Gravereaux, and Juliet. All these varieties also look extremely well when planted in large groups, say fifteen feet across, and make a mass of colour not easily forgotten. The pruning of plants grown in the way suggested will be entirely different (after the first year) to that of bedding roses. Here you let them grow much as they please, just thinning out where necessary and shortening back the unripe tips of the shoots. A very fine feature may be made in a garden by pillar roses, that is, roses trained up either single posts or tripods. Roses grown in this manner and properly placed help to break up the level of a rose garden, are fine subjects for the back of herbaceous borders, and may be used with advantage in many parts of the pleasure grounds. The stronger growing roses—of which my choice for this purpose includes American Pillar, Excelsa, Blush Rambler, Dorothy Perkins, Carmine Pillar, Jersey Beauty, Alberic Barbier, Hiawatha, Gardenia, Hélène, Evangeline, and White Dorothy—should have pillars at least 10ft. high for them to ramble over, while if shorter pillars are used, say, posts 6ft. in height, the following may be considered the best twelve: Lady Waterlow, Madame Pierre Cochet, Zephyrine Drouhin, Florence Haswell Veitch (one of the newer roses, brilliant scarlet colour and very fragrant), Papillon, Trier, Wallflower, Madame Alfred Carriere, Ards Rover, Longworth Rambler, Lucy Bertram Sweet Briar, and Gruss an Teplitz.

Every garden should possess at least a few standard weeping roses. Very beautiful are many of the Wichuraiana roses when worked on high standards, with their long trailing growths drooping to the ground and covered with thousands of blossoms. Talking of standard roses, I would remind you when ordering this class of rose of the importance of ordering varieties which do well when grown as such. Some varieties will not make standards, and some are better as standards than as dwarfs. One such I think is White Maman Cochet, another is William Shean. Both of these when grown as dwarfs droop their flowers so much that unless you lift the blooms up you cannot see them, and owing to this fault after a storm they are so badly splashed that they are spoilt. Others that make really good standards are Lady Ashtown, Madame Jean Dupuy, Frau Karl Druschki, Gustave Grunerwald, Hugh Dickson, General McArthur, Caroline Testout, Grace Darling, La Tosca, Lady Hillingdon, Madame Abel Chatenay, Mrs. Foley Hobbs, Mrs. Sharman Crawford, Marie van Houtte, and J. B. Clark, and there are, of course, many others.

I have not touched upon roses for hedges, house decoration, or yet roses for walls and pergolas, but I should like to advise you, with regard to pergolas, to be careful where you build them. Nothing, to my mind, looks more out of place than a pergola "starting from nowhere and leading to nowhere." If you can understand me, a pergola should have a definite starting point, and lead to some other definite feature of the garden. If your garden is too small to arrange this be content with arches, which are infinitely more in keeping with a small garden.

Fragrance.

The remark is often made that "our newer roses are lacking in fragrance," and to back up this opinion our good friend Frau Karl Druschki is made the scapegoat. Well, however much Druschki errs in this respect, I would remind you that she is no longer a new rose, but a "thirteen-year-old," and if she sins by lacking scent, so, too, do the old white roses Merveille de Lyon and Marchioness of Londonderry, and Druschki is a long way in advance of these older varieties in every other way. I think there is a good deal of nonsense talked about this matter, for can anyone tell me a sweeter rose than Hugh Dickson, introduced in 1904? Then, how about Rayon d'Or, introduced in 1910; Lady Alice Stanley, in 1909; Commandant Felix Faure, 1902; Beauté de Lyon, 1910; Richmond, 1905; General McArthur, 1905; Avoca, 1907; Chateau de Clos Vougeot, 1908; His Majesty, 1909; Edward Mawley, 1911; and George Dickson, 1912, taking a few at haphazard? I cannot help thinking that these and many others, all introduced during the last ten years, are equal at least in fragrance to the best of the old varieties. Of the old varieties the sweetest I know are Zephyrine Drouhin, La France, Senateur Vaisse, Mrs. J. Laing, Charles Lefebvre, Horace Vernet, and Marie Baumann, and, of course, the old Cabbage or Provence rose and the old common Sweet Briar, but even with the Sweet Briars we have our modern development in the Penzance Briars, many of which are quite as sweet as the old-fashioned variety.

(To be continued.)

WELL HEADS IN GARDENS.

Frequently, by force of circumstances, a well happens to be situated either in close proximity to a dwellinghouse, or in a conspicuous position in the garden, and in these cases it is desirable that a means of protection be designed with a view to artistic effect as well as efficiency. Illustrations of elaborate well-heads in stone have appeared in the pages of THE GARDENERS' MAGAZINE, and these are, of course, the correct thing where the well is in a formal garden. Equally artistic, although totally different in character, is the subject of our present illustration, reproduced from a drawing of a well-head, cleverly designed by Messrs. Boulton and Paul, Lim., Norwich. The circular guard of brickwork is surrounded by stone-paving, and the whole covered by a heather-thatched roof, which is supported by stout oak posts. The material, design, and construction are all appropriate to the surroundings, and, consequently, the well becomes a fine feature in the garden scheme, instead of—as it might have been—an eyesore.

AN ARTISTIC WELL-HEAD.
Designed by Messrs. Boulton and Paul, Norwich.

Christmas Holidays.—The publishers wish to inform readers that, owing to the usual day of publication clashing with the Holidays, next week's GARDENERS' MAGAZINE will be on sale Wednesday, December 24.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

National Rose Society.

The annual meeting was held at the Westminster Palace Hotel, Westminster, at three o'clock on Thursday, December 11. The President, C. E. Shea, Esq., presided, and there was a large attendance, including a considerable number of prominent trade and amateur rosarians. The room did not appear to be a very suitable one for such a large gathering, as the members were crowded, and there was a sound of preparations for the conversazione beyond the screen.

After the usual preliminary formalities, Messrs. C. C. Williams and H. E. Mount were appointed scrutineers of the ballot for the forty-two seats on the Council.

Before Mr. Mawley read the anual report, he read a telegram from Mr. E. T. Cook, President of the National Rose Society of Canada, who landed that day at Liverpool, but too late to permit him reaching the meeting; however, he sent good wishes from his society.

REPORT OF THE COUNCIL FOR 1913.

In presenting their report the Council have pleasure in stating that during the past twelve months, with one exception, more new members have joined the society than in any previous year. This is most encouraging as it shows that the advantages now offered to those interested in roses and rose culture in this country and elsewhere are becoming each year more generally known and appreciated. For the first time in the history of the society the number of members exceeds 6,000.

In order to encourage rose culture under glass, a new departure this year was made by holding a spring show in the Royal Horticultural Hall, Westminster, on May 1. Considering it was the first exhibition of the kind ever held in this country, and that the cold and sunless weather somewhat upset the grower's calculations as to the date, it must be regarded as having been, on the whole, a success, and, judging from the interest displayed by the members and their friends in the exhibits, this spring rose show of the society promises to become an extremely helpful and popular exhibition.

The Metropolitan Show again took place, by the kind permission of the President and Council of the Royal Botanic Society, in their beautiful gardens in Regent's Park, the date of the exhibition being July 4. Favoured by the season and the weather on and before the show day, this proved the largest and finest exhibition the society has ever held. The attendance of members and their friends was also larger than on any previous occasion. It is much to be regretted that the society's Royal patroness, Her Majesty Queen Alexandra, was unable to visit this grand exhibition and inspect the magnificent display or roses.

The Provincial Show took place at Gloucester on July 15. This, too, was a fine and extensive exhibition; indeed, larger than either of the three previous Provincial Shows. The arrangements for the exhibition were excellent, and admirably carried out by the hon. secretary, Mr. W. H. Pickford, assisted by other members of the local committee.

The Autumn Exhibition, held in the Horticultural Hall, Westminster, on September 11 and 12, proved one of the smallest and least attractive shows of the kind the society has yet held. This was no doubt owing to the dry and otherwise unfavourable weather, so far as roses were concerned, during the summer and early autumn of this year.

During the past year the "Rose Annual for 1913," containing for the first time some coloured illustrations, was distributed to the members in April, while a new edition of the "Official Catalogue of Roses" was sent out in November. The warmest thanks of the Council, and also of the members generally, are due to the members of the Publications Committee, who each year devote so much time and care in their endeavours to make the publications of the society as complete and helpful in every way to the members as possible.

At the last annual general meeting the Dean Hole Memorial Medal was awarded to Mr. George Dickson, of Newtownards, Co. Down, Ireland, for the great services he has rendered to the rose during the past half century in raising so many new roses of special merit, and as one of the most successful pioneers in the scientific hybridisation of roses.

The number of societies in affiliation with the National Rose Society is now fifty-five, or about the same as in the previous year.

The Council record, with regret, the death in January last of Mr. Alfred Tate, since 1904 a vice-president of the society, and a keen rosarian. His rose garden at Leatherhead was the largest and finest in the kingdom, and his exhibits of decorative roses were the best ever staged by an amateur. He was regarded with the highest esteem by all who knew him.

They also regret to announce the death in October last of Mr. J. T. Strange, whose genial nature endeared him to all with whom he came in contact in the rose world. He was one of the society's oldest members, having joined the National Rose Society in 1877, when he was at once elected on the Council, and last year he became a vice-president of the society.

Judging by the amount received in gate-money from the general public at the exhibition in the Royal Botanic Gardens, there was a good attendance of visitors. The receipts from all sources during the past year, including a balance from the previous year of £442 12s. 2d., amounted to £4,061 6s. 5d., and the expenditure to £3,586 10s. 6d., leaving a balance at the bankers of £474 15s. 11d., after £500 had been placed to the reserve fund, which now stands at £2,000.

During the past year 1,045 new members have joined the society, or a greater number than in any previous year except 1910, when the number of new members was 1,050.

The Spring Show will be held in the Royal Horticultural Hall, Westminster, on Thursday, April 23; the Metropolitan Exhibition, in the Royal Botanic Gardens, Regent's Park, on Tuesday, July 7; the Provincial Exhibition, at the invitation of the Mayor and Corporation of Bath, in the Sydney Gardens, of that city, on Thursday, July 16; and the Autumn Exhibition at the Royal Horticultural Hall, Westminster, on Thursday, September 24.

The "Rose Annual for 1914," which will contain a number of helpful articles on rose culture, etc., and, in addition to the usual illustrations, will have six page illustrations by the three-colour process, will be issued to the members as early in the spring as possible, together with the new edition of the "Enemies of the Rose," and admission tickets for the spring show. A new edition of the "Hints on Planting Roses" will be sent out to members with the "Arrangements for 1914," together with their tickets for the metropolitan, provincial, and autumn shows, and in December with the notice of the annual meeting will be sent a new and revised edition of "The Handbook on Pruning Roses."

To the donors of special prizes the council offer their grateful acknowledgments. Their thanks are also due to the local secretaries. Among the most successful of these in obtaining new members they may mention Mr. A. E. Hayton (South Africa), Captain Kilbee-Stuart (Newbury), Mr. G. C. Sawday (Weybridge), and Mr. F. J. Woods (Weston-super-Mare), and more particularly Mr. R. E. West (Reigate), who, during the past year, induced no fewer than 64 of his friends and acquaintances to join the society.

RECEIPTS AND PAYMENTS FOR THE YEAR 1913.

			£	s.	d.
1912.					
Dec. 1	To	Cash at Bankers	442	12	2
1913.					
Nov. 29	,,	Subscriptions	2,886	2	3
	,,	Proceeds of Shows	353	13	0
	,,	Affiliated Societies	82	3	0
	,,	Advertisements in Society's Journals	117	0	5
	,,	Sale of Society's Publications	88	16	3
	,,	Special Prize Donations (exclusive of Plate)	18	14	0
	,,	Interest	65	13	4
	,,	Conversazione Tickets	6	12	0
			£4,061	6	5

			£	s.	d.
1913.					
Nov. 29	By	Publications	581	7	2
	,,	Printing, Stationery and Advertising	244	7	0
	,,	Postages, Telegrams, and Sundry Expenses	384	2	8
	,,	Hire of Room for Meetings and Expenses of Conversazione	58	4	0
	,,	Honorarium to Hon. Secretary	100	0	0
	,,	Assistant Secretary (£98) and Assistant Treasurer (£65)	163	0	0
	,,	Auditor's Fee	20	0	0
	,,	Expenses at Shows	528	14	7
	,,	Royal Botanic Society	50	0	0
	,,	Prize Moneys—Spring, Royal Botanic, Provincial, and Autumn Shows	753	15	0
	,,	Purchase of Plate, Medals, etc.	203	0	1
	,,	Purchase of Consols, Reserve Fund	500	0	0
	,,	Cash at Bankers	474	15	11
			£4,061	6	5

Reserve Fund—
Consols, 2½ per cent., £2,533 9s. 6d. Cost £2,000. Market value, November 29, 1913, £1,849 8s. 9d.

GEORGE W. COOK, Hon. Treasurer.
CHARLES BRANNAN,
Chartered Accountant.

12, King Street, E.C.
December 9, 1913.

The President, in moving, "That the report and financial statement be adopted, printed, and published," referred briefly to the splendid position of the society, its record number of members, and its great financial success, as well as its record of exhibitions. He pointed out that never before had so large a sum by £200 been placed to reserve. Altogether, he had the greatest pleasure in moving the adoption of the report. Mr. Frank Cant seconded the motion, and spoke of the good work done by the distribution of literature to members, and the splendid financial position of the society.

Mr. Lewis Pawle thought it was unwise on the part of the council to continue to invest in Consols, and he moved that no more money be so invested. Mr. Johnson suggested that ladies should be eligible for seats on the council, and he urged that the present system of voting by a mere handful of members present be altered as soon as possible to one of postal voting, so that all members could vote instead of 5,000 of them being disfranchised. Mr. W. J. Grant was in sympathy with the last speaker in reference to voting. Mr. Holland did not agree with the suggested system of postal voting, and said that it was open to members to send in nominations for the council, and to include ladies in their nominations. Another member suggested that rosarians of distinction might be placed on the council "causa honoris," and the president pointed out that there were honorary vice-presidents. Other members spoke, and one referred strongly to the noise at the back of the room, as observed by us in our opening paragraph.

The motion was put, and carried unanimously, and the President then moved that an honorarium of £150 be offered to Mr. Mawley, the society's hon. secretary; this was seconded by Mr. W. A. Cook, who spoke very highly of the splendid work done by Mr. Mawley for the society. The motion was carried with acclamation.

ALTERATIONS OF RULES AND BY-LAWS.

Several alterations of rules were proposed, and carried with little discussion, as they were chiefly verbal alterations; but a lengthy discussion ensued over the everlasting question of the constitution of an amateur. By-law No. 7, after describing a nurseryman, proceeds to define an amateur, and points out that "no person shall be allowed

to compete as an amateur who sells rose plants, rose blooms, or buds for budding." To this definition it was proposed to add, "As exceptions to the foregoing, (a) an amateur may sell his rose plants when giving up possession of the garden or place where they have been grown, and (b) an amateur may sell new seedlings or sports of his own raising, but only to nurserymen. No person shall be allowed to compete as an amateur who is a resident member of a household where a nursery business is carried on, nor any person who issues a catalogue or price-list of roses, buds for budding, or other horticultural produce."

Dr. Williams and Mr. E. J. Holland moved and seconded this matter, but it was strongly opposed by Dr. Waddell and Mr. Johnson, the former moving as an amendment the insertion, after "or price list of roses," the words, "other than new seedlings or sports of his own raising." His argument, so far as we could gather, was that if the proposal was carried it would prove a great hardship to those amateurs who were raising new roses and desired to recoup themselves for the time and trouble expended. Dr. Waddell, it seemed to us, spoiled his case by stating his belief that the traders had a vested interest in the N.R.S., and suggesting that the proposition was entirely in their favour and altogether against an amateur raiser. His remarks were greeted with many objections from amateurs and traders alike. The Rev. J. H. Pemberton said he was the culprit, and it seemed to him that the trade were afraid of the amateurs, and desired to have the sole option of purchase of new roses. If the proposal was carried, he could no longer compete as an amateur. Mr. George Paul said the matter was one for amateurs to settle among themselves, and he believed the trade would refrain from voting on the subject. Eventually the amendment was put and lost, and the motion was put and carried by 33 votes to about 7, and, so far as we could see, the traders did not vote either way.

The President declared the election of officers and council, the only alteration on the list being that Mr. Felton gives way to a newcomer.

The conversazione being long overdue at this point, the members quickly dispersed to join their friends and other members gathered in large numbers beyond the screen, and even forgot to thank the President for presiding.

Royal Horticultural Society.

The three standing committees met at the Royal Horticultural Hall on December 16, but, with the exception of the Orchid Committee, they had little to do. This latter body had a large number of exhibits before it, and crowded in one end of the Library the members carried out their duties with some difficulty.

One Award of Merit, to Carnation Philadelphia, from Messrs. W. Wells and Co., Merstham, was granted by the Floral Committee. The Orchid Committee granted a First-Class Certificate to Cattleya Percivaliana alba var. Lady Holford, from Sir George Holford, Westonbirt, Tetbury; and Awards of Merit to Cypripedium Charlesianum smaragdinum, from Mr. F. J. Hanbury, East Grinstead; to C. Bourtonensis, from Mr. G. F. Moore, Chardwar, Bourton-on-the-Water; to Odontonia Langowoyi, from Messrs. Charlesworth and Co., Haywards Heath; and to Odontoglossum Cleopatra Rosefield var., from Mr. de Barri Crawshay, Sevenoaks.

SCIENTIFIC COMMITTEE.—December 2.

Present: E. A. Bowles, Esq. (in the chair), Sir H. J. Veitch, Professor W. Bateson, Professor F. Keeble, Messrs. J. Odell, A. Worsley, W. Hales, J. T. Bennett-Poe, E. M. Holmes, W. C. Worsdell, G. Wilson, J. Fraser, Dr. Voelcker, and F. J. Chittenden (hon. sec.).

POTATOES DISEASED.—Dr. A. J. Voelcker showed examples of potatoes with brown discolouration just beneath the skin, and a soft rot spreading therefrom into the tuber. The tubers had been grown at Woburn, and had been clamped; but not until after the potatoes had been some time in the clamp had the trouble been evident. Nothing had been seen of disease while the plants were growing. The tubers were sent to Wisley for further examination, along with others from Hampshire.

PELARGONIUM HYBRIDS.—Mr. Fraser showed further dried specimens from the Wisley collection, and made remarks on their origin from Pelargonium denticulatum, which appears to vary considerably in the foliage.

SEEDLINGS FROM VARIEGATED PLANTS.—Professor Bateson showed leaves of a pelargonium with a white margin to the leaf and a layer of cells just below the epidermis without chlorophyll, the seedlings of which were always complete albinos owing to the origin of the ovules from the subepidermal layer, and another leaf with tissues without chlorophyll occupying the middle of the leaf overlaid with chlorophyll-bearing tissue, the seedlings of which were all green, as Dr. Baur had shown. The well-known form of Chlorophytum elatum with a white margin to the leaf had, however, apparently produced green seedlings, while the form of C. comosum with a median white stripe down the leaf produced all albino seedlings, three of which were shown. Some conversation took place with regard to the meaning of the phenomenon exhibited by the Chlorophytum, which is not at all clear. Other examples in which albino seedlings were produced were mentioned, and analagous cases of variegation were referred to. It would be interesting to cross the white-edged form of C. elatum with a form having a median white stripe to the leaf, if such is at present in existence. One was known at one time under the name of medio-pictum, but appears to be rare, if not extinct, now. The committee would be glad to hear of its occurrence. It may be noted that the white-edged chlorophytum has no chlorophyll-less subepidermal layer.

LEAF-CUTTING BEE.—Mr. Bowles showed the foliage of horse-chestnut with the well-known circular pieces removed by this insect. No member of the committee had seen the leaves of this tree attacked in a similar way before.

APPLES SPLITTING.—Mr W. Voss, of Raleigh, showed apples which had split after they had been placed in the store. The committee were of opinion that the late rains had swollen the flesh of the apple after the skin had become set, so that the latter could not long withstand the pressure set up. Mr. Voss also sent fruits of Apple Annie Elizabeth and Cox's Orange Pippin apples affected with bitter-pit.

PRUNELLA VULGARIS ON A LAWN.—A piece of turf infested with this well-known weed was sent. It often occurs on lawns and spreads close to the ground when cut down by the mower. It is difficult to eradicate, but probably dressing at intervals with sulphate of ammonia at the rate of 1½cwt. to the acre would kill the foliage and encourage the growth of the grass. Another method suggested was to forego mowing for a time, and so permit the plant to grow tall enough to be handled and removed completely.

GROWTH ON BULB.—A bulb was sent by Miss Skelton with a curious growth on its side, apparently due to the development of numerous adventitious buds.

Midland Daffodil Society.

A special general meeting of this society was held at Birmingham on December 10, to consider the position of the society owing to the death of Mr. Robert Sydenham. The President, Mr. P. D. Williams, was in the chair, and amongst those present were the Revs. G. H. Engleheart and Joseph Jacob, and Messrs. Herbert Smith (secretary), C. L. Adams, H. D. Phillips, J. Mallender, W. A. Watts, C. H. Haynes, T. Humphreys, etc., etc. It was decided to hold no dinner in 1914, but that a meeting of members should be called for the evening of the first day's show to consider the holding of one in future years. As a memorial to Mr. Sydenham, it was decided to add to the medals, and to all the official note-paper, the words, "Robert Sydenham, Founder."

Mr. C. L. Adams was elected as treasurer, and Mr. W. A. Watts to the vacant seat on the Floral Committee.

Mr. Smith, as managing director of Robert Sydenham Limited, intimated that his firm was prepared to give the society the same help in the future as it had been accustomed to do in the past. Votes of thanks to the president and to Mr. Smith concluded the meeting.

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National Chrysanthemum Society.

Mr. Thos. Bevan presided over a well-attended meeting of the Executive Committee of the N.C.S. on December 15, at Carr's Restaurant, Strand, W.C. Sub-Committee reports were considered, and the Schedule Committee was empowered to go ahead with the schedules for 1914. A spray of chrysanthemums was defined as follows: A spray is the last flowering growth, consisting of one stem with a central flower or bud, and its surrounding flowers or buds. The financial statement showed that expenditure and income would about reach the amounts estimated at the beginning of the year. The Floral Committee fixed the date of its dinner for January 28. The show dates arranged for 1914 were October 7 and 8, and November 4, 5, and 6; Floral Committee meetings, September 21; October 7, 19, and 26. November 4, 16, and 30; and December 9; Executive Committee meetings, September 21, October 19, November 23, December 14, and January 18, 1915.

GARDENING ENGAGEMENT.

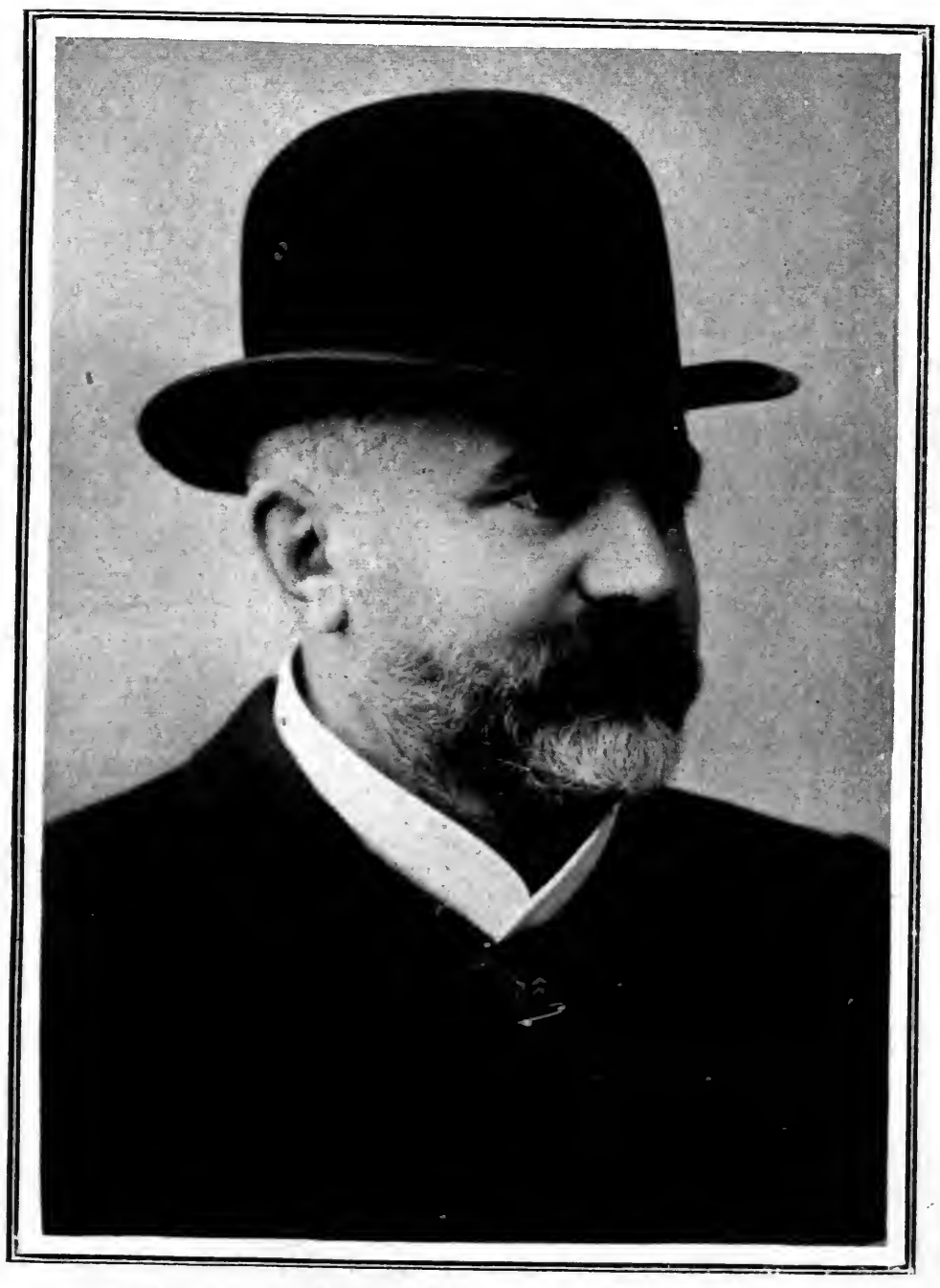
Mr. Joseph Mersh, for ten years head gardener to Major Terry, at Shepperton, has been appointed head gardener to Lady Harrison, The Priory, Beech Hill, Reading.

Travelling Home for Christmas.—Many a garden lover endeavours to reach the old home for Christmas, and large numbers of young men "off duty" for the holidays travel homeward via London. Every effort is being made now to secure comfort as well as speed, and the Great Central Railway Company specially caters for excursionists in these particulars, and even goes so far as to reserve a seat for travellers on December 24, without extra charge, if such is booked well in advance. These special express trains, well warmed and lighted, convenient, and comfortable, depart from Marylebone Station to the leading towns in the Midlands, Yorkshire, Lancashire, and the North of England.

OBITUARY.

MR. MARTIN JOHN SUTTON.

It is with very deep regret we have to announce the death of Mr. Martin John Sutton, head of the firm of Messrs. Sutton and Sons, Reading, which took place, suddenly, on Sunday, December 14, at the Piccadilly Hotel, London, where he was staying for the Smithfield Club Show. Mr. M. J. Sutton, elder son of the late Mr. Martin Hope Sutton, and brother to Mr. Arthur Sutton and Mr. Leonard Sutton, was better known in the world of agriculture than in the sphere of horticulture, and he devoted his great gifts of organisation and foresight to the development of the agricultural side of his firm's business. Among farm crops he was an acknowledged expert, and his work on "Permanent and Temporary Pastures" has become a classic.



THE LATE MR. MARTIN JOHN SUTTON.

Born in 1850, Mr. M. J. Sutton entered business when 16 years of age, was taken into partnership with his father and uncle in 1871, and became the head of the firm in 1887. For about five and twenty years he was a prominent member of the Council of the Royal Agricultural Society, and only resigned his seat when, after strong opposition, that body decided to establish a permanent show ground at Park Royal. He believed in the migratory system, and had the satisfaction of seeing it re-established to the advantage of the Society for which he worked so admirably. He did not wholly sever his connection with the Society, but continued to remain a Governor, and liberally assisted all educational efforts, and only a few days ago, at Islington, the King honoured him with a cordial personal greeting, when visiting the great Cattle Show.

Mr. Sutton was a Chevalier of the Legion of Honour, and a Knight of Grace of the Order of the Hospital of St. John of Jerusalem in England. He gave largely to educational institutions and to the Church of England. In 1904 he was co-opted Mayor of Reading, and received the honorary freedom of the borough. He was a member of the Berkshire County Council and a Justice of Peace for Reading and Oxfordshire. On his estate at Wargrave Manor, Berks, he took a keen interest in the breeding of horses, cattle, sheep, and pigs, and at the same time did not forget the attractions of his garden. Ever a generous giver, Mr. Sutton will be greatly missed because of his many benefactions in and around Reading, as well as farther afield, while his loss to agriculture is greater than can yet be estimated.

The funeral service was held on Wednesday afternoon at the Church of St. Andrew, Sonning, one of the most beautiful of riverside villages, and the large numbers present testified to the high estimation in which Mr. Sutton was held by those acquainted with the splendid services he had rendered the community in the course of his long and active life. The large church was indeed filled to its utmost capacity, and among those who had assembled to do honour to his memory were gentlemen high in the counsels of his native town and county, and representatives of the various religious, philanthropic, and scientific societies in which he had taken so keen an interest. Among the horticulturists present were Mr. N. N. Sherwood, Mr. John Collingridge, Dr. Voelcker, Mr. F. W. Harvey, and Mr. George Gordon.

TRADE NOTES.

Mr. H. Hemsley, Crawley, takes time by the forelock, and has already issued a schedule of prizes offered by him and to be competed for by his customers on September 16, 1914, at Crawley.

Mr. Charles Wall, Melrose Nursery, South Down, Bath, writes that he is afraid our reference to Carnation Lady Fuller as belonging to the Mrs. H. Burnett class may lead growers to believe the variety was raised from Mrs. H. Burnett. Our reference was to colour only, and readers will be glad to learn that Mr. Wall's fine new variety is a seedling from Enchantress crossed with a clove-scented cerise seedling he raised many years ago, and it possesses the fine habit of Enchantress and the vigour and strength of the seedling.

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Height above Sea-level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
		At 9 a.m.		Day	Night
1913. DECEMBER 7 TO DECEMBER 13.		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Dec. 7—Sunday	—	36	36	49	35
,, 8—Monday	0 18	48	47	53	37
,, 9—Tuesday.....	—	52	51	54	48
,, 10—Wednesday..	—	43	42	48	41
,, 11—Thursday....	—	43	42	51	39
,, 12—Friday.....	—	51	50	54	43
,, 13—Saturday.....	6 0	38	37	46	37
Means ...	(total) 6 18	44	43	51	40

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
1913. DECEMBER 7 TO DECEMBER 13.					
	ins.	deg.	deg.	deg.	deg.
Dec. 7—Sunday	—	44	47	49	29
,, 8—Monday	·01	44	46	49	33
,, 9 Tuesday.....	·01	47	47	49	46
,, 10—Wednesday..	—	45	47	49	33
,, 11—Thursday....	—	45	47	49	28
,, 12—Friday	—	45	47	48	42
,, 13 Saturday	—	45	47	48	51
Means ...	(total) ·02	45	47	49	33

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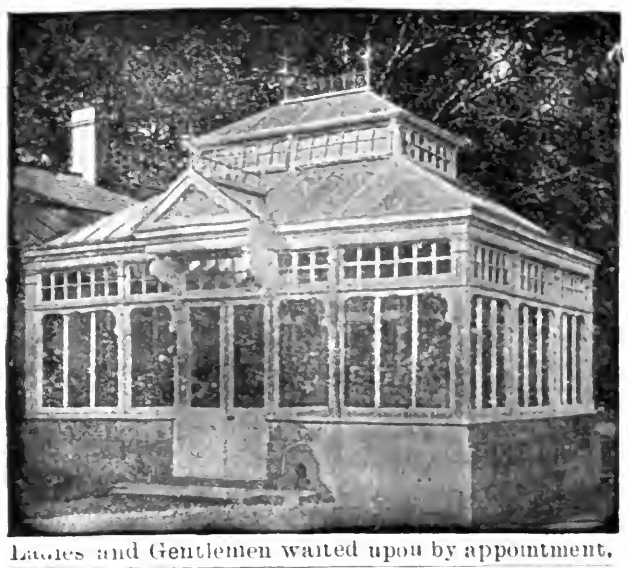

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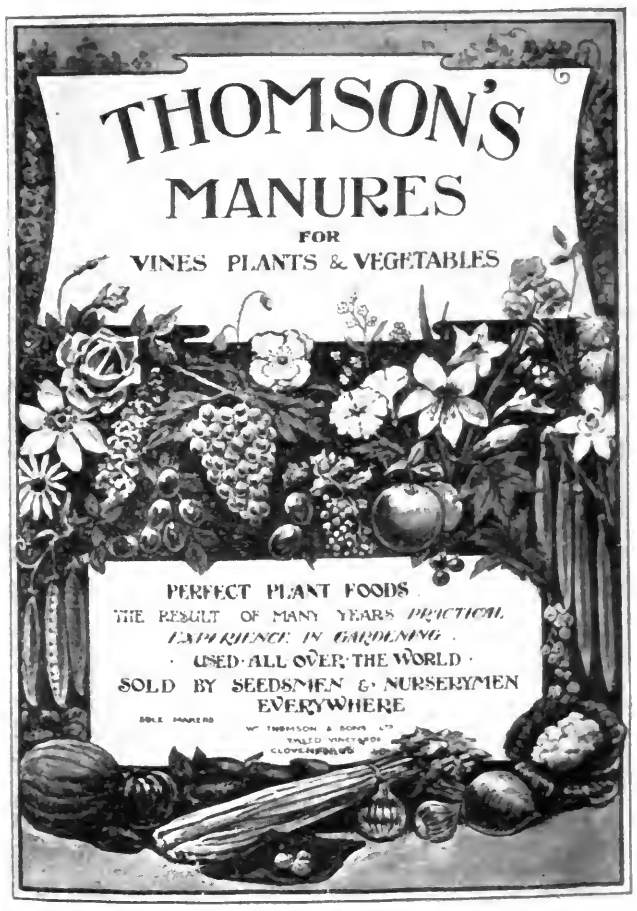

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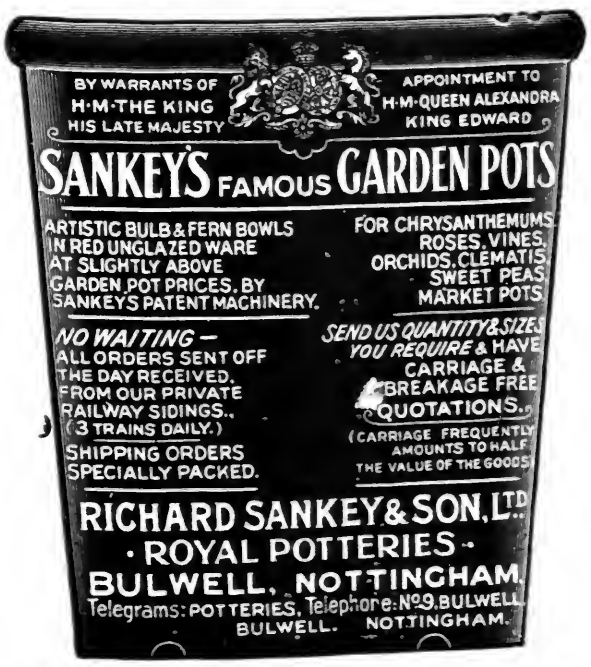
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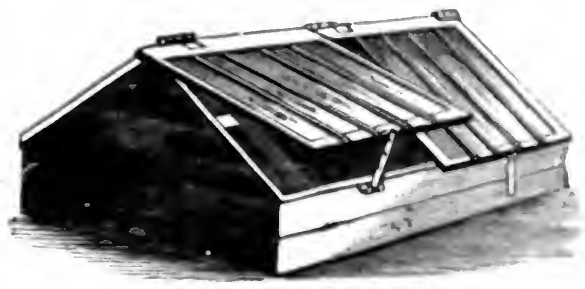

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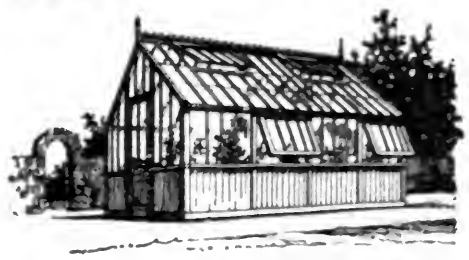

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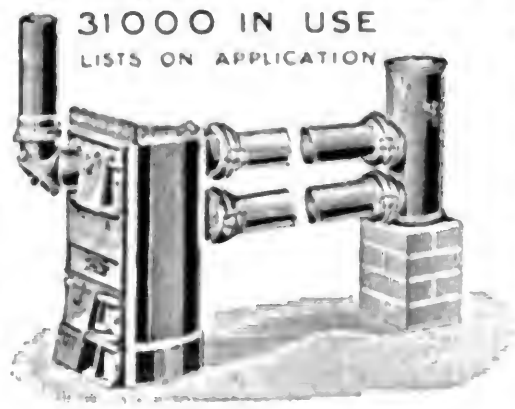

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming, or opinion, should be sent to the Editor of THE GARDENERS' MAGAZINE, 2, Adelaide Road, Brentford, Middlesex, and as early in the week as possible. All parcels must be sufficiently prepaid.

Secretaries of horticultural societies are invited to send early notifications of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

WOBURN CAUSTIC WINTER WASH.—C. C., Barnstaple: A friend of mine wishes to spray his fruit trees this winter to relieve them of lichen and otherwise clean them, so will you kindly give me the formula for the Woburn form of caustic winter wash?—The Woburn caustic winter wash, invented by Mr. Spencer Pickering, is made up as follows: Iron sulphate, ½lb.; lime, ¼lb.; caustic soda, 2lbs; paraffin, 5 pints, and water to make ten gallons of wash. In preparing this spraying mixture the best method is to dissolve the iron sulphate in about nine gallons of water; slake the lime with a little water, and then add sufficient to make it into a milk; strain this through a piece of sacking, and add it to the iron solution. Then add the paraffin to the mixture, and stir vigorously, and, lastly, add the caustic soda. When the latter has dissolved the mixture will be quite ready for use. By the addition of paraffin the wash is rendered more effective in the destruction of Mussel Scale, while the iron sulphate ensures the emulsification of the paraffin.

KEEPING FUCHSIAS IN A DWELLING-ROOM DURING WINTER.—J. H., Blackburn: Will you please tell me how I can best keep some fuchsias through the winter? There are several plants, and I have allowed them to become quite dry at the roots; so far, they are on a shelf in a room where gas is used. Have I done right in ceasing to give water?—When keeping fuchsias during winter it is a good plan, failing a greenhouse, to store them in a shed, where they will be free from frosts. A shed is preferable to a dwelling-room, especially where gas is used. The plants may be allowed to remain dry at the roots until new growth commences in the spring.

BEGONIAS AFFECTED BY MITE.—F. G., Hastings: I enclose a small plant of Begonia Gloire de Lorraine, and should like to know what has caused the leaves and stems to turn brown. I have a good lot of plants, and several of them have turned brown like the enclosed.—The Begonia Mite is responsible for the discolouration of the leaves, and this pest can only be kept away by regularly dipping the plants in a nicotine solution, and, especially, by dusting the undersides of the leaves with tobacco dust. Once the foliage becomes discoloured little can be done to restore it, but steps may be taken to get rid of the mite.

CLIMBING PLANTS FOR NORTH ASPECT.—J. K., Northampton: In addition to the list of roses suitable for a north wall, so kindly furnished in your issue of November 29, will you further oblige me by recommending a few other climbing plants suitable for a similar position?—A fairly good number of climbing plants are available for a north wall, but it must be remembered that thoroughly cultivated soil is essential to their well-being. You may select ivies both green and variegated; Jasminum nudiflorum, which displays its yellow flowers during winter, and is very useful; Ceanothus dentatus and C. americanus, both with blue flowers; Forsythia viridissima, a pretty plant, sometimes used for the purpose; and Cotoneaster microphylla, which makes a good covering for a north wall, as also does Cydonia japonica. Lonicera Periclymenum may be planted, as well as Rubus laciniatus, which has ornamented and deeply-cut foliage, and usually gives a good crop of fruit. Cratægus pyracantha Lelandi is very serviceable, and valuable for its brilliant fruits. Ampelopsis Veitchi is another very useful subject, especially for a high wall.

PROPAGATION OF THE AMERICAN BLACKBERRY.—H. N., March: Will you please tell me how to propagate the American blackberry? I have two plants, both of which fruited this season, and they now have several long canes for fruiting next year.—The blackberry to which you refer is probably the Wilson Junior; if so, the best method of propagation is by layering, which is best done in August or September when the growths have lost many of their leaves. The growths should be pegged down near their tips, three or four inches below the surface of the soil, and when they have rooted they should be cut off and planted. It is also possible to propagate blackberries by cuttings of half-ripened growths and by the separation of sucker growths from the parent plant, but layering is the best method.

EPIDENDRUM VITELLINUM MAJUS AFTER FLOWERING.—G. L. C., Ipswich: I have a nice little batch of the late-flowering form of Epidendrum vitellinum majus; the plants have flowered very well indeed, but in some cases they have now passed their best. What I wish to know is how to deal with this beautiful orchid after it has flowered. Does it need to be dried off or kept well watered, and does it need a lower temperature? Any information you can give will be valued.—The spikes of Epidendrum vitellinum majus should not remain too long on the plants, or the latter will become distressed. When the flowers have been removed only sufficient water to keep the pseudo-bulbs from becoming shrivelled should be given. At this period the plants should be placed in a temperature ranging from 55 to 60 degrees. In the spring, when new growth commences, they require a slightly warmer temperature, and more water may be given, and at this time any plants that need repotting may be dealt with.

ORCHID CULTURE FOR AMATEURS.—N. S. C., Cambridge: Quite recently I have come into possession of a small collection of orchids, chiefly odontoglossums, cypripediums, and lycastes. I carefully read your weekly notes on orchids, but I feel I should have a small handbook by me, as I am always finding myself in need of assistance. I am very fond of the few orchids I have, especially as so many of them flower in the winter. If you will recommend me a useful book at a reasonable price, I shall be greatly obliged.—A book that will just suit your particular purpose is "Orchids for Amateurs," by C. A. Harrison; this is published by Messrs. W. H. and L. Collingridge, and can be obtained post free for 2s. 10d. from 148 and 149, Aldersgate Street, E.C.

NAMES OF PLANTS.

M. S., Sevenoaks.—Hamamelis arborea.

F. S. O., Reigate.—Eranthemum speciosum.

W. E. H., Bristol.—Platychinis glumacea.

J. B., King's Lynn.—Pteris cruenta var. Alexandræ.

H. T. C. A., Easton Grey.—Cypripedium insigne, a good variety.

A. L. C., Birmingham.—1, Clerodendron fallax; 2, Begonia Winter Cheer.

T. H. T., Surbiton.—1, Euphorbia splendens; 2, Lucilia gratissima; 3, Plumbago rosea; 4, Ardisia crenulata; 5, Calanthe Veitchi; 6, Iris stylosa.

A. F. J., Somerset.—1, Lonicera japonica aureo-reticulata; 2, not recognised; 2, Veronica buxifolia; 4, Iberis sempervirens; 5, Cypripedium insigne; 6, Anthurium Scherzerianum.

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VOL. LVI.—No. 3,139. SATURDAY, DECEMBER 27, 1913.

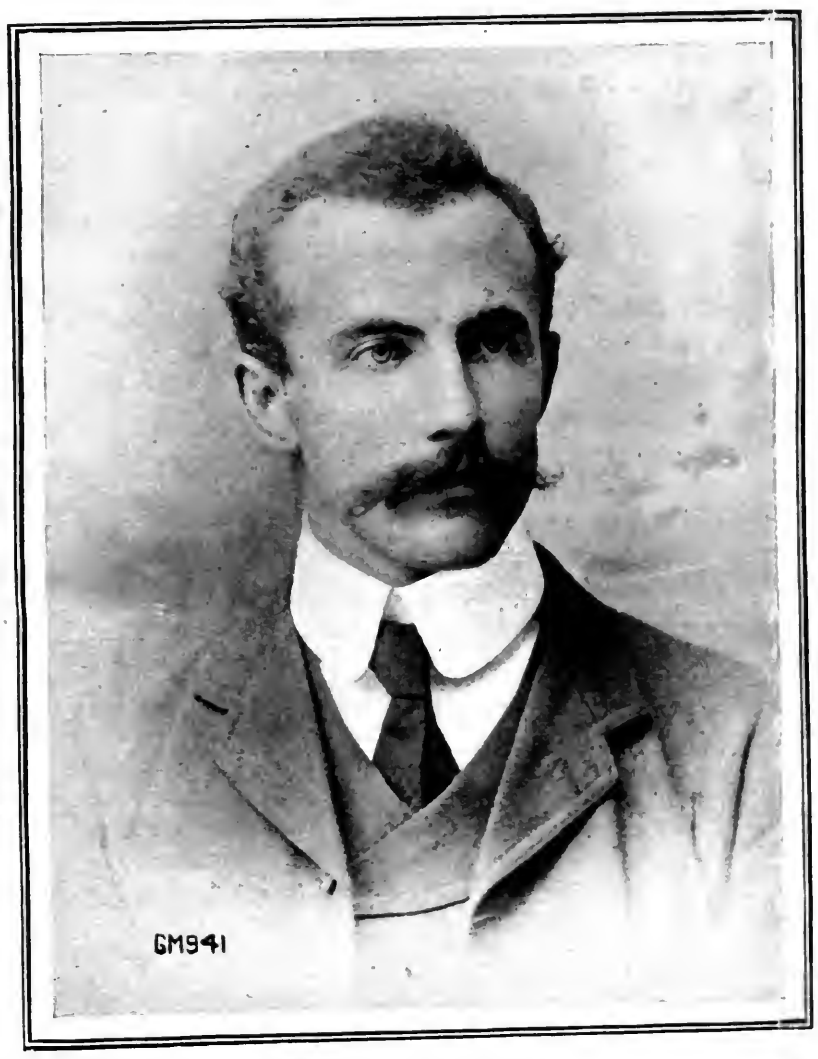
THE GARDENERS' MAGAZINE

NOTE OF THE WEEK.

The Philosophy of Trenching.

Although the work of trenching a portion of the garden does not impose a very great strain upon the mental faculties of those actively engaged in it, the operation is one that requires some knowledge of soil conditions and careful consideration to obtain the best possible results.

Trenching, simple as it may appear to those who are not well versed in cultural methods, is one of the most important of the many matters to which those engaged in garden management have to give their attention, and to some who have made considerable progress in the acquisition of horticultural knowledge it has proved a somewhat serious stumbling block. As is so well known to experienced cultivators, the chief advantages in undertaking this decidedly laborious work are the deepening of the soil for the purpose of increasing the range over which the roots of the plants can extend in search of food, and to expose the lower layers of the soil, or a portion of the subsoil, as the case may be, to the ameliorating influence of air, frost, rain, and sunshine, which are agents of first-rate importance in improving the physical condition of soils and converting the food constituents locked up within them into an available form. When the fact is fully appreciated that the beneficial bacteria exist in the largest numbers in the uppermost layer of soil, where they enjoy to the full the air and warmth essential to their activity, it is not difficult to understand how essential it is that the second, if not the third, spit of soil should be brought to the surface from time to time to give the bacteria an opportunity of converting the various constituents therein into a form in which they can be taken up by the roots and utilised by the plants in building up their structures and contributing to the utility or beauty of the garden. There is a general concurrence of opinion upon these points, and there is no great diversity in the views held with regard to the manner in which trenching operations should be carried out. Yet the results obtained from this method of soil preparation are frequently less satisfactory than could be desired, and some difference of opinion is expressed as to the relative advantages and disadvantages of this or that course of procedure. These failures and differences of opinion are largely due to the fact that no one method of trenching is equally suited to all classes of soil There are, first of all, the questions whether the soil should be trenched to a depth of two or three feet, and whether the bottom spit should, in the case of soils that have not previously been trenched, be brought straight to the surface in its raw condition. Some readers will remember the results that followed the adoption of the method that was advocated thirty or more



MR. J. JEFFREY.

years ago by some of the leaders of their day, of bringing the bottom spit to the top without dealing with it in any special manner. We may now frequently read in periodic gardening literature directions for deep trenching, without a word of qualification as to the course which should be taken when subsoil of an exceptional character is brought to the surface. The failure of the writers of the past century to qualify their directions caused much soil which had, by long cultivation and exposure, become highly favourable to plants, to be buried under ten or twelve inches of clay. When this happened the ground was distinctly unfavourable even for the most robust of garden crops, and an infinity of labour was needed to bring this upper layer to a really good tilth. There are two methods by which soils resting on heavy loam or clay, at a depth of twelve inches from the surface, may be dealt with. One is the process technically known as bastard-trenching, and in adopting this the practice is, as the top spit of each trench is taken out, to place a layer of partially decayed stable or farmyard manure, vegetable refuse, or coarse grit, in the bottom of the trench, and then fork over the soil, well mixing the additional material in the process. Under this practice the subsoil brought within the influence of the fork and accompanying fertilisers becomes so greatly improved that it may be brought to the surface without any apprehension as to the results being otherwise than beneficial. Some cultivators, and among them are several of the highest eminence, prefer, in dealing with heavy soils that have not been trenched in accordance with orthodox practice, to bring the bottom spit to the surface, and the results they obtain justify their preference. They have the aid of the several atmospheric agencies in bringing the crude soil into a condition suitable for cropping, and they are careful to take full advantage of them. By trenching the ground early in the winter it becomes sufficiently disentegrated to admit of the surface being broken down when forked over. Cultivators with experience of heavy soils who adopt this practice are careful to bear in mind that, if the addition of manure and other materials that help to lighten it are beneficial to a lower spit, or to the subsoil when in situ, it is equally beneficial when the soil is brought to the surface. Accordingly, as the winter is merging into spring, or at the beginning of the latter season, a liberal dressing of one or more of the materials suggested is given, and the soil is forked over; the fertilisers forming the dressing are incorporated with the top spit, and all the large lumps are broken down to a comparatively small state. Thus prepared the ground will be ready for cropping in the usual way, and if the crops permit the free use of the hoe during the spring and summer months, the soil will be in the best possible condition by the following autumn.

Mr. J. Jeffrey, who has served Lord Ancaster as head gardener at Drummond Castle for eight and a-half years, is coming back over the border soon to take up an important position in the horticultural world, where he will have ample scope for his abilities. Mr. Jeffrey served his apprenticeship under his father, who at that time was head gardener at Harewood House, Yorks. Afterwards he served as

journeyman, under Mr. T. Lunt, at Keir; and left Dunblane during the year Mr. Lunt won the champion grape prize at Shrewsbury. Previously Mr. Jeffrey was with Mr. W. H. Lees, at Trent Park, Barnet, when the latter was so successful with chrysanthemums; here he acted as foreman of the inside department. Then followed considerable experience in laying out gardens, notably at Ard Mulchan Castle, in Ireland, where he was in charge for two and a-half years. An insight into nursery work during eighteen months spent with Messrs. Dickson and Co., of Edinburgh, proved useful, and added to Mr. Jeffrey's knowledge of plants and methods of procedure. Mr. Jeffrey's success at Drummond Castle is an earnest of what may be confidently expected from him in the future

Definition of a Chrysanthemum Spray.—It may seem a quite small and easy matter to define what a chrysanthemum spray is, but a satisfactory definition has hitherto seemed to be beyond the cleverest experts. However, Mr. Percy Cragg, Mr. Ladds, and Mr. C. H. Curtis have formulated a definition which has been accepted whole-heartedly by the Floral and Executive Committees of the National Chrysanthemum Society, and it is as follows: "A spray is the last flowering growth, consisting of one stem with a central flower or bud, and its surrounding flowers or buds." We wonder whether everyone will accept this definition as readily as the N.C.S. Committees have done.

iris unguicularis, better known in gardens as Iris stylosa, is taking full advantage of the open weather experienced to bloom in an unusually free fashion. We have noticed its lovely flowers in many gardens where the plants have a warm position, and in the gardens at Englefield House, near Reading, Mr. A. B. Wadds, the head gardener, tells us that this variable Algerian species is quite at home at Englefield, and invariably flowers well, though in some winters the weather spoils the flowers unless they are cut in the bud state, and allowed to open indoors.

A Precocious Seedling Orchid.—A most interesting little orchid has been flowering in the orchid houses at Kew during the past few weeks. It was raised from seed sown at the Edinburgh Botanic Gardens in January, 1913, and came into bloom early in November, when it was sent to Kew. This precocious hybrid has been named Spathoglottis edinensis, and it is the result of crossing S. Fortunei, the golden-flowered species found by Fortune in Hong Kong long years ago, and S. pulchra. The latter was supposed to have been lost to cultivation. The flowers of S. edinensis have a yellow ground colour, overlaid with brown.

Cure for Streak Disease in Sweet Peas.—Through the kindness of Mr. H. A. Perkin, the National Sweet Pea Society is offering its gold medal and ten guineas to the first person who can prove to the satisfaction of the committee that he or she has found a preventative and cure for the disease of sweet peas known as "streak." As arrangements are now being made for testing preventatives or remedies, anyone who has discovered a cure should communicate at once with the secretary, Mr. H. D. Tigwell, Greenford, Middlesex, who will be pleased to furnish full particulars. Any members of the N.S.P.S. whose sweet peas have been badly attacked by streak, and who are prepared to test remedies, should communicate with the secretary at once.

The Gardeners' Magazine Almanac for 1914 is presented with this issue, and readers should see that they receive a copy. We thank those who have kindly sent dates of exhibitions and meetings, and we ask all our friends to hang the Almanac in a conspicuous position, so that it will not only set forth continually the leading horticultural fixtures of the year, but also remind everyone who consults it that on and after January 3, 1914, the GARDENERS' MAGAZINE will be issued at 1d. per week.

Old English or Florists' Tulips.—An interesting little pamphlet has reached us from Mr. W. Peters, hon. secretary of the National Tulip Society, and it will prove especially interesting to lovers of Old English Tulips, because it contains the names of all the prize-winning varieties of these flowers exhibited at Chelsea, on May 21 and 22; at Middleton, on May 31; and at Wakefield, on June 2. The society's London show in 1914 will be held at the Royal Horticultural Hall, Westminster, on May 20 and 21, at Chelsea.

National Chrysanthemum Society's Exhibitions and Meetings in 1914.—The annual meeting of the Society will be held on Monday, February 2, 1914; and the exhibition dates for next year are October 7 and 8, and November 4, 5, and 6. The Executive Committee will meet on September 21, October 19, November 23, December 14, and January 18 (1915); while the meetings of the Floral Committee will be on September 21, October 7, 19, and 20, November 4, 16, and 30, and December 9.

Crystal Palace for the Nation.—It is with very great pleasure we learn that at last the Crystal Palace has been secured for the nation, in spite of defections on the part of those who promised to contribute towards the purchase price. To Sir David Burnett, ex-Lord Mayor of London, thanks are due for the splendid effort he made to preserve the Crystal Palace from the speculative builder, but even greater thanks are due to the Earl of Plymouth, who so patriotically purchased the Palace gardens for £230,000, and offered them to the nation for the same price. Chiefly because Camberwell and Penge failed to respond adequately, the public appeal for funds closed with a deficit of £29,000, and the Earl of Plymouth has saved the situation by agreeing to hand over the property for about £30,000 less than he gave for it. Our readers will remember that the Earl of Plymouth is a great gardener, and has fine estates at St. Fagans and Hewell Grange, and he is the president of the British Gardeners' Association.

Trials of Roses at Bagatelle.—As in previous seasons, so in 1914-15, a trial of roses will be held in the Rosery at Bagatelle, Neuilly-sur-Seine, France. The trial is for new roses, and in every case the name of the raiser must accompany the plants sent. So far as possible the plants should be in pots, and not fewer than five specimens of each variety should be sent by April 15, 1914. Planting will take place directly after this date, and the roses will remain in the Bagatelle gardens until October, 1915, so that the special jury selected may have opportunities of studying the habit and flowering qualities of the roses during two seasons. Those raisers who propose to take part in these trials should communicate with the Curator, Roseraie de Bagatelle, as above.

Saturday Half-holiday at Hawick Nurseries.—We learn with pleasure that Messrs. John Forbes, Lim., of Hawick, have granted their employees an extra hour's leave on Saturdays. Hitherto, the Saturday half-holiday has commenced at two o'clock, but from now onwards the men will cease work at one o'clock.

Greenhouse Plants in Flower at Kew.—Few gardeners fully understand how large a number of flowering plants are available for the decoration of the conservatory at Christmas time, but if they visited the Greenhouse (No. 4) at Kew during that season their ideas would be considerably enlarged. When visiting the Kew conservatory a few days ago we noticed the following blue flowers in bloom: Eranthemum pulchellum, Statice brassicæfolia, and Pycnostachys Dawei—the latter most effective, and represented by plants 4ft. to 8ft. in height. Browallia viscosa and Coleus thyrsoideus were represented by good batches. Among the white flowers were Begonia Gloire de Lorraine var. Turnford Hall, Chrysanthemum anmethifolium, with Cannell's White, and good plants of the sweetly-scented Buddleia asiatica. Red flowers included the winter-flowering Begonia Winter Cheer; Bouvardia President Cleveland, Euphorbia pulcherrima (poinsettias), Centropogon lucyanus, and some fine examples of Plumbago rosea superba. The pink flowers we noticed included Begonia semperflorens var. Prima Donna, and the ever-useful B. Gloire de Lorraine, with the old Rhododendron Taylori. Other subjects which added to the pleasing effect were perpetual carnations in variety, a good selection of Cyclamen persicum, azaleas, heaths, Impatiens Oliveri, and I. hybrida, pelargoniums, and Peristrophe speciosum, which was freely displaying its magenta-purple flowers. Calceolaria Burbidgei added a touch of bright yellow, while Solanum capsicastrum var. Melvillei, with an abundance of berries, added scarlet to the other attractive colours.

Horticultural Exhibitions and Conferences at the Anglo-American Exposition in 1914.—Arrangements have been made for the following series of exhibitions and conferences to be held at the White City, Shepherd's Bush, London, W., in 1914: Perpetual Carnations, May 27; Hardy Plants, June 10; Roses, June 23; Sweet Peas and Border Carnations, July 8; Forestry, July 15; Dahlias and Gladioli, September 2; and Fruits, October 1. The societies specially interested in these several subjects indicated are co-operating with the Horticultural and Arboricultural Committee, to make these exhibitions and conferences a success, and the Royal Horticultural Society is interesting itself in the project.

Proposal for a New Sweet Pea Society.—Miss Hemus considers the National Sweet Pea Society "a discredited Society," and in her catalogue she puts her case against that body as follows: (a) The constitution of the Society gives a voice only to members who attend the annual meetings. (b) Traders attend the meetings, and thus dominate the Society; amateurs have become apathetic, and their interests are therefore ignored. (c) Through lack of confidence, the annual "trials" of alleged new varieties are not fully representative, and the awards are no indication of what is newest and best. (d) The Society does nothing to deal with the question of multiplication of names, nor could it as at present constituted, because it cannot claim to possess disinterested government. Other

remarks follow, and Miss Hemus concludes that, "since there is no postal vote, and no possibility of real reform in the present Society, it is necessary to form a new one, and I venture to propose this, and also to give the following idea of what would seem to be the objects most worthy of its activity; (a) To grow every alleged variety in existence, and reduce the list to a comparatively short one. (b) Thereafter yearly to grow all approved varieties against new challengers. (c) To dominate nomenclature." An annual subscription of 3s. 6d. per annum is suggested.

A Fine Chestnut Orchard.—Little heed is paid to the Sweet Chestnut in this country except as an ornamental tree, but quantities of nuts are imported each year from France, where chestnuts are planted in orchards. In the United States the Sweet Chestnut is very popular, and considerable attention has been paid to its improvement as an orchard fruit. At Lewisburg, Pa., one grower has over 400 acres under the Paragon Chestnut, containing about 50,000 trees, from six to fourteen years old, and all in bearing. An eleven-year-old tree will carry a bushel of nuts. As an indication of the interest taken in sweet chestnuts we may add that this same grower has 300,000 grafted trees ready for the market, and above a million seedling stocks for grafting.

How Sweet Peas Set Fashions in Colour.—Sweet peas are answerable for many things, and now we learn that Mons. Rodier, of Paris, has had quantities of dress fabrics dyed in shades of colours found in sweet peas for ladies' wear next summer. He grew a large number of varieties of this popular annual, and then submitted blooms to his dyer, who in turn reproduced the colours in dress materials. Artificial sweet peas for use in millinery are very popular, and sweet peas enter largely into the designs of wall-papers, etc., nowadays, so this further advance is not unexpected.

A Splendid Crop of Potatoes.—It is reported that 725 bushels of potatoes have been lifted from one acre of ground at Cape Breton, Nova Scotia, on the farm of a Mr. R. Wilson, who went to that country from Scotland a few years ago. At first he worked as a miner, but seeing the great possibilities the Cape Breton soil offered, and the splendid market right at hand, he bought a farm, and although for several years it had been devoid of proper care and required much labour to bring it up to a Britisher's standard, this potato yield proves he has accomplished his purpose in a remarkable degree.

The Largest Apple, like the big gooseberry and the tallest sunflower, seems to be a source of never-ending interest. Not long since Covent Garden was startled by a Gloria Mundi apple weighing 32½oz., but this is "beaten to a frazzle," as our American friends say, by an example of Spokane Beauty, orchard grown, and weighing 38oz. This monster is vouched for by Mr. J. T. Bealby, of Nelson, British Columbia, and was exhibited at Vancouver on the occasion of the first Canadian National Apple Show, in 1910. It was weighed in the presence of the Deputy Minister of Agriculture for British Columbia, so we cannot dispute the figures, and must, for the moment, hide our diminished heads until someone comes forward with a 40oz. specimen.

Small Holdings in Park Lane.—The favourite thoroughfare along the east side of Hyde Park, London, is by no means straight, and the frontage of the houses is very irregular. Sir Laurence Gomme states that this irregularity is due to the fact that long years ago a large number of narrow, acre strips of land were devoted to agriculture in the neighbourhood, and as the ends of these small holdings came out into Park Lane, the present zig-zag appearance of the frontage line resulted.

ROBINIA PSEUDACACIA DECAISNEANA.

Among the numerous varietal forms of the False Acacia, or Common Locust Tree, Robinia pseudacacia, Decaisne's robinia, is one of the most distinct and valuable. It differs from the type in having rosy-pink flowers, which are at their best in June, a month later than the familiar white-flowered False Acacia, and it has fewer spines. Though not common in our gardens, R. p. Decaisneana is a fairly old

ROBINIA PSEUDACACIA DECAISNEANA.

variety, and was figured in the "Revue Horticole" for 1863. The tree is free in growth, and, in common with other robinias, thrives in sandy, comparatively poor and dry soils. In addition to its value for park and pleasure-ground planting, it is a suitable tree for street planting. A specimen growing in the Kew Road, Richmond, is the object of considerable attention when in flower, with its tender green leaves, and pendulous racemes of dainty, rosy-pink flowers—a striking contrast to the elms, London planes, etc., close by.

Decaisne's robinia may be raised from seeds, a fair number coming true, with, occasionally, a tree with darker-coloured flowers, to which the name of rubra has been given. The seeds should be sown as soon as mature, otherwise germination is very irregular. To save time, in nurseries, grafting on the common robinia is the more generally favoured method of propagation.

A. O. K.

THE SHRUBBY VERONICAS.

Although the shrubby veronicas are not sufficiently hardy for general outdoor culture in the British Isles, they are invaluable for certain positions, notably in the southern and western counties of England, the West of Scotland, Ireland, and the various islands about the coast. They revel in sea air, and in many parts of the south-west may be seen flourishing on cliffs and walls within a few feet of high water and exposed to violent winds. On the Kent and Essex coasts likewise they may often be noticed in good condition; while in North Wales, the Isle of Man, and the West of Scotland they form large bushes, and are sometimes even used for hedges. In those parts of the country where little frost is experienced some of the species may be found in flower at almost any period between June and March, and for a space of from four to six weeks many of them are masses of bloom.

They are not difficult to cultivate, for they form fine, shapely examples in ordinary garden soil, and require little pruning, save pinching the points of the shoots out a few times while the plants are young. The old flower-heads become unsightly, however, in some instances, and for appearance sake they should be removed. Propagation may be effected by means of cuttings during spring and summer.

Most of the shrubby species are natives of New Zealand alone. A few, however, extend to Tasmania, and one, V. elliptica, is said to occur in New Zealand, the Falkland Island, Tierra del Fuego, and S. Chili. They vary considerably in habit, some forming large, dense bushes, five or six feet high, and more across; others compact, cushion-like masses, scarcely a foot high; some are like a tiny, prostrate-growing cypress; and one or two species, in their native country, are reported to grow into small trees twenty feet or more in height, with trunks up to a foot in diameter.

There are many uses to which the shrubby veronicas may be put. The dwarf, low-growing kinds are excellent for planting on rockwork, and for placing in groups about the margins of lawns. Those of medium strength are suitable for the front of a shrubbery, in specimen beds, or planted on stone and earth fences, such as are found in the south-west counties, while the most vigorous kinds grow into excellent specimen plants, and are well adapted for use as informal hedges. Should these veronicas show signs of deterioration at any time, it is usual to destroy them, and commence again with young plants, for the latter will form good specimens more quickly than a plant out of health will resume its lost vigour.

In the vicinity of London and other large towns it is usual to grow some of the more vigorous and free-flowering kinds in pots for window-boxes and house decoration, examples in five or six-inch pots being available at about sixpence each.

Of the vigorous-growing kinds, the following are worth special attention: V. speciosa is perhaps the commonest of all. It grows from three to six feet high, and forms a dense bush from three to eight feet in diameter. The dark green, oblong leaves are two and a half to four inches long, and the inflorescences appear from their axils during autumn and winter. The purple flowers are in dense racemes, three to four inches long, but there are numerous garden varieties which bear larger inflorescences of red, pink, white, lilac, or purple flowers. Good varieties are: Autumn Glory, deep blue; Blue Gem, blue; Gauntletti, salmon-pink; Eclatante, red; Etoile Blanche, white; La Séduisante, reddish-purple; Madame Chretien, purple; and Purple Queen, purple.

V. salicifolia is usually met with as a bush three to five feet high, but on the higher ground in New Zealand it sometimes forms a small tree twenty feet high, with a trunk twelve inches in diameter. The leaves are more or less lance-shaped, and three to five inches long. The white flowers are borne in pendulous racemes, which are often from five to seven inches long, although specimens have been observed in New Zealand with inflorescences twelve inches in length.

Another very showy kind is V. parviflora. Mr. Kirk, in "The Forest Flora of New Zealand," mentions this as sometimes attaining a height of twenty-five feet. Here, however, it is familiar as a bush two to four feet high, with linear leaves one and a half to two inches long, and branched inflorescences three to five inches long, of small white flowers, which mature during late summer and autumn. V. angustifolia grows into a shapely bush two to three feet high. It is recognised by its linear leaves, which are one and a half to three inches long, and by its racemes of white flowers with reddish stamens, which are at their best during late autumn and early winter.

V. macrocarpa has oblong leaves two to two and a half inches long and one-half to three-quarters of an inch wide, and dense racemes, three to five inches long, of lilac flowers borne in winter. It grows at least four feet high. V. carnea is another showy autumn and winter-flowering species. It attains a height of three to four feet, bears linear leaves three to four inches long, and produces a profusion of long racemes of reddish flowers. V. Derwentia forms an erect bush four feet high, and bears pale blue, or sometimes almost white, flowers in long racemes.

Of dwarfer-growing species and varieties the following are of special merit: V. Darwiniana, a compact bush with small, glaucous leaves scarcely half an inch long; V. Godefroyana, a low-growing, spreading bush, with small glaucous leaves; V. anomala, an erect bush, with tiny, green, ovate leaves and white flowers; V. pinguifolia, a dense, compact bush, one foot or so high, with grey-green leaves scarcely half an inch long, and white flowers; V. obovata, also a dense bush, with grey-green, obovate leaves; V. pimeleoides, a rather loose-growing bush, with small, glaucous leaves and purplish flowers, and V. diosmifolia, a graceful plant, with small, linear leaves and white flowers.

There is another set which differs from the rest by reason of their exceedingly small leaves. Representatives are V. cupressoides, with cypress-like growths, very minute leaves, and pale purple flowers; V. epacridea, and V. Armstrongi. They are well fitted for rockery planting.

Two species which stand out distinctly among others are V. Hulkeana and V. Traversi; the former is one of the tenderest species, and the latter the hardiest of all. V. Hulkeana is a rather loose-habited shrub, with elliptical, serrate leaves, one to one and a-half inches long. It produces very large panicles of pale lilac flowers during spring, and is excellent for growing in pots for greenhouse decoration, or for planting at the foot of a wall in the milder counties. V. Traversi, on the other hand, forms a dense bush four feet high and as much across, with small, green, ovate leaves, and it bears a profusion of white or lilac-tinted flowers in short, dense racemes in June. It may be grown in most parts of the country, excepting the extreme north.

Kew. W. DALLIMORE.

KNIPHOFIAS.

To define fully the use and value of the torch lilies requires an abler pen than mine, but a few suggestions as to suitable planting sites may be of service. For terrace planting they are superb, and when set in beds in turf, with the grey stone walls of an old mansion as a background for them, they are fine. Equally fine is the result of bold extended plantings arranged on both sides of a broad pathway of grey stone. In such a scene, with the many varieties bringing their shades of scarlet, orange, flame, gold, yellow, amber, apricot, salmon, etc., the picture at flowering time is almost beyond description, especially on sunlit days in late summer.

Such gems as K. John Benary, K. Beacon, K. R. Wilson Ker, etc., on the summit of a bold rock garden are splendid. I may be criticised for this suggestion, but if the depth and quality of the soil are right I have no fear for the Kniphofias. Mass them there, with the accompaniment of a few groupings of Yuccas, or a few masses of Sedum spectabile at their feet, and then watch the effect in summer. Mark that blazing summit at blossom time! Aye, and if you can repeat the same effect upon other and more distant ridges or points of vantage you have gained a glory of colouring and effect unexcelled by any other garden planting.

And this is not all. A lakeside planting above the water margin, bold and free, so that the host of torches may be mirrored in the clear, silent water, gives a doubled beauty that can be heartily commended.

Planting and division is best done in early autumn, thus allowing the formation of fresh roots before the winter is upon us. I have also occasionally transplanted in spring, but this plan, which may be good in uncongenial districts, entails a deal of suffering to the plants if the weather continues dry, unless, of course, one has the time to keep the plants watered when necessary. The fact that staking is not necessary with the torch lilies is another great recommendation in their favour, as many perennial plants lose half their beauty through the necessity of staking.

I may be permitted to mention just a few kinds, omitting the small species and varieties, which will be dealt with separately later. The tall forms, and those of medium height, will serve in the ways I have noted, and I trust the selection will meet with general approval. It is as follows:

K. R. Wilson Ker, a strong-growing plant, with massive torches of glowing coral scarlet; K. John Benary, a glorious deep scarlet of medium height, and grand appearance; K. Excelsa, a tall striking variety, with crimson and orange colourings; K. Egypt, tall, rich amber, a fine form; K. Leda, an exquisite coral-red and orange variety, of pleasing appearance; K. pyramidalis, a very stately gem, of a pale yellow colour; K. Lemon Queen, a seedling from K. citrina, and a general favourite; it is a pure soft yellow; K. Golconda, a pleasing apricot shade; and K. Beacon, a glowing red, coloured amber below, a very attractive form.

Also worthy of note are K. caulescens, an immense early-flowering red and yellow kind; K. foliosa, also early, a rich scarlet and yellow; K. Tucki, another early one, brick-red and primrose-yellow; the fine forms of K. uvaria, scarlet and orange; K. grandiflora, orange-red and yellow; and K. nobilis, a rich orange-red, of grand size and appearance.

EAST COAST.

EVERGREEN SCROLLS AND MONOGRAMS.

The sixteenth century saw the art of the topiarist attain its zenith; in the seventeenth century it was still in favour, but after this it steadily declined before the claims of a less artificial system, eventually giving place to the informal or natural gardening so prevalent to-day. It is an exotic art, whose severe and austere formality found an echo in much of the life and architecture of the period in which it flourished. To its advocates and votaries alone can its misfortunes be attributed, for an excessive and extravagant use of the art frequently brought it into ridicule.

Topiary may often be introduced with good results, possibly only in the form of a border or scroll, with simple forms clipped, and giving emphasis or directness to the scheme. As illustrating the extreme limit to which this art attained I may cite the examples at Elvaston, in Derbyshire, and Levens Hall, in Westmoreland. These are, however, the work of past decades; I am able, nevertheless, to reproduce an example that is essentially modern, highly original in its conception, and that illustrates the higher art of the topiarist. The view is in the gardens of Nuneham Park, in Oxfordshire, the residence of the Right Hon. L. Harcourt, and shows the Harcourt monogram and crest clipped in shrubs that are evergreen.

Box, yew, and, less frequently, holly, are employed for work of this nature; they are naturally of slow growth, and live to a great age, while they bear with impunity the constant clipping and pinching necessary to retain the desired form. Where a simple outline is wanted, as in border or scroll, the normal green will usually give the best effect, particularly if it comes into close proximity with other colours. Where, however, an intricate design has to be executed, then, by the addition of the variegated forms, practically any pattern may be reproduced.

Yew has some advantages in that it is more serviceable, while the small foliage does not exhibit the mutilation wrought by the workman's shears in so violent a manner as holly; the latter offers a wider range in the development of the art, as not only in colour, but the form of the leaves, exhibit great variation.

Where work of a diminutive or perfectly flat character has to be reproduced the dwarf form of box, usually employed as edging, has much to recommend it. Other plants that may be introduced with it, as contrasting colours in an intricate scheme, are Santolina incana, Veronica buxifolia and V. carnosula, the various coloured forms of shrubby thymes, and also the dwarf forms of erica. THOMAS SMITH.

Coombe Court Gardens.

G.M.528.

SCROLL-WORK, MONOGRAM, AND CREST AT NUNEHAM PARK, COMPOSED OF EVERGREEN SHRUBS.

COLLETIA CRUCIATA.

This Colletia, which, in some places, is just now flowering, is in every way a strange shrub, which cannot be confounded with any other. It is practically leafless, the entire specimen being, as it were, built up of large, thick, flattened triangular-shaped spines, arranged in pairs, each pair being set crosswise to the next. The spines are of a deep green tint, and the flowers, borne in little clusters from the lower part of these spines, are small and urn-shaped. They are of a greenish-white colour and wax-like texture, and scarcely noticeable unless the bush be closely inspected.

C. cruciata is a native of Uruguay, and is sometimes known by the specific title of C. bictonensis, but C. cruciata is a particularly descriptive name. There is another colletia, known as C. horrida or C. spinosa, which is simply a mass of stout, awl-shaped spines. This plant, though widely removed from C. cruciata in general appearance, was long regarded as a distinct species, but many instances have occurred of shoots of one kind being produced from specimens of the other, thus proving it to be a very remarkable case of dimorphism.

All the Colletias are quite hardy in the South of England, but scarcely so in the colder districts. Despite their unpromising appearance they are not difficult to strike from cuttings, if these are taken in the summer, inserted in sandy soil, and kept in a close frame until rooted. S. W.

THE BEST HONEYSUCKLES.

The observant person, ignorant alike of botanical establishments and of gardening encyclopædias, who spent his leisure in visiting our English gardens, might well be excused if he arrived at the conclusion that there were only two distinct honeysuckles worth growing, for during his perambulations he would rarely meet with more. These are our native Lonicera Periclymenum and the form of the Japanese L. japonica, with yellow-spotted leaves, two very charming and valuable climbers; but there are others—many others.

LONICERA PERICLYMENUM.

Altogether there are well over one hundred species and varieties of Lonicera, and, in addition, a goodly number of hybrids have been raised on the Continent, but, curiously enough, chiefly between species which one would not include in a list of the twenty best honeysuckles. The inference is that new, rather than improved, forms were aimed at. The honeysuckle hybridist who can give us a really good bush Lonicera, which has the fragrance of L. Periclymenum or L. fragrantissima, would earn the lifelong gratitude of many thousands of gardeners and, incidentally, much money.

Lonicera nitida, one of the newest bush honeysuckles, has the virtue of fragrance, and it makes a fairly good shrub of medium size, but the creamy-white flowers are not borne in sufficient quantity to make it the ideal bush species, and the colour is cold. L. tatarica and L. tibetica, both of which have rosy-coloured flowers (and the latter are very fragrant), are of bushy habit, and probably have great potential value. L. pileata, a dwarf spreading evergreen, is useful in the rock garden, a place where several of the best deciduous sorts should be planted.

But nearly all the true bush honeysuckles are singularly deficient in fragrance. The best, from a cultural point of view, L. Maacki, a comparatively recent introduction from China, does not appeal to me, and I have always regretted having been beguiled by the R.H.S. Award of Merit into purchasing it. My disappointment was great, and I should have done better had I obtained a L. sempervirens to train against the warmest wall of the dwelling-house. The latter North American species, and its variety minor, are not quite hardy enough for outdoor planting, but make charming cool greenhouse rafter plants, when, during the spring and summer—and often again, in a lesser degree, towards the end of the autumn—the scarlet and yellow flowers are delightful. The type will pass safely through a very hard winter when trained against a really warm wall.

L. Standishi and L. fragrantissima are even more valuable than the last in such a position. Under this condition their flowering period is lengthened, and the fragrance is intensified. Even when grown in the conventional manner these two honeysuckles are exceedingly valuable, for not only do they flower at a time when few hardy flowering shrubs are blooming, but the number which bear fragrant blooms in February, or often earlier in the year, is notably small. These early-flowering honeysuckles must not be pruned when the others are receiving attention; unless the work is delayed until after the flowering season is past there will be very little bloom.

The best of the summer-flowering honeysuckles is our native species, with the Dutch and late Dutch varieties. The flowering period varies with the season. If June and July should be hot and dry this is approximately the limit of blossoming, but in a moist year the flowering is prolonged into August, and often till the middle of September. Personally, I do not think that the longer period compensates for the loss of the almost startling fragrance of the hotter years. Who has not memories of a dusty hedgerow on a blazing midsummer's day when from the limp and apparently lifeless yellow-tinted flowers of the honeysuckle came wafts of the most delicious perfume? This native species is no plant for the trim gardener; it is not for one who has a place for every plant, and whose shrubbery is composed of severe specimens, each occupying its allotted space and no more. To derive the greatest enjoyment from it the twining growths must be subjected to no severe discipline, but, like the Drakes and Raleighs of the "good old days," be given leave to go off on a roving commission and take possession, often kindly enough, of whatever they happen upon. Then will it give plenteously of its grace and fragrance; but crab it and confine it, and it sulks. It is for this reason, because it is really a wild creature and cannot be ever thoroughly tamed, that the standard-trained efforts of the Continental nurserymen are so unsatisfactory.

The Goat's-leaf Honeysuckle (L. caprifolium) has so long been naturalised that we may almost look upon it as being a native. It has certain features in common with L. Periclymenum, but the deeper yellowish flowers have bluish tubes, the stems twine from left to right, and it flowers earlier than the true native species, but is equally fragrant. The Japanese L. japonica flexuosa is as fragrant as any honeysuckle, but its yellow flowers are comparatively few. The paler yellow L. flava, from North America, is another exceedingly fragrant species.

Although we find an occasional example out of doors in Cornwall, the largest-flowered species, L. Hildebrandiana, is decidedly tender, and must be grown in a greenhouse. The flowers are four to six inches long, and, opening nearly white, soon become golden-yellow in colour, and on exposure to strong sun change to orange-crimson. The leaves are correspondingly large, and of a rich green.

CECIL AUBREY.

EUPATORIUM WEINMANNIANUM.

Residents in the particularly favoured parts of these islands regard this Eupatorium as a valuable outdoor shrub, as its blossoms are produced during the autumn and early winter months. Where the winters are too severe for it to be looked upon as an outdoor plant it forms a very attractive feature in the greenhouse or conservatory, because, when at its best, it is a mass of clusters of white, sweet-scented blossoms. There are other Eupatoriums well worth cultivation, but E. Weinmannianum and the looser-growing E. reparium are the first to bloom. Of those that flower early in the New Year, I may mention the blush-tinted E. petiolare, and the sturdy-growing, white-flowered E. vernale. In the spring E. ianthinum, with lilac-coloured heads of blossoms, is at its best.—W. T.

THE CHRISTMAS DESSERT TABLE.

A plentiful supply of fruit is certainly a most pleasing feature of the Christmas season, and especially so if it be home grown. There is something in the flavour of British grapes that cannot be equalled by grapes from any other country, and, in the same way, home-grown Cox's Orange Pippin apples have a flavour not found in the same variety grown in any other country—Tasmania, for example.

The gardener or amateur who can provide a full Christmas dessert of the kind and character I suggest has reason to be proud of his achievement, especially if he arranges the fruits in an attractive manner.

Grapes are, without a doubt, the most important fruits for use and display. Among white grapes none can compare with Muscat of Alexandria and Canon Hall muscat. When the latter is well grown it is to be preferred to the former on account of the extra size of the berries, which are straw-yellow in colour, with firm flesh, and of a rich muscat flavour. The Alexandrian muscat, when the berries are of that rich amber tint of colour so pleasing to look at and free from shrivelling, is difficult to excel either in appearance or in flavour. Among black grapes none can equal perfect examples of Mrs. Pince, as, when richly coloured, the desirable flavour of this grape is well brought out. Showy grapes, introduced chiefly to give effect, will include Gros Colmar, Gros Maroc, and Alicante. The two former have huge berries, while all three are generally flushed with a dense bloom that is very attractive.

Pears come next in importance to grapes on the dessert table, and while flavour and quality is the aim, rather than appearance, I cannot do better than recommend Glou Morceau, Winter Nelis, Josephine de Malines, and Hacon's Incomparable.

Apples are homely fruits, and when of fine flavour are much appreciated. Cox's Orange Pippin has no superior in flavour, and when well coloured is most attractive. Some persons think no apple is equal to Ribston Pippin, yet I fear in this case much sentiment has to be imported into the declaration. Anyhow, it is a good, old-fashioned English apple, which we cannot afford to lose. Blenheim Orange, although in many instances past its best, may, from some soils and when specially kept, be available. Apples are often needed to give colour, and in this respect Gascoyne's Scarlet, with its brilliancy and size, can be used with great effect.

Among smaller fruits, but which cannot be omitted, we have Kentish Cob nuts, filberts, and walnuts. Royal Medlars should not be omitted, as many people have a weakness for their peculiar flavour.

To secure the finest display possible, and to further increase the variety of fruits, we must include imported pineapples, Canary bananas, Jaffa oranges, and almonds. Where foreign apples are a necessity the best varieties at Christmas-time, having regard to quality as well as appearance, are King of Tompkin's County, Newtown Pippin, Banana Apple, and Grime's Golden Pippin. The latter is a remarkable apple of fine golden colour and rich flavour; indeed, it runs the best of our home-grown apples closely for quality.

The arrangement of the fruits is important, and as a rule china receptacles are used of many shapes and sizes. In the case of grapes, tall stands, on which two bunches of one variety can be displayed, produce a fine effect. Pears and apples should be liberally used, and dishes should contain a dozen handsome fruits. To fill up the spaces on the table, smaller dishes of apples and oranges may be employed to brighten up the duller hues of nuts, medlars, or Josephine de Malines pears.

The decorations for the fruit dishes need consideration, and must, in some degree, be governed by the general colour of the room, the lighting arrangements, and the colours of the lamps and shades. Vine leaves, from such varieties as Gros Guillaume or Alicante, with tints of red and yellow, harmonise with all fruits, except, perhaps, the brightest apples. In the latter case the yellow-tinted leaves only should be employed. Where vine-leaves cannot be obtained the coloured foliage of Berberis aquifolium is quite good; and if something more sombre is needed for bright apples, then Portugal laurel may be used. Sprays of golden privet add bits of colour to green pears. Holly sprays, both variegated and green, with berries attached, can be deftly introduced to give a seasonable effect.

E. MOLYNEUX, V.M.H.

Swanmore Park.

WINTER SPRAYING.

Many of the insect pests that attack fruit trees are accustomed to hibernate in the imago state during the winter months. It is necessary, of course, that they should find some suitable shelter for this period of resting; heavy lichens provide this shelter in a most admirable form, and the moss and algæ which also infest the trees to a large extent in the winter months, especially in damp, low-lying situations, offer similar shelters to these hibernating insects. To destroy the pests the first step therefore should be to remove the protective medium in which they rest throughout the winter, and for that purpose suitable winter washes should be employed.

Caustic washes are generally recommended for clearing away all moss, lichens, and insect life in winter, but a considerable amount of care should be exercised in preparing such washes. Gardeners are not, as a rule, experts in chemistry, and so many go wrong in mixing various materials that react upon each other, to produce a compound which could be obtained anywhere for about half the cost. Like the manuring of farm crops, one needs to wash fruit trees in winter "with brains"; the mixing and application of winter washes should be put on a scientific basis.

Crude potash, or pearlash, potassium chloride, saltpetre, or crude sulphate of potash, as it is variously called, is generally recommended as an ingredient in winter washes, together with a similar proportion of caustic soda, and a certain quantity of water; but in the majority of cases this crude material contains a great many impurities, and also an excess of carbonic acid in the form of bicarbonate. The caustic soda, when mixed with it, quickly reacts with this carbonic acid, and forms compounds which are of practically no use at all, so far as the original purpose of the wash is concerned.

Undoubtedly it is better to use a simple caustic wash, and one that may be recommended for this purpose is prepared by dissolving 1lb. of 98 per cent. caustic soda in twenty gallons of water. This wash will prove to be particularly effective, and, if need be, 1lb. of common washing soda may be added to the twenty gallons of caustic soda solution, although this is not by any means always necessary or advisable. The fact is, continual spraying with a caustic wash tends to injure the bark of fruit trees to some extent, and, consequently, the health of the tree itself may be impaired. One may obviate this undesirable effect, however, by spraying with an iron solution a few hours after giving the caustic wash. The former is useful as a fungicide, and negatives any injurious effects that may be caused by the caustic wash. It may be prepared by dissolving 1lb. of sulphate of iron in ten gallons of water, and adding 1oz. of sulphuric acid.

As regards the best time at which to apply these winter washes, a great deal, of course, depends upon the size of the plantation; where some thousands of trees are grown, for instance, an early start must necessarily be made, although the majority of small growers are accustomed to leave the work until just before the opening of the bud. At the same time, however, it is probable that better effects would be secured by earlier spraying, especially for the destruction of the eggs of such pests as Psylla Mali in apples, since these eggs will not have had time to become thoroughly hardened in their shell.

Besides the ordinary caustic wash there are many well-known proprietary washes on the market that have earned no little recommendation from experts. A properly made lime-sulphur wash is no doubt exceedingly effective, for, judging by the ingredients in it, it should certainly have some corrosive action on the shells of eggs deposited on the bark, in autumn, by oviparous females of the aphis, and also on the egg shells of the minute psylla ova. And here again is another strong argument in favour of early winter spraying. In all cases prevention is better than cure, and if these oviparous females can be destroyed early in the winter, and so prevented from depositing their eggs, a great deal of trouble and subsequent labour will be saved in spring.

Pickering's formula for a winter wash is one that has been very strongly recommended by practical horticulturists. It is composed of the following ingredients: Sulphate of iron, 1lb.; lime, ¼lb.; caustic soda, 2lb.; paraffin (solar distillate), 5 pints; and water to make ten gallons. The sulphate of iron is dissolved in about nine gallons of water; the lime is then slaked in a little water, and a little more water is next added to make a "milk." After running this milk into the iron sulphate solution the paraffin is churned into the mixture, and the powdered caustic soda is added to the whole just before the wash is required for use. There has also been considerable experiment with a lime and salt wash for winter use, the expected effect being that the eggs may be coated so that they will not hatch.

Lime spraying is also practised by some growers as a winter dressing, the great advantage here being that the lime—which is applied hot—has considerable cleansing powers and a certain amount of corrosive effect on the eggs of insects. Scale insects can be cleared from fruit trees by lime spraying, and the fluid that falls to the ground is likewise useful in supplying the trees with carbonate of lime; from 5 cwt. to 2 tons of lime per acre are required for efficient spraying, so that there may be quite a considerable amount of carbonate of lime available in this way. The best material to use is Buxton lime, and it should be ground as finely as possible. This lime wash should be applied at a temperature of not less than 100 degrees F.; the fresh lump lime should be slaked with hot water for this purpose.

J. C. NEWSHAM, F.L.S.

Old Basing.

THE CHARM OF WINTER.

"When icicles hang by the wall,
And Dick the shepherd blows his nail,
And Tom bears logs into the hall,
And milk comes frozen home in pail."
"LOVE'S LABOUR'S LOST."

When people speak of the delights of winter they are generally thinking of winter sports, shooting, dancing, or the like, but to refer to them in a journal mainly given up to gardening—generally regarded as a more or less fair-weather occupation—will seem a little incongruous, though not to those who, like Wordsworth, have learned to look on Nature as though they loved her. A much-travelled and literary man, writing in one of the London dailies some time ago, said that the climate of this country was as good as any during six months of the year, and better than any the other six. It is a truism that it is to the changefulness, or, as some call it, the fickleness, of the English seasons that so much of their charm is due.

Do people ever reflect what a monotonous time it would be, and what an amount of enjoyment we who love the country would lose, if we were to have perpetual summer? The late Lord Dufferin, in his "Letters from High Latitudes," tells us of the tragedy of a cock which they took on board at Stornaway on their voyage north. As the nights became shorter and shorter it seemed to get bewildered by the phenomena of dawn and sunset being continuous, and when both entirely ceased it almost gave up crowing, and became more and more melancholy, finally jumping overboard and drowning. We do not realise how great an element change is in our happiness, and, glorious though the summer days are, no one wishes them to be longer, or would like the night to disappear altogether, so that we should lose the beauty and the magic of the summer sunset, though few of us ever see the no less beautiful sunrise at that season.

Many began to tire of the long summer of 1911, and even flowers may last so long in beauty that we almost cease to appreciate them. We should take little pleasure in a bed of Paul Crampel pelargonium after a continuous blaze for a twelvemonth. As Ruskin says: "The character of everything is best manifest by contrast. Rest can only be enjoyed after labour; sound, to be heard clearly, must rise out of silence; light is exhibited by darkness, darkness by light; and so on in all things.

As age increases we learn, or should learn, how to live and to get more enjoyment out of the world around us, though it was quite a middle-aged man whom I once heard remark that in this climate there were only two months of summer and the rest was winter. He was old enough to have learned that every season offers us special charms, and winter is by no means an exception, even to the gardener. No part of the latter's reflections in the winter need be given up to longings for the spring and summer, but if he is wise he will accept the enjoyments that offer, and when he realises how many they are, he may be able to say:

"At Christmas I no more desire a rose
Than wish snow in May's new-fangled mirth;
But like each thing that in season grows."

Winter gives him a breathing space, a little more time for rest, study and reflection, to fit him better for his work another year. It is a very brief pause, and only really exists in its fulness during a week or two of severe weather, and even then there are plenty of indoor matters to see to in connection with his hobby or business, partly a clearing up from the past, and partly a preparing for the future, so that when the fine weather comes he may not have to waste any part of the beautiful spring days doing things that might have been done in the winter evenings. There are the nets to overhaul and put away for a short time after they are taken off the latest of the dwarf apples and pears; coverings to be got ready for the outdoor apricots and peaches, when in blossom; flower sticks to be tied up in bundles of a size; cleaning, arranging, and packing up the seeds of the past season which we thought it worth while to save; and, soon after Christmas, the study of catalogues, so that we may have all our selections made, and our plans decided upon for beds and borders, not forgetting one of the delights of winter evenings—the inspection of the fruit store, not only for the removal of any unsound specimens, but the selection of the next varieties to use in their best condition.

What little daylight we can get in the garden—assuming we are amateurs and busy men, as we all are nowadays—there is always enough digging or earth-work of some sort to keep us physically fit during the winter, and if we have not a great deal of digging we shall be wise to make what there is hold out by double or three-spit trenching, and burying all the rubbish and refuse we can get hold of, and then, if there is a dry summer, we shall see the good results of it.

Is anything more beautiful at any time of the year than a clear frosty morning, not too sharp, perhaps only just sharp enough to add zest and enjoyment, as well as cleanliness, to a nice piece of digging? In a sudden sharp spell there are many things which want looking after, things becoming urgent which we scarcely realised needed doing before. There are sure to be some subjects which want mulching to make them safe, such as tritomas, some kinds of clematis, tea roses, half-hardy climbers like Eccremocarpus scaber, and any newly-planted trees or shrubs; while the frames must be seen to, and any plants for which there is no room in them set together in a sheltered corner, and protection of some sort thrown over them. Then the celery, celeriac, and leeks must be looked after, and enough taken up at the beginning of the frost to tide us over a bad spell if it should come.

There is always a zest about this work when frost first comes, as it is a change from the business of the past ten or twelve months; and when we have it all done, and the tender things in the garden are made safe, or as safe as we can make them, and nothing remains that we can do, then, if the cold continues, we can go out and enjoy the winter country, with its wondrous frost and snow pictures, and give ourselves up to it, with the delight of coming home comfortably tired in the twilight of a keen winter afternoon to see a blazing fire and a well-spread tea table, and—the crown to all—happy faces round it. It is such a change to feel that there is nothing we can do in the garden—a sensation we do not experience by daylight for ten months at least of the year—that, however enthusiastic we may be in the work of the garden, there is a great pleasure in being able to give it up without self-reproach. As a mother said once: "I am very fond of my children, but I was glad to be away from them for a few days."

Then, when the frost goes, if only for a little while, it seems like spring, especially before breakfast, and there is a softness which is often wanting in May, while the thrushes and blackbirds are already in song.

ALGER PETTS.

THE CHARM OF WINTER: A WINTER SCENE IN THE GARDENS AT OAKWOOD, WYLAM-ON-TYNE.

APPLE NOTES, 1913.

Every season has its peculiarities, and in few things are the results manifested so markedly as in the apple crop, and that sometimes in a way quite different from what we should expect. In the exceptionally hot summer of 1911, many varieties scarcely began to colour until the weather changed in the middle of September; and they were ready to gather little, if any, earlier than usual. The summer of 1912 was a cool one, with a cold and wet August, and apples were ready to gather a week, or even a fortnight, earlier than was the case the year before.

The behaviour of apples in 1913 has been, perhaps, more normal, more what we should have been led to expect from the weather of the year. Some expressed surprise that apples were so late in maturing in such a beautiful autumn, but they forgot that the sun and warmth of the short days did not make amends for their absence in June, July, and early August. It was frequently remarked at the Fruit Show at the Royal Horticultural Hall that there was a general appearance of immaturity in the apples, so many looking as if they ought to have had another month on the tree; and it was not to be wondered at, as the show was a week or a fortnight earlier than has sometimes been the case, and those who arranged the date a year before could not foresee that this was going to be a season of delayed maturity.

There is no doubt that the size of apples suffered from the dryness of the ground in July and August, for, though there was no great drought or heat, but, on the contrary, a cool summer, with a good many showers, the soil a foot below the surface was practically untouched by rain in many places from May till October.

This was so, at least, in Essex. There is no doubt this answers the question which has been asked as to the failure of some varieties to swell as they should do, especially on heavily-laden standards, where in some cases the fruit seemed to remain about the same size during most of August and September, not beginning to swell at all fast until the heavy rains of late September and early October, after which it attained a fair size where it was allowed to hang long enough.

On dwarf trees, where a mulch was applied, and perhaps a little help given in the way of food and water, apples grew to a good size—in many cases well above the average—as growth continued so late owing to the warmth and dampness of October. This late growth, however, was not always favourable to colour, and possibly the result will be seen in some amount of shrivelling amongst the late varieties after Christmas, this being often noticed where growth continues late in the autumn, as on wet soils.

As curious instances of unwonted size among dessert varieties in my own garden, I might mention that I had several specimens of Lord Burghley, Adam's Pearmain, Duke of Devonshire, Egremont Russett, and even Sturmer Pippin, weighing seven ounces each, and even more in the case of the first-named, while six ounces was quite a common weight.

It has been suggested that apples will not keep well this winter. That depends on several circumstances. Where people took fright at a few fruits dropping, and had mid-season and even late varieties gathered in September, while the temperature of the fruit room during October was often as near 60 as 50 degrees, the ripening process must have been very much hastened, even among the late varieties.

Where apples were allowed to hang until the latter part of October, or even the early part of November, and then kept in a cool room, there does not seem any reason why they should not keep as well as usual — provided all with even the smallest speck or puncture are kept away from the sound ones.

I may mention the way I treated my Blenheim Oranges as an illustration of the varying keeping qualities of the same variety. I began gathering these early in September, and made a picking every week until the last week in October, all from the same tree. The result was that I had specimens in good dessert condition as early as the middle of October, while those gathered last were still green and unattractive in November.

Most people find a good deal of Codlin Maggot about this year where spraying was not done for it, while complaints of injury by birds or wasps, or both, seem universal. If all such damaged specimens of choice dessert sorts are put by themselves on easily accessible shelves, with the damaged part uppermost so that the eye can easily look over them every few days, most of them may be obtained in fair condition for eating, and none of them need be wholly wasted.

ALGER PETTS.

THE CHARM OF WINTER: THE QUEEN 'S COTTAGE, ROYAL GARDENS, KEW, AFTER A SNOWSTORM.

ORNAMENTATION IN THE JAPANESE GARDEN.

The whole subject of ornamentation in the Japanese garden is too complex for full consideration within the confines of a short article. Japanese gardening is an art elaborated to such a degree as to be practically beyond the scope of the average European garden-maker's mind and craft. A wealth of material is drawn upon, many diverse phases are portrayed, each separate feature has its own meaning, and yet all are essential in a carefully-ordered scheme.

To assert that certain definite artistic objects in stone and bronze are necessary for a Japanese garden would be the greatest mistake imaginable. Everything depends upon the garden itself. The true Japanese garden may portray a mountain torrent, a wind-swept grassy moorland, a maple valley, an iris swamp, or even the Isles of Matsushima or the mountains around Nikko. Judge, then, how any set formula of ornamentation would answer for each and all of these ideas.

However, a discussion of the various stone lanterns, etc., may do good. These lanterns are chiefly in granite, though some are in bronze, and many of the latter are very elaborate. First utilised for the needs of the ancient Japanese temples, they provided a fitting opportunity for the quaint artistry of the old-time workers in stone. At a very early date they were introduced into landscape gardening by the artists of those early times, and distinct positions were assigned to the various varieties. Without going into all the different types, I may briefly name the Snow-scene, the Valley, and the Low Basin shapes among the dwarf lanterns; and the Kasuga, Dragon, Shrine, Oribe, and Mile-post shapes among the tall lanterns.

The lantern-head is carved out to receive an oil lamp, and the faint fitful light from these lamps, glimmering through waving bamboos, lighting up the branches of some dark pine, or catching the ripples of the lake, and turning them into scales of silver, is a very beautiful artistic touch. We may utilise the tall lanterns by the sides of hills, or against a beautiful shrub or a grove of trees. The low lanterns are for the valleys, the water-sides, and foot-ways, and the broad-roofed Snow-scene lanterns are modelled to catch and hold the flakes of falling snow.

Hanging lanterns of bronze are used for suspending from the eaves of tea-houses and dwelling-houses, and are thus serviceable for lighting the verandah.

Bronze standard lanterns (often very beautiful) have no real garden value, and, with the Japanese, are devoted to temple service. Garden pagodas, or stone towers, are hewn out of similar stone to the garden lanterns, and are small reproductions of the Chinese pagodas, in simple style. They vary in height and design, and are usually made in three or five tiers, but there is no fixed rule as to the number. They are chiefly used on hillsides, and in association with weather-worn rocks, gnarled and partially-stunted trees, and help to give an idea of a greater distance than really exists.

The Water-basin lantern, always seen in gardens in Japan, has, of course, its utilitarian purpose, and if introduced into Anglicised Japanese gardens must be carefully placed. The simplest type is that hollowed out of natural rock, and if this can be arranged so as to be supplied from a small cascade or a dripping well so much the better for the garden effect.

However, there are other ornamental patterns, but I may say that the Stone Jar and the Stone Bottle shapes are very simple in design, and associate with the ordinary shrubs, etc., of the Japanese garden. In the case of lanterns, water basins, pagodas, etc., there is also the inevitable association of stepping-stones.

Then there are the bronze eagles, monkeys, cranes, deer, etc. These are usually very fine productions, and perhaps the cranes are the greatest favourites with garden-makers; but to my mind the best touch of beauty is the introduction of a pair of real cranes, which are exquisite, especially if in a garden arranged with waterways in a natural style.

Bronze and metal work are not used in gardens in Japan, like stone and wood work, so I would not urge their adoption here, but may I say that many of the masterpieces of the Japanese metal-workers would grandly grace an English hall, and would associate splendidly with a background of dark oak. P. S. HAYWARD.

STONE LANTERNS IN THE JAPANESE GARDEN AT FANHAMS HALL, WARE.

ALBINO CYPRIPEDIUMS.

Among the many different and beautiful cypripediums probably none have been so eagerly sought after as the pure albinos, and as these have, during the last few years, received some notable additions, it may be of interest to briefly note the history of this class.

The honour of exhibiting the first pure albino belongs to R. Brooman-White, Esq., and the Messrs. Linden. It was at the meeting of the Royal Horticultural Society, held on April 27, 1886, that the now well-known C. Lawrenceanum Hyeanum, named in honour of Mons. Jules Hye, Ghent, was first shown, and received a First Class Certificate. This remarkable variety caused a great sensation, the beautiful albino having a dorsal sepal of the purest snow-white, veined with light green, the petals being yellowish-green with deeper green veins, and the pouch bright green, netted with veins of a brighter hue, the whole making a superb variation from the normal form.

The second pure albino appeared at the Temple Show in the year 1894, when Messrs. Sanders and Sons exhibited the beautiful C. callosum Sanderæ, and obtained a First Class Certificate for this charming variety, which is more graceful in form than C. Lawrenceanum Hyeanum, to which it is comparable in colour. During the same year C. insigne Sanderianum, the true albino of this popular species, appeared; a charming variety, smaller than the type, having flowers of light yellowish-green, with darker green reticulated veins, and a broad white border to the dorsal sepal. This was introduced by Messrs. Sander and Sons, and exhibited by the late Baron Schroder at the meeting of the Royal Horticultural Society, held December 27, when it secured an Award of Merit.

The year 1895 saw a most beautiful addition to this group of albinos, and great was the surprise at the meeting of the Royal Horticultural Society, held on June 11, when C. bellatulum album was shown for the first time. It was introduced by Mr. R. Moore, of Bradford, and flowered in the collection of the late Sir Frederick Wigan, Bart., who exhibited the plant, which deservedly received a First Class Certificate. It is the purest albino cypripedium we have, being quite white throughout, save for a little yellow in the centre of the staminode.

The year 1900 will always be remembered for the flowering of C. Maudiæ, a cross between C. Lawrenceanum Hyeanum and C. callosum Sanderæ. The flowering of this hybrid gave proof that albinism is a character which can be reproduced true from seed. This interesting hybrid was raised by Messrs. Charlesworth and Co., but was not, however, certificated until July 30, 1901, when the variety magnificum was exhibited by the late Captain G. W. Law Schofield, and obtained a First Class Certificate. The accompanying reproduction of a variety of this charming orchid shows its intermediate character and gives an excellent idea of its beauty. It is probably the best of all the albinos, and certainly yields to no other orchid in the ease with which it can be grown and flowered.

C. Rossetti was the second hybrid of this class to appear, and made another very important contribution to the subject of inheritance of labinism. This very beautiful cypripedium is the result of crossing C. insigne Sanderianum with C. Maudiæ. It was raised at Westonbirt, and exhibited at the Royal Horticultural Hall by Sir George Holford, on August 18, 1908, when it received an Award of Merit. Since then much finer forms have been shown, but, strange to say, they have failed in each case to gain the higher certificate. C. Rosetti is a beautiful bright yellow flower, with some green veining on the dorsal sepal, and the upper part white; it shows no trace of any other colour, thus proving that C. i. Sanderianum is the true albino of

A FINE SPECIMEN OF CYPRIPEDIUM MAUDIÆ.

C. insigne, as C. i. Sanderæ and C. Maudiæ, previously crossed together, produced all coloured flowers. During this same year another very beautiful albino was recorded. On October 13, H. J. Bromilow, Esq., exhibited Cypripedium Charlesworthi Bromilowianum, which received a First Class Certificate. There is no trace of the usual brown markings in this variety, the dorsal sepal being pure white, with a small green marking at the base; the petals and lip are pale green, and the staminode porcelain-white. This charming albino, used as a parent with either of the above, should prove most valuable to hybridists.

H. ALEXANDER.

The Gardens, Westonbirt.

SHRUBS FOR THE ROCK GARDEN.

A rock garden without shrubs would present a rather flat appearance, and be somewhat bare at certain seasons of the year, especially when the alpine plants were not in blossom. The inclusion of shrubs of moderate growth gives character and diversity, besides adding to its floral attractions very considerably. In addition to the use of flowering shrubs there are several evergreen kinds that are especially suitable, as they lend a certain warmth and individuality to the rock garden during the winter months when a rock garden is least attractive.

It is very necessary to choose shrubs that will not encroach on the alpine treasures when they reach maturity, and it is foolish to choose those which are gross feeders. There are, however, a number of desirable shrubs for the purpose in view, and in a great many instances a rigid selection will have to be made. The more vigorous kinds must of necessity be placed in the background, and in large rockeries composed of massive boulders these will prove a most desirable addition to the arrangement.

One plant in particular that might be more generally used is Juniperus prostrata, and when planted behind large rocks, so that it can grow naturally over them, it is very effective. This juniper has been rather largely utilised here in such manner, and is greatly admired by visitors. Dwarf rhododendrons are especially good. R. racemosum is one of the best, and its beautiful rose-pink blossoms, produced in dense clusters, are very showy. R. ferrugineum, with rich pink flowers, and R. myrtifolium, with delicate rose-coloured blooms, should both be grown; while R. præcox bears rosy-lilac flowers quite early in the year. Azalea amœna, with crimson-purple blossoms, and A. rosæflora, a charming kind with double salmon-pink flowers, are both very useful. A. mollis and its varieties may be planted with great effect, as no other shrubs give a brighter display of bloom, and, in common with the rhododendrons, they flourish best in a light peaty soil.

Several of the berberis are serviceable, and of these B. stenophylla is one of the most graceful, but it requires judicious pruning to keep it within bounds. B. Darwini nana is also attractive, and B. dulcis nana is a delightful little shrub of quite compact growth. B. Wilsonæ is likely to become a great favourite; while in the autumn none surpasses B. Thunbergi for brilliance of foliage.

The cotoneasters should be represented by C. microphylla and C. horizontalis, their crimson berries in autumn being a great attraction. Cydonia japonica Simoni, with its deep crimson blossoms, should be planted; and Ægle sepiaria looks quite at home on the rockery, its rich golden foliage in late summer and autumn making it very showy.

Some of the daphnes create a beautiful effect, and D. blagayana, with lovely ivory-white blossoms, should always be grown. It succeeds best when its branches are held down by a number of loose stones. D. cneorum succeeds under similar treatment; its flowers are soft pink, and deliciously scented. Choisya ternata thrives among the rocks, but needs a sheltered position; its white waxy flowers are very sweet. Cytisus nigricans is valuable, as it flowers later than most kinds, and C. præcox is especially showy. C. kewensis should never be omitted, as its trailing habit renders it ideal for planting to hang over the rocks, while its creamy-white flowers never fail to please.

For planting in a dry position Genista hispanica is quite a good subject. It is dwarf in growth, and its bright yellow blossoms are very showy. G. pilosa is a prostrate variety that should be included. Hydrangea petiolaris is quite a distinct plant of loose spreading growth, and its creamy-white flowers are light and pretty. Several of the shrubby spiræas are worthy of inclusion, and of these S. bullata, a dwarf Japanese species, with bright crimson blossoms, is one of the most distinct; while S. Thunbergi and S. japonica Anthony Waterer may also be planted. The double-flowered furze (Ulex europæa fl. pl.) is especially showy when in bloom, and is well worth a place.

Then there are the Rock Roses that are so bright when in blossom, and of these Cistus florentinus is a compact variety growing 2½ft. high, with beautiful white blossoms produced freely throughout the summer. C. algeriensis is a dwarf variety with bright yellow flowers; and C. ladaniferus has large white flowers with chocolate blotch. Prunus prostrata is quite a dwarf plant, smothered in rosy-white blossoms in spring; and P. pumila is a diminutive species that flowers freely, while the foliage turns a brilliant crimson in the autumn.

The hardy heaths must not be omitted, and of these probably Erica carnea is the most desirable, as it produces its rosy-red blossoms from January to May, and looks extremely pretty among the rocks. E. australis, E. codonodes, E. mediterranea, and E. m. hybrida should all be included. Romneya Coulteri (the Californian Tree Poppy), a very handsome plant with large white flowers, prefers a warm position and light, well-drained soil. Several of the veronicas should be planted, as they are ideal plants for the rock garden. The magnolias are strikingly handsome, and are especially effective in early spring; M. stellata is one of the most beautiful, with its white blossoms; while M. conspicua and M. Soulangeana should certainly be planted, if space permits. Another subject that looks very well is Ilex Pernyi, a dwarf Chinese holly.

J. GARDNER.

Batsford Park Gardens.

Echeveria fulgens.—This plant, now included in the genus Cotyledon, is a bright-flowered subject for the greenhouse during the winter months. Apart from any other consideration, its continuous flowering qualities stand it in good stead. It forms a sturdy stem, 6 to 8 inches in height, and is furnished with rather pale, glaucous-green leaves. The flowers, borne in panicles, are tubular, and of a bright red colour with a yellow base. E. fulgens is a native of Mexico, and has been long known in this country.—S. W.

NEW PLANTS AND FLOWERS.

STANHOPEA GRANDIFLORA.

A well-known and handsome species that belongs to the earliest day of orchid collecting. It was originally described and figured by Humboldt and Bongraud in 1805 as Epidendrum grandiflorum, from plants collected in shady woods near Cuneca, in Ecuador. Later it was transferred by Kunth to Anguloa, and subsequently it was placed by Reichenbach the younger in its true genus as Stanhopea grandiflora. The flowers are relatively of large size and showy, the petals and sepals are yellow, the lip white, and the column greenish-white, the whole of the segments being blotched with purple. Bot. Mag., t. 8,517.

RHODODENDRON HÆMATOCHEILUM.

A Chinese species, raised by Messrs. J. Veitch and Sons from seed collected by Mr. E. H. Wilson. The flowers are of medium size, and borne in elegant trusses, the colour of the corolla is deep red when partly expanded, but bright carmine when fully developed, with white throat. It has proved hardy in the Coombe Wood nurseries, and thrives under the same conditions as the other rhododendrons that have been introduced from China within recent years. Bot. Mag., t. 8,518.

NAUTILOCALYX PALLIDUS.

An interesting plant, which was sent from Peru by Mr. Forget, when collecting for Messrs. Sander and Sons. It has stout, fleshy stems, of which several are produced from near the base, and the flowers are cream-white, and borne in cymes along their whole length. It thrives in a warm greenhouse. Bot Mag., t. 8,519.

SCHIZOPHRAGMA HYDRANGEOIDES.

This is the true Schizophragma hydrangeoides, which is a comparatively recent introduction, and appears to have first bloomed in this country with the late Mr. B. E. Chambers, of Grayswood, Haslemere. The flowers are cream-white, and produced in a terminal corymb, the fertile flowers very small, and crowded, and the sterile flowers, which are confined to the margin of the corymb, are reduced to a single membraneous cream-white cordate or ovate bract. It has a scandent habit, and is described as reaching the tops of trees forty feet in height. The plant which has during the past two generations been common in English gardens under this name is Hydrangea petiolaris, an allied climbing Japanese shrub. Bot. Mag., t. 8;520.

STREPTOCARPUS CYANEUS.

This attractive species is described as closely allied to the well-known S. Rexi, but differing in having the corolla tube much shorter and more dilated at the throat. S. cyaneus was first met with in 1891 by Mr. E. G. Galpin in wooded kloofs near Barberton, but the specimens on which the original description was based were collected in 1905 by Mr. J. Burtt Davy, who found them growing on rocks and tree trunks in dense shade at Forbes Reef Bush, in Swaziland. The flowers vary in colour from pale lavender or blue to rose-pink or rose-mauve; in the latter case the two upper lobes shade into blue in the central area. Bot. Mag., t. 8,521.

RHODODENDRON SETOSUM.

A neat little species found on the moorland tracts and rocky slopes characteristic of the loftier passes leading across the Eastern Himalaya into Tibet, within a few miles of the summits of which it reaches its uppermost limits. "Here," it is stated, "the brilliant red-purple flowers render the species a charming object, and, after hot sunshine, the air is filled with the heavy aroma due to a copious resinous secretion, which testifies to the comparatively dry climate it enjoys." It is suggested that, from its dwarf habit and slow growth, it is best adapted for the rock garden, and that a peaty soil should be provided for it. Bot. Mag., t. 8,523.

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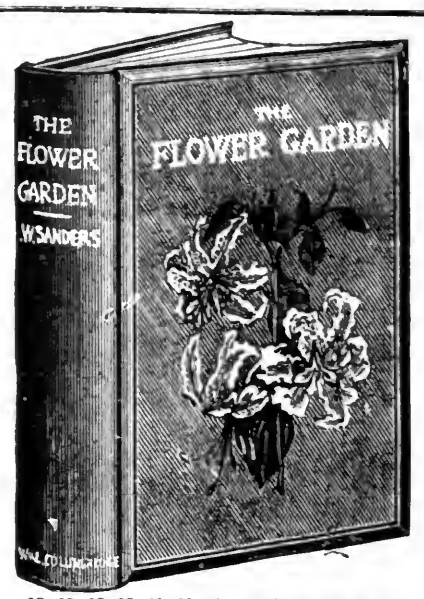

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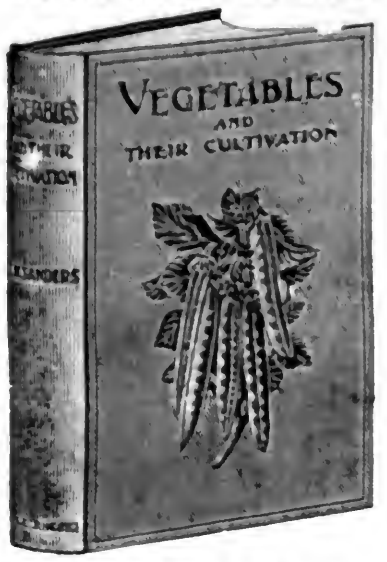

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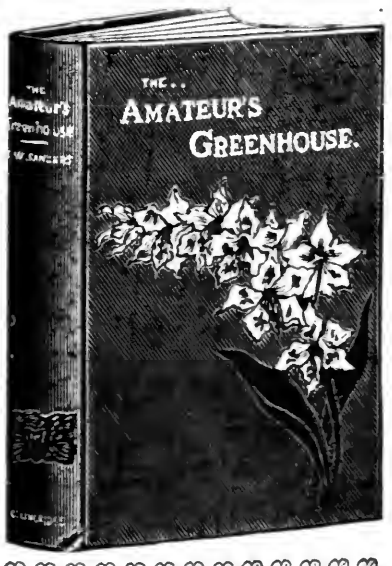

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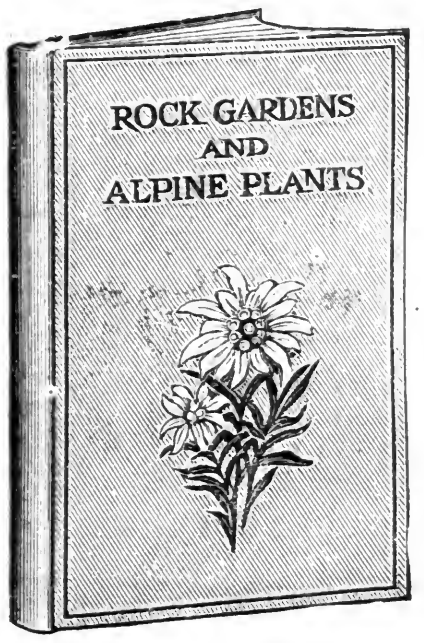

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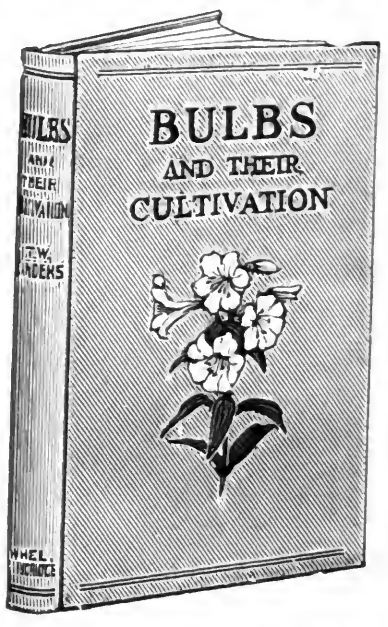

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A REMARKABLE HARTSTONGUE FERN.

As a peculiar instance of confirmed or fixed mutations in two generations, in connection with the well-known Hartstongue Fern (Scolopendrium vulgare), I send herewith an illustration of a constant form S. v. sagittato-grandiceps Druery, raised by me some years since under the following circumstances. A plant was found wild at St. Austell, Cornwall, in which the tips of the fronds were divided into three or four parts (S. v. lobatum), as is so frequently found to be the case where this fern is plentiful. In addition to this, however, the normally round lobes on the frond base were somewhat lengthened, and had a distinct midrib, while the ends of these were dilated and slightly forked as well. In view of these incipient characters, as the wild frond sent for my opinion bore plenty of spores, I made a sowing, with the result that a considerable number of plants were produced, the great majority of which varied from quite normal ones to others akin to the parent.

The majority were not considered worthy of preservation. The minority, however, consisted of no less than nine plants, all alike, and of the extraordinary type which is depicted in the illustration. In these the cresting, feeble as it was in the parent and the rest of its offspring, has been developed so strongly, not only at the frond terminal but also in the basal lobes, that the normal, strap-like portion of the frond has been entirely eliminated in favour of the terminal cresting. The result in many of the fronds is as shown, viz., three ball-like crests surmounting the stalk, each having its own midrib, and thus utterly transforming the fern.

Spores are very sparsely produced, but, of course, I took the first opportunity of testing their capacity, with the rather unexpected result, remembering the variability of the first crop, that every plant is an exact replica of the new form, thus showing that the mutation is fixed, and that the variable influence of the original find is eliminated. An additional feature is the occasional production of bulbils on the surface of the fronds.

In some fronds the cresting is still more exaggerated than in the one depicted, the three bunches being agglomerated into one ball, in which, however, the three midribs, indicating the retention of the sagittate or barbed character, are clearly traceable. There is an exotic asplenium (A. hemionitis), with fronds of the same tripartite or sagittate character, of which I found a tasselled variety in the Azores, and this has been exactly imitated by a wild, native scolopendrium spor (S. v. hemiontiodes) of which there is also a tasselled form. So far, however, nothing has been found or raised which at all resembles the variety now discussed. It should be particularly noted that the spores from which this section originated were taken from the wild original frond, and that consequently the mutation cannot in any way be imputed to cultural influence, nor to environment, since one and the same form yielded both the variable progeny described, and the nine remarkable plants found amongst them.

CHAS. T. DRUERY, F.L.S., V.M.H.

Eupatorium vernale.—This is a most useful plant for flowering after the chrysanthemums, but in order to keep it from blooming too early it must be kept as cool as possible. We have a batch still in cold frames, and it will prove of great value during the month of January.

HERBACEOUS LUPINS.

Lupinus polyphyllus is a plant of great beauty; it is one of the most reliable of June-flowering perennials, and, once established, it lives to a great age, succeeding in practically any kind of soil, although it naturally prefers one that is light. Too frequently one finds it represented in gardens by plants far too small to give any decided effect; in small gardens, where space is always at a premium, this cannot well be altered, but in larger gardens it should be represented by masses of several yards in extent, placed in commanding positions, for the lupin is a stately subject, that imparts dignity to a June border.

A REMARKABLE HARTSTONGUE FERN.
(Scolopendrium vulgare sagittato-grandiceps.)

Among the numerous varieties in commerce at the present time I would include four under this arrangement, namely, the type, for its rich shade of blue, the variety Foxi, for the beautiful charm of its bicolor flowers, which are neither flaked nor bizarre, but one half of the flower clear blue the other pure white; then the variety alba, quite a creamy-white in the early stages, but having greater purity in the developed flowers; and, lastly, the variety Moerheimi, with its captivating flowers of delicate pink, the keel only a trifle deeper than a blush, while the standards incline a little to rose. There is a stately dignity in the manner in which those ample spires of colour rise above the soft, yet luxuriant, mound of leafage, and instinctively with the opening of the lupin comes the impression that the season of brilliant sunshine and of flowers is with us.

Although herbaceous lupins are border plants of the highest excellence there are other positions wherein they acquit themselves with merit. They are ideal subjects for the pleasure grounds if given positions where they receive a fair amount of light. If the ground is deeply worked before planting success is assured, and then practically few perennial plants can surpass them for a lasting and economical display.

Lupins may safely be planted any time during the dormant season, and only in few cases should the addition of farmyard manure be made when planting; ordinary garden soil is generally rich enough for their requirements, while planting should be carried out with the intention of allowing the plants to remain undisturbed for several years.

S. H.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEED SOWING.—At the present season there are seed vessels ripening on many orchids, more especially the cypripediums. From the present time onwards the seeds may be sown as they ripen. There is little progress made under the most favourable conditions at this season of the year in respect to germination, but in the case of most seeds slow germination is desirable, and the prevailing conditions are such that the plants will remain in a moist state for some time, so that frequently watering the seed beds is unnecessary. This is an advantage, for if there is one thing more fatal to germination than another it is the necessity of frequently watering the seed beds, and, however carefully this operation is carried out, it is a difficult matter to prevent floating the light seeds from the positions in which they have been placed. Any carelessness in the application of water washes the seeds over the sides of the pots to destruction. The desirability of inducing the seeds to commence germination with the least possible need for watering will thus be apparent.

SEEDS OF WINTER-FLOWERING CYPRIPEDIUMS we sow now as soon as ripe. It is desirable to select plants for seed beds that have been repotted a few weeks previously, or those which have the surface of the potting compost in a good state of preservation, and are likely to remain good for at least two years. The germination of cypripediums is very erratic. Seeds from the same capsule may be sown on a half-dozen surfaces, and seedlings will only appear on one or two of them. In some cases, from the same seed vessel, the seeds may be found germinating in a few days in one or more pots, and it may be a year or longer before any sign of germination is shown in others. Then, again, no sign of germination may appear for a year or more, till, after giving up all hope, we suddenly find a good crop of seedlings.

SEEDS OF C. ANGELA (Fairieanum × niveum) germinated on a plant of C. niveum after the earlier plants from the same sowing had flowered. It will generally be found that seeds of winter-flowering cypripediums sown in December or January usually germinate steadily, and have the advantage of lengthening days to gradually assist development, and so good plants are obtained the first year. It is desirable that the seed beds should be thoroughly moistened the day previously to sowing.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

THE CONSERVATORY.—Now that the chrysanthemum season is drawing to a close the provision of flowers for the conservatory will require much care and forethought. Shrubs which were potted up in November will readily force now, but in order to keep them in bloom as long as possible they should not be taken direct from the forcing house to the conservatory, but be removed from the warm house, just as the flowers begin to open, and placed for a few days where they can be gradually inured to cooler conditions. By this means the flowering season will be considerably lengthened. The early-flowering tulips and narcissi can readily be forced into flower if they were potted early enough in the autumn to be well rooted by now. Where large quantities of cut flowers are in demand some of the most promising of the flowering shrubs which were planted outdoors two years ago may be dug up and placed in a fruit house which has been just started. The well-being of flowering plants at this time of year depends in no small measure on the way they are watered. Where the conservatory is connected with the dwelling the temperature often has to be kept up to 60 degrees, and this, of course, is not good for some of the grown plants. In these circumstances every favourable opportunity should be taken to admit air, even if only for a very short time.

LACHENALIAS.—These bulbous plants are most useful for the front of the stages in the conservatory, or for hanging baskets. Unless they are needed to bloom at an early date they will be the better for cool treatment for some time to come. They should not, however, be left longer in cold frames. A position on a shelf, near the glass, in a greenhouse temperature will suit them until they flower. The pots are now becoming filled with roots, and it will be advisable to give a mild stimulant when watering.

CLEANING GLASS HOUSES.—Now that other work is not so pressing, the cleaning of glass houses, both inside and out, should receive attention. The exterior of the houses, especially when they are situated near large towns, needs at least an annual cleaning. Inside the houses the whole of the plants should be removed, so that every part of the structure may be thoroughly dealt with. It is a good plan, too, at this time of year, if the houses can be kept empty for a few days, to have the woodwork painted.—E. Harriss, Lockinge Gardens.

HARDY FRUITS.

PEACHES AND NECTARINES. — Although the season was favourable for the ripening of young fruiting wood, the shoots are rather soft and green at the present time, and the buds, owing to the mild autumn, are too forward. The pruning and regulating of the branches we shall leave until the beginning of February, being satisfied for the moment in bringing up all arrears in other pruning. Plums, pears, Morellos, and other cherries on walls we have now finished with, and bush and espalier trees will next receive attention in favourable weather. We shall give the heads a good thinning out to admit light and air, and to encourage the main branches to build up strong, fruitful buds, which will produce good crops of useful fruits, clean and well coloured.

ESPALIER PEARS.—Where these have been rather neglected, or where, through age the tiers have become clothed with long, useless snags, several old spurs should be removed at each pruning until they have been replaced by healthy buds, much nearer to the main wood. Sever these old spurs with a keen-edged pruning saw to within an inch or so of the main wood; pare the wound with a sharp knife, and leave all neat and clean. In this way, I have, in a few seasons, entirely clothed branches with fruitful spurs.

APRICOTS.—In some gardens the apricot does not thrive so satisfactorily as in others, but where the fruits are appreciated young trees should be planted on a west wall, and given a well-drained site, so that water can pass away with freedom. Let the soil consist of mellow, fibrous loam, with plenty of old brick mortar added. If the staple is rather poor, add old, decayed manure. The compost should be thoroughly mixed, and rammed, if moderately dry, fairly hard; rest the roots on a firm basis; do not bury the stem deeply, and allow six inches between the wall and the stem, so that the latter may swell without harm. The stems of all stone fruit trees planted on south walls should be protected during hot, bright weather.

THE WEATHER continues very mild, and weeds among strawberry plants must be pulled up; hoe or slightly point the soil among the plants, and mulch with manure, if not already done, packing this well round the plants to protect them against a sudden change to severe weather. I have known much injury follow severe frost after a mild autumn. In inclement weather prepare shreds, overhaul nets, and see that all the protecting material is put in order, so that when the time arrives in spring everything will be in good order, and thus prevent delay at a critical time.—H. Markham, Wrotham Park Gardens.

THE KITCHEN GARDEN.

POTATOES.—Where early potatoes are required in quantity, further preparation should at once be made to meet the demand. A heated span-roofed pit is an ideal structure for the purpose but is seldom available, and so the ordinary lean-to pit has to serve; if it is heated so much the better, as there is then less labour needed in making up deep hotbeds required in the old-fashioned cold pits. When dealing with the latter it is necessary to gather together as quickly as possible the necessary amount of leaves and fresh manure to form the hotbed; this mixture should be turned over until the excessive heat has escaped, and then be transferred to the pits; make it thoroughly firm by treading as the work proceeds. The linings should be applied at the same time, and these can be renewed as occasion requires. As soon as the heat is again established the compost should be placed on the bed to a depth of 7 or 8 inches. This should consist of fresh loam (if possible), and a sufficient amount of leaf mould to make up a light, friable mixture; the whole should be passed through a sieve, and if the loam is of a poor nature, add sifted, well-rotted manure, preferably that from an old mushroom bed. A good dressing of wood ashes will be beneficial. When the heat of the bed is on the decline the potatoes may be planted. The sets, if prepared as previously advised, will be well sprouted, and should be planted a foot apart each way for such varieties as Sharpe's Victor and Ashleaf; stronger growing varieties should be allowed more space.

FRENCH BEANS. — Further sowings should be made in pots, starting them in a temperature of 55 degrees, and giving a higher temperature when they have germinated. The best soil for French beans is loam, used in a rough state, and old mushroom-bed manure. The pots used need not be larger than 8 inches in diameter. The warmth may be increased to 65 or 70 degrees by the time of flowering, and a light position near the glass is very essential to success. When not in bloom the beans must be thoroughly syringed daily, or red spider will ruin them.

MUSHROOMS.—While mild weather continues, artificial heat should be used sparingly, using just sufficient to maintain a temperature of 55 to 60 degrees. If any mushrooms turn black, the degree of warmth and the humidity of the house must be reduced. A steamy atmosphere causes discolouration, and a very hot or dry one shrivels up the young mushrooms. Beds which have been in bearing for some time will be much assisted by a good watering, using liquid farmyard manure thoroughly warmed.

CUCUMBERS.—A further sowing may be made during the present month, potting the seeds singly in small 60-sized pots, and placing them over a strong bottom heat. When germination takes place afford a position near the glass, where they will have the benefit of high temperature and moist atmosphere. These, if carefully attended to, should be ready for planting out on well-prepared beds by about the third week in January. Plants in full bearing should be trained thinly, and not overcropped, and the greatest care should be taken to keep them in a healthy condition.—W. Messenger, Woolverstone Park Gardens.

ROSES FOR GARDEN DECORATION.

(Concluded from page 965.)

Rose Enemies.

The one most in our mind and gardens just now is mildew. Everyone knows that this is a fungoid growth that appears as a white mould on the foliage and stems of the plants, and is particularly noticeable in the autumn. To guard the plants from injury by this enemy we must not wait until it appears. Prevention is better than cure, and our first step must be taken as soon as the leaves of the roses appear in the spring. A simple solution, recommended by the Rev. J. H. Pemberton, ex-president of the National Rose Society, is Calvert's carbolic soft soap: Boil 1½lb. of this soap in 7½ quarts of water, and, when preparing a solution for spraying, add one part of this mixture to six parts of soft water. Mr. Pemberton says: "Keep on with this for the season and you will never have mildew." Other fungicides that are recommended as being effective are Jeyes' Cyllin soft soap, potassium sulphide (using ½oz. to a gallon of water, and adding the white of an egg to make the liquid more adhesive), and sulphuric acid. The proportions of the last-named I do not intend telling you, as I believe it to be a dangerous mixture to prepare, and requires great caution in application or the cure may be worse than the disease, and you will burn all the foliage off.

Black spot, another disease which attacks the foliage, is a far too frequent pest amongst our roses. It is easily detected by the large black circular spots which appear about midsummer. It is most unsightly, and causes the early falling off of the rose foliage. To prevent its recurrence spray with either of the fungicides I have mentioned, and collect and burn all leaves showing any sign of the fungus.

Rose rust appears in the summer on the foliage and wood in patches of orange spores, and in the autumn in small black points usually found covering the entire under surface of the leaves. These black points will remain on the fallen leaves during the winter, and in the spring will start into fresh growth infecting the young leaves with the orange fungus I have just described. To prevent it appearing another season all infested leaves must be collected and burnt, and the plants sprayed in early spring with potassium sulphide, using ½oz. to a gallon of water.

We all know only too well the aphis or green-fly which reproduce themselves in such an extraordinarily rapid manner that one day our roses seem clean and the next the young growth is smothered with this pest. Fortunately a good insecticide, such as Abol, or soft soap and quassia, will keep them in check, or better still, perhaps, your finger and thumb will do the work equally well. A more troublesome insect is the rose slug-worm, which devours the tissues of the rose foliage and causes disfigurement and injury to the plants. Spraying with hellebore powder will kill the pest and in the winter the surface soil beneath the attacked plants should be removed and replaced with fresh, for the slugworms, when fully grown, fall to the ground and pupate in the soil in their cocoons. Another insect pest is the leaf-rolling sawfly. Growers who love their roses will be on the lookout for them, especially in the early part of the season, and wherever they detect a curled-up leaf will pick it off and crush the occupant, the best and only cure for many of the insect pests.

Rose Gloire de Chedane Guinoisseau.—This hybrid perpetual rose was raised and introduced by Guinoisseau and Chedane in 1908, and stands quite at the head of this section, though it is only during the last two seasons that its merits have been widely recognised. I look upon it as one of the most satisfactory roses in the garden. It is not so vigorous in growth as some, but it carries good foliage.—E. M.

TRIAL OF DECORATIVE GARDEN DAHLIAS AT DUFFRYN.

(Concluded from page 949.)

The following varieties of dahlias were chosen at the Duffryn Trials as most worthy of notice for garden decoration:

Cactus Varieties.

Amos Perry (R. Cory).—Velvety-crimson, very free-flowering, 3ft.

Arthur Pickard (Dobbie).—Pale pinkish-salmon, fine habit, 5ft.

Bridal Crown (Mortimer).—Yellow shaded pink, 4 feet.

Conquest (Campbell). — Deep crimson-maroon, very erect, 4ft.

Duchess of Marlborough (Cheal).—Delicate silvery-pink, fine habit, 4ft.

Edith Carter (Shoesmith).—Yellow, heavily suffused rosy carmine; 4ft.

Effective (Hobbies). — Amber with rose centre, 4ft.

Floradora (Hobbies).—Rich crimson, long wiry stems, 3ft.

Glow (Hobbies). — Yellow, tipped apricot, 3ft.

Hon. Mrs. Greville (Cheal).—Orange-yellow, suffused salmon, 4½ft.

Jeanne Hardy (Cayeux and Le Clerc).

Mabel Needs (Mortimer).—Orange-scarlet, shaded plum, 3½ft.

Mrs. J. Barker (Mortimer).—Salmon-pink, 2½ft.

Mrs. J. S. Brunton (Mortimer).—Deep yellow, 4ft.

Mrs. D. Fleming (Stredwick).—Fine white, 3½ft.

Mrs. Chas. Foster (Cheal).—Rich rose-pink, 3½ft.

Mrs. J. Goddard (Cheal).—Glowing crimson, 3½ft.

Mrs. Landale (Cheal).—Yellow, suffused and edged bright rose, 4ft.

Mrs. Macmillan (Dicksons).—Centre white, deepening to mauve, 4ft.

Mrs. F. Paton (Cheal).—Brilliant crimson-scarlet, 4ft.

Nimrod (Mortimer).—Bright pink, tinted lemon, 2½ft.

René Cayeux (Cayeux and Le Clerc).

Rev. M. Limon (Treseder).—Rich bronzy-yellow, 3ft.

Snowdon (Campbell).—Pure white, 5ft.

Sportsman (Shoesmith).—Fine scarlet, 5ft.

Stability (Stredwick).—Rose-pink, 3ft.

Star (Carter Page and Co).—Bright bronze-yellow, 4ft.

Sweet Briar (Stredwick and Carter Page).—Clear pink, 4ft.

Sweetheart (Dicksons).—Salmon-pink, 4ft.

Thos. Parkin (Hobbies).—Bright orange, 3ft.

Victory (Cheal).—Rich coral.

Vivid (T. S. Ware).—Orange-scarlet.

West Hall Scarlet (Mortimer).—Bright scarlet, 3ft.

W. H. Treseder (Treseder).—Pale yellow, shading to pink at ends of petals.

Pompom Cactus Varieties.

Coronation (Carter Page and Dobbie). — Glowing red, very free, 3ft.

Firefly (Cheal).—Brilliant scarlet, tipped yellow.

Gracie (Cory and Dicksons).—Yellow and amber, tipped white, 3ft.

Magenta Queen (Dickson and Robinson).—Deep magenta, 3ft.

Miss Hicks (Dickson and Robinson).—Rich crimson, 3ft.

Selma (Cheal).—Rich rosy purple, 3ft.

Single Varieties.

Brilliant (Cheal).—Rich crimson-scarlet, yellow zone, 4ft.

Cardinal (Cheal).—Rich cardinal red, yellow disc, 3½ft.

Circe (Cayeux and Le Clerc).—Centre of petals white, broadly margined pink, 2ft.

Crimson King (Dicksons).—Rich crimson, 3ft.

Elsie (Cheal).—Purplish-crimson, edged white, 3½ft.

Fuji San (Dobbie).—Rich orange-yellow, crimson zone, 3½ft.

Kitty (Cheal). — Rosy mauve, chocolate disc, 3ft.

Little Othello (Cory).—Crimson, black centre, with ring of prominent yellow stamens, 2ft.

Mary (Dickson and Robinson).—Salmon with crimson ring, 2ft.

Mikado (Dicksons).—Scarlet centre, heavily margined clear yellow, 3ft.

Mrs. W. Hood (Dobbie).—Pure yellow, 3ft.

Onida (Dicksons).—Orange-salmon, shaded rose-pink, 3ft.

Owen Thomas (Cheal).—Crimson-scarlet, heavily tipped golden-yellow, 4ft.

Rosy Gem (Dickson and Robinson).—Pure rose with crimson ring, 3ft.

Rosemary Bride (Cheal).—Deep rich rose, lighter shade on margin, 3ft.

Union Jack (Turner).—White striped scarlet, 2ft.

Winona (Cheal).—Deep maroon, 3ft.

Bedding Varieties.

Barlow's Bedder (T. S. Ware). — Glowing orange-scarlet, 2½ft.

Cloth of Gold (Turner). — Clear yellow, show type.

Gluchaut (Dobbie and Carter Page). — Bright orange-scarlet, 2½ft.

Rising Sun (Cory).—Double scarlet, show form, 2ft.

Zwergsonne (Dobbie and Carter Page). — Canary-yellow, cactus-shaped flowers, 1½ft.

Pompom Varieties.

Ace of Diamonds (Keynes).—Bright scarlet-crimson, 3ft.

Annie Holton (Cheal). — Rich crimson, tipped silver, 3ft.

Bacchus (Cory).—Crimson-scarlet, 3ft.

Beauty (Dickson and Robinson).—Terra-cotta, shading to orange at base, 2½ft.

Blush Gem (Cory).—Mauve-pink, light centre, 3ft.

Bonella (Cory).—Deep rosy pink, shaded rose, 2½ft.

Crimson Beauty (Cory).—Bright crimson, 3ft.

Crusoe (Cheal).—Blush, edged rose-pink, 4ft.

Daisy (Dobbie).—Amber, shaded salmon, 3ft.

Darkest of All (Cory).—Blackish maroon, 3ft.

Dewdrop (Cory). — White with lavender edges, 3ft.

Douglas (Turner).—Deep maroon, shaded crimson, 3ft.

Emily Hopper (Dobbie).—Clear yellow, 3ft.

Evelyn (Cory).—Bright crimson, 1½ft.

Firebrand (Dickson and Robinson).—Bright flame-colour, 2ft.

Glow (Dobbie).—Rich coral, 3ft.

Ideal (Cory).—Pure yellow, 3ft.

Irene (Cheal).—Pale rosy mauve, 3ft.

Mars (Turner).—Bright scarlet, 3ft.

Neatness (Cory).—Pale amber, 3ft.

Queen of Hearts (Dobbie).—Pure white, 3ft.

Rodney (Dobbie).—Fawn, shaded yellow, 3ft.

Tommy Keith (Cory).—Red, tipped white, 2½ft.

Virginia (Turner).—Pure white, 3ft.

White Aster (Dobbie).—Pure white, quilled florets, 3ft.

Pæony-flowered Varieties.

Alecto (Turner).—Yellow, suffused crimson.

Balak (West).—Bright rosy crimson, 5ft.

Burne Jones (Dobbie). — Fawn, suffused rose, 3½ft.

Codsall Gem (Dobbie).—Deep yellow, 4ft.

Dormouse (West).—Velvety crimson, 3ft.

Elfrida (Hobbies).—Pink, shaded white, 4ft.

Frau Anna Galster (Dobbie).—Amber yellow, tinted red, 2½ft.

Hall Caine (Carter Page).—Yellow, with chestnut shadings, 4ft.

Hebe (West).—Pearly mauve, 2½ft.

Hermosa (Turner).—Shading from medium to pale mauve, 5ft.

H. J. Lovinck (Hobbies).—White, shaded mauve, 4ft.

Holman Hunt (Cory).—Rich dark crimson, 5ft.

John Green (Stredwick). — Yellow, edged bright red, 4ft.

Kakadee (Dobbie).—Lemon-yellow, passing to white at tips, 2ft.

Katherine (Hobbies). — Yellow, shaded brick red.

Kevington (Cannell). — Salmon, shaded fawn.

Kimberley (Cory).—Rosy carmine, yellow centre.

King Leopold (Cory).—Pale yellow, 5ft.

Ladysmith (Cory).—Violet-rose, 3½ft.

Lemberg (Turner).—Red with yellow base.

Liberty (Baker's).—Salmon-scarlet, 4ft.

London (Hobbies).—Crimson-scarlet, 4ft.

Lord Milner (West).—Yellow, edged white, 4ft.

Mafeking (Cory).—Fawn, suffused rose, 3ft.

May Day (Hobbies).—Yellow, shaded pink, 4ft.

Miss Dora Wilson (Cannell). — Rosy vermilion shadings on yellow ground, 4ft.

Miss Watson (Cory). — Creamy-white, striped and heavily marked rose, 3ft.

Mrs. J. Chamberlain (Cory).—Salmon, yellow at base, 4ft.

Mrs. Kerr (Cory). — Pale pink, suffused rose, 4ft.

Mrs. T. G. Baker (Cory).—Pure white, 4ft.

Nymphæ (Turner). — White with yellow base, 3ft.

Pantaloon (Cheal).—Deep crimson, tipped white, 4ft.

Paul Kruger (Cory).—Rose and white, 3ft.

Phidias (West).—Lovely shade of bright salmon-pink, 4ft.

Porcupine (Hobbies).—White and rose, 4ft.

Primrose Queen (Dobbie).—Clear yellow, 3½ft.

Princess Ida (Turner).—White, yellow centre, 4½ft.

Queen Mary (T. S. Ware).—Pure white.

Reynolds (West).—Deep crimson, 4ft.

Rubens (Dobbie).—Rose-pink, 4ft.

Salome (Turner).—Bright orange, shaded buff, 3ft.

Sheila (Turner).—Bright pink.

Sunset (Cory).—Vermilion, 4ft.

Sunstar (Carter Page). — Rosy-carmine, suffused yellow, 4ft.

The Geisha (Cory).—Yellow, suffused red, 4ft.

Titian (West).—Beautiful shade of rose-purple, 5ft.

Turner (Treseder and Dobbie). — Lovely pink, very large, 4ft.

Viscountess Newport (Cory).—Orange-red, shaded buff, 4ft.

Warrior (Cory).—Deep red, 4ft.

Mignon Varieties.

Agnes (Cheal).—Purple, distinct, 18 inches.

Daphne (Cheal).—Maroon, good habit, 18 inches.

Lancer (Cheal).—Scarlet, bushy habit, 18 inches.

Olive (Cheal). — Orange, very free, 18 inches.

Parisian Singles.

Notre Dame (Riding).—White, broad picotee banding of amber, 2ft.

Paris (Riding). — White, broad picotee banding of scarlet, 2ft.

Collerette Varieties.

Cantick (Dobbie).—Pale yellow ground and tips, heavily marked rosy-red, collar pale yellow, 4ft.

Countess I. Hardegg (Dobbie). — Purple passing to rose, white collar, 3ft.

Countess Dugon (Riding).—White ground, splashed rosy-purple, white collar, 3ft.

Cumbrae (Dobbie). — Deep rose-pink, shaded purple, white collar, 3ft.

Diadem (Dobbie).—Rose, with white collar, 3ft.

Exposition de Lyon (Riding).—Beautiful rosy-red, 3ft.

Frogmore (Dobbie).—Vermilion with yellow collar, 3ft.

Gunfleet (Dobbie).—Ruby, golden tips, 3ft.

Henri Farman (Dobbie and Dickson's).—Bright vermilion, edged primrose, 3½ft.

Holyrood (Cory-.—Ruby-red, golden tips, 3½ft.

Lynas (Dobbie). — Orange-salmon, collar pale yellow.

Madame J. Buyssens (Dobbie).—Dark crimson, edged rosy-carmine, 3ft.

Maurice Rivoire (Cory). — Rosy-carmine, white collar.

Negro (Dobbie). — Dark maroon, collar white, 3½ft.

Prince de Venosa (Dobbie). — Crimson, shaded violet, white collar, 3½ft.

Prince of Orange (Dobbie). — Beautiful orange self, collar tipped yellow, 3ft.

Princess Louise (Dobbie).—Rich crimson, white collar.

Queen Bess (Dobbie).—Orange-scarlet, yellow collar, 4ft.

Regularity (Stredwick). — Purple, with white collar.

St. Abb's (Dobbie).—Crimson, petals tipped yellow, straw collar, 3ft.

Sunburgh (Dobbie). — Purplish-mauve, heavily suffused white, 3ft.

Tarbat Ness (Dobbie).—Deep wine-crimson, tipped white, collar, pale yellow, 4ft.

Tuscar (Dobbie). — Wine-crimson petals, tipped white, collar white, 3ft.

Decorative Varieties.

Brentwood Yellow (West).—Golden-yellow, 2ft.

Charming (Keynes).—Clear pink, flowers of medium size, 4ft.

Ch. Ducrot (Riding).—Vivid scarlet, long-pointed petals, erect stems, 3ft.

Délice (Dickson and Robinson). — Bright rose-pink, 4ft.

Harmony (Keynes).—Silvery-pink, satiny, 3ft.

Hon. R. Borden (Cannell).—Golden-yellow, shaded old gold, 4ft.

Jeanne Charmet (Cory). — Lilac-pink, shaded white, 3ft.

Kaiserin A. Victoria (Carter Page).—Pure white, 3ft.

Le Grand Manitou (Carter Page).—Lilac-rose, spotted bright purple, 3ft.

Loveliness (Cory).—Lovely shade of rose-pink, 3ft.

Madame M. Collet (Cayeux and Le Clerc).—Deep salmon, shading to yellow centre, large, 4ft.

Mammoth (Cayeux and Le Clerc).—Intense crimson-scarlet, flowers large, 5ft.

Mont Rose (Riding).—Deep rose, 3ft.

Sea-shell (Cory). — Shell-pink and amber, small flowered variety.

Souv. de G. Douzon (Cory).—Bright scarlet, immense flowers, 5ft. 3ft.

Show and Fancy Varieties.

David Johnson (Dicksons). — Salmon, shaded rose, 3ft.

Duchess (Dobbie).—Orange-scarlet, 3ft.

Edward Mawley (Turner).—Crimson, very erect, 3ft.

J. Bennett (Turner).—Yellow, tipped red, 3ft.

Mariner (Cory).—Lilac ground, splashed purple, 3ft.

Merlin (Turner).—Orange-scarlet, 3ft.

Mrs. Ormerod (Dobbie).—Rosy-peach, 3ft.

Peacock (Treseder).—Maroon, tipped white, 4ft.

Queen of the Belgians (Turner).—Cream, tinted pink, 4ft.

Sunbeam (Treseder).—Clear buff, 2½ft.

Figs.—In the colder districts these may need a little artificial covering in very severe weather, but in the more favourable parts they seem to take harm in the majority of seasons. I have covered them lightly with bracken fronds with good results, and also taken the main branches from the walls, tied them together, and covered them with a little straw or mats. Figs succeed best in a firm root run; the drainage should be perfect, the soil good, sweet, with plenty of old mortar added, and all rammed tightly. H. MARKHAM, Wrotham Park Gardens.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

United Horticultural Benefit and Provident Society.

The monthly meeting of this society was held at the Royal Horticultural Hall on Monday, December 8, Mr. Arthur Bedford presiding. Five new members were elected, and four members were allowed to withdraw from their deposit account sums amounting to £15. The sick pay for the month on the Ordinary side amounted to £60 14s. 6d., and on the State section £23 3s. 8d., and maternity benefits were £9 for the month. A report on the chronic sick members was given by the secretary, which proved interesting reading; one member had been on the funds for nineteen years; the amount of sick pay he has received is £268 3s., and he still has £81 17s. 4d. on deposit; other chronic sick members have received the following amounts in sick pay: £213 16s., £167 18s., £145 18s., £108, £72 5s., £56 8s., £37 18s., and £28 10s.; while one member, who only joined the society some six years ago, has had upwards of £70; all of which shows the stability of the society, and suggests that all gardeners should join the United.

East Anglian Horticultural Club.

The annual meeting of this club was held on the 11th inst. at the Boar's Head Hotel, Norwich. In a very lengthy annual report presented by Mr. W. L. Wallis, the secretary, it was stated that the progress of the club during the year has been marked by activity through the whole of the programme of work adopted at the previous annual meeting. The attendance has been well maintained, upwards of 100 members coming to each meeting. The membership again shows a steady increase, and now stands at 377, making this one of, if not the, largest club or association of its kind in the kingdom. The club's finances show a balance in hand of £126 4s. 11d. There has been rather a heavier tax than usual upon the finances owing to several benevolent grants, but no one begrudged helping a distressed member. The monthly exhibitions have been an outstanding feature, the exhibits being of great educational value to the members. Lectures and essays have been a great feature, and evoked animated discussions. Reference was made to the excursion in the summer to Cambridge Botanic Gardens. Mr. John Willis was thanked for his meteorological notes, the Press for their kindness in giving notices of the meetings, and the officers for their services.

The report and the auditor's report were both well received and adopted.

In the election of officers for 1914, Mr. John Clayton was made president; Mr. T. Notley, Catton Hall Gardens, was elected acting vice-president; Mr. Chas. Daniels, treasurer; and the popular secretary, Mr. W. L. Wallis, was re-elected with acclamation. The members elected to serve on the committee in place of those who retire by rotation were as follows: Mr. J. W. Chapman, Ashwelthorpe Hall Gardens; Mr. E. F. Greene, Catton Grange Gardens; Mr. D. Howlett, Thorpe; Mr. Geo. Moore, Hethersett Hall Gardens; Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford; Mr. E. H. Starling, Honingham Hall Gardens; and Mr. J. D. Cockerell, gardener to G. E. White, Esq., Eaton.

Alterations in the exhibition schedule were next considered, and a formidable list of special prizes read out by the secretary. This gentleman also presented a strong list of lectures and papers for the coming year from well-known authorities. The matter of a

summer excursion to Kew Gardens was next debated, and it was unanimously agreed that, if at all possible, the club should arrange such an excursion for the summer. The secretary stated further particulars of this would be posted to the members in due course.

Mr. Willis's report of the weather pointed out how vegetation advanced during the mild spell of November, and some things were as forward as one usually finds them in March.

The exhibition tables carried flowers, fruits, and vegetables. Mr. W. Shoesmith had some fine grapes, and a well-flowered cypripedium; Mr. Cockerell had also a good cypripedium and the best plant of Begonia Gloire de Lorraine. A fine feature was the bunch of cypripedium blooms brought up by Mr. J. W. Chapman, Ashwelthorpe Hall Gardens, one of which was a distinct freak, having two lips or slippers upon the one stem.

Dundee Chrysanthemum Society.

The annual general meeting was held, under the presidency of Mr. W. S. Melville, in Lamb's Hotel on the 12th inst. Mr. W. F. Hill, in submitting his annual report, showed a credit balance on the year's workings of £10 1s. 5d. In moving the adoption of the reports, the President said it was so far satisfactory, but they could not hide the fact that their credit balance had been obtained by the practice of great economy on the part of the committee. The people of Dundee appeared to require something more than flowers to attract them. The one aim and object of the society had always been the cultivation of the chrysanthemum, and in that respect alone it had been very successful. Mr. William Grant said it was a disgrace that their beautiful show was not better patronised. It was a revelation in cultivation, and he questioned whether the display of chrysanthemums in six-inch pots could be excelled at any other show in Britain.

Retiring office-bearers were re-elected, and the names of Messrs. David Dickie, F. L. McGrady, D. C. Hutcheson, Alexander Mackay, and Thomas Maitland added to the list of vice-presidents.

Messrs. James Bethel and James Staward were elected to serve on the committee, and Mr. James Beats was re-elected.

It was agreed to hold the next chrysanthemum show on November 27 and 28, 1914, and various suggestions were made as to procedure.

Chester Paxton Society.

The twenty-sixth annual general meeting was held in the Grosvenor Museum on Saturday, when the chair was occupied by Mr. N. F. Barnes, Eaton Gardens. Mr. G. P. Milne, Hon. Secretary and Treasurer, in presenting the annual report, pointed out that there had been an increase in the list of members and subscribers during the past year, the figures now standing at over 600. The fruit and chrysanthemum exhibition held in November was, he said, one of the most successful held under the auspices of the society, the whole of the classes being more fully represented than on any previous occasion. The course of winter lectures had also been well attended, and the financial statement showed a credit balance in the bank of over £50.

The popular president of the society, Mr. T. Gibbons Frost, J.P., was re-elected, and Colonel Wilford N. Lloyd, M.V.O., J.P., Major MacGillycuddy, J.P., Mr. E. Peter Jones, J.P., and Mr. Edward Porritt were re-elected vice-presideuts. Mr. A. W. Armstrong (Messrs. McHattie and Co.) was re-elected chairman of committee, and the duties of consulting entomologist, and hon. secretary and treasurer, were respectively undertaken by Professor R. Newstead, J.P., and Mr. G. P. Milne, J.P.; while the following were elected to serve on the Executive Committee: Messrs. N. F. Barnes, J. Clack, W. Dodd, O. Edwards, W. Evans, J. Fleet, T. Gilbert, W. H. Little, S. May, E. Palin, G. H. Plant, J. Ryder, W. Seddon, E. Stubbs, R. Wakefield, A. Walker, J. Weaver, and J. Wynne.

Dumfries and Galloway Gardeners' Association.

There was a very large attendance at the last monthly meeting of the Dumfries and Galloway Gardeners' Association, which was held in the Wesley Hall, Dumfries, on December 6. Mr. S. Arnott occupied the chair, and introduced the lecturer of the evening, Mr. A. Cameron, The Gardens, Balgray, Lockerbie. He stated that the subject was the "Deciduous Calanthe," and remarked upon the magnificent spikes exhibited by Mr. Cameron at a previous meeting which were evidence that the lecturer was thoroughly well qualified to discuss the subject.

Mr. Cameron gave an able and practical description of the methods he followed in the cultivation of the calanthe, describing the treatment he adopted from the removal of old soil until the flowering stage, with full particulars of the compost, potting, top-dressing, temperature, etc., together with the names of what he considered the best varieties. The lecture was illustrated by a plant of C. Veitchi, carrying some splendid spikes of bloom. A short discussion ensued, and Mr. Cameron was heartily thanked for his paper.

As Mr. D. Hunter, the secretary and treasurer, wished that another gentleman should be appointed to undertake the duties, it was unanimously agreed to appoint Mr. W. Taylor, Brocklehirst Gardens, as honorary secretary and treasurer. Mr. Hunter was warmly thanked for his past services.

Bristol Gardeners' Association.

The fortnightly meeting of this association was held at St. John's Parish Rooms on Thursday, November 27, Mr. E. T. Parker presiding over a good attendance. The evening was set apart for an essay competition among under-gardeners, competitors being at liberty to choose their own subjects, but limited in the matter of time to fifteen minutes. Mr. Barrow was awarded first prize, and the subject was, "Gathering and Storing Fruit." Mr. Extence, with "border Carnations," came second; and Mr. Sweeting, with "Beds and Borders of the Pleasure Ground," was third; while Mr. Wright, with "Plant Life," was fourth. Each dealt with his subject in a very able manner, and all were highly complimented by the members present. Votes of thanks to the judges and to Mr. Parker concluded a very pleasant evening.

The prizes, kindly given by Mr. H. J. Smith (Messrs. Carter and Co., London), for two dishes of potatoes secured a keen competition, and were won by Messrs. Young, Neale, and Scott, in the order given. In the points competition, Mr. Jennings was awarded three points for a cypripedium, and Mr. Extence three for two dishes of potatoes. Two new members were elected.

Highcliffe Gardeners' Society.

The annual dinner was held on Monday, December 8, when a very pleasant evening was spent. The President, E. Huntley Hooper, Esq., was in the chair. After dinner the evening was devoted to song and speech, and the presentation of a silver medal and first-class certificates by the president to the various winners. A silver medal was offered to the member gaining the highest number of points at the various exhibitions and meetings during the year, and Mr. Weaver was the winner.

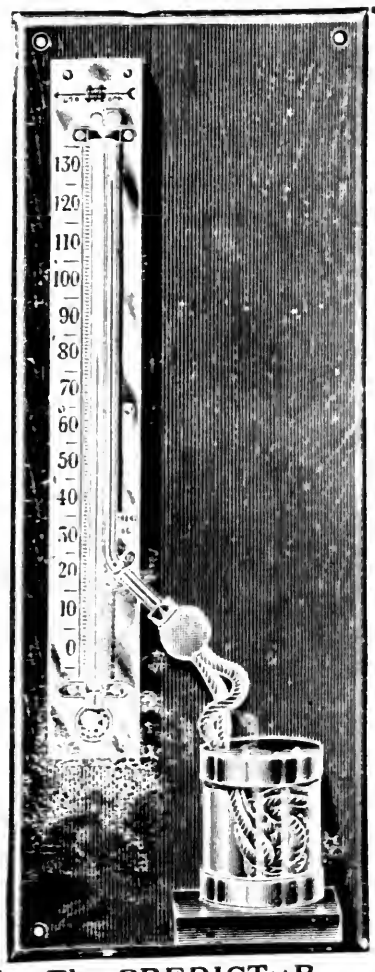
This society is a strong one, and well supported by gardeners and amateurs from a wide district in which great interest is taken in horticultural matters.

Lovely plants were placed on the tables by Mr. Weaver, of Chewton House; Mr. Skinner, of Highcliffe Castle; and Mr. Bell, of Amberwood. A single-stemmed spray of Chrysanthemum Mdm. R. Oberthur was exhibited by Mr. Weaver; it bore twenty-four blooms of good average size, and had not been disbudded.

Royal Scottish Arboricultural Society.

The annual meeting of the Aberdeen Branch was held in the Aberdeen University Buildings. Mr. Irvine, of Drum, presided, and after a number of new members had been admitted, Mr. G. D. Massie, the hon. secretary and treasurer, submitted the reports for the year now closing. The membership of the branch stands at 122; 16 new members having been admitted. The financial statement showed a balance in hand of £9 3s. 10d.

Mr. Irvine, of Drum, was re-appointed president. Professor Trail and Mr. J. Michie, Balmoral Castle; Mr. John Clark, Haddo House; and Mr. S. J. Gammell, of Drumtochty, were re-elected vice-presidents. Mr. Massie was re-appointed secretary and treasurer, and Mr. C. Stuart, forester, Durris, was elected to the committee in succession to Mr. Dawson.



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THE SALE OF LOW QUALITY MANURES.

The Board of Agriculture has issued a leaflet in which they state that their attention has been drawn to the sales as manures in different parts of the country of substances which are practically worthless as fertilisers, and to the sale of manures of low quality, which are offered at prices far above their real value.

It is stated in the leaflet that the vendors generally give in their advertisements and invoices a correct analysis of the constituents, and appear to expect that lack of knowledge on the part of the purchasers will prevent them from appreciating the true value of the substance as indicated by the analysis.

For instance, a manure (1) offered at £3 10s. per ton, and described as "a complete fertiliser in the cheapest form," is stated to contain the following constituents: Nitrogen, 1.23 per cent.; soluble phosphates, 5.0 per cent.; insoluble phosphates, 1.50 per cent. Three other manures offered at the same price contained respectively, according to the invoices, the following constituents: (2) Nitrogen, 1.15 (equal to ammonia 1.40), and phosphates, 7.0; (3) nitrogen equal to ammonia, 1.40, and phosphates, 8.0; (4) nitrogen, 1.0 to 1.25, and phosphates, 6.0 to 7.0.

It may be pointed out that on the basis of the unit values current at about the time the manures referred to were brought to the notice of the Board the quantities of nitrogen and phosphates contained in them could have been purchased in nitrate of soda, superphosphate of lime, and basic slag, at the following cost respectively:

(1) Nitrogen 1.3 ... ... = 14/3 Sol. phosphates 5.0 ... = 10/0 Insol. phosphates 1.50 = 1/9	= 26/0	
(2) Nitrogen 1.15 ... ... = 13/4 Phosphates 7.0 ... ... = 8/2	= 21/6	
(3) Nitrogen = Ammonia 1.40 = 13/4 Phosphates 8.0 ... ... = 9/4	= 22/8	
(4) Nitrogen 1 to 1.25 = 11/7 to 14/6 Phosphates 6 to 7 = 7/- ,, 8/2	= 18/7 to 22/8	

The manures would only be worth these prices if manufactured of first-rate materials like nitrate of soda, superphosphate and basic slag. Nitrogen may, however, be purchased in cheap forms in organic substances, while insoluble phosphates can be purchased in the form of ground rock phosphates at little more than half the sum they cost in basic slag. Assuming the nitrogen to have been derived from a low-grade shoddy and the phosphates from rock phosphates, the manures could have been compounded at the following cost respectively:

(1) Nitrogen 1.23 ... ... = 7/4 Sol. phosphates 5.0 ... = 10/0 Insol. phosphates 1.50 = 1/1	= 18/5
(2) Nitrogen 1.15 ... ... = 6/11 Phosphates 7.0 ... ... = 5/3	= 12/2
(3) Nitrogen = Amonia 1.40 = 6/11 Phosphates 8.0 ... ... = 6/0	= 1 /11
(4) Nitrogen 1 to 1.25 = 6/- to 7/6 Phosphates 6 to 7 = 4/6 ,, 5/3	= 10/6 to 12/9

These figures, it will be seen, vary from 10s. 6d. to 18s. 6d. It would indeed be possible to indicate even cheaper materials than those mentioned above, from which "manures" having the composition of (2), (3), and (4) might be prepared, materials which it would not pay the farmer to apply if he got them for nothing!

The loss to the cultivator, however, does not lie merely in the fact that he pays £3 10s. for something which at most is only worth 19s. to 26s., and may be worth no more than 10s. 6d. to 18s. 5d. A much more serious loss arises from the fact that the fertilising value of the manure is so low that it may be quite ineffective for the purpose in view.

Buyers should not be misled by suggestions that these compound manures have a value which is not indicated by the analysis. For example, it is frequently claimed by the sellers of such manures that the nitrogen they contain is of "animal origin" or "derived from organic matter," and on that account possesses some superior manurial value. Assertions are also frequently made as to the "large proportion of ammonia" they contain, though it is evident from the analysis given that the content of ammonia is really very low.

Apart from lime, which may be purchased at from 10s. to 18s. per ton in most localities, there are three constituents, and only three, which should be taken into consideration in arriving at the value of artificial manures, viz., nitrogen, phosphates, and potash. These are the constituents which an artificial manure is intended to supply to the crop, and any statements as to its value in other directions should be ignored.

OBITUARY.

SIR TREVOR LAWRENCE, BART.

It is with great regret we learn, just as we go to press, of the death of Sir Trevor Lawrence, Bart., of Burford Lodge, Dorking, on Tuesday, December 23. Sir James John Trevor Lawrence, Bart., was president of the Royal Horticultural Society for about thirty years, and only recently resigned his position on account of advancing years; he would have celebrated his eighty-second birthday next week. In the old John Company days he was in the Indian Medical service, but all through his life he was a keen gardener and botanist. In this latter respect he took after his mother, who had a famous garden and fine collections of plants at Ealing Park; while in the matter of medicine he took after his father, who was a famous surgeon in early Victorian times. For seventeen years he was Member of Parliament for Mid-Surrey, and sat on the Conservative side of the House.

Sir Trevor had a peculiarly intimate knowledge of orchids, and possessed one of the finest collections of these plants in the United Kingdom, comprising, it is said, not fewer than 3,000 species, varieties, and hybrids. Although the Burford Lodge collection is rich in fine varieties and hybrids, and includes the wonderful and rare Cypripedium Stonei platytænium, for which Sir Trevor paid an enormous price years ago, it was in rare species and orchids of botanical interest that he took the greatest pleasure, and he was always ready to purchase anything quite new. But orchids alone did not satisfy his horticultural tastes, and so Sir Trevor gathered together at Burford Lodge a beautiful series of the rarest flowering trees and shrubs. With these, as with orchids, he was especially successful, and many hundreds of awards from the Royal Horticultural Society must have been made to him for shrubs, orchids, and other plants.

Sir Trevor showed his interest in horticultural education by providing scholarships at Wisley, and in this and many other ways he advanced the art and science of which he was a master. The Lawrence Medal, instituted some years ago by the Royal Horticultural Society, will help to keep his memory green, and a fine portrait of Sir Trevor, in the Council Chamber at the Royal Horticultural Hall, Westminster, will show to succeeding generations what manner of man he was. His loss to horticulture and to botany is great; indeed, it will be a long time before horticulturists fully understand how much they owe to one who devoted the greater part of his long life to their interests, while the Fellows of the Royal Horticultural Society must never forget that he was one of the few who saved that now famous and wealthy body from an untimely end in the old, bad days at South Kensington.

MR. JOHN MATTOCK.

The well-known rosarian, Mr. John Mattock, of Headington, near Oxford, passed away on Monday, December 22, at the age of 76 years. He was a native of Bath, but moved to Headington about forty years ago, where he soon commenced business as a rosarian.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of THE GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming, or opinion, should be sent to the Editor of THE GARDENERS' MAGAZINE, 2, Adelaide Road, Brentford, Middlesex, and as early in the week as possible. All parcels must be sufficiently prepaid.

Secretaries of horticultural societies are invited to send early notifications of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in THE GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

LYCATE SKINNERI.—M. E. J., Derby: I have not been particularly successful in the cultivation of Lycaste Skinneri, and therefore beg that you will kindly tell me how to deal with this handsome orchid. I am an amateur with fairly good accommodation for orchids, and happy in the possession of cool, intermediate, and stove houses. I fancy I go wrong in my treatment of L. Skinneri during its resting period.—It is probable your plants have been over-watered during the resting season; they will grow best at the cool end of your intermediate house. Lycaste Skinneri should be watered liberally when growing, but when the growths are completed only sufficient water to keep the pseudo-bulbs in a plump condition should be given. A good potting compost consists of Osmunda fibre (or fibrous peat), sphagnum moss, and loam in equal parts; good drainage is essential. Lycastes should have as much light as possible at this time of the year, and ought to flower freely from now onward until the late spring.

CAMELLIA BUDS DROPPING.—S. E. S., Hertford: The flower buds have been dropping rather freely from my camellias, and I have no idea what is the cause. The house has been used for chrysanthemums and other flowering subjects. I shall be glad if you can help me.—Your camellia buds are dropping because there is too much atmospheric moisture in the house; we suggest that you keep the house drier, and admit plenty of air when the conditions out of doors will allow. No harm will occur to the camellias if you ventilate the house until the outside temperature falls to about 38 degrees.

HARDY HEATHS.—F. H. C., Warminster: Kindly give me the names of the principal hardy heaths, and state the colours of their flowers.—Among the heaths grown out of doors you will find Erica hybrida a robust grower, with long spikes of red flowers, which are about an inch in length; it makes a good display from December to May. E. arborea has white flowers. E. mediterranea, with its purple flowers, is very popular, and if a bed can be devoted to this species a fine effect

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CLIVEDEN GARDENS. An illustrated account of the beautiful gardens surrounding the stately Thames-side residence of Waldorf Astor, Esq., M.P., at Taplow.

THE LESSONS OF THE OLD YEAR. Showing how the many and varied experiences of 1913 may serve a very practical purpose in 1914.

THE NEW TREES AND SHRUBS OF 1913. An illustrated description of the more recent introductions from Western China and elsewhere.

BEGONIAS FOR WINTER FLOWERING. A practical article from the pen of a most successful grower, with illustrations of these useful and beautiful plants as grouped in the conservatory.

THE NEW ORCHIDS OF 1913. An illustrated review of the wonderful activity of hybridists and expert cultivators.

THREE WONDERFUL PALMS. Dealing with some extraordinary members of the valuable Palm family, and conjuring up scenes in the delightful island of Ceylon.

A PAGE FOR YOUNG MEN. In which "Note-taking," and the best methods of securing the fullest possible advantage of the notes taken, will be discussed for the benefit of the junior members of the profession.

PLANNING A WILD GARDEN. This will prove a valuable article for all who love woodland planting and the creation of beautiful natural scenery; illustrations will add to its practical value.

FRAGRANT ROSES. A subject very much before the public at present, and one attracting the closest attention of raisers and growers.

PRUNING FRUIT TREES. Another of those practical articles for which The GARDENERS' MAGAZINE is famous, and one of vital importance to all interested in the successful cultivation of Fruit.

KALES FOR WINTER USE. This will serve to remind readers of the great value of a homely vegetable, and direct attention to its range of variation.

TABLE DECORATIONS AT EXHIBITIONS. Numerous experts will contribute their experiences and opinions in connection with this peculiarly fascinating form of competition.

SOIL STERILISATION. No subject is of greater moment than Soil Sterilisation, and a well-known grower, who has conducted important experiments, will place the results before our readers.

SINGLE CHRYSANTHEMUMS. Single Chrysanthemums have, rightfully, sprung into popularity, and on this subject our readers will have the advice of one of the leading cultivators of the present day.

The Leading Contributors to this issue will be :—

Mr. JAS. HUDSON, V.M.H.
Mr. E. MOLYNEUX, V.M.H.
Mr. S. ARNOTT, J.P.
Mr. HUGH MACMILLAN.
Mr. J. GARDNER.
Mr. GEORGE GORDON, V.M.H.
Mr. W. HALES, A.L.S.
Mr. A BULLOCK.
Mr. PERCY CRAGG.
Mr. J. C. NEWSHAM, F.L.S.

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will be produced in winter and early spring; and it is also very useful for planting at the edge of a border. E. tetralix, with pale red flowers, is very common in some parts of Surrey. E. cinera, with purple flowers, which change to blue as they fade, may be used with good effect on a sunny rockery. Erica carnea with pale purple flowers, and E. vagans (the Cornish Heath), with pale purplish-red flowers, is also to be recommended, while E. carnea, flesh coloured; E. coronodes or lusitanica), pale pink; E. Veitchi, white; and E. vagans, white or red, are other good kinds.

BOOKS ON BOTANY AND CHEMISTRY.—F. E. F., Wymondham: I shall be much obliged if you will be good enough to give me a short list of books dealing with botany and chemistry. These books should be suitable for study by anyone entering for such an examination as is set by the Royal Horticultural Society.—Excellent books suitable for your purpose may be chosen from the following: "Agricultural Botany," by John Percival, F.L.S., 7s. 6d.; "Elementary Botany," by J. W. Oliver, 2s.; "Primer of Botany," by Sir J. D. Hooker, 1s.; "Structural Botany (Flowering Plants)" by Dr. D. H. Scott, 3s. 6d.; "Introduction to Plant Ecology," by Prof. G. Henslow, M.A., V.M.H., 2s. 6d.; and "The Chemistry of the Garden," by H. H. Cousins, 1s.; the latter is a very comprehensive and inexpensive work for students.

EVERLASTING PEAS.—M. M., Wisbech: You will greatly oblige me by giving the names of those species of perennial Lathyrus which are of value in the garden, as I wish to make experiments with them, and so need a good collection to start with. The chief perennial species of lathyrus are: L. magellanicus, with purple flowers freely borne from June to September; L. heterophyllus, which flowers during the same period but is lacking in colour; L. palustris, a summer-flowering species, with blue and purple flowers; L. rotundifolius, with rose-coloured flowers, from May to July; L. sylvestris has rose-coloured flowers; and L. tuberosus, which is a naturalised perennial, and has rose-coloured flowers. We assume that you have L. latifolius, the ever-popular perennial species, and its varieties; if not, you must obtain these as they are among the finest plants in the genus.

GAZANIAS FOR THE FLOWER GARDEN.—G. F. H., Epsom: I believe gazanias were largely grown for summer bedding a few years ago, and so I thought of reviving their cultivation here. There are two or three old plants in pots in a greenhouse, but I do not care to deal with them until I know the best means of increasing stock. Perhaps you can help me.—The best method of propagating Gazanias for the flower garden is by taking cuttings of the side shoots, near the base of the plant, in August; these should be inserted in sandy soil in a close frame. When planted out in summer Gazanias prefer a sunny spot. You may be able to take a few cuttings from your plants in the spring, and they will grow freely if treated in the manner advised. G. ringens has been largely used as a bedding plant, and numerous garden varieties have been raised from it, including G. uniflora. The bright orange flowers of G. splendens produce a fine effect, and G. Pavonia is also a good plant.

ROOT-PRUNING APPLE TREES.—D. P., Hull: There are one or two bush apple trees here which have produced excessively strong growths, and I feel sure they would be improved if root-pruned. Would it be too late to deal with this matter now, or would you proceed at once? In the south I used to root-prune trees directly the leaves had fallen.—It is not too late to root-prune your apple trees, but the work should be proceeded with at once, and care must be taken, when cutting the strong roots through cleanly with a sharp tool, not to damage them unnecessarily, because when roots are bruised a disease may follow, and they will die back instead of emitting healthy young fibres from the portion where the cut was made.

CULTIVATION OF CYPRIPEDIUM INSIGNE.—J. H., Coggeshall: Please tell me how Cypripedium insigne should be managed for flowering about Christmas time. My plants are not a success, and they will not be in bloom until the middle of January.—To produce flowers of Cypripedium insigne for the Christmas season, the plants should be given as much light as possible in November and December. The temperature should be about 54 degrees at night, and 58 degrees in the day, but should the temperature rise ten degrees higher during the day no harm will occur if the rise is obtained from sunheat. When repotting C. insigne, which should be done soon after the plants have flowered, afford a good compost of three parts loam, one part of Osmunda fibre, and one of sphagnum moss, with a good sprinkling of silver sand and broken crocks added. It is a good method to stand the plants on inverted pots in order to bring them nearer the light, and if this is done always the flowers will develop earlier than they otherwise would. Of course, as soon as the flower buds show well it is an easy matter to hasten flowering by the use of a little extra warmth.

ARAUCARIAS.—Mr. J. H., Monmouth: I only know two species of araucaria, viz., A. imbricata and A. excelsa, but I understand there are others grown in this country. Will you please give me the names of other species, and say whether these are hardy or not in our country?—There are a fair number of araucarias grown in this country, but few of them are hardy. A. imbricata is quite hardy, and is the one most generally grown. A. excelsa is very useful for a large greenhouse or conservatory, and there are several varieties of it; A. e. var. glauca, is one of the best, having lighter green and very glaucous foliage. A. Cunninghami is hardy on the south-west coast of England, as also is the variety glauca, which has handsome silvery leaves, and is a fine plant. A. Goldieana is good for greenhouse decoration, and A. Balansæ may be used for the same purpose. A. Rulei var. elegans, a comparatively dwarf kind, is a very graceful plant for the conservatory, as also is A. Bidwilli, of regular and symmetrical habit.

PROPAGATION OF ERANTHEMUM PULCHELLUM.—A. F., Chesterfield: I enclose a small flowering spike, taken from a plant now in full bloom. Kindly tell me the name of the plant, and how propagation is effected.—The plant is Eranthemum pulchellum, and cuttings may be inserted any time from March to June. Being a soft-wooded subjects, the cuttings will readily root in sandy soil if placed in a temperature of about 70 degrees. A bell-glass or a close frame is required for them, and when the cuttings have rooted they should be placed in 3-inch pots. The best compost for E. pulchellum consists of equal parts of leaf-mould, peat, and loam, with a little silver sand added. As the plants advance in size they should, of course, be potted again, and plenty of water be given them during warm weather when they are growing freely.

KEW HAND LISTS.—C. J. C., Orpington: Will you please tell me where I can obtain the Kew hand lists, what are the prices charged, and how many lists are issued?—The official Hand Lists on sale at the Royal Gardens, Kew, are as follows: Hand List of Trees and Shrubs (excluding Coniferæ), post free, 1s. 7d.; Coniferæ, post free, 4½d.; Trees and Shrubs, and Coniferæ, in one volume, post free, 1s. 11d.; Ferns and Fern Allies, post free, 6½d.; Herbaceous Plants, post free, 2s. 11d.; Orchids, post free, 1s. 2½d.; Tender Monocotyledons, post free, 11d.; Orchids and Tender Monocotyledons, in one volume, post free, 1s. 4½d.; Tender Dicotyledons, post free, 2s. 10d.

MEALY BUG ON VINES.—H. G., Paignton: Can you help me in my efforts to exterminate mealy bug on our vines? When I took charge the vines were in a very dirty state, and so I took up several new canes and cut out the old ones, but the pest remains. I have tried several insecticides, and made one by boiling 2lbs. of soft soap in a gallon of water, and adding one pint of paraffin; we washed the vines twice with this, and have paraffined the house and wires several times, but still the horrid pest is with us. I should be glad to hear of a good and safe remedy. Does methylated spirit kill mealy bug?—When vines are infested with mealy bug the pest is most difficult to eradicate. All loose bark must be removed, and the vines thoroughly washed with warm soapy water; no harm will occur if soft soap is rubbed on with a brush and then washed off, and when the vines have been cleaned they should be dressed with a good proprietary compound, used according to the directions given with it. It will be necessary to cleanse the vinery thoroughly, inside and out, and particular care must be taken with all crevices, glass laps, etc. If the woodwork can be painted after cleaning, and walls limewashed, so much the better.

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NAMES OF PLANTS.

Under this heading we can only undertake to name species and well-marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

T. N., Exeter.—Ruta graveolens.

R. E. S., Newport.—Coleus thyrsoideus.

W. E. K., Bangor.—Callicarpa purpurea.

D. O., Englefield Green.—Primula floribunda.

G. W., Birmingham.—1, Acacia Baileyana; 2, A. dealbata.

G. C. J., Roehampton.—1, Adiantum cuneatum; 2, A. c. gracillimum.

H. H., Caister.—1, Erica carnea; 2, Lasiandra macrantha; 3, Exacum affine.

R. S., Norwich.—1, Cymbidium grandiflorum; 2, Cypripedium Memoria-Moensi; 4, Epidendrum variegatum; 5, Vanda cœrulea, a poor form; 6, Lælia anceps, var. Barkeriana.

Moschosma riparia. — Although vast tracts of country have been opened up in Africa within recent years, we have not received therefrom many plants of value for our gardens. Among the few, however, are at least three good winter-flowering subjects, namely, Coleum thyrsoideus, with rich, cobalt-blue blossoms; Erlangea tomentosa, a Eupatorium-like plant with heads of lilac-tinted flowers; and the Moschosma above named. This belongs to the Labiate family, and the leaves have the odour common to many members of the order. The flowers, which are borne in erect branching panicles, are small, but collectively they form a pleasing feature. In colour they are whitish with purple anthers. M. riparia is an easily-grown plant, and is effective for some weeks at this season.—W. T.

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MISS HILDA HEMUS, UPTON-ON-SEVERN.—A catalogue "Mainly About Sweet Peas, Various Plants, and a New Society." Sweet peas occupy the major space.

E. WEBB and SONS, WORDSLEY, STOURBRIDGE.—As usual, the seed catalogue issued from Wordsley is a fine production, freely and splendidly illustrated, entertaining, and instructive. The firm offers a number of novelties in flowers and vegetables.

DOBBIE and CO., EDINBURGH.—Excelsior Pansies on the front cover and Collarette Dahlias on the back cover, all in colours, make this firm's 1914 catalogue very attractive. Between the covers there are 224 pages, packed with descriptive, instructive, and interesting matter, and containing many illustrations. Seeds and plants are listed, and cover a very wide range of subjects.

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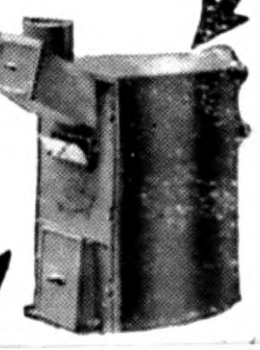

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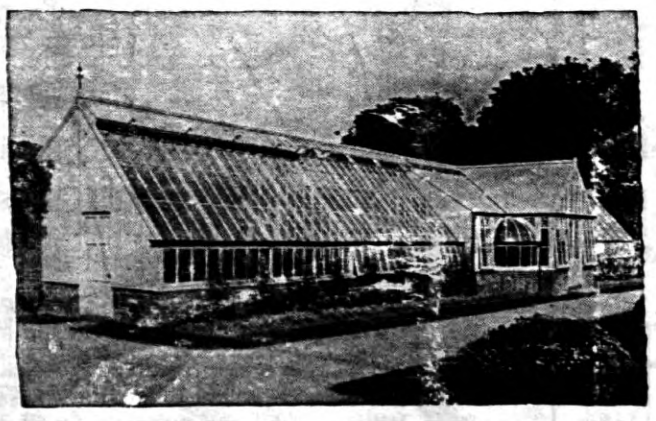

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